STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET
PROCUREMENT

CHANGE NOTICE NO. 34

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

NAME & ADDRESS OF CONTRACTOR
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI, 48917

PRIMARY CONTACT
David Wieber

EMAIL
David.wieber@optum.com

PHONE
517-993-0929

STATE CONTACTS
AGENCY
PROGRAM MANAGER / CCI
DTMB

NAME
Susan Nordyke

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EMAIL
nordykes@michigan.gov

MAIN CONTACT
CONTRACT ADMINISTRATOR
DTMB

NAME
Terry Mead

PHONE
517-284-7035

EMAIL
meadt@michigan.gov

CONTRACT SUMMARY
DESCRIPTION: Dtmb Data Warehouse Business Intelligence (Bi)
INITIAL EFFECTIVE DATE
December 21, 2010
INITIAL EXPIRATION DATE
December 20, 2015
INITIAL AVAILABLE OPTIONS
5 - 2 Year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2019

PAYMENT TERMS
DELIVERY TIMEFRAME

ALTERNATE PAYMENT OPTIONS
☐ P-card
☐ Direct Voucher (DV)
☐ Other
☒ Yes
☐ No

MINIMUM DELIVERY REQUIREMENTS
N/A

DESCRIPTION OF CHANGE NOTICE
EXERCISE OPTION?
□
LENGTH OF OPTION
□
EXERCISE EXTENSION?
□
LENGTH OF EXTENSION
□
REVISED EXP. DATE
□

CURRENT VALUE
$124,475,662.00
VALUE OF CHANGE NOTICE
$9,717,204.00
ESTIMATED AGGREGATE CONTRACT VALUE
$134,192,866.00

DESCRIPTION:
Effective March 28, 2016:
1. This contract is amended to add $9,717,204.00 in order to merge nine Optum resources from the Department of Human Services (DHS) Work Request to the attached revised Department of Health and Human Services (DHHS) Work Request, Statement of Work, and Cost Tables. These funds will cover these nine resources from 2/25/2016 – 12/20/2019 for ongoing Data Warehouse Business Intelligence development, support, maintenance and enhancement. This will increase the number of Full-Time Equivalents from 37 to 46 resources.

2. Infomerica Inc. is added as a subcontractor.

All other terms, conditions, specifications and pricing remain the same. Per contractor and agency agreement, and DTMB Procurement approval.
February 16, 2016

Ms. Cynthia Green-Edwards
Director, Office of Medicaid Health Information Technology
Michigan Department of Health and Human Services
400 S. Pine St. Capitol Commons Building
Lansing, MI 48933

RE: RESPONSE TO BUSINESS INTELLIGENCE (BI) WORK REQUEST AND STATEMENT OF WORK FOR MDHHS DATA WAREHOUSE PROJECT UNDER CONTRACT NO. 071B1300138

Dear Ms. Green-Edwards:

Thank you for your continued interest in working with Optum Government Solutions, Inc. ("Optum") in regards to the Data Warehouse Business Intelligence (BI) services that we are currently providing to the State of Michigan ("the State") via our BI Services Contract No. 071B1300138 and Michigan Department of Health and Human Services (MDHHS) Work Request (collectively, "the Contract").

The State and Optum signed the MDHHS Work Request on October 30, 2015 (the "Original MDHHS Work Request"). Optum is now pleased to respond to your request for a proposal (the "Optum Response") including a revised MDHHS Work Request ("Revised MDHHS Work Request") and a rate quote for a services extension of the Department of Human Services ("DHS") Work Requests, further described below, to cover the period starting from February 25, 2016 (the "Extension Period Start Date") and ending December 20, 2019 (the "Extension Period End Date"). The slightly less than 4-year timeframe from the Extension Period Start Date through the Extension Period End Date will be defined as the "Extension Period".

The DHS Work Requests (collectively, the "Original DHS Work Requests"), as set forth below along with the associated Optum staff names, will be merged into the Original MDHHS Work Request as part of the Revised MDHHS Work Request and Statement of Work ("SOW") presented in Attachment A – Revised MDHHS Work Request below.

1. ITB-TH-00001 – Data Warehouse Database Administrator – Mohommod Khan
2. ITB-TH-00003 – Data Warehouse Architect – Ray Desmeules
3. ITB-TH-00004 – Data Warehouse Modeler – Lee Ritchie
4. ITB-TH-00005 – Data Warehouse Business Intelligence Analyst Senior – Jim Davis
5. ITB-TH-00006 – Data Warehouse Project Manager – Melissa Jourden
6. ITB-TH-00007 – Data Warehouse Developer Senior – Bruce Grant and Swaroop Muddulurus
7. ITB-TH-00008 – Data Warehouse Database Administrator to serve as BI Administrator – Murali Mahadevan
8. ITB-TH-00016 – Data Warehouse ETL Developer Senior – Machu Gajula

Optum is pleased to provide this Response and if the State accepts, it would become part of the overall contract for such services, supplementing the terms of the Contract.
Optum Response

Optum has provided a Revised MDHHS Work Request, below as Attachment A, which includes, along with the hourly rates quote for the Original MDHHS Work Request, the hourly rates for the additional Optum staffing being moved from the Original DHS Work Requests to this Revised MDHHS Work Request for the Extension Period as part of Table 1 and Table 2.

Acceptance of this Optum Response
In order to accept this Optum Response, it is our understanding that the State would complete two actions on or before February 24, 2016:

1. Change Notice: The State would issue a Change Notice to Contract 071B1300136 referencing this letter and date of the letter;

2. Purchase Order (PO):
   1. The State will issue a new or revised PO to include the added positions for Contract Year 1 from Table 1 and Table 2, (with the understanding that subsequent PO(s) or PO extensions would be issued prior to the start of each successive Contract Year in the MDHHS Work Request term prior to the commencing of the applicable Contract Year.) or,
   2. The State will issue a PO to include the added positions from Table 1 and Table 2 from the Revised MDHHS Work Request covering the Contract Years included in the Extension Period.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David Weber

Point of Contact:
David Weber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number: (517) 993-0929
Email Address: David.Wieber@optum.com

Paul Miller (Feb 17, 2016)

Signer:
Paul Miller
VP, Finance
Optum Corporate.

cc:
Susan Nordyke
Jessica Van Winkle
Kristi Broessel
Attachment A - Revised MDHHS Work Request

**DTMB**
Technology Management & Budget

**MICHIGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET**
**DATA WAREHOUSE (DW) AND BUSINESS INTELLIGENCE (BI) SERVICES**
**WORK REQUEST and STATEMENT OF WORK**

This Work Request and Statement of Work (collectively the “Work Request”) are being issued to Optum Government Solutions, Inc. (“Optum” or “Vendor” or “Contractor”) under Optum’s Contract (D7181300138) with the Michigan Department of Technology, Management and Budget, Procurement, as established under the Data Warehouse and Business Intelligence Program.

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Period of Coverage or Extension Period</th>
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<tbody>
<tr>
<td>Michigan Department of Health and Human Services Data Warehouse</td>
<td>12/21/2015-12/20/2019</td>
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<tr>
<th>Requesting Agency:</th>
<th>Request Date:</th>
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<tr>
<td>Michigan Department of Health and Human Services (MDHHS)</td>
<td>12/15/2015</td>
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<tr>
<th>Agency Project Manager:</th>
<th>Phone:</th>
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<tr>
<td>Cynthia Green-Edwards</td>
<td>517-241-8898</td>
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<tr>
<th>DTMB Project Manager:</th>
<th>Phone:</th>
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<tbody>
<tr>
<td>Andrew Mason</td>
<td>517-888-6815</td>
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<tr>
<th>DTMB Contract Administrator:</th>
<th>Phone:</th>
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<tbody>
<tr>
<td>Barb Suska</td>
<td>517-335-4087</td>
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**Required Skill Categories Requested:**

- Data Warehouse Project Manager
- Data Warehouse Architect
- Data Warehouse Database Administrator
- Data Warehouse Developer Senior
- Data Warehouse Developer Junior
- Data Warehouse Designer/Modeler
- Data Warehouse Business Intelligence Report Developer
- Data Warehouse Business Intelligence Analyst Senior
- Data Warehouse Business Intelligence Analyst Junior
- Data Warehouse Help Desk Analyst
- Data Warehouse Web Developer
- Data Warehouse Subject Matter Expert
BACKGROUND:

MDHHS has been using the data warehouse since 1994 to direct policy, detect fraud, identify potentially valuable new initiatives, reduce error rates, calculate rates and more.

MDHHS utilizes the data warehouse for multiple purposes including mission critical functions. It functions as the department's decision support system. MDHHS uses data from the data warehouse for supporting:

- Rate setting for hospitals and managed and long term care providers
- Managing the performance of its partners (managed care providers and others)
- Managing the performance of programs within MDHHS
- Extensive analytics to ensure that funds are being spent most efficiently
- Detecting and prosecuting fraud
- Assuring that Medicaid beneficiaries are getting the best care possible
- Analyzing trends in support of departmental management
- Reporting on all aspects of Medicaid
- The MDHHS budgeting process
- Reporting to the Legislature
- Significant analytical support for epidemiology and other studies
- Eligibility Determination for MDHHS services
- Critical child welfare reporting to Federal oversight and County staff
- Required reporting for the Healthy Michigan program related to the ACA
- Integrated Care between MCP and PIHP entities
- Case/Work Order workload management
- Case Worker management and performance
- Auditor General's Office and their auditing efforts
- The Food Assistance program
- The PATH (Partnership, Accountability, Training, Hope) program

MDHHS is adapting and expanding its use of the data warehouse as it completes the implementation of ongoing work in its Medicaid Management Information System (MMIS), known as CHAMPS (Community Health Automated Medicaid Processing System). CHAMPS efforts underway include federally mandated projects such as Electronic Health Records (EHR) Incentive Program, ICIO-10 and Health Reform. In addition, MDHHS will be adding new data sources and increasing their collaboration with other agencies along with adding new analytical tools. The Department expects to utilize the data warehouse for Health Information Technology/Health Information Exchange initiatives, as well as for the state's Medicaid Eligibility and Enrollment Initiative (Medicaid Compliance Program), Integrated Care Dual Eligibles Project and the Enterprise Fraud Application. The Medicaid Electronic Health Record (EHR) Incentive Payment Program and Michigan Health Information Network are American Recovery and Reinvestment Act of 2009 (ARRA) initiatives to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. An important requirement of the ARRA initiative is to improve patient care outcomes which will involve significant research efforts using de-identified data. It is anticipated that much of the data will be stored in the data warehouse. To store and use of this ARRA initiative data will require significantly increased data warehouse capabilities.

MDHHS is also the agency recognized by the U.S. Department of Health and Human Services (DHHS), Administration for Children and Families (ACF) as responsible for administering federal Child Welfare programs under Titles IV-B and IV-E of the Social Security Act. The MDHHS mission includes a commitment to ensuring that children and youth served by the public systems are safe; to promote, improve and sustain a higher quality of life while enhancing their wellbeing; and to have permanent and stable family lives. The State’s Child Welfare program located within MDHHS is state-supervised and administered.

MDHHS also has ongoing responsibilities associated with, the Patient Protection and Affordable Care Act ("ACA") which was signed into law in March 2010. The ACA created reforms in both the private insurance market and in Medicaid programs. The ACA required the establishment of insurance exchanges in each state that allow
consumers of health insurance to obtain information about health insurance plans, purchase health insurance, and enroll in an insurance plan. Michigan partnered with the Federal government on Exchange activities and the State of Michigan Federal Partnership Exchange (FPE) implemented Michigan specific functionality in partnership with the Federal government to provide Michigan residents with a variety of health insurance options as required by the ACA. The FPE utilizes user and data services provided by the Federal government through a Federal Data Hub. These services include user portal functionality, data validation, and initial eligibility assessment. The State of Michigan implemented secure interfaces and data services to link existing State systems and data determination services internally to each other and externally to the Federal Data Hub. Michigan also developed a Medicaid Adjusted Gross Income (MAGI)/CHIP Eligibility Determination Service. This service was connected to the Federal Data Hub and the existing Medicaid Enrollment and Medicaid Processing systems in order to provide a universal determination service based on a single set of rules and provides all business partners with determination results simultaneously regardless of the system which initiates the request.

In 2014, MDHHS implemented a new Statewide Automated Child Welfare Information System called MISACWIS. Currently, there are still critical MISACWIS data that must be designed and loaded into the MDHHS data warehouse to support additional reporting and data integration needs for the success of MDHHS. MDHHS will be adapting and expanding its use of the data warehouse as it completes the implementation and continues to make modifications to MISACWIS. In addition, MDHHS will be adding new data sources and capabilities into MISACWIS, such as the Juvenile Justice requirements which will drive additional data warehouse enhancements and reporting needs from the MDHHS business staff.

The project may also include building upon and enhancing the extensive MDHHS data warehouse to help support the increasing demand for more sophisticated reporting.

MDHHS has relied on Contractor staff to provide data warehouse support and business intelligence services. These services include: providing data warehouse Extract, Transform and Load (ETL) services, application development, web development, business intelligence model, reporting, query development, help desk support, training and data analysis.

Brief Description of Services to be provided:
MDHHS, with assistance of the Michigan Department of Technology, Management and Budget (DTMB), has issued this Work Request to obtain the following positions to support, maintain and execute enhancement projects of various sizes for the MDHHS Data Warehouse:

- Four (4) Data Warehouse Project Manager
- Four (4) Data Warehouse Architect
- Two (2) Data Warehouse Database Administrator
- Ten (10) Data Warehouse Developers Senior
- Two (2) Data Warehouse Developers Junior
- Two (2) Data Warehouse Designer/Modeler
- One (1) Data Warehouse Business Intelligence Report Developer
- Three (3) Data Warehouse Business Intelligence Analysts Senior
- Seven (7) Data Warehouse Business Intelligence Analysts Junior
- One (1) Data Warehouse Help Desk Analyst
- Seven (7) Data Warehouse Web Developers Senior
- One (1) Data Warehouse Web Developers Junior
- Two (2) Data Warehouse Subject Matter Experts

This Work Request includes a total of forty-six (46) Full Time Equivalents (FTEs). The total number of FTEs may be increased or decreased throughout the life of this Work Request, based on department needs and available funding.

It is the State’s intent to establish this Work Request for BI Services to be provided to MDHHS for a time period defined above as the Extension Period. The Work Request may be renewed for three (3) two (2) year periods at pricing to be negotiated between the Vendor and the State.
It is anticipated the Work Request will begin on December 21, 2015. The work performed via this Work Request will be on a time and materials basis.

PROJECT OBJECTIVE:

The objective of this Work Request is to assist MDHHS with the development, support, maintenance and enhancement of MDHHS Data Warehouse applications, which is an on-going activity triggered by changes in federal and state regulations, evolving business needs, opportunities for improving business processes, continued software and hardware upgrades, and break fixes.

SCOPE OF WORK:

- The scope of this Work Request is to provide Data Warehouse Business Intelligence (BI) Services on an as needed basis to support maintain and execute enhancement projects of various sizes for the MDHHS Data Warehouse set forth in this Work Request.
- Develop and maintain Data Warehouse BI applications that support MDHHS’s day-to-day business operations.
- Resources will become familiar with DTMB personnel roles, DTMB supporting MDHHS’s business processes, and DTMB’s State Unified Information Technology Environment (SUITE) and MDHHS Management policies and procedures.

TASKS:

REQUIRED TASKS

- The Vendor must attend orientation, security awareness training and any other relevant security and/or confidentiality training requested by MDHHS and/or DTMB. Vendor staff must sign appropriate agreements or training certifications.

EXAMPLES OF ONGOING and UPCOMING CONTRACTOR TASKS

(these tasks may change based on direction from the State)

1. Run production reporting on the data warehouse

The Medicaid enterprise relies on the data warehouse for the majority of its production reporting, including reports needed for certification of federally-funded source systems, extracts, and other production reports used to manage and evaluate MDHHS programs. This includes: creation of new reports to align with new initiatives and/or program areas; and enhancements to existing reports to correspond with source system changes. Users of these reports include but are not limited to MDHHS management and staff, the State legislature, Federal agencies, counties and providers.

Tasks include:

- Complete development of production reports in response to changes in CHAMPS data warehouse model. This includes reports needed for ongoing certification of CHAMPS, the Medicaid Statistical Information System (MSIS) extracts, and other production reports used to manage and evaluate Medicaid programs. Users of these reports include but are not limited to MDHHS Medicaid management and staff, the State legislature, Federal agencies, counties and providers. Tasks include:
  - Map existing report data elements to corresponding updated fields in the CHAMPS data warehouse.
  - Conduct Joint Application Design (JAD) sessions to finalize requirements with MDHHS users.
  - Develop, test, and implement the updated version of the reports, including:
    - State and federal reports.
- Centers for Medicare & Medicaid Services (CMS)-372a for Children’s Waiver, Elderly and Disabled Waiver, Habilitation Supports Waiver and Serious Emotional Disturbance
- MSIS
- CMS-416 report and Early and Periodic Screening, diagnostic, and Treatment (EPSDT) letters

- Rewrite production reports to align with ICD-10, Integrated Care Dual Eligibles Project, and Medicaid Eligibility and Enrollment changes.
- Provide input as a pilot state for T-MSIS. Work with CMS Developers to refine T-MSIS requirements, record layouts and data definitions. Develop extract processes to align with defined T-MSIS requirements, create internal system documentation, test files internally and with CMS, and implement approved processes.
- Develop Data Quality Improvement Program (DQIP) reports from the CHAMPS data warehouse for distribution to Medicaid Health Plans to provide feedback on performance related to their contracts with MDHHS.
- Provide training and support to Department of Technology, Management and Budget (DTMB) staff to facilitate report development and maintenance.
- Provide on-site expertise to incorporate newly-developed processes into the Business Objects environment, coordinate activities with the Consolidated Print Center, and integrate tools used to support data warehouse reporting.
- Complete development of production reports in response to changes and new requirements in the MISACWIS, BRIDGES, and/or MCSI data warehouse models. Users of these reports include but are not limited to MDHHS management and staff, the State legislature, Federal agencies, counties and providers.
- Develop, rewrite, and/or make modifications to production reports to meet requirements of the Healthy Michigan legislation and related Medicaid Compliance Program (MCP).
- Develop, rewrite, and/or make modifications to production reports to meet requirements of ASCAP (Adult Services Comprehensive Assessment Program), TANF, EBT, MSHDA, as well as other Child Development and Family Services programs.

2. Provide updated analytic, reporting, data mining, and web-based analytic tools to enhance the analytic capability of the staff

MDHHS vision continues to include the use of ad-hoc analytic, On Line Analytical Processing (OLAP) and data mining tools. The OLAP and data mining tools are needed to examine our data from multiple perspectives, which will allow identification of emerging trends and cost savings. This allows the ability to answer complex questions by performing multidimensional analysis across data sets and programs; and to drill up and down through successive layers of detail to uncover trends, relationships, and patterns for improved decision making.

Tasks include:
- Provide services related to administration and potential upgrades of MDHHS’s BI Query Reporting environment due to more recent versions of the software offered by the manufacturer.
- Provide services related to administration and potential upgrades of MDHHS’s Business Objects environment due to more recent versions of the software offered by the manufacturer.

Note: Both BI Query and Business Objects Crystal Reporting Software licensing will continue to be provided by the State via other contract vehicles.

3. Identify and load additional data sets on the data warehouse

As new systems and data sources are developed that support MDHHS programs, and expansions are made to existing source systems, they will be loaded to the data warehouse to be integrated with existing MDHHS data.
The process to add these data sets includes: defining requirements; establishing a process to maintain historical data; developing load programs; integrating new data with existing data in the BI Query model; and training MDHHS users. The new data may also be included in MPI to allow integration with other program data (see separate activity for that portion of the work).

Tasks include:

- Add Maternal and Infant Health Program (MIHP) Infant Screener and Maternal Summary data plus additional data elements from new development to the Maternal Screener, in order to enhance MDHHS’s ability to evaluate the program, evaluate effectiveness of interventions, and assess outcomes.
- Add Children’s Waiver data from multiple sources (including Paradox database that is no longer supported) for purposes of enrollment and CMS-372 reporting.
- Add Human Services data needed for Medicaid reporting required by CMS, and/or establish MDHHS access to the Human Services data through a data warehouse view (e.g., Poverty/Income, Race/Ethnicity).
- Add “trusted data sources” as they are identified as part of the ACA Eligibility Project and Enterprise Fraud Application.
- Add detail-level HEDIS data from Medicaid Health Plans. This will be used to evaluate performance measures as part of the CMS Adult Quality Measures grant, along with other initiatives.
- Add Veteran data to be incorporated into the Master Person Index to link to existing data sets.
- Add Buy-in source data for comparison to Medicare identified on the eligibility records. This will be used to ensure completeness of the MMA submissions.
- Add EMRS data from mental health hospital when source implementations are complete.
- Add Hospital and Long Term Care Cost Report data that currently resides in a system managed by Hewlett Packard (HP).
- Add T-MSIS submission file tables and corresponding data to the data warehouse for use in maintaining MSIS history, analysis and resubmission to CMS as necessary.
- Add Michigan Disease Surveillance System (MDSS) data. MDSS enables physicians and clinical laboratories to electronically report the occurrence or suspected occurrence of disease, conditions or infection required by the Michigan Communicable Disease Reporting Rule. Case reporting and management depends on the integration of data from multiple sources (e.g., laboratory results; patient information; disease condition, onset, symptoms, and hospitalization dates; and medication, treatment and clinical history). MDHHS has an opportunity to improve disease tracking and monitoring of Medicaid beneficiaries through the integration of MDSS and the MDHSS Data Warehouse.
- Add Newborn Screening data. This data was previously loaded to the data warehouse, but source system has been re-written, and corresponding data warehouse load processes are needed to capture data from the new system.
- Add Third Party Recovery data. Existing Medicaid payment recovery systems pull data from the warehouse for purposes of determining amounts to be recovered, but actual amounts recovered are not currently loaded back to the data warehouse. The addition of the recovery amounts to the data warehouse will provide a more complete and accurate representation of Medicaid payment amounts.
- Evaluate other data sources and add those that will benefit Michigan’s Medicaid program or are needed to support reporting requirements.
- Add Provider Licensing data from the Department of Licensing and Regulatory Affairs for use in identifying and de-duplicating provider data.
- Add All Payers Claims Database.
- Add Health Risk Assessment (HRA) data from Enrollment Broker, Medicaid Health Plans and Integrated Care Organizations (ICOs).
- Add clinical and other data from the health information exchange, such as Electronic Quality Measures; and Admission, Discharge and Transfer (ADT) data.
- Add new SAWIS data including Juvenile Justice data.
- Add new Workforce Development Authority data.
- Add Statewide training data.
• Creation of new data warehouse artifacts to support the integration of State of Michigan trusted data sources into both the Federal Data Hub and the MAGI Medicaid calculation engines.

4. Changes to existing data loads to stay current with enhancements to source systems

As source systems are rewritten to align with new requirements and technology, corresponding enhancements are required to the data warehouse in order to load and store new data elements and provide query and reporting access to the data. Source system changes may be driven by federal or state initiatives, new policies, new technologies, or ongoing releases to existing source systems.

Tasks include:
• Develop, test and implement data warehouse enhancements as a result changes to source systems, including:
  o OASIS
  o Nursing Home
  o MDS
  o CSHCS
  o WIC (Women, Infants and Children)
  o MCIR (Michigan Care Improvement Registry)
  o Home Help Payments
  o Home Help Assessments
  o MIHP
  o Vital Records
  o ASCAP
  o MAGI

5. Develop web applications to support MDHHS programs and processes

Develop and enhance web applications in support of MDHHS programs to streamline processes, automate workflows, provide integrated data delivery, and provide tracking and reporting of MDHHS beneficiaries and programs. These web applications are used by MDHHS management and staff, and MDHHS partner organizations (e.g., Medicaid Health Plans, Prepaid Inpatient Health Plans, Native American Tribal Organizations).

Tasks include:
• Develop, test and implement web applications to support the following waivers:
  o Children’s Support Waiver (CSW)
  o Children with Serious Emotional Disturbance Waiver (SEDW)
  o Autism
  o Enhancements to the Habilitation Supports Waiver (HSW) application
  o Integrated Care Organization (ICO) Waiver
• These web applications will provide:
  o Automated workflow to process enrollment of waiver beneficiaries (including capture of demographic data not available in BRIDGES)
  o Tracking and reporting of waiver beneficiaries
  o Management and tracking of waiver “slots”
  o Integration with existing systems (e.g., BRIDGES, Statewide Automated Child Welfare Information System [SACWIS])
  o An interface to CHAMPS to provide data needed to process waiver payments.
• Add data for the following home and community based services waivers to be used by the corresponding web applications proposed to support the waivers:
  o CSW
  o SED
• Develop, test and implement an enhanced web-based application for MDHHS’s Managed Care
Compliance Review Tool to replace the existing Access-based Compliance Review Tool application (the Tool). This will allow health plans and MDHHS to update and access information through the web, rather than having to send the Access database back and forth to update information. The Tool summarizes all of the requirements of the Medicaid Comprehensive Health Plan contract, and State and Federal regulations, including fraud and abuse. MDHHS conducts an annual compliance review of the designated criteria within the Tool. This Tool is used to document the Health Plans' compliance with contract requirements as identified in each criterion.

- Develop, test and implement web applications to support
  - Beneficiary Monitoring Program
  - Integrated Care/Data Analytics
  - MDHHS Automated processes and workflow (e.g., NDC Crosswalk)

6. Create and manage METADATA for the MMIS IT Architecture, and provide BI-Administration capability for security and model management.

Metadata and field mapping will provide information on the descriptions and uses of the data, flow of the data through the system, relationship to CHAMPS and other systems, as well as the transformation and cleansing procedures. This information will be especially useful to analytic staff that may not be familiar with the operational detail of the data.

Enhanced security and access procedures will be implemented to support new policies, technologies and audit findings, and to leverage new capabilities that become available through upgrades to existing software.

Tasks include:

- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process (e.g., 837 records, National Council for Prescription Drug Programs (NCPDP), corresponding fields in CHAMPS screens, and use in reports).
- Create business definitions/data dictionary for each data element in the new CHAMPS data model.
- Create and/or modify BI-Query models or Business Objects universes to allow user access to pre-defined data sets based on access approved through the security process. For example, access may include combinations such as the following:
  - Identified/Linked
  - De-identified/Linked
  - Identified/Linked & Unlinked
  - De-identified/Linked & Unlinked
- Implement updates to roles and profiles (levels of security) for user access to the new CHAMPS data model.
- Implement updates to strong password rules.
- Develop interface maps for both CHAMPS and the data warehouse.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.
- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process for other MDHHS applications and reports.
- Develop interface maps for other MDHHS applications and the data warehouse.

7. Provide additional data integration across program areas and continue to enhance architecture to align with MITA initiative

Enhance data warehouse architecture by developing data exchanges between the data warehouse and MDHHS partner organizations (e.g., health plans). By making additional data available to partner organizations, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving outcomes for MDHHS beneficiaries.

Expand the use of the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDHHS to collaborate
with other departments/agencies to improve outcomes.

Integrate MDHHS data with data from other departments/agencies to provide improved ability to identify cross-population, and therefore allow improved tracking and analysis of MDHHS beneficiaries.

Tasks include:

- Enhance architecture to align with MITA by developing data exchanges between the data warehouse and health plans. By making additional data available to health plans, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving health care outcomes for Medicaid beneficiaries. These data exchanges are adaptable and will be used to help drive the Michigan Health Information Exchange (HIE) initiatives.
- Expand the use of Medicaid and other MDHHS data in the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDHHS to collaborate with other departments/agencies to improve Medicaid outcomes.
- Integrate Medicaid and other MDHHS data with Corrections data to provide improved ability to identify the cross-population of Medicaid beneficiaries and prisoners, and therefore allow improved tracking and analysis of Medicaid beneficiaries.
- Integrate the data warehouse with other tool sets (e.g., Oracle, Access, ETL tools) to provide the ability to link to data that resides in source systems outside the data warehouse.
- Add new development to migrate data loads to the state's standard COTS ETL tool (DataStage) to improve data load processes, reduce risk and development/maintenance costs, and minimize differences between data warehouse and source system data.
- Evaluate and purchase tools to align technology framework with Medicaid Information Technology Architecture (MITA) standards (foster integrated, cross-functional business in order to improve administration of Michigan's Medicaid and other MDHHS programs).
- Establish processes and integrate data sets across state agencies for use with the Enterprise Fraud Application (COTS product).

8. Provide onsite analytic development for the various program models, and analytic tools

Provide comprehensive training to educate new data warehouse users on the use of the data. Provide comprehensive training to help users understand the business, and educate them on the relationship between the data and MDHHS programs. Develop and update user queries and reports for newly defined business needs. Assist end users with updating queries as new data is added, to streamline their business processes by incorporating new data and understanding how it helps them (e.g., Measures).

Tasks include:

- Update CHAMPS and other MDHHS application's model-specific training manuals.
- Develop and deliver comprehensive training to educate end users on the use of the data based on updated CHAMPS, BRIDGES, and other MDHHS application requirements.
- Provide comprehensive training to help end users understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program. This will include development of materials for instructor-led classroom training as well as development of web-based training.
- Develop and deliver comprehensive training to educate developers on updated data warehouse structures and the use of data based on CHAMPS, BRIDGES, and other MDHHS application requirements.
- Provide comprehensive training to help developers understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program.
- Provide first-line Help Desk Support to answer end user and developer questions related to the newly defined data models.
- Provide advanced analytic support and development at a level above the typical user's business and technical knowledge.
- Provide Business Objects training and support for development staff, related to developing production reports on the data warehouse.
9. Enhance the data warehouse as a result of core application changes: CHAMPS, BRIDGES, SACWIS and CSEs.

Implement data warehouse changes as a result of changes to the source systems. Includes changes to:
- Database structures, models, views, universes, ETL (data load programs), and any work related to corresponding software upgrades.
- Tasks include:
  - Conduct Technical JAD sessions along with the States application development and/or vendor development teams to refine data extract layouts for updates to MDHHS core application data sets, as well as relationships between tables, referential integrity, key fields, etc.
  - Conduct User JADs for updates to MDHHS core application Production data models — to define usage requirements, data definitions, and alignment with the MDHHS core application screens.
  - Complete development of various data structures to accommodate updates to MDHHS core applications data, based on input from JADs.
  - Develop new data mart(s) to incorporate a single logic set for accessing MDHHS core application data (e.g., single field for billing provider for all claim types) to simplify data access for end users and developers.
  - Develop new BI Query Views and Business Objects universes for the data warehouse using the new data mart.
  - Add and modify Metadata to reflect MDHHS core application changes.
  - Rewrite data warehouse structure and load programs as a result of changes being implemented in CHAMPS. As approved in the CHAMPS APD-Ups, these changes include CHAMPS Change Requests (e.g., addition of new fields and new functionality) that result in a corresponding change to the data warehouse, as well as additional data warehouse testing during the approved CHAMPS implementation extensions.
  - To ensure compliance with new Managed Care Organization (MCO) Drug Rebates mandated by Health Care Reform (PPACA – Patient Protection and Affordable Care Act) that went into effect 3/23/10, the following work is required:
    - Create, test, and implement new process to provide an interface file to the State’s PBM Pharmacy Benefits Management Services (PBM) (Magellan Medicaid Administration, Inc.) containing the MCO Drug claims (NCPDP encounters and Institution/Professional encounters for physician administered drug products) and MCO provider reference data. This data will then be used by the PBM to invoice manufacturers for CMS Federal Drug Rebates.
    - Utilize the NDC (National Drug Code) - HCPCS (Healthcare Common procedure Coding System) crosswalk reference table to establish encounter edits and reports for purposes of ensuring the physician administered encounter claims are formatted properly for rebate invoicing.
  - The following require redesign to accommodate CHAMPS data warehouse changes:
    - MMA Part D submission files.
    - Eligible Months tables.
  - Develop data warehouse structure and load programs to accommodate implementation of meaningful use processing in CHAMPS.
  - Develop and update end user queries and reports to use updated models representing MDHHS core application data.
  - Expand situational data in the data warehouse. Situational data (tells not used directly to adjudicate a claim) are currently received from CHAMPS in a single, continuous, variable-size field, making it unusable by end users. This data will be parsed and stored in a format that makes it usable.
  - Expand the data warehouse to accommodate ICD-10.
  - Expand the data warehouse to include data needed to support electronic health record (EHR) (e.g., additional provider data, NLR data).
  - Expand the data warehouse to include Prior Authorization data from CHAMPS.
  - Expand the data warehouse to accommodate ACA Eligibility Initiatives, HIE and Health Insurance Exchange (HIX).
• Expand the data warehouse to accommodate integrated Care Dual Eligibles Project.
• Expand the data warehouse to accommodate Juvenile Justice data from SACWIS.

10. Enhance the Enterprise Fraud Solution

Develop and implement data warehouse views and/or extract processes needed for the Enterprise Fraud Solution in order to support fraud and abuse efforts related to MDHHS programs.

Tasks include:
• Develop new views and/or extract processes needed to support the Enterprise Fraud Solution.
• Enhance Audit programs as a result of CHAMPS changes including ICD-10 and Health Care Reform.
• Support the Office of Inspector General's need for MDHHS program and transaction data.

11. Load Pharmacy data directly to the data warehouse

Pharmacy data is loaded directly to the data warehouse (rather than via CHAMPS). This includes all the work related to bringing the data into the data warehouse (creating database structures, models, views, data load programs, adjudication logic, error/return processing), integrating it with other MDHHS data, particularly CHAMPS, and creating queries, reports and applications to support the Pharmacy program. Pharmacy data being loaded includes data directly from the MDHHS Pharmacy Benefits Manager, pharmacy encounters from Medicaid Health Plans, and corresponding pharmacy data such as National Drug Code (code), and Maximum Allowable Costs (MAC).

Tasks include:
• Enhance the PEM data load process to include pharmacy paid claims enhancements. An example is the addition of data needed to monitor and target outreach for purposes of increasing E-Prescribing in Michigan, and to collect information related to meaningful use.
• Load Pharmacy provider enrollment file from the State's PBMS to the data warehouse.
• Rewrite NCPDP Encounter load programs to align with CHAMPS ICD-10 updates and PBM data.
• Rewrite the Medicaid Health Plan Point-of-Sale (POS) pharmacy carve-out claim utilization extract to pull data from the new CHAMPS structure. This weekly process creates a file containing pharmacy carve-out claims for beneficiaries enrolled in each plan. The Medicaid Health Plans use the claim data for utilization and disease management programs.

12. Develop Web-Based Security Application

The Database Security Application (DSA) has been developed and implemented to provide an automated web-based workflow and corresponding database for requesting and approving access to MDHHS systems (e.g., Data Warehouse, FileNet, CHAMPS). New "forms" will be created within DSA for requesting access to additional MDHHS systems. Integration with Tivoli to allow automated provisioning. Work also includes providing end user training and creating training modules (both web-based and training manuals).

Tasks include:
• Develop enhancements to the Data Warehouse Security form/process in the web-based security application.
• Develop the Security form/process for access to additional Medicaid applications, such as:
  o BRIDGES
  o SOLQ
  o Buy-In
  o MCIR (Immunization Registry)
  o Lead
  o Home Help
  o MIHP
  o CSHCS
- Third Party Electronic Database (TED)
- Level of Care Determination
- CMS 1915(c) Waiver web site
- Ambulatory Payment Classification (APC) web site (WebStrat)
- Teradata Access for Applications
- Master Person Index
- Expand to other state agencies for access to their applications
- Access to Waiver web applications
- Developer Access to Teradata
- Access to the Enterprise Fraud Application
- Data Exchange Gateway (DEG)
- Access to Monitoring programs

- Develop the Security form/process for access to non-Medicaid MDHHS applications.
- Integrate CHAMPS Customer Relationship Management (CRM subsystem) user information with DSA user database. This will provide MDHHS with a complete picture of an individual's access across systems, via a single source application.
- Develop process to view an individual’s approved/denied status across systems.
- Develop process to compare approved level of access in DSA with actual access in source system.
- Develop process to compare approved level of access in DSA with actual access in source system. Develop process to manage security of employee notifications from Human Resources (departures, position transfers, new hires) and/or integration with the Human Resource application. Actions include terminations of access, alerts to system owners, notifications to former and/or new managers, etc.
- Develop approval process for access to Medicaid data stored in the Cloud (Cloud Computing).
- Enhance the DSA application using modularized functionality providing an interface for rapid form development and implementation.

13. Enhance Data Warehouse Operability and Access

Analysis and development to optimize query and system performance will reduce data warehouse usage costs by improving efficiency and reducing storage space. Analysis of data warehouse usage will be performed to determine areas for improvement (e.g., rewrite queries, add statistics, and add/remove indexes to align with user access to data, compress databases). Solutions will then be identified, developed and implemented to address the identified areas for improvement.

Develop application to audit MDHHS data warehouse usage. This application would provide web-based access to stored information such as identification of which users accessed which data and frequency of access.

Tasks include:
- Develop code to analyze databases and queries, identify potential areas for enhancement, develop and implement solutions.
- Develop web-based data warehouse audit application.
- Develop, test and implement solutions for encryption of data at rest and in flight.
- Test and implement enhancements to accommodate future Teradata Hardware and software upgrades.

14. Develop Queries and Reports to support MDHHS Programs

The MDHHS data warehouse is a critical component in the administration of MDHHS programs. As such, it is frequently used as a source of information for audits, research, lawsuits, FOIA, and other similar requests for data. These requests typically require response within a short timeframe and require knowledge of both MDHHS programs and the data warehouse in order to provide required results within the defined timeframe.

Tasks include:
- Develop code to extract data as requested for CER.
15. Develop and Configure the Master Person Index/Provider Index

MDHHS has developed and is using the Master Person Index (MPI) and Provider Index (PI) to link person-level records from one database to another by evaluating the available data elements such as name, address, IDs – beneficiary, client, consumer – to determine if a match exists. When a match exists, the records are linked as a single “entity”. MDHHS will continue to enhance MPI and PI with additional data sets, expanded functionality, hardware upgrades to support increased usage, upgrades to stay current with software releases, and corresponding updates to Governance processes.

Tasks include:
- Install and configure new hardware and software.
- Upgrade software for version releases.
- Integrate the software with other existing systems.
- Develop a Provider Index within the COTS product.
- Expand Master Person Index to include new data sources, real-time access, query functionality, golden record identifiers, etc.
- Develop householding functionality within the COTS product.
- Establish governance processes related to use of the COTS product.
- Develop new data warehouse functionality to correspond with updates to MPI/PI.
- Monitor algorithms and system configuration and make recommendations for performance improvement.

16. Provide Data Warehouse Assistance to other States that may use “MMIS as a Service”

As other states potentially move to MMIS as a Service (MAAS) – which Illinois is currently doing with the IMPACT project – corresponding data warehouse development is required in order to load and store data elements from MAAS, integrate the data with other data sources, provide query and reporting access to the data, and support applications and activities based on that data. Leveraging the Michigan data warehouse team’s established knowledge and expertise related to the MAAS (CHAMPS) data warehouse will reduce development cost, decrease risk, and provide consistency across state data warehouse implementations. The Michigan data warehouse team will provide consultation and technical assistance to development teams in other states who are implementing a MAAS data warehouse.

Tasks include:
- Provide documentation from Michigan’s MAAS data warehouse structure (e.g., database models, table definitions, ETL code and supporting documentation, metadata, view definitions, data warehouse query models if applicable)
- Facilitate knowledge transfer sessions with development teams in other states to help them understand the MAAS data warehouse structure, job processes, and business definitions of the data elements.
- Assist with development of MAAS data warehouse tables and jobs for implementation in other states.

IT Classifications/Skills Set and Tasks:

The requirement is that the individual must possess the skills, knowledge, and experience required to perform the duties effectively and efficiently at the level specified in the work request.

1. Data Warehouse Project Manager
   Data warehouse project manager manages the integration and/or development and delivery of very large
and complex deliverables directly to the customer. This position provides the primary interface between the Contractor, the State and third party providers.

- Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
- Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.
- Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.
- Makes sure approved methods, processes and tools are consistently used.
- Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.
- Develop and present training classes for end user developers to help them how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
- Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.
- Assists the MDHHS Agency Project Manager with documentation for managing the data warehouse such as presentations, reports and Advanced Planning Documentation (APD) to be submitted to CMS for funding.

**Required Experience**
- 5+ Years Project Manager or Team Lead Experience.
- 5+ Years Data Warehouse Experience.
- 3+ Years Teradata DW Experience.
- Medicaid Experience desired.

2. Data Warehouse Architect

Data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.

- Conducts model and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.
- Responsible for data warehouse database design and providing technical direction to modelers, data analysts, ETL developers, and database administrators.
- Develops design proposals to meet MDHHS needs.
- Approves integrated systems design proposals for technical content.
- Monitors the implementation for technical correctness so that MDHHS needs are met.
- Identifies, analyzes and evaluates alternative design solutions.

**Required Experience**
- 6+ Years Data Warehouse Architect and Model Experience.
- Teradata Version 13/14 Experience.
- Teradata Utilities Experience.
- 2+ Years Data Warehouse Administrator Experience.

3. Data Warehouse Database Administrator

Database administrator (DBA) is responsible for the availability, safety and usefulness of the MDHHS data warehouse databases.

- Working in conjunction with system administrators, perform server configuration to ensure that the
entire database system is capable of providing the services needed.
• Performance monitoring to identify bottlenecks and places where throughput can be improved.
• Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
• Configure access to the data warehouse and communication between the warehouse and other servers.
• Physical database design translates the logical database design to work optimally for the specific database environment.
• Working with MDHHS data warehouse developers to establish standards and guidelines for access to MDHHS data warehouse databases.
• Collaborate with DTMB to provide data/database integrity for software installation and updates; and backup and restore, including:
  o Software installation and database management system upgrades
  o Software upgrades so that the database is in compliance with critical security patches, or, software upgrades deemed necessary by the State.
• Work with MDHHS data warehouse developers and MDHHS clients to optimize their queries.

Required Experience
• 4+ Teradata Database Administrator Experience.
• 2+ Teradata Version 13/14 Experience.
• Teradata Utilities Experience.
• Teradata Manager Experience.
• SQL Assistant Experience.
• Linux Experience.
• Oracle Experience.

4. Data Warehouse Developer Senior
Data warehouse developers perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other MDHHS applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
• SQL development.
• Work with developers and end user query developers to design and improve database queries.
• Train developers in how best to design queries for a specific database.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

Required Experience
• 6+ Years SQL Development Experience.
• Business Analyst Experience.
• SQL and Performance Tuning Experience.
• Teradata Version 13/14 Experience
• SQL Assistant Experience.
• ETL Development using Teradata Utilities and Linux Experience.

5. Data Warehouse Developer Junior
Data warehouse developers perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other MDHHS applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.

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• Creating data warehouse based applications including reporting, dashboards and other information analytic and delivery systems.
• Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
• SQL development.
• Work with developers and end user query developers to design and improve database queries.
• Train developers in how best to design queries for a specific database.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**
• 2+ Years SQL Development Experience.
• Teradata Utilities Experience.
• SQL Assistant Experience.

6. **Data Warehouse Designer/Modeler**
Data warehouse designer is responsible for the database modeling and design for an efficient data warehouse objects structure. This involves defining the tables, keys and relationships that will allow an application to retrieve and update data correctly and efficiently.
• Working with end users and developers to understand the data needs of MDHHS clients.
• Documenting the MDHHS data warehouse data involves including definitions, constraints and access needs.
• Creating and maintaining MDHHS data warehouse logical designs, including Entity Relationship diagrams, which illustrate what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to other data in the database.
• Creating and maintaining MDHHS data warehouse data definition language (DDL) that can be used to create and update the database.
• Working with the MDHHS Data Warehouse DBA and ETL developers, modify the logical design to create a physical design most suited to the database environment and the applications that will use it.
• Work with MDHHS Data Warehouse ETL developers and DBA to create and maintain database design standards.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their report development related tasks may include:
• Perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other Agency applications. Their development related activities may include tasks such as:
  o Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
  o Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
  o SQL development.
  o Work with developers and end user query developers to design and improve database queries.
  o Train developers in how best to design queries for a specific database.

**Required Experience**
• 5+ Years Data Warehouse Modeling Experience.
• 5+ Years of SQL Development.
• Data Warehouse Architect Experience.

7. **Data Warehouse Business Intelligence Report Developer**
Data warehouse Business Intelligence Report Developer is expected to be able to work with agency requestors to define and develop new reports, and provide training and technical support to both DTMB developers and end user query developers.
• Working with end user requestors to understand their data needs and create and implement solutions to those needs.
• Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
• Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
• Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
• 5+ Years of Business Objects Report Development Experience.
• 5+ Years of SQL Development.
• Business Analyst Experience.

8. Data Warehouse Business Intelligence Analyst Senior
Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
• Running JAD sessions to understand and collect business requirements, develop use cases and determine what data is needed and how it is likely to be used.
• Creating ad-hoc queries to answer specific user questions.
• Program design and specification.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Supporting end user to enable them to create their own queries and reports as needed.
• Identify data problems and work with developers to correct them.
• Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
• Organize and run user groups to encourage self-support among end users and DTMB query and other data warehouse application developers.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  o Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  o Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
  o Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
  o Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
• 5+ Years Project Lead/Data Warehouse BI Analyst Experience.
• Training Experience.
• SQL Assistant Experience.
• Medicaid experience desired.

9. Data Warehouse Business Intelligence Analyst Junior
Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
• Running JAD sessions to understand and collect business requirements, develop use cases and determine what data is needed and how it is likely to be used.
• Creating ad-hoc queries to answer specific user questions.
• Program design and specification.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Supporting end user to enable them to create their own queries and reports as needed.
• Identify data problems and work with developers to correct them.
• Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
• Organize and run user groups to encourage self-support among end user and DTMB query and other data warehouse application developers.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  o Working with end user requestors to understand their data needs and create implement solutions to those needs.
  o Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
  o Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
  o Provide on on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
• 2+ Years Project Lead/Data Warehouse BI Analyst Experience.
• Medicaid experience desired.

10. Data Warehouse Help Desk Analyst
Help desk staff provide first line support for end users and developers.
• Manages MDHHS Data Warehouse mailbox.
  • Assesses user identified issues and provides guidance for resolution.
  • Directs unresolved problems and reports to appropriate staff, if necessary.
  • Tracks and analyzes problem occurrences and resolutions.
• Conducts data warehouse user group training.
• Develops training materials.
• Assists with query/report development.
• Provides user assistance with data warehouse tool(s), model/database, business knowledge and recommendations for efficiency and solutions to meet user business needs.

Required Experience
• 3+ Years of Data Warehouse Help Desk Analyst Experience.
• Experience in supporting the end users in accessing the data warehouse and effectively utilize the desktop tools.

11. Web Developer
A Web Developer is responsible for designing and developing web-based applications that interact with and utilize the data warehouse to provide MDHHS users with highly interactive, easy to use web-based data warehouse applications.
• Defining and developing applications that rely on unique web-based technology and tools, and that will conform to standards defined by DTMB for user interface and usage of the data warehouse.
• Defining the web application user interface, business rules, database access and data warehouse access, and determining any data sources that need to be imported into the data warehouse for web application operation.
• Producing technical specification documents to review the web application with the user, and conducting JAD sessions to revise and finalize technical specifications.
- Prototyping of web application pages for user review and approval.
- Producing accurate and complete data mapping documents
- Performing user acceptance testing with users and DTM5 to confirm that new web applications perform per specifications, and making adjustments to the web application as required.
- Maintaining a development and staging environment for the development and testing of enhancements and updates to the web application.

**Required Experience**
- 5+ Years of Data Warehouse Web Developer Experience.
- Web development: HTML, JavaScript, Asp.net, Visual Studio.

12. Subject Matter Expert (SME): A Subject Matter Expert (SME) will be responsible for providing specialized, in-depth knowledge of a business area(s) such as Medicaid, Master Person Index/Provider Index, Pharmacy, ICD-10, HEDIS, Metadata Management, and technology solutions.
- Leading or actively participating in work-groups with the need for specialized knowledge.
- Providing guidance on how their area of expertise can resolve an organizational need, and actively participates in all phases of a project/initiative by sharing their knowledge, expertise and ideas.
- Defining technology and business solutions based on thorough understanding of business processes and policies.
- Reviewing, helping re-engineer, or creating new processes and policies, evaluating and defining technology requirements and solutions.
- Defining business needs, and identifying and recommending the most appropriate solutions.
- Providing documentation such as forms, manuals, correspondence, and procedures.
- Understanding, articulating, and implementing best practices related to their area of expertise.

**Required Experience**
- Experience requirements will vary depending on area of expertise being requested. Current SMEs must have expertise in Medicaid, technology solutions, MPI/IP, metadata management, and business objects dashboards.

**DELIVERABLES:**
The deliverables and tasks agreed to in the resulting Contract shall comply with the following approval process:

**APPROVAL OF DELIVERABLES, IN GENERAL:**

(a) All Deliverables (Physical Deliverables, Written Deliverables, and Service Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

(b) The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable have been delivered without material deficiencies. If the State determines that the Deliverable has material deficiencies, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State and Contractor receive the Deliverable and agree that the Deliverable is ready for use and, where applicable, Contractor has provided certification to that effect.

(d) The State will approve in writing a Deliverable upon confirming that it conforms to and, performs in accordance with specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a
reasonable time at Contractor's expense all deficiencies in the Deliverable that remain outstanding at the time of
State approval.
(e) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all
deficiencies preventing Final Acceptance of a Deliverable, the State may: (i) demand that Contractor cure the
failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep any
resulting Contract(s) in force and do, either itself or through other parties, whatever Contractor has failed to do, in
which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the
Contract(s) price for such Deliverables and will pay the State an additional sum equal to ten percent (10%) of such
excess expenditure to cover the State's general expenses provided the State can furnish proof of such general
expenses; or (ii) terminate the particular Statement of Work for default, either in whole or in part by notice to
Copyright provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not
use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State
Review Period that could reasonably have been discovered during a prior State Review Period.
(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process
reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make
the continuation of such process unproductive or unworkable. In such case, the State may return the applicable
Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

PROCESS FOR APPROVAL WRITTEN DELIVERABLES:
The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement
of Work/Order following delivery of the final version of the Deliverable (including the State Review Period,
by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and
ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State
Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written
Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the
State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or
describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election,
subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor
will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that
shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made
at no additional charge. Upon receipt of a corrected Deliverable from the State will have a reasonable
additional period of time, not to exceed the length of the original State Review Period, to review the corrected
Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF SERVICE DELIVERABLES:
The State Review Period for approval of Service Deliverables is governed by the applicable Statement of
Work/Order (including the State Review Period, by default, shall be forty-five (45) Business Days for a
Service Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period
either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies
that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the
Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described
deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made
to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge.
Upon receipt of a corrected Deliverable from the State, the State will have a reasonable additional period of time,
not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the
identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF PHYSICAL DELIVERABLES:
The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of
Work/Order (including the State Review Period, by default, shall be forty-five (45) continuous
Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State
Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any
deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to
approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

ACCEPTANCE CRITERIA:

PROJECT CONTROL AND REPORTS:

A monthly progress report must be submitted to MDHHS and DTMB Project Managers throughout the life of this project. The report may be submitted with the billing invoice. Each monthly progress report must contain the following information:

- **Hours:** Indicate the number of hours expended during the past month, and the cumulative total to date for the project.
- **Tasks accomplished:** Indicate what projects have been worked on, and what was completed during the current reporting period.

SPECIFIC AGENCY STANDARDS:

Agency standards, if any, in addition to DTMB standards.

PAYMENT SCHEDULE:

Payment will be made on a time and materials basis (hourly based). The State will pay Contractor upon receipt of properly completed invoices which shall be submitted to the billing address on the State issued purchase order not more often than monthly. The State’s Accounts Payable area will coordinate obtaining Agency Project Manager and The State Project Manager approvals. All invoices should reflect the purchase order, actual work completed by payment date, and must be approved by the Agency Project Manager and DTMB Project Manager prior to payment. The invoices shall describe and document to the State’s satisfaction a description of the work performed the progress of the project, and fees

Payment shall be considered timely if made by the State within forty-five (45) days after receipt of properly completed invoices.

EXPENSES:

The State will **NOT** pay for any travel expenses, including hotel, mileage, meals, parking, etc.

PRICING SUMMARY

Pricing for the Extension Period is set forth in Table 1 below:

ADDITIONAL TIME & MATERIALS LABOR RATES FOR PROFESSIONAL SERVICES:

To the extent the parties agree that certain specific services must be provided on a time and materials basis, such services must be provided at the Labor Rates (Not to Exceed Hourly Rate cost column) in Table 2 below. Future amendments to this Work Request may utilize this rate structure, as agreed between the Contractor and State. Additionally the Contractor may utilize the rates in order to provide the State with a not to exceed time and materials price. Prices quoted herein will be used for change, addition, and / or deletion of work associated with this Work Request. The Estimated Hours is provided below as an estimate only and is not meant to preclude or limit the State from requesting a resource/staffing mix for future projects that exceed the hours estimate for a specific Staffing Category as long as the Total Additional Professional Services Cost is not exceeded.
The MDHHS Project Manager is:
Cynthia Green-Edwards
Director, Office of Medicaid Health Information Technology
Michigan Department of Health and Human Services (MDHHS)
500 Pine Street, Capitol Commons Center
Lansing, Michigan 48933
517-241-9990
EDWARDSC@michigan.gov

The DTMB Project Manager is:
Andrew Mason
Director, Client Service Division
Michigan Department of Technology Management and Budget (DTMB)
Agency Services – Department of Health and Human Services (MDHHS)
300 East Michigan Avenue, Chandler Building
Lansing, MI
517-336-8815
MasonAS@michigan.gov

The DTMB Contract Administrator for this project is:
Barb Suska
Michigan Department of Technology, Management and Budget
DTMB Purchasing Operations – Constitution Hall Building – 1st Floor
525 West Allegan Street
Lansing, MI 48933
517-335-4067
Email: suskaB2@michigan.gov

AGENCY RESPONSIBILITIES:
• The State may discontinue the services of any Vendor supplied staff with two weeks' notice without cause at any time.
• The State will provide access to networks, servers, software license (as appropriate), etc. needed for Vendor to perform tasks required for the Work Request.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:
The work is to be performed, completed, and managed at locations determined by the Vendor, but with the expectation that personnel will be available, on hand and able to complete emergency tasks. In addition, onsite support may be needed and will be identified at such time.

EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:
Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET.) and possible night and weekend hours depending on position and project requirements. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time. No overtime will be permitted.
RIGHT TO OWNERSHIP:

State intends to own the Software at the end of the Contract

- Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

- Vesting of Rights. The Contractor agrees to assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, in so far as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State’s request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of such assignments, confirmations of assignment, or other written instrument as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

- STATE MUST RECEIVE FAIR MARKET VALUE FOR THE LICENSE – (This must be reviewed and negotiated by the DTMB Procurement Buyer)
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Start Date</th>
<th>End Date</th>
<th>Hours</th>
<th>Dollars</th>
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<td>2023-02-01</td>
<td>2023-02-28</td>
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<td>B</td>
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<td>2023-02-01</td>
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**Notes:**
- Task A requires 50 hours and costs $10,000.
- Task B requires 20 hours and costs $4,000.
- Task C requires 30 hours and costs $6,000.
### Table 2

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Original Total for 4-Year Extension Period Costs from Table 1 and Table 2: $52,996,608.00

New Total for 4-Year Extension Period Costs from Table 1 and Table 2: $67,033,452.00

New Table 1 Cost: $9,717,204.00

New Table 2 Costs: $4,319,640.00

Total New Table 1 and Table 2 Costs: $14,036,844.00

Note: The above estimated contract year hours and related dollars as well as the total hours and related total dollars in both Tables 1 and 2 are for planning and budgetary purposes. Optum shall be authorized to perform and bill the State shall be entitled to receive and pay for those hours of Services mutually agreed upon as being necessary to provide the Services set forth in Attachment B and applicable projects covering the scope in Attachment B during the term of the agreement.

The estimated yearly contract hours and dollars will not preclude the State from utilizing the hours and dollars on an actual basis in amounts that vary from the estimates.
November 24, 2015

Mr. Ryan Hanna
Section Manager – Data Warehousing Support
Systems Development Division
Customer Service for MDHHS
Department of Technology, Management and Budget
9th Floor, Grand Tower Building
235 S. Grand Ave
Lansing, MI 48933

RE: REVISED LETTER FOR SWAROOP MUDDULURUS EMPLOYER INFOMERICA AS AN APPROVED SUBCONTRACTOR UNDER THE OPTUM GOVERNMENT SOLUTIONS BI SERVICES CONTRACT NO. 071B1300138

Dear Ryan:

Optum Government Solutions, Inc. ("Optum") has been supplying Mr. Swaroop Muddulurus as a Data Warehouse Developer Senior to the State of Michigan ("the State") as part of Work Request number ITB-TH-00007 ("the Work Request") via the BI Services Contract No. 071B1300138 ("the Contract") since July of 2011.

Optum’s original response to the Work Request in 2011 identified Mr. Muddulurus’s supplier as Ramsoft System, Inc. and in our letter dated September 16, 2015 regarding this matter. Optum identified Infomerica Inc. as Mr. Muddulurus’ new employer. Optum was subsequently notified by Infomerica Inc. on November 11, 2015 that Infomerica Inc. has secured the services of Mr. Muddulurus through a written, second tier subcontract with his employer Perk Systems, Inc. that contains applicable terms and conditions based on the requirements of the Optum-State of Michigan Contract 071B1300138 and the DHS Work Request awarded to Optum under such Contract.

In order to confirm Infomerica Inc. as an approved subcontractor from Optum under the Contract effective September 21, 2015, the State will need to issue a Contract Change Notice that references this letter.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David C. Wieber
Director of Michigan Operations
Optum Government Solutions
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET
PROCUREMENT

CHANGE NOTICE NO. 33
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR | PRIMARY CONTACT | EMAIL
---------------------------------|----------------|-----------------|
Optum Government Solutions, Inc. | David Wieber | David.wieber@optum.com |
822 Centennial Way, Suite 100 |                | (517) 993-0929 |
Lansing, MI 48917 |                | 4101 |

STATE CONTACTS | AGENCY | NAME | PHONE | EMAIL
----------------|--------|------|-------|-----------------|
PROGRAM MANAGER / CCI | DTMB | Susan Nordyke | (517) 373-9784 | nordykes@michigan.gov |
CONTRACT ADMINISTRATOR | DTMB | Terry Mead | (517) 284-7035 | meadt@michigan.gov |

CONTRACT SUMMARY
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)
INITIAL EFFECTIVE DATE | INITIAL EXPIRATION DATE | INITIAL AVAILABLE OPTIONS | EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 21, 2010 | December 20, 2015 | 5, 2 year | December 20, 2015 |

PAYMENT TERMS | DELIVERY TIMEFRAME
N/A | N/A |

ALTERNATE PAYMENT OPTIONS | EXTENDED PURCHASING
☐ P-card | ☐ Yes
☐ Direct Voucher (DV) | ☐ No
☐ Other | ☐ Yes
☐ Other | ☐ No

MINIMUM DELIVERY REQUIREMENTS
N/A

DESCRIPTION OF CHANGE NOTICE
EXERCISE OPTION? | LENGTH OF OPTION | EXERCISE EXTENSION? | LENGTH OF EXTENSION | REVISED EXP. DATE
x | 4 years | ☐ | ☐ | December 20, 2019 |

CURRENT VALUE | VALUE OF CHANGE NOTICE | ESTIMATED AGGREGATE CONTRACT VALUE
$71,479,054.00 | $52,996,608.00 | $124,475,662.00 |

DESCRIPTION: Services for Business Intelligence (BI) Work Request and Statement of Work for MDHHS Data Warehouse Project under Contract No. 071B1300138
Effective October 29, 2015, the State exercises 2 2-year options (4 years) and adds $52,996,608 to the contract per the attached Statement of Work and Revised Optum Response dated October 30, 2015. This includes the attached Revised Cost Table A, which replaces in whole the existing Cost Table – Attachment A in the Contract. It also provides Optum’s revised Work Request as Attachment B, and includes reduced hourly rates for the 4 year extension presented in Table 1 and Table 2. Optum also offers that these reduced rates in Table 1 and Table 2 will become effective November 1, 2015. All other terms, conditions, specifications, and pricing remain the same, per Contractor and Agency agreement, DTMB Procurement approval.
October 30, 2015

Ms. Cynthia Green-Edwards
Director, Office of Medicaid Health Information Technology
Michigan Department of Health and Human Services
400 S. Pine St. Capitol Commons Building
Lansing, MI 48933

RE: THIRD REVISED RESPONSE TO BUSINESS INTELLIGENCE (BI) WORK REQUEST AND STATEMENT OF WORK FOR MDHHS DATA WAREHOUSE PROJECT UNDER CONTRACT NO. 071B1300138

Dear Ms. Green-Edwards:

Thank you for your continued interest in working with Optum Government Solutions, Inc. ("Optum") in regards to the Data Warehouse Business Intelligence (BI) services that we are currently providing to the State of Michigan ("the State") via our BI Services Contract No. 071B1300138 and Work Request TB-TH-DW-0014 (collectively, "the Contract").

As you know, the State originally asked Optum for a change to the Contract in the form of a revised Work Request and a rate quote for services extension of four (4) or six (6) years. In response to this request for change, Optum initially provided an Optum Response dated June 1, 2015 and then also provided a Revised Optum Responses on October 7, 2015 and October 26, 2015 (collectively, the "Prior Optum Responses"). Subsequently, the State has requested revisions and Optum is pleased to provide the State with this third revised response ("Third Revised Optum Response") that supersedes and replaces the Prior Optum Responses.

This Third Revised Optum Response includes a revised MDCH Work Request which as a result of Executive Order No. 2015 - 4 shall be referred to as the Michigan Department of Health and Human Services (MDHHS) Work Request given the State's consolidation of MDCH and DHS into MDHHS ("Revised MDHHS Work Request") and a rate quote for a services extension of four (4) years to cover the period starting from December 21, 2015 (the "Extension Period Start Date") and ending December 20, 2019 (the "Extension Period End Date"). The timeframe from the Extension Period Start Date through the Extension Period End Date will be defined as the "Extension Period". Optum is pleased to provide this Third Revised Optum Response and if the State accepts, it would become part of the overall contract for such services, supplementing the terms of the Contract.

Third Revised Optum Response

Revised MDHHS Work Request:

1. Optum has provided a Revised MDHHS Work Request, included below as Attachment B, which includes an hourly rate quote for the Extension Period for the Revised MDHHS Work Request.

2. Hourly rates for a 4-year extension are presented as part of Table 1 and Table 2.

3. Optum is additionally offering to the State that the rates proposed for the Revised MDHHS Work Request Extension Period in Table 1 and Table 2 will become effective in 2015 on the 1st day of the month following the date that the State fully approves the Optum Revised
Response via a Contract Change Notice adding the funding for the Extension Period and extending the Contract Term through the Extension Period End Date.

BI Services Base Contract

1. Given that Optum is offering pricing beyond the current Contract Term end date of December 20, 2015 for the Extension Period, the State will need to extend the Contract term end date through the Extension Period End Date as part of accepting this Optum Response.

2. Optum is also presenting a Revised Cost Table – Attachment A which will replace in whole the existing Cost Table – Attachment A in the Contract with effect as of the date described in the third numbered paragraph under the heading “Revised MDHHS Work Request” and continuing through the Extension Period End Date.

Acceptance of this Optum Response

In order to accept this Third Revised Optum Response, it is our understanding that the State would complete two actions on or before December 21, 2015:

A. The State would issue a Change Notice to Contract 071B1300138 referencing the following items:
   1. This letter and date of this letter;
   2. The Estimated Revised Aggregate Contract Value would be increased by (a) the total amounts of Table 1 and Table 2 from this Third Revised Optum Response; and
   3. The Contract is extended through the Extension Period End Date.

B. The State would also either:
   1. Issue a purchase order for the Contract Year 1 totals from Table 1 and Table 2; (with the understanding that subsequent purchase orders would be issued prior to the start of each successive Contract Year in the Work Request term prior to the commencing of the applicable Contract Year) or;
   2. Issue a purchase order for (a) the total amount of Table 1 and Table 2 from the Revised MDHHS Work Request covering the Contract Years included in the Extension Period for the Revised MDHHS Work Request.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David Wieber
Point of Contact: David Wieber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number: (517) 993-0929
Email Address: David.Wieber@optum.com

Paul Miller (Oct 30, 2015)

Signer: Paul Miller
   VP, Finance
   Optum Corporate.
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<tr>
<th>Position Type</th>
<th>Not To Exceed Hourly Rate</th>
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<tr>
<td>Data Warehouse Architect</td>
<td>$188.00</td>
</tr>
<tr>
<td>Data Warehouse Data Designer/Modeler</td>
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<tr>
<td>Data Warehouse Developer Senior/Junior</td>
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<td>Data Warehouse Business Intelligence Analyst Senior/Junior</td>
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<td>Principal Consultant</td>
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1. These are not to exceed rates that will be appropriately discounted as individual SCWIs are issued.
Attachment B - Revised MDHHS Work Request

**DTMB**

**MICHIGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET**

**DATA WAREHOUSE (DW) AND BUSINESS INTELLIGENCE (BI) SERVICES WORK REQUEST and STATEMENT OF WORK**

This Work Request and Statement of Work (collectively the “Work Request”) are being issued to Optum Government Solutions, Inc. (“Optum” or “Vendor” or “Contractor”) under Optum’s Contract (071B1300138) with the Michigan Department of Technology, Management and Budget, Procurement, as established under the Data Warehouse and Business Intelligence Program.

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<th>Agency Project Manager:</th>
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<tr>
<td>Cynthia Green-Edwards</td>
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<tr>
<th>DTMB Project Manager:</th>
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<tr>
<td>Andrew Mason</td>
<td>517-898-5815</td>
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<th>DTMB Contract Administrator:</th>
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<td>Barb Suska</td>
<td>517-335-4667</td>
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**Required Skill Category Requested:**

- Data Warehouse Project Manager
- Data Warehouse Architect
- Data Warehouse Database Administrator
- Data Warehouse Developer Senior
- Data Warehouse Developer Junior
- Data Warehouse Designer/Modeler
- Data Warehouse Business Intelligence Report Developer
- Data Warehouse Business Intelligence Analyst Senior
- Data Warehouse Business Intelligence Analyst Junior
- Data Warehouse Help Desk Analyst
- Data Warehouse Web Developer
- Data Warehouse Subject Matter Expert
BACKGROUND:

MDHHS has been using the data warehouse since 1994 to direct policy, detect fraud, identify potentially valuable new initiatives, reduce error rates, calculate rates and more.

MDHHS utilizes the data warehouse for multiple purposes including mission critical functions. It functions as the department's decision support system. MDHHS uses data from the warehouse for rate setting for hospitals and managed and long term care providers. It is used to manage the performance of its partners (managed care providers and others) as well as programs within MDHHS. The Department has an extensive analytics effort to ensure that funds are being spent most effectively, including detecting and prosecuting fraud, and assure that Medicaid beneficiaries are getting the best care possible. In support of departmental management, the data warehouse is used to analyze trends, report on all aspects of Medicaid, and provide critical support to the budgeting process. Beyond this, the data warehouse provides significant analytical support for epidemiology and other studies.

MDHHS will be adapting and expanding its use of the data warehouse as it completes the implementation of ongoing work in its Medicaid Management Information System (MMIS), known as CHAMPS (Community Health Automated Medicaid Processing System). CHAMPS efforts underway include federally mandated projects such as Electronic Health Records (EHR) Incentive Program, ICD-10 and Health Reform. In addition, MDHHS will be adding new data sources and increasing their collaboration with other agencies along with adding new analytical tools. The Department expects to utilize the data warehouse for Health Information Technology/Health Information Exchange initiatives, as well as for the state's Medicaid Eligibility and Enrollment Initiative (Medicaid Compliance Program), Integrated Care Dual Eligibles Project and the Enterprise Fraud Application. The Medicaid Electronic Health Record (EHR) Incentive Payment Program and Michigan Health Information Network are American Recovery and Reinvestment Act of 2009 (ARRA) initiatives to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. An important requirement of these ARRA initiatives requires the use of clinical data to improve patient care outcomes which will involve significant research efforts using de-identified data. It is anticipated that much of the data will be stored in the data warehouse. To store and use of this ARRA initiative data will require significantly increased data warehouse capabilities.

MDHHS has relied on Contractor staff to provide data warehouse support and business intelligence services. These services include: providing data warehouse Extract, Transform and Load (ETL) services, application development, web development, business intelligence model, reporting, query development, help desk support, training and data analysis.

Brief Description of Services to be provided:

MDHHS, with assistance of the Michigan Department of Technology, Management and Budget (DTMB), has issued this Work Request to obtain the following positions to support, maintain and execute enhancement projects of various sizes for the MDHHS Data Warehouse:

- Three (3) Data Warehouse Project Manager
- Two (2) Data Warehouse Architect
- One (1) Data Warehouse Database Administrator
- Seven (7) Data Warehouse Developers Senior
- Two (2) Data Warehouse Developers Junior
- One (1) Data Warehouse Designer/Modeler
- One (1) Data Warehouse Business Intelligence Report Developer
- Two (2) Data Warehouse Business Intelligence Analysts Senior
- Seven (7) Data Warehouse Business Intelligence Analysts Junior
- One (1) Data Warehouse Help Desk Analyst
- Seven (7) Data Warehouse Web Developers Senior
- One (1) Data Warehouse Web Developers Junior
- Two (2) Data Warehouse Subject Matter Experts
This Work Request includes a total of thirty seven (37) Full Time Equivalents (FTEs). The total number of FTEs may be increased or decreased throughout the life of this Work Request, based on department needs and available funding.

It is the State's intent to establish this Work Request for BI Services to be provided to MDHHS for a time period defined above as the Extension Period. The Work Request may be renewed for three (3) two (2) year periods at pricing to be negotiated between the Vendor and the State.

It is anticipated the Work Request will begin on December 21, 2015. The work performed via this Work Request will be on a time and materials basis.

PROJECT OBJECTIVE:

The objective of this Work Request is to assist MDHHS with the development, support, maintenance and enhancement of MDHHS Data Warehouse applications, which is an on-going activity triggered by changes in federal and state regulations, evolving business needs, opportunities for improving business processes, continued software and hardware upgrades, and break fixes.

SCOPE OF WORK:

- The scope of this Work Request is to provide Data Warehouse Business Intelligence (BI) Services on an as needed basis to support maintain and execute enhancement projects of various sizes for the MDHHS Data Warehouse set forth in this Work Request.
- Develop and maintain Data Warehouse BI applications that support MDHHS’s day-to-day business operations.
- Resources will become familiar with DTMB personnel roles, DTMB supporting MDHHS’s business processes, and DTMB’s State Unified Information Technology Environment (SUITE) and MDHHS Management policies and procedures.

TASKS:

REQUIRED TASKS

- The Vendor must attend orientation, security awareness training and any other relevant security and or confidentiality training requested by MDHHS and/or DTMB. Vendor staff must sign appropriate agreements or training certifications.

EXAMPLES OF ONGOING and UPCOMING CONTRACTOR TASKS

(these tasks may change based on direction from the State)

1. Run production reporting on the data warehouse

Tasks include:

- Complete development of production reports in response to changes in CHAMPS data warehouse model. This includes reports needed for ongoing certification of CHAMPS, the Medicaid Statistical Information System (MSIS) extracts, and other production reports used to manage and evaluate Medicaid programs. Users of these reports include but are not limited to MDHHS Medicaid management and staff, the State legislature, Federal agencies, counties and providers. Tasks include:
  - Map existing report data elements to corresponding updated fields in the CHAMPS data warehouse.
  - Conduct Joint Application Design (JAD) sessions to finalize requirements with MDHHS users.
  - Develop, test, and implement the updated version of the reports, including:

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- State and federal reports
- Centers for Medicare & Medicaid Services (CMS)-372s for Children's Waiver, Elderly and Disabled Waiver, Habilitation Supports Waiver and Serious Emotional Disturbance
- MSIS
- CMS-416 report and Early and Periodic Screening, diagnostic, and Treatment (EPSDT) letters
- Rewrite production reports to align with ICD-10, Integrated Care Dual Eligibles Project, and Medicaid Eligibility and Enrollment changes.
- Provide input as a pilot state for T-MSIS. Work with CMS Developers to refine T-MSIS requirements, record layouts and data definitions. Develop extract processes to align with defined T-MSIS requirements, create internal system documentation, test files internally and with CMS, and implement approved processes.
- Develop Data Quality Improvement Program (DQIP) reports from the CHAMPS data warehouse for distribution to Medicaid Health Plans to provide feedback on performance related to their contracts with MDHHS.
- Provide training and support to Department of Technology, Management and Budget (DTMB) staff to facilitate report development and maintenance.
- Provide on-site expertise to incorporate newly-developed processes into the Business Objects environment, coordinate activities with the Consolidated Print Center, and integrate tools used to support data warehouse reporting.

2. Provide updated analytic, reporting, data mining, and web-based analytic tools to enhance the analytic capability of the staff

MDHHS vision continues to include the use of ad-hoc analytic. On Line Analytical Processing (OLAP) and data mining tools. The OLAP and data mining tools are needed to examine our data from multiple perspectives, which will allow identification of emerging trends and cost savings. This allows the ability to answer complex questions by performing multidimensional analysis across data sets and programs; and to drill up and down through successive layers of detail to uncover trends, relationships, and patterns for improved decision making.

Tasks include:
- Provide services related to potential upgrades of MDHHS's BI Query Reporting environment due to more recent versions of the software offered by the manufacturer.
- Provide services related to potential upgrades of MDHHS's Business Objects Crystal Reporting environment due to more recent versions of the software offered by the manufacturer.

Note: Both BI Query and Business Objects Crystal Reporting Software licensing will continue to be provided by the State via other contract vehicles.

3. Identify and load additional data sets on the data warehouse

As new systems and data sources are developed that support the administration of the Medicaid program, and expansions are made to existing source systems, they will be loaded to the data warehouse to be integrated with existing MDHHS data. This data could be Medicaid-specific, or could be non-Medicaid but provides a longitudinal view of beneficiaries and populations that could effect changes in Medicaid policy.

The process to add these data sets includes: defining requirements/which data tables/fields to include; determining whether or not to maintain history; developing load programs (using state standard Extract, Transform, Load (ETL) tool where possible); integrating new data with existing data in the BI Query model; and training MDHHS users.

Tasks include:
- Add Maternal and Infant Health Program (MIHP) Infant Screener and Maternal Summary data plus additional data elements from new development to the Maternal Screener, in order to enhance
MDHHS’s ability to evaluate the program, evaluate effectiveness of interventions, and assess outcomes.

- Add Children’s Waiver data from multiple sources (including Paradox database that is no longer supported) for purposes of enrollment and CMS-372 reporting.
- Add Human Services data needed for Medicaid reporting required by CMS, and/or establish MDHHS access to the Human Services data through a data warehouse view (e.g., Poverty/Income, Race/Ethnicity).
- Add ‘trusted data sources’ as they are identified as part of the ACA Eligibility Project and Enterprise Fraud Application.
- Add detail-level REDIS data from Medicaid Health Plans. This will be used to evaluate performance measures as part of the CMS Adult Quality Measures grant, along with other initiatives.
- Add Veteran data to be incorporated into the Master Person Index to link to existing data sets.
- Add Buy-In source data for comparison to Medicare identified on the eligibility records. This will be used to ensure completeness of the MWA submissions.
- Add EMERS data from mental health hospitals when source implementations are complete.
- Add Hospital and Long Term Care Cost Report data that currently resides in a system managed by Hewlett Packard (HP).
- Add T-MSIS submission tables and corresponding data to the data warehouse for use in maintaining MSIS history, analysis and resubmission to CMS as necessary.
- Add Michigan Disease Surveillance System (MDSS) data. MDSS enables physicians and clinical laboratories to electronically report the occurrence or suspected occurrence of disease, conditions or infection required by the Michigan Communicable Disease Reporting Rule. Case reporting and management depends on the integration of data from multiple sources (e.g., laboratory results, patient information; disease condition, onset, symptoms, and hospitalization dates; and medication, treatment and clinical history). MDHHS has an opportunity to improve disease tracking and monitoring of Medicaid beneficiaries through the integration of MDSS and the MDHHS Data Warehouse.
- Add Newborn Screening data. This data was previously loaded to the data warehouse, but source system has been re-written, and corresponding data warehouse load processes are needed to capture data from the new system.
- Add Third Party Recovery data. Existing Medicaid payment recovery systems pull data from the warehouse for purposes of determining amounts to be recovered, but amounts recovered are not currently loaded back to the data warehouse. The addition of the recovery amounts to the data warehouse will provide a more complete and accurate representation of Medicaid payment amounts.
- Evaluate other data sources and add those that will benefit Michigan’s Medicaid program or are needed to support reporting requirements.
- Add Provider Licensing data from the Department of Licensing and Regulatory Affairs for use in identifying and de-duplicating provider data.
- Add All Payers Claims Database.
- Add Health Risk Assessment (HRA) data from Enrollment Broker, Medicaid Health Plans and Integrated Care Organizations (ICOs).
- Add clinical and other data from the health information exchange, such as Electronic Quality Measures; and Admission, Discharge and Transfer (ADT) data.

4. Changes to existing data loads in order to stay current with enhancements to source systems: MDS data sets (OASIS, Nursing Home, MDS); CSHCS; MIRC; WIC

As source systems are rewritten to align with new requirements and technology, corresponding enhancements are required to the data warehouse in order to load and store new data elements and provide query and reporting access to the data. Source system changes may be driven by changes at the federal level, such as implementation of the OASIS-C and Minimum Data Set for Nursing Homes (MDS) 3.0 data sets and forms. Source system changes may also be driven by changes at the MDHHS level, such as implementation of a new web-based application for Children’s Special Health Care Services (CSHCS), which will include additions to the existing data set.
Tasks include:

- Develop, test and implement data warehouse enhancements as a result of changes to source systems, including:
  - OASIS
  - Nursing Home
  - MDS
  - CSHCS
  - WIC (Women, Infants and Children)
  - MCIR (Michigan Care Improvement Registry)
  - Home Help Payments
  - Home Help Assessments
  - MIHP
  - Vital Records

5. Develop web applications to support Medicaid programs and processes

Tasks include:

- Develop, test and implement web applications to support the following waivers:
  - Children's Support Waiver (CSW)
  - Children with Serious Emotional Disturbance Waiver (SEDW)
  - Autism
  - Enhancements to the Habilitation Supports Waiver (HSW) application
  - Integrated Care Organization (ICO) Waiver

- These web applications will provide:
  - Automated workflow to process enrollment of waiver beneficiaries (including capture of demographic data not available in BRIDGES)
  - Tracking and reporting of waiver beneficiaries
  - Management and tracking of waiver "slots"
  - Integration with existing systems (e.g., BRIDGES, Statewide Automated Child Welfare Information System [SACWIS])
  - An interface to CHAMPS to provide data needed to process waiver payments.

- Add data for the following home and community-based services waivers to be used by the corresponding web applications proposed to support the waivers:
  - CSW
  - SED

- Develop, test and implement an enhanced web-based application for MDHHS's Managed Care Compliance Review Tool to replace the existing Access-based Compliance Review Tool application (the Tool). This will allow health plans and MDHHS to update and access information through the web, rather than having to send the Access database back and forth to update information. The Tool summarizes all of the requirements of the Medicaid Comprehensive Health Plan contract, and State and Federal regulations, including fraud and abuse. MDHHS conducts an annual compliance review of the designated criteria within the Tool. This Tool is used to document the Health Plans' compliance with contract requirements as identified in each criterion.

- Develop, test and implement web applications to support
  - Beneficiary Monitoring Program
  - Integrated Care/Data Analytics
  - MDHHS Automated processes and workflow (e.g., NDC Crosswalk)

6. Create and manage METADATA for the MMIS IT Architecture, and provide BI-Administration capability for security and model management.

Metadata and field mapping will provide information on the descriptions and uses of the data, flow of the data through the system, relationship to CHAMPS screens, and relationship to legacy data warehouse data elements, as well as the transformation and cleansing procedures. This information will be especially useful...
to analytic staff that may not be familiar with the operational detail of the data. It will also allow for the administration of the analytic tool environment and assessment of data integrity.

Tasks include:

- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process (e.g., 837 records, National Council for Prescription Drug Programs (NCPDP), corresponding fields in CHAMPS screens, and use in reports).
- Create business definitions/data dictionary for each data element in the new CHAMPS data model.
- Create and/or modify BI-Query models to allow user-access to pre-defined data sets based on access approved through the security process. For example, access may include combinations such as the following:
  - Identified/Linked
  - De-identified/Linked
  - Identified/Linked & Unlinked
  - De-identified/Linked & Unlinked
- Implement updates to roles and profiles (levels of security) for user access to the new CHAMPS data model.
- Implement updates to strong password rules.
- Develop interface maps for both CHAMPS and the data warehouse.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.

7. **Provide additional data integration across program areas and continue to enhance architecture to align with MITA initiative**

Tasks include:

- Enhance architecture to align with MITA by developing data exchanges between the data warehouse and health plans. By making additional data available to health plans, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving health care outcomes for Medicaid beneficiaries. These data exchanges are adaptable and will be used to help drive the Michigan Health Information Exchange (HIE) initiatives.
- Expand the use of Medicaid data in the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDHHS to collaborate with other departments/agencies to improve Medicaid outcomes.
- Integrate Medicaid data with Corrections data to provide improved ability to identify the cross-population of Medicaid beneficiaries and prisoners, and therefore allow improved tracking and analysis of Medicaid beneficiaries.
- Integrate the data warehouse with other tool sets (e.g., Oracle, Access, ETL tools) to provide the ability to link to data that resides in source systems outside the data warehouse.
- Add new development to migrate data loads to the state’s standard COTS ETL tool (DataStage) to improve data load processes, reduce risk and development/maintenance costs, and minimize differences between data warehouse and source system data.
- Evaluate and purchase tools to align technology framework with Medicaid Information Technology Architecture (MITA) standards (foster integrated, cross-functional business in order to improve administration of Michigan’s Medicaid program).
- Establish processes and integrate data sets across state agencies for use with the Enterprise Fraud Application (COTS product)

8. **Provide onsite analytic development for the various program models, and analytic tools**

Tasks include:

- Update CHAMPS model-specific training manuals.
- Develop and deliver comprehensive training to educate end users on the use of the data based on
updated CHAMPS and BRIDGES requirements.
- Provide comprehensive training to help and users understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program. This will include development of materials for instructor-led classroom training as well as development of web-based training.
- Develop and deliver comprehensive training to educate developers on updated data warehouse structures and the use of data based on CHAMPS and BRIDGES requirements.
- Provide comprehensive training to help developers understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program.
- Provide first-line Help Desk Support to answer end user and developer questions related to the newly defined data models.
- Provide advanced analytic support and development at a level above the typical user’s business and technical knowledge.
- Provide Business Objects training and support for development staff, related to developing production reports on the data warehouse.

9. **Enhance the data warehouse as a result of CHAMPS and BRIDGES**

Tasks include:
- Conduct Technical JAD sessions along with CNS to redefine data extract layouts for updates to CHAMPS data sets, as well as relationships between tables, referential integrity, key fields, etc.
- Conduct User JADs for updates to CHAMPS Production model - to define usage requirements, data definitions, and alignment with CHAMPS screens.
- Complete development of various data structures to accommodate updates to CHAMPS and BRIDGES data based on input from JADs.
- Develop new data mart to incorporate a single logic set for accessing CHAMPS data (e.g., single field for billing provider for all claim types) to simplify data access for end users and developers.
- Develop new BI Query Views in the data warehouse using the new data mart.
- Add and modify Metadata to reflect CHAMPS and BRIDGES changes.
- Rewrite data warehouse structure and load programs as a result of changes being implemented in CHAMPS. As approved in the CHAMPS A&D-U, these changes include CHAMPS Change Requests (e.g., addition of new fields and new functionality) that result in a corresponding change to the data warehouse, as well as additional data warehouse testing during the approved CHAMPS implementation extensions.
- To ensure compliance with new Managed Care Organization (MCO) Drug Rebates mandated by Health Care Reform (PPACA – Patient Protection and Affordable Care Act) that went into effect 3/23/10, the following work is required:
  - Create, test and implement new process to provide an interface file to the State's PBM Pharmacy Benefits Management Services (PBM) (Magellan Medicaid Administration, Inc.) containing the MCO Drug claims (NCPDP encounters and Institution/Professional encounters for physician administered drug products) and MCO provider reference data. This data will then be used by the PBM to invoice manufacturers for CMS Federal Drug Rebates.
  - Utilize the NDC (National Drug Code):HCPCS (Healthcare Common procedure Coding System) crosswalk reference table to establish encounter edits and reports for purposes of ensuring the physician administered encounter claims are formatted properly for rebate invoicing.
- The following require redesign to accommodate CHAMPS data warehouse changes:
  - MMA Part D submission files.
  - Eligible Months tables.
- Develop data warehouse structure and load programs to accommodate implementation of meaningful use processing in CHAMPS.
- Develop and update end user queries and reports to use updated models representing CHAMPS and BRIDGES data.
- Expand Situational Data in the warehouse. Situational data (fields not used directly to adjudicate a claim) are currently received from CHAMPS in a single, continuous, variable-size field, making it unusable by end users. This data will be parsed and stored in a format that makes it usable.
• Expand the data warehouse to accommodate ICD-10.
• Expand the data warehouse to include data needed to support electronic health record (EHR) (e.g., additional provider data, NLR data).
• Expand the data warehouse to include Prior Authorization data from CHAMPS.
• Expand the data warehouse to accommodate ACA Eligibility Initiatives, HIE and Health Insurance Exchange (HIX).
• Expand the data warehouse to accommodate Integrated Care Dual Eligibles Project.

10. Enhance the SURS process as a result of CHAMPS and BRIDGES

Tasks include:
• Develop new SURS extract process, which includes three parts:
  o Changes needed as a result of CHAMPS ICD-10 updates
  o Addition of Encounters to extract process
  o Replace quarterly extract with monthly extract
• Enhance Audit programs as a result of CHAMPS changes including ICD-10 and Health Care Reform

11. Load Pharmacy data directly to the data warehouse

Tasks include:
• Enhance the PBM data load process to include pharmacy paid claims enhancements. An example is the addition of data needed to further monitor and target outreach for purposes of increasing E-Prescribing in Michigan, and to collect information related to meaningful use.
• Load Pharmacy provider enrollment file from the State’s PBM to the data warehouse.
• Rewrite NCPDP Encounter load programs to align with CHAMPS ICD-10 updates and PBM data.
• Rewrite the Medicaid Health Plan Point-of-Sale (POS) pharmacy carve-out claim utilization extract to pull data from the new CHAMPS structure. This weekly process creates a file containing pharmacy carve-out claims for beneficiaries enrolled in each plan. The Medicaid Health Plans use the claim data for utilization and disease management programs.

12. Develop web-based Security application

Tasks include:
• Develop enhancements to the Data Warehouse Security form/process in the web-based security application.
• Develop the Security form/process for access to additional Medicaid applications, such as:
  o BRIDGES
  o SOLQ
  o Buy-In
  o MCR (Immunization Registry)
  o Load
  o Home Help
  o MIHP
  o CSCHS
  o Third Party Electronic Database (TED)
  o Level of Care Determination
  o CMS 1915(c) Waiver web site
  o Ambulatory Payment Classification (APC) web site (WebStrat)
  o Teradata Access for Applications
  o Master Person Index
  o Expand to other state agencies for access to their applications
  o Access to Waiver web applications
13. Enhance Data Warehouse Operability and Access

Analysis and development to optimize query and system performance will reduce data warehouse usage costs by improving efficiency and reducing storage space. Analysis of CHAMPS data warehouse usage will be performed to determine areas for improvement (e.g., rewrite queries, add statistics, and add/remove indexes to align with user access to data, compress databases). Solutions will then be identified, developed and implemented to address the identified areas for improvement.

Develop application to audit MDHHS data warehouse usage. This application would provide web-based access to stored information such as identification of which users accessed which data and frequency of access.

Tasks include:
- Develop code to analyze databases and queries, identify potential areas for enhancement, develop and implement solutions.
- Develop web-based data warehouse audit application.
- Develop, test and implement solutions for encryption of data at rest and in flight.
- Test and implement enhancements to accommodate Teradata v14 upgrade.

14. Develop Queries and Reports to support the Medicaid Program

The MDHHS Data Warehouse is a critical component in the administration of the Medicaid Program. As such, it is frequently used as a source of information for audits, research, lawsuits, FOIA, and other similar requests for data. These requests typically require response within a short timeframe and require knowledge of both Medicaid and the data warehouse in order to provide required results within the defined timeframe.

Additionally, MDHHS will be participating in the ARRA funded comparative effectiveness research (CER). As a participant of CER, MDHHS will be providing data extracts related to specific proposals. MDHHS will use the data warehouse to provide requested data.

Tasks include:
- Develop code to extract data as requested for CER.
- Develop code to extract data as needed for audits, research, lawsuits, FOIA, and other similar requests.
- Develop code to extract data for use in proof-of-concept of Prospective Payment editing and other similar requests.
15. Develop and Configure Unique Client Identifier (UCI) Replacement

MDHHS developed the UCI using custom code in 2001. The UCI links person-level records from one database to another by evaluating the available data elements such as name, address, IDs – beneficiary, client, consumer – to determine if a match exists. When a match exists, a UCI is assigned that is used in all the databases. Once linked, they remain linked unless manually removed. Since 2001 when the UCI was first developed, there have been huge technology gains in master person technology. MDHHS adopted a new COTS product that is an independent system, yet fully integrated with the data warehouse, which will drastically reduce the amount of custom development required, speed integrations of additional sources, and reduce the ongoing operating cost of the system.

To enable these recent advances including enhanced person matching algorithms and new standards for identity management (including the required standards for HIE), the following Tasks are required.

Tasks include:
- Install and configure new hardware and software.
- Upgrade software for version releases.
- Integrate the software with other existing systems.
- Develop a Provider Index within the COTS product.
- Expand Master Person Index to include new data sources, real-time access, query functionality, golden record identifiers, etc.
- Develop householding functionality within the COTS product.
- Establish governance processes related to the use of the COTS product.
- Develop new data warehouse functionality to correspond with updates to MPI/PI.
- Monitor algorithms and system configuration and make recommendations for performance improvement.

16. Provide Data Warehouse Assistance to other States that may use “MMIS as a Service”

As other states potentially move to MMIS as a Service (MAAS) – which Illinois is currently doing with the IMPACT project – corresponding data warehouse development is required in order to load and store data elements from MAAS, integrate the data with other data sources, provide query and reporting access to the data, and support applications and activities based on that data. Leveraging the Michigan data warehouse team’s established knowledge and expertise related to the MAAS (CHAMPS) data warehouse will reduce development cost, decrease risk, and provide consistency across state data warehouse implementations. The Michigan data warehouse team will provide consultation and technical assistance to development teams in other states who are implementing a MAAS data warehouse.

Tasks include:
- Provide documentation from Michigan’s MAAS data warehouse structure (e.g., database models, table definitions, ETL code and supporting documentation, metadata, view definitions, data warehouse query models if applicable)
- Facilitate knowledge transfer sessions with development teams in other states to help them understand the MAAS data warehouse structure, job processes, and business definitions of the data elements.
- Assist with development of MAAS data warehouse tables and jobs for implementation in other states.

IT Classifications/Skills Set and Tasks:

The requirement is that the individual must possess the skills, knowledge, and experience required to perform the duties effectively and efficiently at the level specified in the work request.

1. Data Warehouse Project Manager

Data warehouse project manager manages the integration and/or development and delivery of very large
and complex deliverables directly to the customer. This position provides the primary interface between the Contractor, the State and third party providers.

- Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
- Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.
- Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.
- Makes sure approved methods, processes and tools are consistently used.
- Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both CTME developers and end user query developers.
- Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
- Provide on one support for developers and end users to assist them in accomplishing their data reporting needs.
- Assists the MDHHS Agency Project Manager with documentation for managing the data warehouse such as presentations, reports and Advanced Planning Documentation (APD) to be submitted to CMS for funding.

Required Experience
- 5+ Years Project Manager or Team Lead Experience.
- 5+ Years Data Warehouse Experience.
- 3+ Years Teradata DW Experience.
- Medicaid Experience desired.

2. Data Warehouse Architect

Data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.

- Conducts model and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.
- Responsible for data warehouse database design and providing technical direction to modelers, data analysts, ETL developers, and database administrators.
- Develops design proposals to meet MDHHS needs
- Approves integrated systems design proposals for technical content.
- Monitors the implementation for technical correctness so that MDHHS needs are met.
- Identifies, analyzes and evaluates alternative design solutions.

Required Experience
- 5+ Years Data Warehouse Architect and Model Experience.
- Teradata Version 13/14 Experience.
- Teradata Utilities Experience.
- 2+ Years Data Warehouse Administrator Experience.

3. Data Warehouse Database Administrator

Database administrator (DBA) is responsible for the availability, safety and usefulness of the MDHHS data warehouse databases.

- Working in conjunction with system administrators, perform server configuration to ensure that the
The entire database system is capable of providing the services needed:

- Performance monitoring to identify bottlenecks and places where throughput can be improved.
- Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
- Configure access to the data warehouse and communication between the warehouse and other servers.
- Physical database design translates the logical database design to work optimally for the specific database environment.
- Working with MDHHS data warehouse developers to establish standards and guidelines for access to MDHHS data warehouse databases.
- Collaborate with DTMB to provide data/database integrity for software installation and updates, and backup and restore, including:
  - Software installation and database management system upgrades
  - Software upgrades so that the database is in compliance with critical security patches, or software upgrades deemed necessary by the State.
- Work with MDHHS data warehouse developers and MDHHS clients to optimize their queries.

**Required Experience**

- 4+ Teradata Database Administrator Experience.
- 2+ Teradata Version 13/14 Experience.
- Teradata Utilities Experience.
- Teradata Manager Experience.
- SQL Assistant Experience.
- Linux Experience.
- Oracle Experience.

4. **Data Warehouse Developer Senior**

Data warehouse developers perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other MDHHS applications. In addition, they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.

- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**

- 6+ Years SQL Development Experience.
- Business Analyst Experience.
- SQL and Performance Tuning Experience.
- Teradata Version 13/14 Experience
- SQL Assistant Experience.
- ETL Development using Teradata Utilities and Linux Experience.

5. **Data Warehouse Developer Junior**

Data warehouse developers perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other MDHHS applications. In addition, they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
• SQL development.
• Work with developers and end user query developers to design and improve database queries.
• Train developers in how best to design queries for a specific database.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

Required Experience
• 2+ Years SQL Development Experience.
• Teradata Utilities Experience.
• SQL Assistant Experience.

6. Data Warehouse Designer/Modeler
Data warehouse designer is responsible for the database modeling and design for an efficient data warehouse objects structure. This involves defining the tables, keys and relationships that will allow an application to retrieve and update data correctly and efficiently.
• Working with end users and developers to understand the data needs of MDHHS clients.
• Documenting the MDHHS data warehouse data involves including definitions, constraints and access needs.
• Creating and maintaining MDHHS data warehouse logical designs, including Entity Relationship diagrams, which illustrate what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to other data in the database.
• Creating and maintaining MDHHS data warehouse data definition language (DDL) that can be used to create and update the database.
• Working with the MDHHS Data Warehouse DBA and ETL developers, modify the logical design to create a physical design most suited to the database environment and the applications that will use it.
• Work with MDHHS Data Warehouse ETL developers and DBA to create and maintain database design standards.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their report development related tasks may include:
• Perform application development tasks in support of building data warehouse applications and integrating data warehouse resources into other Agency applications. Their development related activities may include tasks such as:
  o Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
  o Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
  o SQL development.
  o Work with developers and end user query developers to design and improve database queries.
  o Train developers in how best to design queries for a specific database.

Required Experience
• 5+ Years Data Warehouse Modeling Experience.
• 5+ Years of SQL Development.
• Data Warehouse Architect Experience.

7. Data Warehouse Business Intelligence Report Developer
Data warehouse Business Intelligence Report Developer is expected to be able to work with agency requestors to define and develop new reports, and provide training and technical support to both DTMB developers and end user query developers.
- Working with end user requestors to understand their data needs and create and implement solutions to those needs.
- Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
- Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
- Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
- 5+ Years of Business Objects Report Development Experience.
- 5+ Years of SQL Development.
- Business Analyst Experience.

8. Data Warehouse Business Intelligence Analyst Senior
Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
- Running JAD sessions to understand and collect business requirements, develop use cases and determine what data is needed and how it is likely to be used.
- Creating ad-hoc queries to answer specific user questions.
- Program design and specification.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Supporting end user to enable them to create their own queries and reports as needed.
- Identify data problems and work with developers to correct them.
- Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
- Organize and run user groups to encourage self-support among end user and DTMB query and other data warehouse application developers.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own data needs where possible.
  - Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
  - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
- 6+ Years Project Lead/Data Warehouse BI Analyst Experience.
- Training Experience.
- SQL Assistant Experience.
- Medicaid experience desired.

9. Data Warehouse Business Intelligence Analyst Junior
Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
- Running JAD sessions to understand and collect business requirements, develop use cases and determine what data is needed and how it is likely to be used.
• Creating ad-hoc queries to answer specific user questions.
• Program design and specification.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Supporting end user to enable them to create their own queries and reports as needed.
• Identify data problems and work with developers to correct them.
• Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
• Organize and run user groups to encourage self-support among end user and DTMB query and other data warehouse application developers.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  o Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  o Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the data warehouse tools available to them to support their own needs when possible.
  o Develop and present training classes for DTMB developers to better understand how to use the data warehouse development tools to create and implement reporting solution using the data warehouse.
  o Provide on one on one support for developers and end users to assist them in accomplishing their data reporting needs.

Required Experience
• 2+ Years Project Lead/Data Warehouse BI Analyst Experience.
• Medicaid experience desired.

10. Data Warehouse Help Desk Analyst
Help desk staff provide first line support for end users and developers.
• Manages MDHHS Data Warehouse mailbox.
  • Assesses user identified issues and provides guidance for resolution.
  • Directs unresolved problems and reports to appropriate staff, if necessary.
  • Tracks and analyzes problem occurrences and resolutions.
• Conducts data warehouse user group training.
• Develops training materials.
• Assists with query/report development.
• Provides user assistance with data warehouse tool(s), model/database, business knowledge and recommendations for efficiency and solutions to meet user business needs.

Required Experience
• 3+ Years of Data Warehouse Help Desk Analyst Experience.
• Experience in supporting the end users in accessing the data warehouse and effectively utilize the desktop tools.

11. Web Developer
A Web Developer is responsible for designing and developing web-based applications that interact with and utilize the data warehouse to provide MDHHS users with highly interactive, easy to use web-based data warehouse applications.
• Defining and developing applications that rely on unique web-based technology and tools, and that will conform to standards defined by DTMB for user interface and usage of the data warehouse.
• Defining the web application user interface, business rules, database access and data warehouse access, and determining any data sources that need to be imported into the data warehouse for web application operation.
• Producing technical specification documents to review the web application with the user, and conducting JAD sessions to revise and finalize technical specifications.
- Prototyping of web application pages for user review and approval.
- Producing accurate and complete data mapping documents.
- Performing user acceptance testing with users and DTMB to confirm that new web applications perform per specifications, and making adjustments to the web application as required.
- Maintaining a development and staging environment for the development and testing of enhancements and updates to the web application.

**Required Experience**
- 5+ Years of Data Warehouse Web Developer Experience.
- Web development: HTML, JavaScript, Asp.net, Visual Studio.

**12. Subject Matter Expert (SME)**
A Subject Matter Expert (SME) will be responsible for providing specialized, in-depth knowledge of a business area(s) such as Medicaid, Master Person Index/Provider Index, Pharmacy, ICD-10, HEDIS, Metadata Management, and technology solutions.
- Leading or actively participating in work-groups with the need for specialized knowledge.
- Providing guidance on how their area of expertise can resolve organizational need, and actively participates in all phases of a project/initiative by sharing their knowledge, expertise and ideas.
- Defining technology and business solutions based on thorough understanding of business processes and policies.
- Reviewing, helping re-engineer, or creating new processes and policies.
- Evaluating and defining technology requirements and solutions.
- Defining business needs, and identifying and recommending the most appropriate solutions.
- Providing documentation such as forms, manuals, correspondence, and procedures.
- Understanding, articulating, and implementing best practices related to their area of expertise.

**Required Experience**
- Experience requirements will vary depending on area of expertise being requested. Current SMEs must have expertise in Medicaid, technology solutions, MPV/P, metadata management, and business objects dashboards.

**DElIVERABLEs:**
The deliverables and tasks agreed to in the resulting Contract shall comply with the following approval process:

**APPROVAL OF DELIVERABLES, IN GENERAL:**

(a) All Deliverables (Physical Deliverables, Written Deliverables, and Service Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

(b) The State’s obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable have been delivered without material deficiencies. If the State determines that the Deliverable has material deficiencies, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State and Contractor receive the Deliverable and agree that the Deliverable is ready for use and, where applicable, Contractor has provided certification to that effect.

(d) The State will approve in writing a Deliverable upon confirming that it conforms to and, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a...
reasonable time at Contractor's expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

(c) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep any resulting Contract(s) in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing; beyond the Contract(s) price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State's general expenses provided the State can furnish proof of such general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

PROCESS FOR APPROVAL WRITTEN DELIVERABLES:

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work/Purchase Order following delivery of the final version of the Deliverable (following which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF SERVICE DELIVERABLES:

The State Review Period for approval of Service Deliverables is governed by the applicable Statement of Work/Purchase Order (following which the State Review Period, by default, shall be forty-five (45) Business Days for a Service Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF PHYSICAL DELIVERABLES:

The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of Work/Purchase Order (following which the State Review Period, by default, shall be forty-five (45) continuous Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.
approval of the Deliverable. If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

ACCEPTANCE CRITERIA:

PROJECT CONTROL AND REPORTS:

A monthly progress report must be submitted to MDHHS and DTMB Project Managers throughout the life of this project. The report may be submitted with the billing invoice. Each monthly progress report must contain the following information:

- **Hours:** Indicate the number of hours expended during the past month, and the cumulative total to date for the project.
- **Tasks accomplished:** Indicate what projects have been worked on, and what was completed during the current reporting period.

SPECIFIC AGENCY STANDARDS:

Agency standards, if any, in addition to DTMB standards.

PAYMENT SCHEDULE:

Payment will be made on a time and materials basis (hourly basis). The State will pay Contractor upon receipt of properly completed invoices which shall be submitted to the billing address on the State issued purchase order not more often than monthly. The State’s Accounts Payable area will coordinate obtaining Agency Project Manager and The State Project Manager approvals. All invoices should reflect the purchase order, actual work completed by payment date, and must be approved by the Agency Project Manager and DTMB Project Manager prior to payment. The invoices shall describe and document to the State’s satisfaction a description of the work performed in the progress of the project, and fees.

Payment shall be considered timely if made by the State within forty-five (45) days after receipt of properly completed invoices.

EXPENSES:

The State will NOT pay for any travel expenses, including hotel, mileage, meals, parking, etc.

PRICING SUMMARY

Pricing for the Extension Period is set forth in Table 1 below:

ADDITIONAL TIME & MATERIALS LABOR RATES FOR PROFESSIONAL SERVICES:

To the extent the parties agree that certain specific services must be provided on a time and materials basis, such services must be provided at the Labor Rates (Not to Exceed Hourly Rate cost column) in Table 2 below. Future amendments to this Work Request may utilize this rate structure, as agreed between the Contractor and State. Additionally, the Contractor may utilize the rates in order to provide the State with a not to exceed time and materials price. Prices quoted herein will be used for change, addition, and/or deletion of work associated with this Work Request. The Estimated Hours is provided below as an estimate only and is not meant to preclude or limit the State from requesting a resource/staffing mix for future projects that exceeds the hours estimate for a specific Staffing Category as long as the Total Additional Professional Services Cost is not exceeded.
The MDHHS Project Manager is:
Cynthia Green-Edwards
Director, Office of Medicaid Health Information Technology
Michigan Department of Health and Human Services (MDHHS)
500 Pine Street, Capitol Commons Center
Lansing, Michigan 48933
517-488-9993
EDWARDSC@michigan.gov

The DTMB Project Manager is:
Andrew Mason
Director, Client Service Division
Michigan Department of Technology Management and Budget (DTMB)
Agency Services – Department of Health and Human Services (MDHHS)
300 East Michigan Avenue, Chandler Building
Lansing, MI
517-488-6815
MasonA5@michigan.gov

The DTMB Contract Administrator for this project is:
Barb Suska
Michigan Department of Technology, Management and Budget
DTMB Purchasing Operations – Constitution Hall Building – 1st Floor
525 West Allegan Street
Lansing, MI 48933
517-335-4067
Email: suskaB2@michigan.gov

AGENCY RESPONSIBILITIES:
- The State may discontinue the services of any Vendor supplied staff with two weeks’ notice without cause at any time.
- The State will provide access to networks, servers, software license (as appropriate), etc. needed for Vendor to perform tasks required for this Work Request.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:
The work is to be performed, completed, and managed at locations determined by the Vendor, but with the expectation that personnel will be available, on hand and able to complete emergency tasks. In addition, onsite support may be needed and will be identified at such time.

EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:
Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET) and possible night and weekend hours depending on position and project requirements. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time. No overtime will be permitted.
RIGHT TO OWNERSHIP:

State intends to own the Software at the end of the Contract

- Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

- Vesting of Rights. The Contractor agrees to assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State’s request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of such assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

- STATE MUST RECEIVE FAIR MARKET VALUE FOR THE LICENSE – (This must be reviewed and negotiated by the DTMB Procurement Buyer)
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**TABLE 1**
### TABLE 2

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<td>$293.944</td>
<td>$272.00</td>
</tr>
<tr>
<td>** Totals by Year **</td>
<td><strong>19,960</strong></td>
<td><strong>16,858</strong></td>
<td><strong>$2,382,916</strong></td>
<td><strong>19,960</strong></td>
</tr>
<tr>
<td>Total PTE by Year</td>
<td>15.8</td>
<td>15.8</td>
<td></td>
<td>15.8</td>
</tr>
</tbody>
</table>

**Total Additional Prof. Services Hours and Cost by Year:**
- **79,360**

**Total Additional Professional Services Cost:**
- **$45,935,784**

---

Total 4-Year Extension Period Costs from Table 1 and Table 2: $52,996,008

Note: The above estimated contract year hours and related dollars as well as the total hours and related total dollars in both Tables 1 and 2 are for planning and budgetary purposes. Optum shall be authorized to perform and bill the State shall be entitled to receive and pay for those hours of Services mutually agreed upon as being necessary to provide the Services set forth in Attachment B and applicable projects covering the scope in Attachment B during the term of the agreement.

The estimated yearly contract hours and dollars will not preclude the State from utilizing the hours and dollars on an actual basis in amounts that vary from the estimates.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 32
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR: Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT: David Wieber
EMAIL: David.wieber@optum.com
TELEPHONE: (517) 993-0929
CONTRACTOR #, MAIL CODE:

STATE CONTACTS

AGENCY
CONTRACT COMPLIANCE INSPECTOR
BUYER

NAME
Whitnie Zuker

PHONE
517-284-7030
EMAIL: zukerw@michigan.gov

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE
December 21, 2010

INITIAL EXPIRATION DATE
December 20, 2015

INITIAL AVAILABLE OPTIONS
5, 2 year

EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015

PAYMENT TERMS
F.O.B

SHIPPED
SHIPPED FROM
N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS:
☑ P-card ☐ Direct Voucher (DV) ☐ Other ☒ Yes ☐ No

MINIMUM DELIVERY REQUIREMENTS:
N/A

EXTEND CONTRACT EXPIRATION DATE:
☒ No ☐ Yes ☐

EXERCISE CONTRACT OPTION YEAR(S):
☐ ☐

EXTENSION BEYOND CONTRACT OPTION YEARS:
☐ ☐

LENGTH OF OPTION/EXTENSION:
☐ ☐

EXPIRATION DATE AFTER CHANGE:
December 20, 2015

VALUE/COST OF CHANGE NOTICE:
$20,277,376.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$71,479,054.00

Effective March 02, 2015, Contract Section 2.024 is amended. DTMB Financial Services will issue Purchase Orders per approved/signed Statement of Work(s) in place of a Contract Change Notice.

As part of this amendment, this Contract is hereby INCREASED by $20,277,376.00 to add a pool of dollars to the Contract which can be leveraged through approved/signed Statements of Work(s). The State is under no obligation to utilize all or any specific portion of the allocated dollars.

All other terms, conditions, specifications and pricing remain the same. Per contractor and agency agreement, and DTMB Procurement approval.
CHANGE NOTICE NO. 31
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR: Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMAR Y CONTACT: David Wieber
EMAIL: David.wieber@optum.com
TELEPHONE: (517) 993-0929

STATE CONTACTS

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUYER</td>
<td>DTMB</td>
<td>Whitnie Zuker</td>
<td>517-335-5306</td>
</tr>
</tbody>
</table>

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE: December 21, 2010
INITIAL EXPIRATION DATE: December 20, 2015
INITIAL AVAILABLE OPTIONS: 5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW: December 20, 2015

PAYMENT TERMS: F.O.B
SHIPPED FROM: N/A
ALTERNATE PAYMENT OPTIONS: AVAILABLE TO MI DEAL PARTICIPANTS
☐ P-card ☐ Direct Voucher (DV) ☐ Other ☑ Yes ☐ No

MINIMUM DELIVERY REQUIREMENTS: N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE: No
EXERCISE CONTRACT OPTION YEAR(S): Yes
EXTENSION BEYOND CONTRACT OPTION YEARS: No
LENGTH OF OPTION/EXTENSION: December 20, 2015
EXPIRATION DATE AFTER CHANGE: December 20, 2015

VALUE/COST OF CHANGE NOTICE: $0.00
ESTIMATED REVISED AGGREGATE CONTRACT VALUE: $51,201,678.00

Effective August 1, 2014, this Contract is amended to include the following:

1. APP Consulting, Inc. will be approved as an Optum subcontractor.

2. Per already awarded ITB-DW-WA-0014, One (1) Data Warehouse Subject Matter Expert, Dan Riehle from APP Consulting, Inc. will provide Metadata Services. Work shall commence 8/1/2014 and be performed in accordance with a mutually agreed upon schedule with MDCH through December 31, 2014 and Optum may invoice for such services under Purchase Order 084N4301287 issued by the State under the Contract. The hourly rate will be $225.00. The estimated number of hours of services is 320; total estimated cost of $72,000.00

All other terms, conditions, specifications, and pricing remain the same. Per vendor and agency agreement and DTMB Procurement approval.
June 26, 2014

Ms. Cynthia Green-Edwards  
Director, Office of Medicaid Health Information Technology  
Michigan Department of Community Health  
400 S. Pine St. Capitol Commons Building  
Lansing, MI 48933

RE: ADDING APP CONSULTING, INC. AND RELATED STAFFING FOR THE METADATA MANAGEMENT PROJECT VIA AN AMENDMENT TO THE MDCH DATA WAREHOUSE WORK REQUEST ENTERED INTO UNDER THE BI SERVICES CONTRACT NO. 071B1300138

Dear Cynthia:

Pursuant to your request, Optum Government Solutions, Inc. ("Optum") is requesting State of Michigan (the "State") approval of the following subcontractor and staffing modification to the MDCH BI Services Work Request between Optum and the State, entered into under Contract No. 071B1300138, as amended (the "Contract"), in support of the State’s Metadata Services project. The Metadata Services project is part of the existing MDCH BI Services Work Request in so far as such project includes a task as "Create and manage METADATA for the MMIS IT Architecture".

Optum is pleased to propose Mr. Dan Riehle from APP Consulting, Inc. who will be billed to the State in the role of a Data Warehouse Subject Matter Expert Metadata Services at the hourly rate of $225.00. Mr. Riehle will be assigned as the Data Warehouse Metadata Services Project and is intended to start on the project effective upon the later of July 21, 2014 or the date the State signs the Change Notice referenced below (the "Effective Date").

By accepting this request in the manner described below, the State will be deemed to have approved the following amendments to the MDCH BI Services Work Request and the Contract:

(a) APP Consulting, Inc. will be approved as an Optum subcontractor under Contract 071B1300138, including being an approved subcontractor under Attachment A, Section 4 of our HIPAA Business Associates Addendum dated February 29, 2012; and

(b) Services by Mr. Riehle shall commence no earlier than the Effective Date and be performed in accordance with a mutually agreed upon schedule with MDCH through December 31, 2014 and Optum may invoice for such services under Purchase Order 064N4301287 issued by the State under the Contract. The estimated number of hours of services is 320.
In order to accept the proposed subcontractor, staff, and quoted rate from Optum, the State will need to issue a Change Notice under the Contract that references this proposal on or before July 21, 2014.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David Wieber

Point of Contact:
David C. Wieber
Director of Michigan Operations
Optum Government Solutions

James Franke

Signer:
James Franke
Senior Vice President
Optum Government Solutions

cc: Andrey Verevko

AGREED TO: STATE OF MICHIGAN MDCH

By: ____________________________ Date: Jun 27, 2014

Printed Name: Cynthia Green-Edwards
Title: Director, Office of Medicaid Health Information Technology

AGREED TO: STATE OF MICHIGAN DTMB

By: ____________________________ Date: Jun 27, 2014

Printed Name: Andrey Verevko
Title: DTMB Client Services Director for MDCH
CHANGE NOTICE NO. 30  

to  

CONTRACT NO. 071B1300138  

between  

THE STATE OF MICHIGAN  

and  

Optum Government Solutions, Inc.  

822 Centennial Way, Suite 100  

Lansing, MI 48917  

NAME & ADDRESS OF CONTRACTOR:  

<table>
<thead>
<tr>
<th>PRIMARY CONTACT</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Wieber</td>
<td><a href="mailto:David.wieber@optum.com">David.wieber@optum.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TELEPHONE</th>
<th>CONTRACTOR #, MAIL CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(517) 993-0929</td>
<td></td>
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</tbody>
</table>

STATE CONTACTS  

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTMB</td>
<td>Whitnie Zuker</td>
<td>517-335-5306</td>
<td><a href="mailto:zukerw@michigan.gov">zukerw@michigan.gov</a></td>
</tr>
</tbody>
</table>

CONTRACT SUMMARY:  

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)  

INITIAL EFFECTIVE DATE | INITIAL EXPIRATION DATE | INITIAL AVAILABLE OPTIONS | EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW  
<table>
<thead>
<tr>
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<tr>
<td>December 21, 2010</td>
<td>December 20, 2015</td>
<td>5, 2 year</td>
<td>December 20, 2015</td>
</tr>
</tbody>
</table>

PAYMENT TERMS  

| F.O.B | SHIPPED | SHIPPED FROM |  
|-------|---------|--------------|------------------------------------|
| N/A   | N/A     | N/A           |                                    |

ALTERNATE PAYMENT OPTIONS: AVAILABLE TO MiDEAL PARTICIPANTS  

☐ P-card ☐ Direct Voucher (DV) ☐ Other ☑ Yes ☐ No  

MINIMUM DELIVERY REQUIREMENTS:  

N/A  

DESCRIPTION OF CHANGE NOTICE:  

EXTEND CONTRACT EXPIRATION DATE | EXERCISE CONTRACT OPTION YEAR(S) | EXTENSION BEYOND CONTRACT OPTION YEARS | LENGTH OF OPTION/EXTENSION | EXPIRATION DATE AFTER CHANGE |
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ No</td>
<td>☑ Yes</td>
<td></td>
<td></td>
<td>December 20, 2015</td>
</tr>
</tbody>
</table>

VALUE/COST OF CHANGE NOTICE: ESTIMATED REVISED AGGREGATE CONTRACT VALUE:  

$1,663,328.00 | $51,201,678.00  

Effective Immediately, this Contract is hereby increased by $1,663,328.00 and the following amendment of resources are as follows:  

I. The services originally engaged based on ITB-JK-DW-0003 and subsequent vendor letter agreeing to an extension dated 6/20/2014 are being continued for the estimated time period of 6/25/14 to 12/24/14 for named resource below. Total cost of $133,920.00:  

1. Kiran Vootkuri, at a rate of $135/hour, for one (1) Data Warehouse Developer Senior. Total of 992 hours at a total cost of $133,920.00  

II. The services originally engaged based on ITB-JK-DW-0005 are being continued for the estimated time period of 6/26/14 to 12/25/14 for named resource below. Total cost of $140,864.00:
1. Vigneshwar Reddymasu, at a rate of $142/hour, for one (1) Data Warehouse Data Modeler Senior. Total of 992 hours at a total cost of $140,864.00

III. The services originally engaged based on ITB-TH-00001 to ITB-TH-00008 are being continued for the estimated time period of 7/25/14 to 1/24/15 for named resources below. Total cost of $1,118,976.00:

1. Sai Swaroop Mudduluru, at a rate of $103/hour, for one (1) Data Warehouse Data Developer Junior. Total of 992 hours at a total cost of $102,176.00
2. Bruce Grant, at a rate of $139/hour, for one (1) Data Warehouse Data Developer Senior. Total of 992 hours at a total cost of $137,888.00
3. Ray Desmeules, at a rate of $163/hour, for one (1) Data Warehouse Architect Senior. Total of 992 hours at a total cost of $161,696.00
4. Lee Richie, at a rate of $143/hour, for one (1) Data Warehouse Data Modeler Senior. Total of 992 hours at a total cost of $141,856.00
5. Mohommod Khan, at a rate of $140/hour, for one (1) Data Warehouse Database Administrator Senior. Total of 992 hours at a total cost of $138,880.00
6. Murali Mahadevan, at a rate of $149/hour, for one (1) Data Warehouse Business Objects Administrator Senior. Total of 992 hours at a total cost of $147,808.00
7. Melissa Jourden, at a rate of $147/hour, for one (1) Data Warehouse Project Manager Senior. Total of 992 hours at a total cost of $145,824.00
8. Jim Davis, at a rate of $144/hour, for one (1) Data Warehouse Business Analyst Senior. Total of 992 hours at a total cost of $142,848.00

IV. The services originally engaged based on ITB-TH-00016 are being continued for the estimated time period of 7/22/14 to 1/21/15 for named resources below. Total cost of $269,568.00:

1. Manjunatha Subbaiah, at a rate of $144/hour, for one (1) Data Warehouse Business Object Developer Senior. Total of 936 hours at a total cost of $134,784.00
2. Madhu Gajula, at a rate of $144/hour, for one (1) Data Warehouse Business Object Developer Senior. Total of 936 hours at a total cost of $134,784.00

All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 29
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber
TELEPHONE
(517) 993-0929

EMAIL
David.wieber@optum.com

NAME & ADDRESS OF CONTRACTOR: Primary Contact
NAME & ADDRESS OF CONTRACTOR: Email

STATE CONTACTS

AGENCY
CONTRACT COMPLIANCE INSPECTOR
BUYER

NAME
Whitnie Zuker

PHONE
517-335-5306

EMAIL
zukerw@michigan.gov

CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE
December 21, 2010

INITIAL EXPIRATION DATE
December 20, 2015

INITIAL AVAILABLE OPTIONS
5, 2 year

EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015

PAYMENT TERMS
F.O.B

SHIPPED

SHIPPED FROM
N/A

N/A

N/A

ALTERNATE PAYMENT OPTIONS:
☑ P-card
☐ Direct Voucher (DV)
☐ Other
☒ Yes
☐ No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE
☒ No
☐ Yes

EXERCISE CONTRACT OPTION YEAR(S)
☐

EXTENSION BEYOND CONTRACT OPTION YEARS
☐

LENGTH OF OPTION/EXTENSION
☐

EXPIRATION DATE AFTER CHANGE
December 20, 2015

VALUE/COST OF CHANGE NOTICE:
$248,000.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$49,538,350.00

Effective immediately, the ongoing services are continued for the State’s Work Request ITB-JK-DW-0011 and the related Vendor extension letter dated June 19, 2014 for resource Amarnath Koganti at a rate of $125.00/hr not to exceed 1,984 hours for One (1) Data Warehouse Senior Developer.

This Contract is also hereby increased by $248,000.00. All other terms, conditions, specifications and pricing remain unchanged. Per vendor and agency agreement and the approval of DTMB.
June 19, 2014

Mr. David Hatch  
Buyer  
State of Michigan  
Michigan Department of Technology, Management and Budget  
DTMB Purchasing Operations – Constitution Hall Building – 1st Floor  
525 West Allegan Street  
Lansing, MI 48933  

RE: RESPONSE TO REQUEST TO EXTEND BUSINESS INTELLIGENCE (BI) WORK REQUEST NO. ITB-JK-DW-0011 FOR A DATA WAREHOUSE DEVELOPER SENIOR STAFF UNDER CONTRACT NO. 071B1300138 (the “Work Request”)

Dear Mr. Hatch:

Optum Government Solutions, Inc. (“Optum”) is pleased to respond to the State’s request to extend the services of Mr. Amarnath Koganti via Work Request ITB-JK-DW-0011 for an additional 1 year from the date set forth in the State’s purchase order issued as part of accepting this Response (currently estimated to be July 15, 2014) (“the Extended Term”). Optum is providing this Response to the State’s request and if the State accepts this Response, it would become part of the overall contract for such services, supplementing the terms of Contract No. 071B1300138 and the Work Request (collectively, the “Contract”).

During the Extended Term, Mr. Koganti would be available to provide the Services consistent with the conditions set forth in the Work Request and this Response.

The table below sets forth the actual hourly rate that would be charged by Optum to the State for the Services performed by the Mr. Koganti during the Extended Term for up to 1,984 additional hours.

<table>
<thead>
<tr>
<th>Consultant Name</th>
<th>Labor Category</th>
<th>Applicable Hourly Rate</th>
<th>Estimated Timeframe for Applicable Hourly Rate</th>
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</thead>
<tbody>
<tr>
<td>Amarnath Koganti</td>
<td>Data Warehouse Senior Developer</td>
<td>$125</td>
<td>7/15/14 – 7/14/15</td>
</tr>
</tbody>
</table>

*The above hourly rate would apply to any Services performed by the named consultant during the Extended Term.

**Actual start date of the Extension Term shall be defined in the State’s purchase order.
Acceptance of this Response

In order to accept this Response, it is our understanding that the State would issue a Change Notice to Contract 07/15/2013 referencing this Change Request letter and date and issue a purchase order covering this Extended Term for which pricing has been quoted above, based on a number of hours that is consistent with the terms in this Response.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David Wieber

Point of Contact:
David Wieber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number: (517) 993-0028
Email Address: David.Wieber@Optum.com

Signor:

James Frankie
Senior Vice President
Optum Government Solutions, Inc.
CHANGE NOTICE NO. 28

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

NAME & ADDRESS OF CONTRACTOR:

Optum Government Solutions, Inc.

822 Centennial Way, Suite 100

Lansing, MI 48917

PRIMARY CONTACT

David Wieber

EMAIL

david.wieber@optum.com

TELEPHONE

(517) 993-0929

STATE CONTACTS

AGENCY

NAME

PHONE

EMAIL

BUYER

DTMB

Whitnie Zuker

517-335-5306

zukerw@michigan.gov

DESCRIPTION:

DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE

December 21, 2010

INITIAL EXPIRATION DATE

December 20, 2015

INITIAL AVAILABLE OPTIONS

5, 2 year

EXPIRATION DATE BEFORE CHANGE(S)

December 20, 2015

PAYMENT TERMS

F.O.B

SHIPPED

SHIPPED FROM

N/A

N/A

N/A

ALTERNATE PAYMENT OPTIONS:

P-card

Direct Voucher (DV)

Other

Yes

No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE

Exercise Contract Option Year(s)

Extension Beyond Contract Option Years

Length of Option/Extension

Expiration Date After Change

No

Yes

No

December 20, 2015

VALUE/COST OF CHANGE NOTICE:

$0.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:

$49,290,350.00

Effective immediately, This Contract is hereby amended to include as is requested in the Optum Letter dated March 28, 2014 and pursuant to Article 2.072 of the Contract which reads: “The State shall have the right of prior written approval of all Subcontractors…”, the State of Michigan hereby approves Optum’s use of CW Professional Services, LLC as a subcontractor. All other terms, conditions, specifications and pricing remain the same. Per vendor letter dated January 24, 2014 and agency agreement and the approval of DTMB Procurement.
March 28, 2014

Mr. Whitnie Zuker
Buyer
State of Michigan
Michigan Department of Technology, Management and Budget
DTMB Purchasing Operations – Constitution Hall Building – 1st Floor
525 West Allegan Street
Lansing, MI 48933

RE: SUBCONTRACT APPROVAL REQUEST PURSUANT TO: CONTRACT NO. 071B1300138 (DTMB-Data Warehouse Business Intelligence)

Dear Ms. Zuker:

Optum recently received a notice from our subcontractor Compuware Corporation ("Compuware") that it had sold the assets of its Professional Services Division to Marin Equity Partners ("Marin"). The assets sold to Marin included Optum's subcontract with Compuware (the "Subcontract"). Subsequent to Marin's acquisition of the assets, Marin assigned the Subcontract to its subsidiary CW Professional Services, LLC ("CWPS"). Optum has evaluated the above assignment and concluded that it will not negatively impact the DTMB-Data Warehouse Business Intelligence contract (the "Contract") we have with the State of Michigan. Our conclusion is based on the fact that CWPS will honor all terms of the Subcontract and the fact that the CWPS resource ("Manjunatha Subbaiah") assigned to the Contract via Change Notice #9 on July 16, 2012 will remain unchanged. Please note that Michigan had previously approved the original Subcontract and the assigned resource.

With the above as background, this letter requests your written approval for Optum to subcontract with CWPS. This request is submitted pursuant to Article 2.072 of the Contract which reads: "The State shall have the right of prior written approval of all Subcontractors..."

To assist you in your evaluation of this request, I have attached a copy of the notice Optum received from Compuware.

Should you have any questions or require additional documentation, please do not hesitate to contact me.

Sincerely,

David Weber

Point of Contact:
David Weber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number:  (517) 993-0929
Email Address: David.Wieber@optum.com
RE: Sale of Compuware’s Professional Services Division Business Unit

Dear Valued Compuware Customer:

On January 31, 2014, Compuware Corporation (“Compuware”) completed the sale of the assets of its Professional Services Division to Martin Equity Partners (“MEP”). The professional services provided to you pursuant to the Master Consulting and/or Professional Services Agreement (“Acquired Services”) are part of the sale.

As an existing customer of Compuware or a Compuware-owned subsidiary, you have been identified as receiving one or more of the Acquired Services. This letter serves as notice that the Acquired Services were assigned to MEP’s subsidiary, CW Professional Services, LLC (“CWPS”) on January 31, 2014 under the terms of a replica agreement which has the same terms and conditions of the Agreement you currently have with Compuware, and CWPS has all of the rights and obligations under the replica agreement. All the Acquired Services being assigned will continue to be performed by CWPS.

The Acquisition will have no effect on the amount or due date of any payment due, or scheduled to become due, under prior statements of work, purchase orders, amendments or other contractual documents previously executed with Compuware. However, with respect to the Acquired Services, CWPS will invoice for payment dates after January 31, 2014, and Compuware will invoice for payment dates on or before January 31, 2014. Please note that all invoices received from Compuware shall remain due and payable to Compuware. CWPS may act as a billing agent for Compuware during a transitional period of time after January 31, 2014.

A representative of CWPS will contact you to answer any questions you may have. In the meantime, if you have any urgent questions or would like additional information, please contact Mary Kozlowski at 414-773-6810 or at maria.kozlowski@cwprofessionalservices.com. We have also included attachments containing remittance details, banking information and a copy of CWPS’s W-9 to assist with this transition.

Sincerely,

Daniel S. Follis, Jr.
Senior Vice President, General Counsel & Secretary
Compuware Corporation
CHANGE NOTICE NO. 27

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber

EMAIL
David.wieber@optum.com

TELEPHONE
(517) 993-0929

STATE CONTACTS

CONTRACT COMPLIANCE INSPECTOR

AGENCY
BUYER

NAME
Whitnie Zuker

PHONE
517-335-5306

EMAIL
zukerw@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE
December 21, 2010

INITIAL EXPIRATION DATE
December 20, 2015

INITIAL AVAILABLE OPTIONS
5, 2 year

EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015

PAYMENT TERMS
F.O.B

SHIPPED

SHIPPED FROM
N/A

ALTERNATE PAYMENT OPTIONS:

P-card

Direct Voucher (DV)

Other

 AVAILABLE TO MiDEAL PARTICIPANTS

Yes

No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE
No

EXERCISE CONTRACT OPTION YEAR(S)
Yes

EXTENSION BEYOND CONTRACT OPTION YEARS
N/A

LENGTH OF OPTION/EXTENSION
N/A

EXPIRATION DATE AFTER CHANGE
December 20, 2015

VALUE/COST OF CHANGE NOTICE:

$145,600.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:

$49,290,350.00

Effective immediately, the services originally engaged based on ITB#0071141113B0000506 for one (1) Data Warehouse Architect, Ravi Sivarajan, has been replaced with Jagdish Kannappan at an estimated time frame of 1/27/2014 to 5/2/2014. All other terms, conditions, specifications and pricing remain the same. Per vendor letter dated January 24, 2014 and agency agreement and the approval of DTMB Procurement.
January 24, 2014

Mr. Brad Pagratis
State of Michigan
Michigan Department of Technology, Management and Budget
Center for Shared Solutions
George W. Romney Building - 10th Floor
111 South Capitol Avenue
Lansing, MI 48933

RE: Replacement of Data Warehouse Architect Resource Working on CSS Treasury Data Quality Project for Business Intelligence (BI) Work Request No. B0000506 Under Contract No. 071B1300138 (the “CSS Work Request”)

Dear Mr. Pagratis:

Optum Government Solutions, Inc. (“Optum”) is pleased to offer Mr. Jagdish Kannappan to the State’s as a replacement for Mr. Ravi Sivarajan who has resigned and is no longer available for us to supply on the CSS Treasury Data Quality project which we are performing as the result of being awarded Bid No. B0000506. If the State accepts this proposed replacement, it would become part of the overall contract for such services, supplementing the terms of Contract No. 071B1300138, as amended and the CSS Work Request (collectively, the “Contract”).

The table below sets forth the actual hourly rate that would be charged by Optum to the State for the Services performed by the Mr. Kannappan during the remaining term of the CSS Work Request.

<table>
<thead>
<tr>
<th>Consultant Name</th>
<th>Labor Category</th>
<th>Applicable Hourly Rate*</th>
<th>Estimated Timeframe for Applicable Hourly Rate**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jagdish Kannappan</td>
<td>Data Warehouse Architect</td>
<td>$140</td>
<td>1/27/14 – 5/2/14</td>
</tr>
</tbody>
</table>

*The above hourly rate would apply to any Services performed by the named consultant during the Extended Term.

**Actual start date of the Extension Term shall be defined in the State’s revised Purchase Order 084N4300202.
Acceptance of this Response
In order to accept this proposed change, it is our understanding that the State would issue a Revised Purchase Order 084N4300292 with:

1. A new line item referencing Jagdish Kannappan as the resource at $140.00 per hour.
2. The new line item would contain the remaining dollars on the Purchase Order which we have estimated to be $76,560.
3. The end date specified on the PO would be changed to May 2, 2014
4. The existing line item for Ravi Sivarajan would be reduced to 536 hours and $88,440.00

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

[Signature]

David Wieber

Point of Contact:
David Wieber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number: (517) 993-0929
Email Address: David.Wieber@Optum.com

Signer:

[Signature]

James Franke
Senior Vice President
Optum Government Solutions, Inc.
CHANGE NOTICE NO. 26

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

Primary Contact: David Wieber
Email: David.wieber@optum.com
Telephone: (517) 993-0929

STATE CONTACTS

CONTRACT COMPLIANCE INSPECTOR

Buyer: DTMB
Name: Whitnie Zuker
Phone: 517-335-5306
Email: zukerw@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE: December 21, 2010
INITIAL EXPIRATION DATE: December 20, 2015
INITIAL AVAILABLE OPTIONS: 5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW: December 20, 2015
PAYMENT TERMS: F.O.B
FREIGHT: SHIPPED
SHIPPED FROM: N/A

ALTERNATE PAYMENT OPTIONS: P-card, Direct Voucher (DV), Other, Yes, No

MINIMUM DELIVERY REQUIREMENTS: N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE: December 20, 2015
EXERCISE CONTRACT OPTION YEAR(S): No
EXTENSION BEYOND CONTRACT OPTION YEARS: No
LENGTH OF OPTION/EXTENSION: No
EXPIRATION DATE AFTER CHANGE: December 20, 2015

VALUE/COST OF CHANGE NOTICE: $145,600.00
ESTIMATED REVISED AGGREGATE CONTRACT VALUE: $49,290,350.00

Effective immediately, the services originally engaged based on ITB-JK-DW-0005 are being continued for the time period of 11/28/2013 to 11/27/2014 for named resource VigenShwar ReddyMasu, at a rate of $142/hour, for one (1) Data Warehouse Data Modeler Senior. All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
November 26, 2013
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 25
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR:        PRIMARY CONTACT     EMAIL
Optum Government Solutions, Inc.                      David Wieber         David.wieber@optum.com
822 Centennial Way, Suite 100                           TELEPHONE: (517) 993-0929
Lansing, MI 48917

STATE CONTACTS                                    AGENCY     NAME                PHONE         EMAIL
CONTRACT COMPLIANCE INSPECTOR                      DTMB       Whitnie Zuker          517-335-5306   zukerw@michigan.gov
BUYER

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE    INITIAL EXPIRATION DATE    INITIAL AVAILABLE OPTIONS    EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 21, 2010          December 20, 2015        5, 2 year                      December 20, 2015

PAYMENT TERMS
F.O.B

ALTERNATE PAYMENT OPTIONS:
P-card: No, Direct Voucher (DV): No, Other: Yes

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE
EXERCISE CONTRACT OPTION YEAR(S)
EXTENSION BEYOND CONTRACT OPTION YEARS
LENGTH OF OPTION/EXTENSION
EXPIRATION DATE AFTER CHANGE
No

VALUE/COST OF CHANGE NOTICE: $24,458,752.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE: $49,144,750.00

Effective Immediately, the services originally engaged based on ITB-TH-0014 are being continued for the time period of 1/1/2014 to 12/20/2015 as specified in the Vendor letter and Work Request attached below dated November 25, 2013.

This contract is also hereby INCREASED by $24,458,752.00. All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
Acceptance of this Response
In order to accept this Response, it is our understanding that the State would issue a Change Notice to Contract 071B.1300138 referencing the following items:
1. This letter and date of the letter;
2. Indicating that the Estimated Revised Aggregate Contract Value is being increased by the total amount of Table 1 and Table 2 from this Response.

The State would also either:
1. Issue a Purchase Order for the Calendar Year 2014 totals from Table 1 and Table 2, (with the understanding that subsequent purchase orders would be issued prior to the start of each successive calendar year in the Work Request approximately 2 year term prior to the commencing of the applicable calendar year) or,
2. Issue a Purchase Order for the total amount of Table 1 and Table 2 from the Work Request covering the entire approximately two (2) year term for the Work Request.

Should you have any questions, please do not hesitate to contact me. Thank you again for the opportunity to work with you and your project team.

Sincerely,

David Wieber

Point of Contact:
David Wieber
Michigan Director of Operations
Optum Government Solutions, Inc.
Phone Number: (517) 993-0929
Email Address: David.Wieber@optum.com

Signer: Paul Emerson (Nov 22, 2013)
Paul Emerson
Executive Vice President
Optum Government Solutions, Inc.
This Work Request and Statement of Work (collectively the "Work Request") are being issued to Optum Government Solutions, Inc. ("Optum" or "Vendor" or "Contractor") under Optum's Contract (071B1300138) with the Michigan Department of Technology, Management and Budget, Procurement, as established under the Data Warehouse and Business Intelligence Program.

<table>
<thead>
<tr>
<th>Project Title: Michigan Department of Community Health Data Warehouse</th>
<th>Period of Coverage: 01/01/2014-12/20/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requesting Agency: Michigan Department of Community Health (MDCH)</td>
<td>Date: 10/9/2013</td>
</tr>
<tr>
<td>Agency Project Manager: Cynthia Green-Edwards</td>
<td>Phone: 517-241-3988</td>
</tr>
<tr>
<td>DTMB Project Manager: Andrey Verevko</td>
<td>Phone: 517-241-1360</td>
</tr>
<tr>
<td>DTMB Contract Administrator: Joseph Kelly</td>
<td>Phone: 517-373-3983</td>
</tr>
</tbody>
</table>

**Required Skill Category Requested:**
- Data Warehouse Project Manager
- Data Warehouse Architect
- Data Warehouse Database Administrator
- Data Warehouse Developer Senior
- Data Warehouse Developer Junior
- Data Warehouse Designer/Modeler
- Data Warehouse Business Intelligence Report Developer
- Data Warehouse Business Intelligence Analyst Senior
- Data Warehouse Business Intelligence Analyst Junior
- Data Warehouse Help Desk Analyst
- Data Warehouse Web Developer
- Data Warehouse Subject Matter Expert
BACKGROUND:

MDCH has been using the data warehouse since 1994 to direct policy, detect fraud, identify potentially valuable new initiatives, reduce error rates, calculate rates and more.

MDCH utilizes the data warehouse for multiple purposes including mission critical functions. It functions as the department’s decision support system. MDCH uses data from the warehouse for rate setting for hospitals and managed and long term care providers. It is used to manage the performance of its partners (managed care providers and others) as well as programs within MDCH. The Department has an extensive analytics effort to ensure that funds are being spent most effectively, including detecting and prosecuting fraud, and assure that Medicaid beneficiaries are getting the best care possible. In support of departmental management, the data warehouse is used to analyze trends, report on all aspects of Medicaid, and provide critical support to the budgeting process. Beyond this, the data warehouse provides significant analytical support for epidemiology and other studies.

MDCH will be adapting and expanding its use of the data warehouse as it completes the implementation of ongoing work in its Medicaid Management Information System (MMIS), known as CHAMPS (Community Health Automated Medicaid Processing System). CHAMPS efforts underway include federally mandated projects such as Electronic Health Records (EHR) Incentive Program, ICD-10 and Health Reform. In addition, MDCH will be adding new data sources and increasing their collaboration with other agencies along with adding new analytical tools. The Department expects to utilize the data warehouse for Health Information Technology/Health Information Exchange initiatives, as well as for the state’s Medicaid Eligibility and Enrollment Initiative (Medicaid Compliance Program), Integrated Care Dual Eligibles Project and the Enterprise Fraud Application. The Medicaid Electronic Health Record (EHR) Incentive Payment Program and Michigan Health Information Network are American Recovery and Reinvestment Act of 2009 (ARRA) initiatives to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. An important requirement of these ARRA initiatives requires the use of clinical data to improve patient care outcomes which will involve significant research efforts using de-identified data. It is anticipated that much of the data will be stored in the data warehouse. To store and use of this ARRA initiative data will require significantly increased data warehouse capabilities.

MDCH has relied on Contractor staff to provide data warehouse support and business intelligence services. These services include: providing data warehouse Extract, Transform and Load (ETL) services, application development, web development, business intelligence model, reporting, query development, help desk support, training and data analysis.

Brief Description of Services to be provided:
The State of Michigan Department of Community Health (MDCH), with assistance of the Michigan Department of Technology, Management & Budget (DTMB), has issued this Work Request to obtain the following positions to support, maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse:

- Three (3) Data Warehouse Project Manager
- Two (2) Data Warehouse Architect
- One (1) Data Warehouse Database Administrator
- Six (6) Data Warehouse Developers Senior
- Two (2) Data Warehouse Developers Junior
- One (1) Data Warehouse Designer/Modeler
- One (1) Data Warehouse Business Intelligence Report Developer
- Four (4) Data Warehouse Business Intelligence Analysts Senior
- Four (4) Data Warehouse Business Intelligence Analysts Junior
- One (1) Data Warehouse Help Desk Analyst
- Five (5) Data Warehouse Web Developers
- Two (2) Data Warehouse Subject Matter Experts
This Work Request includes a total of thirty two (32) Full Time Equivalents (FTEs). The total number of FTEs may be increased or decreased throughout the life of this Work Request, based on department needs and available funding.

It is the State’s intent to establish this Work Request for BI Services to be provided to MDCH for a time period of slightly less than two (2) years. The Work Request may be renewed for up to five (5) additional two (2) year periods.

It is anticipated the Work Request will begin on January 1, 2014. The work performed via this Work Request will be on a time and materials basis.

**PROJECT OBJECTIVE:**

The objective of this Work Request is to assist MDCH with the development, support, maintenance and enhancement of MDCH Data Warehouse applications, which is an on-going activity triggered by changes in federal and state regulations, evolving business needs, opportunities for improving business processes, continued software and hardware upgrades, and break fixes.

**SCOPE OF WORK:**

- The scope of this Work Request is to provide Data Warehouse Business Intelligence (BI) Services on an as needed basis to support maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse set forth in this Work Request.
- Develop and maintain Data Warehouse BI applications that support MDCH’s day-to-day business operations.
- Resources will become familiar with DTMB personnel, MDCH’s business processes, and DTMB’s State Unified Information Technology Environment (SUITE) and MDCH Management policies and procedures.

**TASKS:**

**REQUIRED TASKS**

- The Vendor must attend orientation, security awareness training and any other relevant security and or confidentiality training requested by MDCH and/or DTMB. Vendor staff must sign appropriate agreements or training certifications.

**EXAMPLES OF ONGOING and UPCOMING CONTRACTOR TASKS**  
(These tasks may change based on direction from the State)

1. **Run production reporting on the data warehouse**

Tasks include:

- Complete development of production reports in response to changes in CHAMPS data warehouse model. This includes reports needed for ongoing certification of CHAMPS, the Medicaid Statistical Information System (MSIS) extracts, and other production reports used to manage and evaluate Medicaid programs. Users of these reports include but are not limited to MDCH Medicaid management and staff, the State legislature, Federal agencies, counties and providers. Tasks include:
  - Map existing report data elements to corresponding updated fields in the CHAMPS data warehouse.
  - Conduct Joint Application Design (JAD) sessions to finalize requirements with MDCH users.
  - Develop, test, and implement the updated version of the reports, including:
    - State and federal reports
- Centers for Medicare & Medicaid Services (CMS)-372s for Children’s Waiver, Elderly and Disabled Waiver, Habilitation Supports Waiver and Serious Emotional Disturbance
- MSIS
- CMS-416 report and Early and Periodic Screening, diagnostic, and Treatment (EPSDT) letters
- Rewrite production reports to align with ICD-10, Integrated Care Dual Eligibles Project, and Medicaid Eligibility and Enrollment changes.
- Provide input as a pilot state for T-MSIS. Work with CMS Developers to refine T-MSIS requirements, record layouts and data definitions. Develop extract processes to align with defined T-MSIS requirements, create internal system documentation, test files internally and with CMS, and implement approved processes.
- Develop Data Quality Improvement Program (DQIP) reports from the CHAMPS data warehouse for distribution to Medicaid Health Plans to provide feedback on performance related to their contracts with MDCH.
- Provide training and support to Department of Technology, Management and Budget (DTMB) staff to facilitate report development and maintenance.
- Provide on-site expertise to incorporate newly-developed processes into the Business Objects environment, coordinate activities with the Consolidated Print Center, and integrate tools used to support data warehouse reporting.

2. **Provide updated analytic, reporting, data mining, and web-based analytic tools to enhance the analytic capability of the staff**

MDCH vision continues to include the use of ad-hoc analytic, On Line Analytical Processing (OLAP) and data mining tools. The OLAP and data mining tools are needed to examine our data from multiple perspectives, which will allow identification of emerging trends and cost savings. This allows the ability to answer complex questions by performing multidimensional analysis across data sets and programs; and to drill up and down through successive layers of detail to uncover trends, relationships, and patterns for improved decision making.

Tasks include:
- Provide services related to potential upgrades of MDCH’s BI Query Reporting environment due to more recent versions of the software offered by the manufacturer.
- Provide services related to potential upgrades of MDCH’s Business Objects Crystal Reporting environment due to more recent versions of the software offered by the manufacturer.

  *Note: Both BI Query and Business Objects Crystal Reporting Software licensing will continue to be provided by the State via other contract vehicles.*

3. **Identify and load additional data sets on the data warehouse**

As new systems and data sources are developed that support the administration of the Medicaid program, and expansions are made to existing source systems, they will be loaded to the data warehouse to be integrated with existing MDCH data. This data could be Medicaid-specific, or could be non-Medicaid but provides a longitudinal view of beneficiaries and populations that could effect changes in Medicaid policy.

The process to add these data sets includes: defining requirements/which data tables/fields to include; determining whether or not to maintain history; developing load programs (using state standard Extract, Transform, Load (ETL) tool where possible); integrating new data with existing data in the BI Query model; and training MDCH users.
Tasks include:

- Add Maternal and Infant Health Program (MIHP) Infant Screener and Maternal Summary data plus additional data elements from new development to the Maternal Screener, in order to enhance MDCH’s ability to evaluate the program, evaluate effectiveness of interventions, and assess outcomes.
- Add Children’s Waiver data from multiple sources (including Paradox database that is no longer supported) for purposes of enrollment and CMS-372 reporting.
- Add Michigan Department of Human Services (MDHS) data needed for Medicaid reporting required by CMS, and/or establish MDCH access to the MDHS data through a data warehouse View (e.g., Poverty/Income, Race/Ethnicity).
- Add ‘trusted data sources’ as they are identified as part of the ACA Eligibility Project and Enterprise Fraud Application.
- Add detail level HEDIS data from Medicaid Health Plans. This will be used to evaluate performance measures as part of the CMS Adult Quality Measures grant, along with other initiatives.
- Add Veterans data to be incorporated into the Master Person Index to link to existing data sets.
- Add Buy-In source data for comparison to Medicare identified on the eligibility records. This will be used to ensure completeness of the MMA submissions.
- Add EMBRS data from mental health hospitals when source implementations are complete.
- Add Hospital and Long Term Care Cost Report data that currently resides in a system managed by Hewlett Packard (HP).
- Add T-MSIS submission file tables and corresponding data to the data warehouse for use in maintaining MSIS history, analysis and resubmission to CMS as necessary.
- Add Michigan Disease Surveillance System (MDSS) data. MDSS enables physicians and clinical laboratories to electronically report the occurrence or suspected occurrence of disease, conditions or infection required by the Michigan Communicable Disease Reporting Rule. Case reporting and management depends on the integration of data from multiple sources (e.g., laboratory results, patient information; disease condition, onset, symptoms, and hospitalization dates; and medication, treatment and clinical history). MDCH has an opportunity to improve disease tracking and monitoring of Medicaid beneficiaries through the integration of MDSS and the MDCH Data Warehouse.
- Add Newborn Screening data. This data was previously loaded to the data warehouse, but source system has been re-written, and corresponding data warehouse load processes are needed to capture data from the new system.
- Add Third Party Recovery data. Existing Medicaid payment recovery systems pull data from the warehouse for purposes of determining amounts to be recovered, but actual amounts recovered are not currently loaded back to the data warehouse. The addition of the recovery amounts to the data warehouse will provide a more complete and accurate representation of Medicaid payment amounts.
- Evaluate other data sources and add those that will benefit Michigan’s Medicaid program or are needed to support reporting requirements.
- Add Provider Licensing data from the Department of Licensing and Regulatory Affairs for use in identifying and de-duplicating provider data.
- Add All Payers Claims Database.

4. Changes to existing data loads in order to stay current with enhancements to source systems: MiCIS data sets (OASIS, Nursing Home, MDS); CS/SCS; MCIR; WIC

As source systems are rewritten to align with new requirements and technology, corresponding enhancements are required to the data warehouse in order to load and store new data elements and provide query and reporting access to the data. Source system changes may be driven by changes at the federal level, such as
implementation of the OASIS-C and Minimum Data Set for Nursing Homes (MDS) 3.0 data sets and forms. Source system changes may also be driven by changes at the MDCH level, such as implementation of a new web-based application for Children's Special Health Care Services (CSHCS), which will include additions to the existing data set.

Tasks include:

- Develop, test and implement data warehouse enhancements as a result of changes to source systems, including:
  - OASIS
  - Nursing Home
  - MDS
  - CSHCS
  - WIC (Women, Infants and Children)
  - MIIR (Michigan Care Improvement Registry)
  - Home Help Payments
  - Home Help Assessments
  - MIHP
  - Vital Records

5. Develop web applications to support Medicaid programs and processes

Tasks include:

- Develop, test and implement web applications to support the following waivers:
  - Children’s Support Waiver (CSW)
  - Children with Serious Emotional Disturbance Waiver (SEDW),
  - Autism
  - Enhancements to the Habilitation Supports Waiver (HSW) application

These web applications will provide:

- Automated workflow to process enrollment of waiver beneficiaries (including capture of demographic data not available in BRIDGES)
- Tracking and reporting of waiver beneficiaries
- Management and tracking of waiver “slots”
- Integration with existing systems (e.g., BRIDGES, MDHS’s Statewide Automated Child Welfare Information System [SACWIS])
- An interface to CHAMPS to provide data needed to process waiver payments.

- Add data for the following home and community-based services waivers to be used by the corresponding web applications proposed to support the waivers:
  - CSW
  - SED

- Develop, test and implement an enhanced web-based application for MDCH’s Managed Care Compliance Review Tool to replace the existing Access-based Compliance Review Tool application (the Tool). This will allow health plans and MDCH to update and access information through the web, rather than having to send the Access database back and forth to update information. The Tool summarizes all of the requirements of the Medicaid Comprehensive Health Plan contract, and State and Federal regulations, including fraud and abuse. MDCH conducts an annual compliance review of the designated criteria within the Tool. This Tool is used to document the Health Plans’ compliance with contract requirements as identified in each criterion.

- Develop, test and implement web applications to support
  - Beneficiary Monitoring Program
  - Integrated Care/Data Analytics
  - MDCH Automated processes and workflow (e.g., NDC Crosswalk)

6. Create and manage METADATA for the MMIS IT Architecture, and provide BI-Administration capability
for security and model management.

Metadata and field mapping will provide information on the descriptions and uses of the data, flow of the data through the system, relationship to CHAMPS screens, and relationship to legacy data warehouse data elements, as well as the transformation and cleansing procedures. This information will be especially useful to analytic staff that may not be familiar with the operational detail of the data. It will also allow for the administration of the analytic tool environment and assessment of data integrity.

Tasks include:

- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process (e.g., 837 records, National Council for Prescription Drug Programs (NCPDP), corresponding fields in CHAMPS screens, and use in reports).
- Create business definitions/data dictionary for each data element in the new CHAMPS data model.
- Create and/or modify BI-Query models to allow user-access to pre-defined data sets based on access approved through the security process. For example, access may include combinations such as the following:
  - Identified/Linked
  - De-identified/Linked
  - Identified/Linked & Unlinked
  - De-identified/Linked & Unlinked
- Implement updates to roles and profiles (levels of security) for user access to the new CHAMPS data model.
- Implement updates to strong password rules.
- Develop interface maps for both CHAMPS and the data warehouse.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.

7. **Provide additional data integration across program areas and continue to enhance architecture to align with MITA initiative**

Tasks include:

- Enhance architecture to align with MITA by developing data exchanges between the data warehouse and health plans. By making additional data available to health plans, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving health care outcomes for Medicaid beneficiaries. These data exchanges are adaptable and will be used to help drive the Michigan Health Information Exchange (HIE) initiatives.
- Expand the use of Medicaid data in the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDCH to collaborate with other departments/agencies to improve Medicaid outcomes.
- Integrate Medicaid data with Corrections data to provide improved ability to identify the cross-population of Medicaid beneficiaries and prisoners, and therefore allow improved tracking and analysis of Medicaid beneficiaries.
- Integrate the data warehouse with other tool sets (e.g., Oracle, Access, ETL tools) to provide the ability to link to data that resides in source systems outside the data warehouse.
- Add new development to migrate data loads to the state's standard COTS ETL tool (DataStage) to improve data load processes, reduce risk and development/maintenance costs, and minimize differences between data warehouse and source system data.
- Evaluate and purchase tools to align technology framework with Medicaid Information Technology Architecture (MITA) standards (foster integrated, cross-functional business in order to improve
administration of Michigan’s Medicaid program).

- Establish processes and integrate data sets across state agencies for use with the Enterprise Fraud Application (COTS product)

8. **Provide onsite analytic development for the various program models, and analytic tools**

   Tasks include:
   - Update CHAMPS model-specific training manuals.
   - Develop and deliver comprehensive training to educate end users on the use of the data based on updated CHAMPS and BRIDGES requirements.
   - Provide comprehensive training to help end users understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program. This will include development of materials for instructor-led classroom training as well as development of web-based training.
   - Develop and deliver comprehensive training to educate developers on updated data warehouse structures and the use of data based on CHAMPS and BRIDGES requirements.
   - Provide comprehensive training to help developers understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program.
   - Provide first-line Help Desk Support to answer end user and developer questions related to the newly defined data models.
   - Provide advanced analytic support and development at a level above the typical user’s business and technical knowledge.
   - Provide Business Objects training and support for development staff, related to developing production reports on the data warehouse.

9. **Enhance the data warehouse as a result of CHAMPS and BRIDGES**

   Tasks include:
   - Conduct Technical JAD sessions along with CNSI to redefine data extract layouts for updates to CHAMPS data sets, as well as relationships between tables, referential integrity, key fields, etc.
   - Conduct User JADs for updates to CHAMPS Production model – to define usage requirements, data definitions, and alignment with CHAMPS screens.
   - Complete development of various data structures to accommodate updates to CHAMPS and BRIDGES data, based on input from JADs.
   - Develop new data mart to incorporate a single logic set for accessing CHAMPS data (e.g., single field for billing provider for all claim types) to simplify data access for end users and developers.
   - Develop new BI Query Views in the data warehouse using the new data mart.
   - Add and modify Metadata to reflect CHAMPS and BRIDGES changes.
   - Rewrite data warehouse structure and load programs as a result of changes being implemented in CHAMPS. As approved in the CHAMPS APD-Us, these changes include CHAMPS Change Requests (e.g., addition of new fields and new functionality) that result in a corresponding change to the data warehouse, as well as additional data warehouse testing during the approved CHAMPS implementation extensions.
   - To ensure compliance with new Managed Care Organization (MCO) Drug Rebates mandated by Health Care Reform (PPACA – Patient Protection and Affordable Care Act) that went into effect
3/23/10, the following work is required:

- Create, test and implement new process to provide an interface file to the State’s PBM Pharmacy Benefits Management Services (PBM) (Magellan Medicaid Administration, Inc.) containing the MCO Drug claims (NCPDP encounters and Institution/Professional encounters for physician administered drug products) and MCO provider reference data. This data will then be used by the PBM to invoice manufacturers for CMS Federal Drug Rebates.
- Utilize the NDC (National Drug Code): HCPCS (Healthcare Common procedure Coding System) crosswalk reference table to establish encounter edits and reports for purposes of ensuring the physician administered encounter claims are formatted properly for rebate invoicing.

  - The following require redesign to accommodate CHAMPS data warehouse changes:
    - MMA Part D submission files.
    - Eligible Months tables.
- Develop data warehouse structure and load programs to accommodate implementation of meaningful use processing in CHAMPS.
- Develop and update end user queries and reports to use updated models representing CHAMPS and BRIDGES data.
- Expand Situational Data in the warehouse. Situational data (fields not used directly to adjudicate a claim) are currently received from CHAMPS in a single, continuous, variable-size field, making it unusable by end users. This data will be parsed and stored in a format that makes it usable.
- Expand the data warehouse to accommodate ICD-10.
- Expand the data warehouse to include data needed to support electronic health record (EHR) (e.g., additional provider data, NLR data).
- Expand the data warehouse to include Prior Authorization data from CHAMPS.
- Expand the data warehouse to accommodate ACA Eligibility Initiatives, HIE and HIX.
- Expand the data warehouse to accommodate Integrated Care Dual Eligibles Project.

10. **Enhance the SURS process as a result of CHAMPS and BRIDGES**

Tasks include:

- Develop new SURS extract process, which includes three parts:
  - Changes needed as a result of CHAMPS IDC-10 updates
  - Addition of Encounters to extract process
  - Replace quarterly extract with monthly extract
- Enhance Audit programs as a result of CHAMPS changes including IDC-10 and Health Care Reform.

11. **Load Pharmacy data directly to the data warehouse**

Tasks include:

- Enhance the PBM data load process to include pharmacy paid claims enhancements. An example is the addition of data needed to further monitor and target outreach for purposes of increasing E-Prescribing in Michigan, and to collect information related to meaningful use.
- Load Pharmacy provider enrollment file from the State’s PBM to the data warehouse.
- Rewrite NCPDP Encounter load programs to align with CHAMPS IDC-10 updates and PBM data.
- Rewrite the Medicaid Health Plan Point-of-Sale (POS) pharmacy carve-out claim utilization extract to pull data from the new CHAMPS structure. This weekly process creates a file containing pharmacy
12. **Develop web-based Security application**

Tasks include:

- Develop enhancements to the Data Warehouse Security form/process in the web-based security application.
- Develop the Security form/process for access to additional Medicaid applications, such as:
  - BRIDGES
  - SOLQ
  - Buy-In
  - MGIR (Immunization Registry)
  - Lead
  - Home Help
  - MIHP
  - CSHCS
  - Post-Payment Recovery System
  - Paternity/Casualty Recovery System
  - CMS 1915(c) Waiver web site.
  - Ambulatory Payment Classification (APC) web site (WebStrat)
  - Teradata Access for Applications
  - Master Person Index
  - Expand to other state agencies for access to their applications
  - Access to Waiver web applications
  - Developer Access to Teradata
  - Access to the Enterprise Fraud Application
- Integrate CHAMPS Customer Relationship Management (CRM subsystem) user information with DSA user database. This will provide MDCH with a complete picture of an individual's access across systems, via a single source application.
- Develop process to view an individual's approved/denied status across systems.
- Develop process to compare approved level of access in DSA with actual access in source system.
- Develop process to manage security of employee notifications from Human Resources (departures, position transfers, new hires) and/or integration with the Human Resource application. Actions include terminations of access, alerts to system owners, notifications to former and/or new managers, etc.
- Develop approval process for access to Medicaid data stored in the Cloud (Cloud Computing).

13. **Enhance Data Warehouse Operability and Access**

Analysis and development to optimize query and system performance will reduce data warehouse usage costs by improving efficiency and reducing storage space. Analysis of CHAMPS data warehouse usage will be performed to determine areas for improvement (e.g., rewrite queries, add statistics, and add/remove indexes to align with user access to data, compress databases). Solutions will then be identified, developed and implemented to address the identified areas for improvement.

Develop application to audit MDCH data warehouse usage. This application would provide web-based access to stored information such as identification of which users accessed which data and frequency of access.

Tasks include:

- Develop code to analyze databases and queries, identify potential areas for enhancement, develop and implement solutions.
• Develop web-based data warehouse audit application.
• Develop, test and implement solutions for encryption of data at rest and in flight.
• Test and implement enhancements to accommodate Teradata v14 upgrade

14. Develop Queries and Reports to support the Medicaid Program

The MDCH Data Warehouse is a critical component in the administration of the Medicaid Program. As such, it is frequently used as a source of information for audits, research, lawsuits, FOIA, and other similar requests for data. These requests typically require response within a short timeframe and require knowledge of both Medicaid and the data warehouse in order to provide required results within the defined timeframe.

Additionally, MDCH will be participating in the ARRA funded comparative effectiveness research (CER). As a participant of CER, MDCH will be providing data extracts related to specific proposals. MDCH will use the data warehouse to provide requested data.

Tasks include:
• Develop code to extract data as requested for CER.
• Develop code to extract data as needed for audits, research, lawsuits, FOIA, and other similar requests.
• Develop code to extract data for use in proof-of-concept of Prospective Payment editing and other similar requests.

15. Develop and Configure Unique Client Identifier (UCI) Replacement

MDCH developed the UCI using custom code in 2001. The UCI links person-level records from one database to another by evaluating the available data elements such as name, address, IDs – beneficiary, client, consumer – to determine if a match exists. When a match exists, a UCI is assigned that is used in all the databases. Once linked, they remain linked unless manually removed. Since 2001 when the UCI was first developed, there have been huge technology gains in master person technology. MDCH adopted a new COTS product that is an independent system, yet fully integrate with the data warehouse, which will drastically reduce the amount of custom development required, speed integrations of additional sources, and reduce the ongoing operating cost of the system.

To enable these recent advances including enhanced person matching algorithms and new standards for identity management (including the required standards for HIE), the following Tasks are required.

Tasks include:
• Install and configure new hardware and software.
• Upgrade software for version releases.
• Integrate the software with other existing systems.
• Develop a Provider Index within the COTS product.
• Expand Master Person Index to include new data sources, real-time access, query functionality, golden record identifiers, etc.
• Develop householding functionality within the COTS product.
• Establish governance processes relate to use of the COTS product.
• Develop new data warehouse functionality to correspond with updates to MPI/PI.
• Monitor algorithms and system configuration and make recommendations for performance improvement.
IT Classifications/Skills Set and Tasks:

The requirement is that the individual must possess the skills, knowledge, and experience required to perform the duties effectively and efficiently at the level specified in the work request.

1. **Data Warehouse Project Manager**
   
   Data warehouse project manager manages the integration and/or development and delivery of very large and complex deliverables directly to the customer. This position provides the primary interface between the Contractor, the State and third party providers.
   
   - Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
   - Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.
   - Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.
   - Makes sure approved methods, processes and tools are consistently used.
   - Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.
   - Assists the MDCH Agency Project Manager with documentation for managing the data warehouse such as presentations, reports and Advanced Planning Documentation (APD) to be submitted to CMS for funding.

   **Required Experience**
   
   - 5+ Years Project Manager or Team Lead Experience.
   - 5+ Years Business Intelligence Experience.
   - 3+ Years Teradata DW Experience.

2. **Data Warehouse Architect**

   Data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.

   - Conducts model and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.
   - Responsible for data warehouse database design and providing technical direction to modelers, data analysts, ETL developers, and database administrators.
   - Develops design proposals to meet MDCH needs.
   - Approves integrated systems design proposals for technical content.
   - Monitors the implementation for technical correctness so that MDCH needs are met.
   - Identifies, analyzes and evaluates alternative design solutions.

   **Required Experience**

   - 6+ Years Data Warehouse Architect and Model Experience.
   - Teradata Version 12 or 13 Experience.
   - Teradata Utilities Experience.
3. Data Warehouse Database Administrator
Database administrator (DBA) is responsible for the availability, safety and usefulness of the MDCH data warehouse databases.
- Software installation and database management system upgrades.
- Software upgrades to ensure the database is in compliance with critical security patches, or, software upgrades deemed necessary by the State.
- Working in conjunction with system administrators, server configuration to ensure that the entire database system is capable of providing the services needed.
- Performance monitoring to identify bottlenecks and places where throughput can be improved.
- Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
- Configure access to the data warehouse and communication between the warehouse and other servers.
- Physical database design translates the logical database design to work optimally for the specific database environment.
- Working with MDCH data warehouse developers to establish standards and guidelines for access to MDCH data warehouse databases.
- Backup and Restore management to ensure that no data is lost and those backups can be restored in a timely manner.
- Work with MDCH data warehouse developers and MDCH clients to optimize their queries.

Required Experience
- 4+ Teradata Database Administrator Experience.
- 2+ Teradata Version 12 or 13 Experience.
- Teradata Utilities Experience.
- Teradata Manager Experience.
- SQL Assistant Experience.
- Linux Experience.
- Oracle (9i, 10g, 11g) Experience.

4. Data Warehouse Developer Senior
Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

Required Experience
- 6+ Years SQL Development Experience.
- Business Analyst Experience.
- SQL and Performance Tuning Experience.
- Teradata Utilities Experience
5. Data Warehouse Developer Junior
Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

Required Experience
- 2+ Years SQL Development Experience.
- Teradata Utilities Experience.
- SQL Assistant Experience.

6. Data Warehouse Designer/Modeler
Data warehouse designer is responsible for the layout and navigability of a database. This involves defining the tables, keys and relationships that will allow an application to retrieve and update data correctly and efficiently.
- Working with end users and developers to understand the data needs of MDCH clients.
- Documenting the MDCH data warehouse data involves including definitions, constraints and access needs.
- Creating and maintaining MDCH data warehouse logical designs, including Entity Relationship diagrams, which illustrate what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to other data in the database.
- Creating and maintaining MDCH data warehouse data definition language (DDL) that can be used to create and update the database.
- Working with the MDCH Data Warehouse DBA and ETL developers, modify the logical design to create a physical design most suited to the database environment and the applications that will use it.
- Work with MDCH Data Warehouse ETL developers and DBA to create and maintain database design standards.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their report development related tasks may include:
  - Perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other Agency applications. Their development related activities may include tasks such as:
  - Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
  - Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
  - SQL development.
  - Work with developers and end user query developers to design and improve database queries.
  - Train developers in how best to design queries for a specific database.
7. **Data Warehouse Business Intelligence Report Developer**
   Data warehouse Business Intelligence Report Developer is expected to be able to work with agency requestors to define and develop new reports, and provide training and technical support to both DTMB developers and end user query developers.
   - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**
- 5+ Years of Business Objects Report Development Experience.
- 5+ Years of SQL Development.
- Business Analyst Experience.

8. **Data Warehouse Business Intelligence Analyst Senior**
   Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
   - Running JAD sessions to understand what data is needed and how it is likely to be used.
   - Creating ad-hoc queries to answer specific user questions.
   - Program design and specification.
   - Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
   - Supporting end user to enable them to create their own queries and reports as needed.
   - Identify data problems and work with developers to correct them.
   - Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
   - Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
   - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**
- 6+ Years Project Lead/BI Analyst Experience.
- 4+ Years Business Objects Report Development Experience.
9. **Data Warehouse Business Intelligence Analyst Junior**
   Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.
   - Running JAD sessions to understand what data is needed and how it is likely to be used.
   - Creating ad-hoc queries to answer specific user questions.
   - Program design and specification.
   - Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
   - Supporting end user to enable them to create their own queries and reports as needed.
   - Identify data problems and work with developers to correct them.
   - Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
   - Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
   - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**
- 2+ Years Project Lead/BI Analyst Experience.
- Medicaid experience desired.

10. **Data Warehouse Help Desk Analyst**
    Help desk staff provide first line support for end users and developers.
    - Manages MDCH Data Warehouse mailbox.
      - Assesses user identified issues and provides guidance for resolution.
      - Directs unresolved problems and reports to appropriate staff, if necessary.
      - Tracks and analyzes problem occurrences and resolutions.
    - Conducts data warehouse user group training.
    - Develops training materials.
    - Assists with query/report development.
    - Provides user assistance with BI Services tool(s), model/database, business knowledge and recommendations for efficiency and solutions to meet user business needs.

**Required Experience**
- 3+ Years of Data Warehouse Help Desk Analyst Experience.
- Experience in supporting the end users in accessing the data warehouse and effectively utilize the desktop tools.

11. **Web Developer**
A Web Developer is responsible for designing and developing web-based applications that interact with and utilize the data warehouse to provide MDCH users with highly interactive, easy to use web-based BI applications.

- Defining and developing applications that rely on unique web-based technology and tools, and that will conform to standards defined by DTMB for user interface and usage of the data warehouse.
- Defining the web application user interface, business rules, database access and data warehouse access, and determining any data sources that need to be imported into the data warehouse for web application operation.
- Producing technical specification documents to review the web application with the user, and conducting JAD sessions to review and finalize technical specifications.
- Prototyping web application pages for user review and approval.
- Producing accurate and complete data mapping documents.
- Performing user acceptance testing with users and DTMB to confirm that new web applications perform per specifications, and making adjustments to the web application as required.
- Maintaining a development and staging environment for the development and testing of enhancements and updates to the web application.

**Required Experience**
- 5+ Years of Data Warehouse Web Developer Experience.
- Web development: HTML, JavaScript, Asp.net, Visual Studio.

12. **Subject Matter Expert (SME)**

A Subject Matter Expert (SME) will be responsible for providing specialized, in-depth knowledge of a business area(s) such as Medicaid, Master Person Index/Provider Index, Pharmacy, ICD-10, HEDIS and technology solutions.

- Leading or actively participating in work-groups with the need for specialized knowledge.
- Providing guidance on how their area of expertise can resolve an organizational need, and actively participates in all phases of a project/initiative by sharing their knowledge, expertise and ideas.
- Defining technology and business solutions based on thorough understanding of business processes and policies.
- Reviewing, helping re-engineer, or creating new processes and policies.
- Evaluating and defining technology requirements and solutions.
- Defining business needs, and identifying and recommending the most appropriate solutions.
- Providing documentation such as forms, manuals, correspondence, and procedures.
- Understanding, articulating, and implementing best practices related to their area of expertise.

**Required Experience**
- 5+ Years of Data Warehouse design and development of BI applications.
- Experience in recommending appropriate tools and technology required to meet immediate and long-term business and individual self-service reporting needs.

**DELIVERABLES:**
The deliverables and tasks agreed to in the resulting Contract shall comply with the following approval process:

**APPROVAL OF DELIVERABLES, IN GENERAL:**

(a) All Deliverables (Physical Deliverables, Written Deliverables, and Service Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.
(b) The State’s obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable have been delivered without material deficiencies. If the State determines that the Deliverable has material deficiencies, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State and Contractor receive the Deliverable and agree that the Deliverable is ready for use and, where applicable, Contractor has provided certification to that effect.

(d) The State will approve in writing a Deliverable upon confirming that it conforms to and, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor’s expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

(e) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep any resulting Contract(s) in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the Contract(s) price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State’s general expenses provided the State can furnish proof of such general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

PROCESS FOR APPROVAL WRITTEN DELIVERABLES:

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work/Purchase Order following delivery of the final version of the Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Period will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF SERVICE DELIVERABLES:

The State Review Period for approval of Service Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) Business Days for a Service Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made
to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

**PROCESS FOR APPROVAL OF PHYSICAL DELIVERABLES:**

The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) continuous Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

**ACCEPTANCE CRITERIA:**

**PROJECT CONTROL AND REPORTS:**

A monthly progress report must be submitted to DCH and DTMB Project Managers throughout the life of this project. The report may be submitted with the billing invoice. Each monthly progress report must contain the following information:

- **Hours**: Indicate the number of hours expended during the past month, and the cumulative total to date for the project.
- **Tasks accomplished**: Indicate what projects have been worked on, and what was completed during the current reporting period.

**SPECIFIC AGENCY STANDARDS:**

Agency standards, if any, in addition to DTMB standards.

**PAYMENT SCHEDULE:**

Payment will be made on a time and materials basis (hourly based). The State will pay Contractor upon receipt of properly completed invoices which shall be submitted to the billing address on the State issued purchase order not more often than monthly. The State's Accounts Payable area will coordinate obtaining Agency Project Manager and The State Project Manager approvals. All invoices should reflect the purchase order, actual work completed by payment date, and must be approved by the Agency Project Manager and DTMB Project Manager prior to payment. The invoices shall describe and document to the State's satisfaction a description of the work performed the progress of the project, and fees.

Payment shall be considered timely if made by the State within forty-five (45) days after receipt of properly completed invoices.

**EXPENSES:**

The State will NOT pay for any travel expenses, including hotel, mileage, meals, parking, etc.
PRICING SUMMARY
Pricing for the two (2) year term is set forth in Table 1 below:

ADDITIONAL TIME & MATERIALS LABOR RATES FOR PROFESSIONAL SERVICES:
To the extent the parties agree that certain specific services must be provided on a time and materials basis, such services must be provided at the Labor Rates (Not to Exceed Hourly Rate cost column) in Table 2 below. Future amendments to this Work Request may utilize this rate structure, as agreed between the Contractor and State. Additionally the Contractor may utilize the rates in order to provide the State with a not to exceed time and materials price. Prices quoted herein will be used for change, addition, and / or deletion of work associated with this Work Request. The Estimated Hours is provided below as an estimate only and is not meant to preclude or limit the State from requesting a resource/staffing mix for future projects that exceeds the hours estimate for a specific Staffing Category as long as the Total Additional Professional Services Cost is not exceeded.

The MDCH Project Manager is:
Cynthia Green-Edwards
Director, Office of Medicaid Health Information Technology
Michigan Department of Community Health (MDCH)
500 Pine Street, Capitol Commons Center
Lansing, Michigan 48933
517-241-9608
EDWARDSC@michigan.gov

The DTMB Project Manager is:
Andrey Verevk
Director, Client Service Division
Michigan Department of Technology Management and Budget (DTMB)
Agency Services – Department of Community Health (DCH)
300 East Michigan Avenue, Chandler Building
Lansing, MI
517-241-1360
VerevkA@michigan.gov

The DTMB Contract Administrator for this project is:
Whitnie Zuker
Michigan Department of Technology, Management and Budget
DTMB Procurement - Stevens T. Mason Building – 2nd Floor
530 W. Allegan Street
Lansing, MI 48933
517-335-5306
Fax: 517-335-0046
Email: zukerwh@michigan.gov

AGENCY RESPONSIBILITIES:
• The State may discontinue the services of any Vendor - supplied staff with two weeks’ notice without cause at any time.
• The State will provide access to networks, servers, software license (as appropriate), etc. needed for Vendor to perform tasks required for this Work Request.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:
The work is to be performed, completed, and managed at locations determined by the Vendor, but with the expectation that personnel will be available, on hand and able to complete emergency tasks. In addition, onsite
EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:
Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET.) and possible night and weekend hours depending on position and project requirements. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time. No overtime will be permitted.

RIGHT TO OWNERSHIP:
State intends to own the Software at the end of the Contract
- Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.
- Vesting of Rights. The Contractor agrees to assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State's request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of such assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.
- STATE MUST RECEIVE FAIR MARKET VALUE FOR THE LICENSE – (This must be reviewed and negotiated by the DTMB Procurement Buyer)
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<th>Position</th>
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<th>2014 Est Max Hours</th>
<th>2014 Estimate Dollars</th>
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<td>Jeanne Barnstead</td>
<td>Data Warehouse Project Manager</td>
<td>$148.00</td>
<td>1,984</td>
<td>$293,632</td>
<td>$155.00</td>
<td>1,984</td>
<td>$307,520</td>
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<tr>
<td>Tim Carey</td>
<td>Data Warehouse Project Manager</td>
<td>$148.00</td>
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<td>Amy George</td>
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<td>Jeremy Christiansen</td>
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<td>Laura Olson</td>
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<td>Kathy Boak</td>
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<tr>
<td>Kunal Shah</td>
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<td>Chris Elias</td>
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<td>Casey Foth</td>
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<td>Jeff Tale</td>
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Totals by Year: 63,488, 8,991,488, 63,488, 9,376,394

FTE Total by Year: 32.0

Totals Hours: 126,976

Totals Dollars: $18,367,872
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<th>Staffing Category</th>
<th>2014 Not to Exceed Hourly Rate</th>
<th>2014 Total Estimated Price</th>
<th>2014 Est. Hours</th>
<th>2015 Not to Exceed Hourly Rate</th>
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<tbody>
<tr>
<td>Data Warehouse Project Manager</td>
<td>$148.00</td>
<td>$293,632</td>
<td>1,984</td>
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<td>Data Warehouse Architect</td>
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<td>1,984</td>
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<td>$299,584</td>
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<tr>
<td>Data Warehouse Database Administrator</td>
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<tr>
<td>Data Warehouse BI Report Developer</td>
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<tr>
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<td><strong>Total Additional Prof. Services Hours and Cost by Year</strong></td>
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<td><strong>Total Additional Professional Services Costs</strong></td>
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<td><strong>$6,090,880</strong></td>
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STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

November 26, 2013

CHANGE NOTICE NO. 24
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber

EMAIL
David.wieber@optum.com

TELEPHONE
(517) 993-0929

CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)
INITIAL EFFECTIVE DATE
December 21, 2010
INITIAL EXPIRATION DATE
December 20, 2015
INITIAL AVAILABLE OPTIONS
5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015
PAYMENT TERMS
F.O.B
SHIPPED
SHIPPED FROM
N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS:
☐ P-card ☐ Direct Voucher (DV) ☐ Other ☑ Yes ☐ No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:
EXTEND CONTRACT EXPIRATION DATE
☐ No ☑ Yes ☐ ☑ ☐ ☐

EXERCISE CONTRACT OPTION YEAR(S)

EXTENSION BEYOND CONTRACT OPTION YEARS

LENGTH OF OPTION/EXTENSION

EXPIRATION DATE AFTER CHANGE
December 20, 2015

VALUE/COST OF CHANGE NOTICE: $275,600.00
ESTIMATED REVISED AGGREGATE CONTRACT VALUE: $24,685,998.00

Effective Immediately, the following ongoing services are continued based on:

The State’s Work Request ITB-JK-DW-0003 and the related Vendor extension letter dated November 1, 2013 for Named Resource Kiran Vootkuri at a rate of $135.00/hr not to exceed 1,040 hours for One (1) Data Warehouse Senior Developer.

The State’s Work Request ITB-JK-DW-0004 and the related Vendor extension letter also dated November 1, 2013 for Named Resource Dheeraj Kumar at a rate of $130.00/hr not to exceed 1,040 hours for One (1) Data Warehouse Senior Developer.

This contract is also hereby INCREASED by $275,600.00. Please note that the buyer has been changed to Whitnie Zuker. All other terms, conditions, specifications and pricing remain unchanged. Per vendor and agency agreement and the approval of DTMB
**STATE OF MICHIGAN**  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

---

**CHANGE NOTICE NO. 23**  
to  
**CONTRACT NO. 071B1300138**  
between  
THE STATE OF MICHIGAN  
and  

<table>
<thead>
<tr>
<th>NAME &amp; ADDRESS OF CONTRACTOR</th>
<th>PRIMARY CONTACT</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optum Government Solutions, Inc.</td>
<td>David Wieber</td>
<td><a href="mailto:David.wieber@optum.com">David.wieber@optum.com</a></td>
</tr>
<tr>
<td>822 Centennial Way, Suite 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lansing, MI 48917</td>
<td>(517) 993-0929</td>
<td></td>
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<table>
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<tr>
<th>STATE CONTACTS</th>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
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<tr>
<td><strong>BUYER</strong></td>
<td>DTMB</td>
<td>Joe Kelly</td>
<td>517-373-3993</td>
<td><a href="mailto:Kellyj11@michigan.gov">Kellyj11@michigan.gov</a></td>
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**CONTRACT SUMMARY:**

**DESCRIPTION:** DTMB Data Warehouse Business Intelligence (BI)

<table>
<thead>
<tr>
<th>INITIAL EFFECTIVE DATE</th>
<th>INITIAL EXPIRATION DATE</th>
<th>INITIAL AVAILABLE OPTIONS</th>
<th>EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 21, 2010</td>
<td>December 20, 2015</td>
<td>5, 2 year</td>
<td>December 20, 2015</td>
</tr>
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</table>

**PAYMENT TERMS**  
F.O.B  
SHIPPED  
SHIPPED FROM  
N/A  
N/A  
N/A  
N/A

**ALTERNATE PAYMENT OPTIONS:**  
☑ P-card  
☐ Direct Voucher (DV)  
☐ Other  
☐ Yes  
☐ No

**MINIMUM DELIVERY REQUIREMENTS:**  
N/A

**DESCRIPTION OF CHANGE NOTICE:**

<table>
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<th>EXTEND CONTRACT EXPIRATION DATE</th>
<th>EXERCISE CONTRACT OPTION YEAR(S)</th>
<th>EXTENSION BEYOND CONTRACT OPTION YEARS</th>
<th>LENGTH OF OPTION/EXTENSION</th>
<th>EXPIRATION DATE AFTER CHANGE</th>
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</thead>
<tbody>
<tr>
<td>☐ No</td>
<td>☐ Yes</td>
<td>☐</td>
<td>☐</td>
<td>December 20, 2015</td>
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</tbody>
</table>

**VALUE/COST OF CHANGE NOTICE:**  
$165,000.00  
**ESTIMATED REVISED AGGREGATE CONTRACT VALUE:**  
$24,410,398.00

Effective Immediately, the following resources are incorporated into this contract, based on the State’s work requests ITB 0071141113B0000506:

- Named Resource: Ravi Sivarajan at a rate of $165.00/hr not to exceed 1000 hours
- State’s Work Request: #ITB 0071141113B0000506 for One (1) Data Warehouse Architect.
- Vendor’s Work Request Response: Dated September 9, 2013 to work request ITB 0071141113B0000506.

This contract is also hereby INCREASED by $165,000.00. All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
# Change Notice No. 22

To

**Contract No. 071B1300138**

Between

The State of Michigan

and

Optum Government Solutions, Inc.

822 Centennial Way, Suite 100
Lansing, MI 48917

---

## Contract Summary:

**Description:** DTMB Data Warehouse Business Intelligence (BI)

<table>
<thead>
<tr>
<th>Initial Effective Date</th>
<th>Initial Expiration Date</th>
<th>Initial Available Options</th>
<th>Expiration Date Before Change(s) Noted Below</th>
</tr>
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<tbody>
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<td>December 20, 2015</td>
<td>5, 2 year</td>
<td>December 20, 2015</td>
</tr>
</tbody>
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**Payment Terms:**

- F.O.B
- SHIPPED
- SHIPPED FROM
- N/A

**Alternate Payment Options:**

- P-card
- Direct Voucher (DV)
- Other
- Yes
- No

**Minimum Delivery Requirements:**

- N/A

## Description of Change Notice:

- Extend Contract Expiration Date
- Exercise Contract Option Year(s)
- Extension Beyond Contract Option Years
- Length of Option/Extension
- Expiration Date After Change

<table>
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<tr>
<th>Yes</th>
<th>No</th>
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- Value/Cost of Change Notice:

| $250,000.00 | $24,245,398.00 |

Effective Immediately, this Contract is hereby INCREASED by $250,000.00 per State’s work requests ITB-JK-DW-00001.

All other terms, conditions, specifications and pricing remain the same.

Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
August 30, 2013
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 21
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber
TELEPHONE (517) 993-0929
EMAIL David.wieber@optum.com

STATE CONTACTS
AGENCY
BUYER
DTMB
NAME
Joe Kelly
PHONE 517-373-3993
EMAIL Kellyj11@michigan.gov

CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)
INITIAL EFFECTIVE DATE December 21, 2010
INITIAL EXPIRATION DATE December 20, 2015
INITIAL AVAILABLE OPTIONS 5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015
PAYMENT TERMS F.O.B
SHIPPED
SHIPPED FROM N/A

ALTERNATE PAYMENT OPTIONS: P-card
Direct Voucher (DV)
Other
Yes
No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:
EXTEND CONTRACT EXPIRATION DATE
EXERCISE CONTRACT OPTION YEAR(S)
EXTENSION BEYOND CONTRACT OPTION YEARS
LENGTH OF OPTION/EXTENSION
EXPIRATION DATE AFTER CHANGE
No Yes N/A

VALUE/COST OF CHANGE NOTICE:

ESTIMATED AGGREGATE CONTRACT VALUE REMAINS:
$0.00
$23,995,398.00

Effective Immediately, The State’s work requests ITB-TH-0014 has been extended to 12/31/13 and incorporates the Statement of Work below.

All other terms, conditions, specifications and pricing remain the same.

Per vendor and agency agreement and the approval of DTMB Procurement.
The data warehouse is maintained and hosted by DTMB and currently supports multiple agencies, including the Michigan Department of Community Health (DCH), the Michigan Department of Human Services (DHS), the Michigan Department of Treasury (Treasury), the Michigan Department of Energy, Labor and Economic Growth (DELEG) and the State Courts Administrative Office (SCAO). Additional agencies may be supported in the future. The State of Michigan wishes to continue to host and administer any replacement systems with existing State staff in existing State facilities.

BI services will be provided in a three-tier fashion. The primary support for an agency’s BI needs will come from its associated DTMB Agency Services team. Where this is not possible, due either to lack of skills or resource shortages, the Center for Shared Solutions and Technology Partnerships (CSSTP) will provide the needed support. However, the State’s need is such that these two groups cannot serve all of its BI needs. In that case, CSSTP will Contract with a pre-qualified BI service Contractor to provide appropriate support. That support may come in the form of staff augmentation where Contractor staff works side by side with DTMB staff under the direction of a DTMB supervisor. It may also be provided as a staff augmentation to an existing CSSTP team. DTMB may choose to Contract with the pre-qualified BI service Contractor through CSSTP to develop a BI application or system with DTMB and Agency oversight for delivery to the State. In that case the BI Contractor must be able to provide knowledge transfer to State staff sufficient to maintain and extend the application.

A Pre-Qualification Program was developed to provide a mechanism for staff augmentation and project development support of the data warehouse and related application development.

This Second Revised Statement of Work (“Second Revised SOW”) is issued under the terms of the Contract 071B1300138 between Optum Government Solutions, Inc. (“Optum” or “Contractor” or “Vendor”) and the Michigan Department of Technology, Management and Budget, Procurement, as established under the Data Warehouse and Business Intelligence Program (the ‘138 Contract”) and more specifically under Work Request ITB-TH-00014 for the MDCH Project (“Work Request 14”), and the Optum Technical Proposal and Optum Price Proposal dated December 19, 2011, as amended by subsequent letter amendments and a first Revised SOW through August 26, 2013 (the “Optum Proposals”), where the ‘138 Contract, as amended by Work Request 14 and the Optum Proposals are collectively referred to as the “DTMB Contract”).

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Period of Coverage: 08/27/2013 – 12/31/2013</th>
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<tr>
<td>Requesting Agency:</td>
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<tr>
<td>Michigan Department of Community Health Data Warehouse AOC</td>
<td>Date: 8/08/13</td>
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<tr>
<td>Agency Project Manager:</td>
<td>Phone: 517-241-9998</td>
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<tr>
<td>Cynthia Edwards</td>
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<tr>
<td>DTMB Project Manager:</td>
<td>Phone: 517-241-2925</td>
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<tr>
<td>Carmen Redwine</td>
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<tr>
<td>DTMB Contract Administrator:</td>
<td>Phone: 517-373-3993</td>
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<td>Joseph Kelly</td>
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Change Notice Number 21
Contract Number 071B1300138

Brief Description of Services to be provided:
The State elects to extend PO 084N2201934 issued under the DTMB Contract for slightly longer than four (4) months so that it ends on 12/31/13. An Advice of Change (AOC) to PO 084N2201934 is required for support of the new end date of 12/31/2013 which will allow ongoing technical support for project(s) of various sizes for the MDCH Data Warehouse that are described in more detail in this Second Revised SOW. PO new service dates: 8/27/13-12/31/13

BACKGROUND:
MDCH has been using the data warehouse since 1994 to direct policy, detect fraud, identify potentially valuable new initiatives, reduce error rates, calculate rates and more.

MDCH utilizes the data warehouse for multiple purposes including mission critical functions. It functions as the department’s decision support system. MDCH uses data from the warehouse for rate setting for hospitals and managed and long term care providers. It is used to manage the performance of its partners (managed care providers and others) as well as programs within MDCH. The Department has an extensive analytics effort to ensure that funds are being spent most effectively, including detecting and prosecuting fraud, and assure that Medicaid beneficiaries are getting the best care possible. In support of departmental management, the data warehouse is used to analyze trends, report on all aspects of Medicaid, and provide critical support to the budgeting process. Beyond this, the data warehouse provides significant analytical support for epidemiology and other studies.

MDCH will be adapting and expanding its use of the data warehouse as it completes the implementation of ongoing work in its Medicaid Management Information System (MMIS), known as CHAMPS (Community Health Automated Medicaid Processing System). CHAMPS efforts underway include federally mandated projects such as HIPAA 5010 and D.0 processing, ICD-10 and Health Reform. In addition, MDCH will be adding new data sources and increasing their collaboration with other agencies along with adding new analytical tools. The Department expects to utilize the data warehouse for Health Information Technology/Health Information Exchange initiatives, as well as for the state’s Health Insurance Exchange. The Medicaid Electronic Health Record (EHR) Incentive Payment Program and Michigan Health Information Network are American Recovery and Reinvestment Act of 2009 (ARRA) initiatives to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. An important requirement of these ARRA initiatives requires the use of clinical data to improve patient care outcomes which will involve significant research efforts using de-identified data. It is anticipated that much of the data will be stored in the data warehouse. To store and use of this ARRA initiative data will require significantly increased data warehouse capabilities.

MDCH has relied on contractor staff to provide data warehouse support and business intelligence services. These services include: providing data warehouse Extract, Transform and Load (ETL) services, application development, web development, business intelligence model, reporting, query development, help desk support, training and data analysis.

The State of Michigan Department of Community Health (MDCH), with assistance of the Michigan Department of Technology, Management & Budget (DTMB), awarded to Optum through the DTMB Contract, under Purchase Order (PO) 084N2201934 to obtain initially, twenty seven (27) FTE positions to support, maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse for one (1) year. As expected, during the current term of the Work Request 14, and through various State Requests and Optum Proposals, the makeup of Optum staffing has changed to meet the State’s needs. The current staffing, position descriptions, associated rates, and estimated maximum hours by position is detailed in the PRICING SUMMARY below, where, for purposes of this SOW, the positions detailed are desired for continuation for an additional slightly longer than four (4) month period from August 27, 2013 through December 31, 2013.

The total number of individuals continues to be permissible to be increased or decreased throughout the life of this PO, based on department needs, available department funding, and mutual agreement of the parties.

PROJECT OBJECTIVE:
The objective of AOC to PO 084N2201934 is for Optum through the DTMB Contract, to assist MDCH with the development, support, maintenance and enhancement of MDCH Data Warehouse applications, which is an ongoing activity triggered by changes in federal and state regulations, evolving business needs, opportunities for improving business processes, continued software and hardware upgrades, and break fixes.
SCOPE OF WORK:

- The scope of this Second Revised SOW is to provide Data Warehouse Business Intelligence (BI) Services on an as needed basis to support maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse set forth in this Second Revised SOW.
- Develop and maintain Data Warehouse applications that support MDCH’s day-to-day will business operations.
- Resources will become familiar with DTMB personnel, MDCH’s business processes, and DTMB’s State Unified Information Technology Environment (SUITE) and MDCH Management policies and procedures.

TASKS:

REQUIRED TASKS

- Optum must attend orientation, security awareness training and any other relevant security and or confidentiality training requested by MDCH and/or DTMB. Optum staff must sign any appropriate agreements or training certifications.

EXAMPLES OF ONGOING and UPCOMING CONTRACTOR TASKS
(These tasks may change based on direction from the State)

Run production reporting on the data warehouse

Tasks include:

- Complete development of production reports to use the new CHAMPS data warehouse model. This includes reports needed for certification of CHAMPS, the Medicaid Statistical Information System (MSIS) extracts, and other production reports used to manage and evaluate Medicaid programs. Users of these reports include but are not limited to MDCH Medicaid management and staff, the State legislature, Federal agencies, counties and providers. Tasks include:
  o Map existing report data elements to corresponding fields in the new CHAMPS data warehouse.
  o Conduct Joint Application Design (JAD) sessions to finalize requirements with MDCH users.
  o Develop, test, and implement the CHAMPS version of the reports, including:
    ▪ Michigan Assistance and Referral Service (MARS) reports
    ▪ Centers for Medicare & Medicaid Services (CMS)-372s for Children’s Waiver, Elderly and Disabled Waiver, and Habilitation Supports Waiver
    ▪ MSIS
    ▪ MA CAP reports. This report packet provides in-depth analysis of the capitation population, and revenues paid out through the capitation system for: Mental Health, Substance Abuse, and the Habilitation Supports Waiver. The report packet is used for Legislative reporting, Federal reporting, and to monitor expenditures by Providing Agency.
    ▪ CMS-416 report and Early and Periodic Screening, diagnostic, and Treatment (EPSDT) letters
  - Rewrite production reports to align with HIPAA 5010 and ICD-10 changes.
  - Provide input as a pilot state for MSIS Plus. Work with CMS Developers to refine MSIS Plus requirements, record layouts and data definitions. Develop extract processes to align with defined MSIS Plus requirements, create internal system documentation, test files internally and with CMS, and implement approved processes.
  - Provide training and support to Department of Technology, Management and Budget (DTMB) staff to facilitate report development and maintenance.
  - Provide on-site expertise to incorporate newly-developed processes into the Business Objects environment, coordinate activities with the Consolidated Print Center, and integrate tools used to
Provide updated analytic, reporting, data mining, and web-based analytic tools to enhance the analytic capability of the staff

MDCH vision continues to include the use of ad-hoc analytic, On Line Analytical Processing (OLAP) and data mining tools. The OLAP and data mining tools are needed to examine our data from multiple perspectives, which will allow identification of emerging trends and cost savings. This allows the ability to answer complex questions by performing multidimensional analysis across data sets and programs; and to drill up and down through successive layers of detail to uncover trends, relationships, and patterns for improved decision making.

Tasks include:

- Upgrade BI Query Version 9.0.2 to the latest patch release.
- Upgrade from Business Objects XI release 1 (no longer supported) to Business Objects XI release 3.

Identify and load additional data sets on the data warehouse

As new systems and data sources are developed that support the administration of the Medicaid program, and expansions are made to existing source systems, they will be loaded to the data warehouse to be integrated with existing MDCH data. This data could be Medicaid-specific, or could be non-Medicaid but provides a longitudinal view of beneficiaries and populations that could effect changes in Medicaid policy.

The process to add these data sets includes: defining requirements/which data tables/fields to include; determining whether or not to maintain history; developing load programs (using state standard Extract, Transform, Load (ETL) tool where possible); integrating new data with existing data in the BI Query model; and training MDCH users.

Tasks include:

- Add Maternal and Infant Health Program (MIHP) Infant Screener data plus additional data elements from new development to the Maternal Screener, in order to enhance MDCH’s ability to evaluate the program, evaluate effectiveness of interventions, and assess outcomes.
- Add Children’s Waiver data from multiple sources (including Paradox database that is no longer supported) for purposes of enrollment and CMS-372 reporting.
- Add Michigan Department of Human Services (MDHS) data needed for Medicaid reporting required by CMS, and/or establish MDCH access to the MDHS data through a data warehouse View (e.g., Poverty/Income, Race/Ethnicity).
- Add Home Help data.
  - New data is needed as a result of the new source application being developed to track payments. The Home Help payments were administered by MDHS until January, 2010. The new source application is being developed by MDCH to track the payments, and the corresponding data is needed in the warehouse to be included in the MSIS extracts.
  - New detailed assessment data. This data is maintained in an MDHS source system and is needed by MDCH in the data warehouse in order to perform analysis using the assessment data (e.g., predict impact of policy issues and changes, track beneficiaries, track Medicaid expenditures and ultimately, calculate rates).
- Add Medicare Modernization Act (MMA) Territory Batch Query (TBQ) data and develop processes for submission and receipt of corresponding data to/from CMS.
- Add Buy-In source data for comparison to Medicare identified on the eligibility records. This will be used to ensure completeness of the MMA submissions.
- Add Hospital and Long Term Care Cost Report data that currently resides in a system managed by Hewlett Packard (HP).
• Add MSIS submission file tables and corresponding data to the data warehouse for use in maintaining MSIS history, analysis and resubmission to CMS as necessary.

• Add Michigan Disease Surveillance System (MDSS) data. MDSS enables physicians and clinical laboratories to electronically report the occurrence or suspected occurrence of disease, conditions or infection required by the Michigan Communicable Disease Reporting Rule. Case reporting and management depends on the integration of data from multiple sources (e.g., laboratory results; patient information; disease condition, onset, symptoms, and hospitalization dates; and medication, treatment and clinical history). MDCH has an opportunity to improve disease tracking and monitoring of Medicaid beneficiaries through the integration of MDSS and the MDCH Data Warehouse.

• Add Newborn Screening data. This data was previously loaded to the data warehouse, but source system has been re-written, and corresponding data warehouse load processes are needed to capture data from the new system.

• Add Third Party Recovery data. Existing Medicaid payment recovery systems pull data from the warehouse for purposes of determining amounts to be recovered, but actual amounts recovered are not currently loaded back to the data warehouse. The addition of the recovery amounts to the data warehouse will provide a more complete and accurate representation of Medicaid payment amounts.

• Evaluate other data sources and add those that will benefit Michigan’s Medicaid program or are needed to support reporting requirements.

Changes to existing data loads in order to stay current w/enhancements to source systems: MICIS data sets (OASIS, Nursing Home, MDS); CSHCS; MCIR; WIC

As source systems are rewritten to align with new requirements and technology, corresponding enhancements are required to the data warehouse in order to load and store new data elements and provide query and reporting access to the data. Source system changes may be driven by changes at the federal level, such as implementation of the OASIS-C and Minimum Data Set for Nursing Homes (MDS) 3.0 data sets and forms. Source system changes may also be driven by changes at the MDCH level, such as implementation of a new web-based application for Children’s Special Health Care Services (CSHCS), which will include additions to the existing data set.

Tasks include:

• Develop, test and implement data warehouse enhancements as a result changes to source systems, including:
  o OASIS
  o Nursing Home
  o MDS
  o CSHCS
  o WIC (Women, Infants and Children)
  o MCIR (Michigan Care Improvement Registry)

Develop web applications to support Medicaid programs and processes

Tasks include:

• Develop, test and implement web applications to support the following waivers:
  o Children’s Support Waiver (CSW)
  o Severely and Emotionally Disturbed (SED)

These web applications will provide:

  o Automated workflow to process enrollment of waiver beneficiaries (including capture of demographic data not available in BRIDGES)
  o Tracking and reporting of waiver beneficiaries
  o Management and tracking of waiver “slots”
  o Integration with existing systems (e.g., BRIDGES, MDHS’s Services Worker Support
System (SWSS))
  o An interface to CHAMPS to provide data needed to process waiver payments.

- Add data for the following home and community based services waivers to be used by the corresponding web applications proposed to support the waivers:
  - CSW
  - SED

- Develop, test and implement an enhanced web-based application for MDCH’s Managed Care Compliance Review Tool to replace the existing Access-based Compliance Review Tool application (the Tool). This will allow health plans and MDCH to update and access information through the web, rather than having to send the Access database back and forth to update information. The Tool summarizes all of the requirements of the Medicaid Comprehensive Health Plan contract, and State and Federal regulations, including fraud and abuse. MDCH conducts an annual compliance review of the designated criteria within the Tool. This Tool is used to document the Health Plans’ compliance with contract requirements as identified in each criterion.

Create and manage METADATA for the MMIS IT Architecture, and provide BI-Administration capability for security and model management.

Metadata and field mapping will provide information on the descriptions and uses of the data, flow of the data through the system, relationship to CHAMPS screens, and relationship to legacy data warehouse data elements, as well as the transformation and cleansing procedures. This information will be especially useful to analytic staff that may not be familiar with the operational detail of the data. It will also allow for the administration of the analytic tool environment and assessment of data integrity.

Implementation and enforcement of strong password rules for data warehouse users (90-day expiration, 8-character minimum length, require use of one special character and digit, no reuse of password during 120-day period, lock-out after 3 failed attempts) will increase security and privacy of data in the warehouse. User access will be allowed strictly through the use of Roles and Profiles.

Tasks include:

- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process (e.g., 837 records, National Council for Prescription Drug Programs (NCPDP), corresponding fields in CHAMPS screens, and use in reports).
- Create business definitions/data dictionary for each data element in the new CHAMPS data model.
- Create and/or modify BI-Query models to allow user-access to pre-defined data sets based on access approved through the security process. For example, access may include combinations such as the following:
  - Identified/Linked
  - De-identified/Linked
  - Identified/Linked & Unlinked
  - De-identified/Linked & Unlinked
- Implement roles and profiles (levels of security) for user access to the new CHAMPS data model.
- Implement strong password rules.
- Develop interface maps for both CHAMPS and the data warehouse.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.

Provide additional data integration across program areas and continue to enhance architecture to align
with MITA initiative

Tasks include:

- Enhance architecture to align with MITA by developing data exchanges between the data warehouse and health plans. By making additional data available to health plans, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving health care outcomes for Medicaid beneficiaries. These data exchanges are adaptable and will be used to help drive the Michigan Health Information Exchange (HIE) initiatives.
- Expand the use of Medicaid data in the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDCH to collaborate with other departments/agencies to improve Medicaid outcomes.
- Integrate Medicaid data with Corrections data to provide improved ability to identify the cross-population of Medicaid beneficiaries and prisoners, and therefore allow improved tracking and analysis of Medicaid beneficiaries.
- Integrate the data warehouse with other tool sets (e.g., Oracle, Access, ETL tools) to provide the ability to link to data that resides in source systems outside the data warehouse.
- Add new development to migrate data loads to the state’s standard COTS ETL tool (DataStage) to improve data load processes, reduce risk and development/maintenance costs, and minimize differences between data warehouse and source system data.
- Evaluate and purchase tools to align technology framework with Medicaid Information Technology Architecture (MITA) standards (foster integrated, cross-functional business in order to improve administration of Michigan’s Medicaid program).

Provide onsite analytic development for the various program models, and analytic tools

Tasks include:

- Update CHAMPS model-specific training manuals.
- Develop and deliver comprehensive training to educate end users on the use of the data based on the new CHAMPS and BRIDGES requirements. The implementation of these two systems resulted in substantial changes to the existing data warehouse and the need to integrate data from both post- and pre-implementation data models.
- Provide comprehensive training to help end users understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program. This will include development of materials for instructor-led classroom training as well as development of web-based training.
- Develop and deliver comprehensive training to educate developers on the new data warehouse structures and the use of data based on the new CHAMPS and BRIDGES requirements.
- Provide comprehensive training to help developers understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program.
- Provide first-line Help Desk Support to answer end user and developer questions related to the newly defined data models.
- Provide advanced analytic support and development at a level above the typical user’s business and technical knowledge.
- Provide Business Objects training and support for development staff, related to developing production reports on the data warehouse.

Enhance the data warehouse as a result of CHAMPS and BRIDGES

Tasks include:

- Conduct Technical JAD sessions along with CNSI to redefine data extract layouts for the new CHAMPS data sets, as well as relationships between tables, referential integrity, key fields, etc.
- Conduct User JADs for CHAMPS Production model – to define usage requirements, data definitions, and alignment with CHAMPS screens.
- Complete development of various data structures to accommodate CHAMPS and BRIDGES data, based on input from JADs.
- Develop new data warehouse design to add CHAMPS identifiers as key fields in place of business keys, in order to eliminate duplicate records in the data warehouse and keep data synchronized between the two systems.
- Develop new BI Query Views in the data warehouse so that data presented to end users more closely aligns with what is displayed in the CHAMPS screens.
- Add and modify Metadata to reflect the CHAMPS and BRIDGES changes.
- Rewrite data warehouse structure and load programs as a result of changes being implemented in CHAMPS. As approved in the CHAMPS APD-Us, these changes include CHAMPS Change Requests (e.g., addition of new fields and new functionality) that result in a corresponding change to the data warehouse, as well as additional data warehouse testing during the approved CHAMPS implementation extensions.
- To ensure compliance with new Managed Care Organization (MCO) Drug Rebates mandated by Health Care Reform (PPACA – Patient Protection and Affordable Care Act) that went into effect 3/23/10, the following work is required:
  - Create, test and implement new process to provide an interface file to the State’s PBM Pharmacy Benefits Management Services (PBM) (Magellan Medicaid Administration, Inc.) containing the MCO Drug claims (NCPDP encounters and Institution/Professional encounters for physician administered drug products) and MCO provider reference data. This data will then be used by the PBM to invoice manufacturers for CMS Federal Drug Rebates.
  - Utilize the NDC (National Drug Code):HCPCS (Healthcare Common procedure Coding System) crosswalk reference table to establish encounter edits and reports for purposes of ensuring the physician administered encounter claims are formatted properly for rebate invoicing.
- The following require redesign to accommodate the CHAMPS data warehouse changes:
  - MMA Part D submission files.
  - Eligible Months tables.
- Develop data warehouse structure and load programs to accommodate implementation of Medicaid encounter processing in CHAMPS.
- Develop and update end user queries and reports to use the newly defined models representing CHAMPS and BRIDGES data.
- Expand Situational Data in the warehouse. Situational data (fields not used directly to adjudicate a claim) are currently received from CHAMPS in a single, continuous, variable-size field, making it unusable by end users. This data will be parsed and stored in a format that makes it usable.
- Expand the data warehouse to accommodate HIPAA 5010.
- Perform ICD-10 gap analysis for MMIS and other Medicaid systems.
- Expand the data warehouse to accommodate ICD-10.
- Expand the data warehouse to include data needed to support electronic health record (EHR) (e.g., additional provider data, NLR data).
- Expand the data warehouse to include Prior Authorization data from CHAMPS.

Enhance the SURS process as a result of CHAMPS and BRIDGES

Tasks include:

- Develop new SURS extract process, which includes three parts:
  - Changes needed as a result of CHAMPS
  - Addition of Encounters to extract process
  - Replace quarterly extract with monthly extract.
- Develop new Audit programs as a result of CHAMPS.

Load Pharmacy data directly to the data warehouse
Tasks include:

- Convert all historical pharmacy claims and load to the new CHAMPS data warehouse structure (will be stored in the same data warehouse tables as fee-for-service (FFS) Claims and Encounters from CHAMPS). This process includes analysis of pharmacy data, mapping legacy data elements to the new data structure, and validation/resolution to synchronize data in the warehouse with PBM data.
- Design and develop processes to load pharmacy claims directly to both Staging and Production tables in the data warehouse (eliminate mainframe functionality and provide process to load data not adjudicated in CHAMPS). Includes implementation of data and file edits as well as processes to track receipt of files.
- Rewrite the CMS NDC Rebate data load to convert data from CMS cartridge tapes into electronic files and load directly to the data warehouse (eliminate mainframe functionality).
- Enhance the PBM data load process to include pharmacy paid claims enhancements. An example is the addition of data needed to further monitor and target outreach for purposes of increasing E-Prescribing in Michigan, and to collect information related to meaningful use.
- Load Pharmacy provider enrollment file from the State’s PBM to the data warehouse.
- Rewrite NCPDP Encounter load programs to align with new CHAMPS structure and PBM data.
- Rewrite the Medicaid Health Plan Point-of-Sale (POS) pharmacy carve-out claim utilization extract to pull data from the new CHAMPS structure. This weekly process creates a file containing pharmacy carve-out claims for beneficiaries enrolled in each plan. The Medicaid Health Plans use the claim data for utilization and disease management programs.

Develop web-based Security application

Tasks include:

- Complete the Data Warehouse Security form/process in the web-based security application. User acceptance testing is currently underway in preparation for production implementation.
- At the request of Michigan Department of Technology, Management and Budget (DTMB), rewrite the internal SQL in the web-based security application to call external stored procedures to provide increased security.
- Develop the Security form/process for access to additional Medicaid applications, such as:
  - Document Management System (FileNet)
  - BRIDGES
  - Medicaid Pharmacy Providers (MPP)
  - SOLQ
  - Buy-In
  - MCIR (Immunization Registry)
  - Lead
  - Home Help
  - MIHP
  - CSHCS
  - Post-Payment Recovery System
  - Paternity/Casualty Recovery System
  - CMS 1915(c) Waiver web site.
  - Ambulatory Payment Classification (APC) web site (WebStrat)
- Integrate CHAMPS Customer Relationship Management (CRM subsystem) user information with DSA user database. This will provide MDCH with a complete picture of an individual’s access across systems, via a single source application.
- Develop process to view an individual’s approved/denied status across systems.
- Develop process to compare approved level of access in DSA with actual access in source system.
- Develop process to manage security of employee notifications from Human Resources (departures, position transfers, new hires) and/or integration with the Human Resource application. Actions include terminations of access, alerts to system owners, notifications to former and/or new managers, etc.
• Develop approval process for access to Medicaid data stored in the Cloud (Cloud Computing).

**Enhance Data Warehouse Operability and Access**

Analysis and development to optimize query and system performance will reduce data warehouse usage costs by improving efficiency and reducing storage space. Analysis of CHAMPS data warehouse usage will be performed to determine areas for improvement (e.g., rewrite queries, add statistics, and add/remove indexes to align with user access to data, compress databases). Solutions will then be identified, developed and implemented to address the identified areas for improvement.

Develop application to audit MDCH data warehouse usage. This application would provide web-based access to stored information such as identification of which users accessed which data and frequency of access.

Tasks include:

• Develop code to analyze databases and queries, identify potential areas for enhancement, develop and implement solutions.
• Develop web-based data warehouse audit application.

**Develop Queries and Reports to support the Medicaid Program**

The MDCH Data Warehouse is a critical component in the administration of the Medicaid Program. As such, it is frequently used as a source of information for audits, research, lawsuits, FOIA, and other similar requests for data. These requests typically require response within a short timeframe and require knowledge of both Medicaid and the data warehouse in order to provide required results within the defined timeframe.

Additionally, MDCH will be participating in the ARRA funded comparative effectiveness research (CER). As a participant of CER, MDCH will be providing data extracts related to specific proposals. MDCH will use the data warehouse to provide requested data.

Tasks include:

• Develop code to extract data as requested for CER.
• Develop code to extract data as needed for audits, research, lawsuits, FOIA, and other similar requests.
• Develop code to extract data for use in proof-of-concept of Prospective Payment editing and other similar requests.

**Develop and Configure Unique Client Identifier (UCI) Replacement**

MDCH developed the UCI using custom code in 2001. The UCI links person-level records from one database to another by evaluating the available data elements such as name, address, IDs – beneficiary, client, consumer – to determine if a match exists. When a match exists, a UCI is assigned that is used in all the databases. Once linked, they remain linked unless manually removed.

Since 2001 when the UCI was first developed, there have been huge technology gains in master person technology. MDCH adopted a new COTS Product that is an independent system, yet fully integrated with the data warehouse, which will drastically reduce the amount of custom development required, speed integrations of additional sources, and reduce the ongoing operating cost of the system.

To enable these recent advances including enhanced person matching algorithms and new standards for identify management (including the required standards for HIE), the following Tasks are required.

Tasks include:

• Install and configure the new hardware and software.
• Implement the software to link all data sets currently included in UCI.
• Integrate the new product with other existing systems.
Develop a Provider Index within the COTS product.

**IT Classifications/Skills Set and Tasks:**

The requirement is that the individual must possess the skills, knowledge, and experience required to perform the duties effectively and efficiently at the level specified in this Second Revised SOW, where DTMB and MDCH agrees that the individuals named in the PRICING SUMMARY of this Second Revised SOW for the applicable positions are deemed to have met these required levels of the indicated positions.

1. **Data Warehouse Project Manager**
   Data warehouse project manager manages the integration and/or development and delivery of very large and complex deliverables directly to the customer. This position provides the primary interface between the Contractor, the State and third party providers.
   - Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
   - Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.
   - Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.
   - Makes sure approved methods, processes and tools are consistently used.
   - Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.
   - Assists the MDCH Agency Project Manager with documentation for managing the data warehouse such as presentations, reports and Advanced Planning Documentation (APD) to be submitted to CMS for funding.

   **Required Experience**
   - 5+ Years Project Manager or Team Lead Experience.
   - 5+ Years Business Intelligence Experience.
   - 3+ Years Teradata DW Experience.

2. **Data Warehouse Architect**
   Data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.
   - Conducts model and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.
   - Responsible for data warehouse database design and providing technical direction to modelers, data analysts, ETL developers, and database administrators.
   - Develops design proposals to meet MDCH needs
   - Approves integrated systems design proposals for technical content.
   - Monitors the implementation for technical correctness so that MDCH needs are met.
   - Identifies, analyzes and evaluates alternative design solutions.

   **Required Experience**
   - 6+ Years Data Warehouse Architect and Model Experience.
   - Teradata Version 12 or 13 Experience.
   - Teradata Utilities Experience.
3. Data Warehouse Database Administrator

Database administrator (DBA) is responsible for the availability, safety and usefulness of the MDCH data warehouse databases.

- Software installation and database management system upgrades.
- Software upgrades to ensure the database is in compliance with critical security patches, or, software upgrades deemed necessary by the State.
- Working in conjunction with system administrators, server configuration to ensure that the entire database system is capable of providing the services needed.
- Performance monitoring to identify bottlenecks and places where throughput can be improved.
- Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
- Configure access to the data warehouse and communication between the warehouse and other servers.
- Physical database design translates the logical database design to work optimally for the specific database environment.
- Working with MDCH data warehouse developers to establish standards and guidelines for access to MDCH data warehouse databases.
- Backup and Restore management to ensure that no data is lost and those backups can be restored in a timely manner.
- Work with MDCH data warehouse developers and MDCH clients to optimize their queries.

Required Experience

- 4+ Years Teradata Database Administrator Experience.
- 2+ Years Teradata Version 12 or 13 Experience.
- Teradata Utilities Experience.
- Teradata Manager Experience.
- SQL Assistant Experience.
- UNIX Experience.
- Oracle (9i, 10g, 11g) Experience.

4. Data Warehouse Database Administrator to serve as a Business Objects Administrator

The Data Warehouse Database Administrator to serve as a Business Objects Administrator is responsible for the availability, safety and usefulness of the MDCH Business Objects (BO) environment.

- Maintaining all BO user accounts and controlling user’s access to MDCH BO reports.
- Maintaining all ODBC connections to respective data warehouse databases.
- Maintaining print queues and coordinates printing related activities with Consolidate Print Center (CPC).
- Publish Crystal Reports into Business Objects.
- Scheduling reports and verification reports ran at scheduled date/time.
- Coordinating/executing re-runs of reports when required as corrective action to issues.
- Troubleshooting any issues with Reports or the Business Objects Application (Technical support to End Users).
- Central point of contact for all questions related to the BO environment.
- Meeting with MDCH customers to discuss supporting activities. (Bi-weekly DW Projects meeting)
- Maintain web based end user training manual.
- Provide one on one support for DTMB developers and end users to assist them in accomplishing their data reporting needs.
- Oversee Business Objects enterprise environment changes, working with other departments to ensure modifications to the BO environment are properly planned and tested.

Required Experience

- 4+ Years Business Objects Administrator Experience.
- 3+ Years Business Objects Universe Development Experience.
- Business Intelligence Tools: Business Objects, Micro Strategy, Crystal Reports.
- Business Objects Version XI r2 and 3.1 Experience.
- Business Objects WEBi and InfoView Training Experience.
- 3+ Years Business Objects Report Developer.

5. **Data Warehouse Developer Senior**

Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.

- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**

- 6+ Years SQL Development Experience.
- Business Analyst Experience.
- SQL and Performance Tuning Experience.
- Teradata Utilities Experience
- SQL Assistant Experience.
- UNIX Shell Scripting Experience.

6. **Data Warehouse Developer Junior**

Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.

- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**

- 2+ Years SQL Development Experience.
- Teradata Utilities Experience.
- SQL Assistant Experience.

7. **Data Warehouse Designer/Modeler**

Data warehouse designer is responsible for the layout and navigability of a database. This involves defining the tables, keys and relationships that will allow an application to retrieve and update data correctly and efficiently.

- Working with end users and developers to understand the data needs of MDCH clients.
- Documenting the MDCH data warehouse data involves including definitions, constraints and access needs.
- Creating and maintaining MDCH data warehouse logical designs, including Entity Relationship
diagrams, which illustrate what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to other data in the database.

- Creating and maintaining MDCH data warehouse data definition language (DDL) that can be used to create and update the database.
- Working with the MDCH Data Warehouse DBA and ETL developers, modify the logical design to create a physical design most suited to the database environment and the applications that will use it.
- Work with MDCH Data Warehouse ETL developers and DBA to create and maintain database design standards.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their report development related tasks may include:
- Perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other Agency applications. Their development related activities may include tasks such as:
  - Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
  - Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
  - SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.

**Required Experience**

- 5+ Years Data Warehouse Modeling Experience.
- 5+ Years of SQL Development.
- Data Warehouse Architect Experience.

8. **Data Warehouse Business Intelligence Report Developer**

Data warehouse Business Intelligence Report Developer is expected to be able to work with agency requestors to define and develop new reports, and provide training and technical support to both DTMB developers and end user query developers.

- Working with end user requestors to understand their data needs and create and implement solutions to those needs.
- Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
- Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
- Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**

- 5+ Years of Business Objects Report Development Experience.
- 5+ Years of SQL Development.
- Business Objects universe development experience.
- Business Analyst Experience.

9. **Data Warehouse Business Intelligence Analyst Senior**

Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.

- Running JAD sessions to understand what data is needed and how it is likely to be used.
- Creating ad-hoc queries to answer specific user questions.
- Program design and specification.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Supporting end user to enable them to create their own queries and reports as needed.
• Identify data problems and work with developers to correct them.
• Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
• Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  • Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  • Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
  • Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
  • Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**

• 6+ Years Project Lead/BI Analyst Experience.
• 4+ Years Business Objects Report Development.
• Business Objects Training Experience.
• SQL Assistant Experience.

**10. Data Warehouse Business Intelligence Analyst Junior**

Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.

• Running JAD sessions to understand what data is needed and how it is likely to be used.
• Creating ad-hoc queries to answer specific user questions.
• Program design and specification.
• Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
• Supporting end user to enable them to create their own queries and reports as needed.
• Identify data problems and work with developers to correct them.
• Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
• Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
• Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  • Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  • Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
  • Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
  • Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**

• 2+ Years Project Lead/BI Analyst Experience.
• 1+ Years Business Objects Report Development.

**11. Data Warehouse Help Desk Analyst**

Help desk staff provide first line support for end users and developers.
• Manages MDCH Data Warehouse mailbox.
  - Assesses user identified issues and provides guidance for resolution.
  - Directs unresolved problems and reports to appropriate staff, if necessary.
  - Tracks and analyzes problem occurrences and resolutions.
• Conducts data warehouse user group training.
• Develops training materials.
• Assists with query/report development.
• Provides user assistance with BI Services tool(s), model/database, business knowledge and
  recommendations for efficiency and solutions to meet user business needs.

**Required Experience**
• 3+ Years of Data Warehouse Help Desk Analyst Experience.
• Experience in supporting the end users in accessing the data warehouse and effectively utilize the
desktop tools.

12. **Web Developer**
A Web Developer is responsible for designing and developing web-based applications that interact with
and utilize the data warehouse to provide MDCH users with highly interactive, easy to use web-based BI
applications.
• Defining and developing applications that rely on unique web-based technology and tools, and
  that will conform to standards defined by DTMB for user interface and usage of the data
warehouse.
• Defining the web application user interface, business rules, database access and data warehouse
  access, and determining any data sources that need to be imported into the data warehouse for
  web application operation.
• Producing technical specification documents to review the web application with the user, and
  conducting JAD sessions to revise and finalize technical specifications.
• Prototyping of web application pages for user review and approval.
• Producing accurate and complete data mapping documents
• Performing user acceptance testing with users and DTMB to confirm that new web applications
  perform per specifications, and making adjustments to the web application as required
• Maintaining a development and staging environment for the development and testing of
  enhancements and updates to the web application.

**Required Experience**
• 5+ Years of Data Warehouse Web Developer Experience.
• Web development: HTML, JavaScript, PHP, Perl.

13. **Subject Matter Expert (SME)**
A Subject Matter Expert (SME) will be responsible for providing specialized, in-depth knowledge of a
business area(s) such as Medicaid, 5010 HIPAA transactions, Pharmacy, ICD-10 and technology
solutions.
• Leading or actively participating in work-groups with the need for specialized knowledge.
• Providing guidance on how their area of expertise can resolve an organizational need, and
  actively participates in all phases of a project/initiative by sharing their knowledge, expertise and
  ideas.
• Defining technology and business solutions based on thorough understanding of business
  processes and policies.
• Reviewing, helping re-engineer, or creating new processes and policies,
• Evaluating and defining technology requirements and solutions.
• Defining business needs, and identifying and recommending the most appropriate solutions.
• Providing documentation such as forms, manuals, correspondence, and procedures
• Understanding, articulating, and implementing best practices related to their area of expertise.
**Required Experience**

- 5+ Years of Data Warehouse design and development of BI applications using Business Object Toolsets and other BI technologies.
- Experience in recommending appropriate tools and technology required to meet immediate and long-term business and individual self-service reporting needs.

**Transition Plan:**

Not Applicable.

**DELIVERABLES:**

The deliverables and tasks agreed to in this Second Revised SOW shall comply with the following approval process:

**APPROVAL OF DELIVERABLES, IN GENERAL:**

(a) All Deliverables (Physical Deliverables, Written Deliverables, and Service Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing as applicable in Section 6.3, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

(b) The State’s obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable have been delivered without material deficiencies. If the State determines that the Deliverable has material deficiencies, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State and Contractor receive the Deliverable and agree that the Deliverable is ready for use and, where applicable, Contractor has provided certification in accordance with Section 6.3(a).

(d) The State will approve in writing a Deliverable upon confirming that it conforms to and, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor’s expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

(e) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep any resulting Contract(s) in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the Contract(s) price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State’s general expenses provided the State can furnish proof of such general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

**PROCESS FOR APPROVAL WRITTEN DELIVERABLES:**

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work/Purchase Order following delivery of the final version of the Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written
Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF SERVICE DELIVERABLES:

The State Review Period for approval of Service Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) Business Days for a Service Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF PHYSICAL DELIVERABLES:

The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) continuous Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

ACCEPTANCE CRITERIA:

As agreed upon through Statement of Work ITB-TH-00014, the T&M based services shall be accepted based upon time sheets submitted by Contractor and approved by the State for actual hours of Services performed.

PROJECT CONTROL AND REPORTS:

A monthly progress report must be submitted to DCH and DTMB Project Managers throughout the life of this project. The report may be submitted with the billing invoice. Each monthly progress report must contain the following information:

- **Hours**: Indicate the number of hours expended during the past month, and the cumulative total to date for the project.
- **Tasks accomplished**: Indicate what projects have been worked on, and what was completed during the current reporting period.
- **Planned Tasking**: Describe activities to be accomplished during the next reporting period.
- **Funds**: Indicate the amount of funds expended during the current reporting period, and the cumulative total to date for the project.
- **Issues**: Indicate major issues/risks/changes, real or perceived, in relation to the scope of this SOW, and recommend resolutions.
SPECIFIC AGENCY STANDARDS:

Agency standards, if any, in addition to DTMB standards.

PAYMENT SCHEDULE:

Payment will be made on an all time and materials (hourly based) must submit time sheets with all invoices and include purchase order basis. DTMB will pay CONTRACTOR upon receipt of properly completed invoices which shall be submitted to the billing address on the State issued purchase order not more often than monthly. DTMB Accounts Payable area will coordinate obtaining Agency Project Manager and DTMB Project Manager approvals. All invoices should reflect actual work completed by payment date, and must be approved by the Agency Project Manager and DTMB Project Manager prior to payment. The invoices shall describe and document to the State’s satisfaction a description of the work performed, the progress of the project, and fees.

Payment shall be considered timely if made by the DTMB within forty-five (45) days after receipt of properly completed invoices.

PRICING SUMMARY

Pricing for the slightly longer than four (4) month extension will remain consistent with the pricing applicable to the current positions being provided to MDCH under the DTMB Contract prior to the effective date of this Second Revised SOW, where such pricing was contained in the Optum Proposal dated December 19, 2011, as amended by subsequent letter amendments and where, for administrative convenience, the named individuals, their titles and hourly rates for Services performed during the slightly longer than four (4) month period covered by this Second Revised SOW are set forth below:

TABLE 1
<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Position</th>
<th>Hourly Rate</th>
<th>Estimated Maximum Hours</th>
<th>Estimated Dollars</th>
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</tr>
<tr>
<td>TATE, JEFF</td>
<td>Subject Matter Expert Champs</td>
<td>$178.00</td>
<td>680</td>
<td>$121,040</td>
</tr>
<tr>
<td>VARDE, ARUN</td>
<td>Data Warehouse Web Developer Senior</td>
<td>$120.00</td>
<td>680</td>
<td>$81,600</td>
</tr>
<tr>
<td>WILLIAMS, GEOFFREY</td>
<td>Data Warehouse Developer Junior</td>
<td>$136.00</td>
<td>680</td>
<td>$92,480</td>
</tr>
</tbody>
</table>

**Total Estimated Hours and Dollars**: 21,020 $2,900,080

**ADDITIONAL TIME & MATERIALS LABOR RATES FOR PROFESSIONAL SERVICES:**
To the extent the parties agree that certain specific services must be provided on a time and materials basis, such services must be provided at the Labor Rates (Not to Exceed Hourly Rate cost column). Future amendments to
this Second Revised Statement of Work may utilize this rate structure, as agreed between the Contractor and State. Additionally the Contractor may utilize the rates in order to provide the State with a not to exceed time and materials price. Prices quoted herein will be used for change, addition, and / or deletion of work associated with this Second Revised SOW. The Estimated Hours is provided below as an estimate only and is not meant to preclude or limit the State from requesting a resource/staffing mix for future projects that exceeds the hours estimate for a specific Staffing Category as long as the Total Additional Professional Services Cost is not exceeded.

### TABLE 2

<table>
<thead>
<tr>
<th>Staffing Category</th>
<th>Not to Exceed Hourly Rate</th>
<th>Estimated Hours</th>
<th>Total Estimated Price (Multiply NTE Hourly Rate x Estimated Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Warehouse Project Manager</td>
<td>$144.00</td>
<td>625</td>
<td>$90,000.00</td>
</tr>
<tr>
<td>Data Warehouse Architect</td>
<td>$140.00</td>
<td>625</td>
<td>$87,500.00</td>
</tr>
<tr>
<td>Data Warehouse Database Administrator</td>
<td>$136.00</td>
<td>625</td>
<td>$85,000.00</td>
</tr>
<tr>
<td>Data Warehouse Developer Junior</td>
<td>$136.00</td>
<td>625</td>
<td>$85,000.00</td>
</tr>
<tr>
<td>Data Warehouse Developer Senior</td>
<td>$136.00</td>
<td>650</td>
<td>$88,400.00</td>
</tr>
<tr>
<td>Data Warehouse Designer/Modeler</td>
<td>$136.00</td>
<td>625</td>
<td>$85,000.00</td>
</tr>
<tr>
<td>Data Warehouse Business Intelligence Report Developer</td>
<td>$85.00</td>
<td>625</td>
<td>$53,125.00</td>
</tr>
<tr>
<td>Data Warehouse Business Intelligence Analyst Junior</td>
<td>$136.00</td>
<td>625</td>
<td>$85,000.00</td>
</tr>
<tr>
<td>Data Warehouse Business Intelligence Analyst Senior</td>
<td>$136.00</td>
<td>627</td>
<td>$85,272.00</td>
</tr>
<tr>
<td>Data Warehouse Help Desk Analyst</td>
<td>$136.00</td>
<td>625</td>
<td>$85,000.00</td>
</tr>
<tr>
<td>Data Warehouse Web Developer Junior</td>
<td>$80.00</td>
<td>625</td>
<td>$50,000.00</td>
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<tr>
<td>Data Warehouse Web Developer Senior</td>
<td>$120.00</td>
<td>625</td>
<td>$75,000.00</td>
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<tr>
<td>Data Warehouse Subject Matter Expert</td>
<td>$195.00</td>
<td>100</td>
<td>$19,500.00</td>
</tr>
<tr>
<td>Subject Matter Expert HEDIS</td>
<td>$250.00</td>
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<td>$25,000.00</td>
</tr>
<tr>
<td>Subject Matter Expert MPI</td>
<td>$265.00</td>
<td>600</td>
<td>$159,000.00</td>
</tr>
<tr>
<td>Total Additional Professional Services Cost</td>
<td>N/A</td>
<td>8,327</td>
<td>$1,157,797.00</td>
</tr>
</tbody>
</table>

**EXPENSES:**
The State will NOT pay for any travel expenses, including hotel, mileage, meals, parking, etc.

**PROJECT CONTACTS:**

**The MDCH Project Manager is:**
Cynthia Green-Edwards  
Director, Office of Medicaid Health Information Technology  
Michigan Department of Community Health (MDCH)  
500 Pine Street, Capitol Commons Center  
Lansing, Michigan 48933  
517-241-9998  
EDWARDSC@michigan.gov

**The DTMB Project Manager is:**
Carmen Redwine  
Business Relationship Manager - MDCH  
Michigan Department of Technology Management and Budget (DTMB)  
Agency Services – Department of Community Health (DCH)  
300 East Michigan Avenue, Chandler Building  
Lansing, MI  
517-241-2925  
RedwineC1@michigan.gov
The DTMB Contract Administrator for this project is:
Joseph Kelly
Michigan Department of Technology, Management and Budget
DTMB Procurement - Stevens T. Mason Building – 2nd Floor
530 W. Allegan Street
Lansing, MI 48933
517-373-3993
Email: kellyj11@michigan.gov

AGENCY RESPONSIBILITIES:

- The State may discontinue the services of any vendor(s) - supplied staff with two weeks’ notice without cause at any time.
- The State will provide access to networks, servers, software license (as appropriate), etc. needed for Vendor to perform tasks required for this Second Revised SOW.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:

The work is to be performed, completed, and managed at locations determined by the Vendor, but with the expectation that personnel will be available, on hand and able to complete emergency tasks. In addition, onsite support may be needed and will be identified at such time.

EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:

Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET.) and possible night and weekend hours depending on position and project requirements. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time. No overtime will be permitted.

RIGHT TO OWNERSHIP:

State intends to own the Software at the end of the Contract

- Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

- Vesting of Rights. The Contractor agrees to assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State’s request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of such assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 20 (Revised)
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber
David.wieber@optum.com

TELEPHONE
(517) 993-0929

EMAIL

STATE CONTACTS
AGENCY
NAME
PHONE
EMAIL

BUYER
DTMB
Joe Kelly
517-373-3993
Kellyj11@michigan.gov

CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)
INITIAL EFFECTIVE DATE
December 21, 2010
INITIAL EXPIRATION DATE
December 20, 2015
INITIAL AVAILABLE OPTIONS
5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 20, 2015
PAYMENT TERMS
F.O.B
SHIPPED
SHIPPED FROM
N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS:
☐ P-card ☐ Direct Voucher (DV) ☐ Other ☒ Yes ☐ No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:
EXTEND CONTRACT EXPIRATION DATE
☐ No ☐ Yes

EXERCISE CONTRACT OPTION YEAR(S)
☐ ☐

EXTENSION BEYOND CONTRACT OPTION YEARS
☐ ☐

LENGTH OF OPTION/EXTENSION
☐ ☐

EXPIRATION DATE AFTER CHANGE
☐ ☐

VALUE/COST OF CHANGE NOTICE:
$2,504,000.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$23,995,398.00

Effective immediately, this Contract is INCREASED by $2,485,952.00 to cover services of the following resources.

<table>
<thead>
<tr>
<th>Position</th>
<th>Resource</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DW Project Manager</td>
<td>Melissa Jourden</td>
<td>$147.00</td>
</tr>
<tr>
<td>DW Architect</td>
<td>Ray Desmeules</td>
<td>$163.00</td>
</tr>
<tr>
<td>DW Modeler</td>
<td>Lee Ritchie</td>
<td>$143.00</td>
</tr>
<tr>
<td>Position</td>
<td>Name</td>
<td>Rate</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>DW Database Administrator</td>
<td>Mohommod Khan</td>
<td>$140.00</td>
</tr>
<tr>
<td>BO Administrator</td>
<td>Murali Mahadevan</td>
<td>$149.00</td>
</tr>
<tr>
<td>DW Business Analyst</td>
<td>Jim Davis</td>
<td>$144.00</td>
</tr>
<tr>
<td>DW Developer</td>
<td>Bruce Grant</td>
<td>$139.00</td>
</tr>
<tr>
<td>DW Developer</td>
<td>Sai Swaroop Mudduluru</td>
<td>$103.00</td>
</tr>
<tr>
<td>DW Developer</td>
<td>Amarnath Kogantiat</td>
<td>$125.00</td>
</tr>
</tbody>
</table>

All other terms, conditions, specifications and pricing remain the same.

Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 20  
to  
CONTRACT NO. 071B1300138  
between  
THE STATE OF MICHIGAN  
and  
Optum Government Solutions, Inc.  
822 Centennial Way, Suite 100  
Lansing, MI 48917

<table>
<thead>
<tr>
<th>STATE CONTACTS</th>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTRACT COMPLIANCE INSPECTOR</td>
<td>DTMB</td>
<td>Joe Kelly</td>
<td>517-373-3993</td>
<td><a href="mailto:Kelly11@michigan.gov">Kelly11@michigan.gov</a></td>
</tr>
<tr>
<td>BUYER</td>
<td>DTMB</td>
<td>Joe Kelly</td>
<td>517-373-3993</td>
<td><a href="mailto:Kelly11@michigan.gov">Kelly11@michigan.gov</a></td>
</tr>
</tbody>
</table>

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

<table>
<thead>
<tr>
<th>INITIAL EFFECTIVE DATE</th>
<th>INITIAL EXPIRATION DATE</th>
<th>INITIAL AVAILABLE OPTIONS</th>
<th>EXPANSION DATE BEFORE CHANGE(S) NOTED BELOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 21, 2010</td>
<td>December 20, 2015</td>
<td>5, 2 year</td>
<td>December 20, 2015</td>
</tr>
</tbody>
</table>

PAYMENT TERMS

<table>
<thead>
<tr>
<th>N/A</th>
<th>F.O.B</th>
<th>SHIPPED</th>
<th>SHIPPED FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

ALTERNATE PAYMENT OPTIONS:

☐ P-card  ☐ Direct Voucher (DV)  ☐ Other  ☑ Yes  ☐ No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE  
EXERCISE CONTRACT OPTION YEAR(S)  
EXTENSION BEYOND CONTRACT OPTION YEARS  
LENGTH OF OPTION/EXTENSION  
EXPIRATION DATE AFTER CHANGE

☒ No  ☑ Yes

VALUE/COST OF CHANGE NOTICE:  
ESTIMATED REVISED AGGREGATE CONTRACT VALUE:

$2,485,952.00  
$23,977,350.00

Effective immediately, this Contract is INCREASED by $2,485,952.00 to cover services of the following resources.

<table>
<thead>
<tr>
<th>Position</th>
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<th>Hourly Rate</th>
</tr>
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<td>Mohommod Khan</td>
<td>$140.00</td>
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<tr>
<td>Role</td>
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<tr>
<td>--------------------------</td>
<td>--------------------------------</td>
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<td>DW Business Analyst</td>
<td>Jim Davis</td>
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<tr>
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<td>Bruce Grant</td>
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<td>Sai Swaroop Mudduluru</td>
<td>$103.00</td>
</tr>
<tr>
<td>DW Developer</td>
<td>Amarnath Kogantiat</td>
<td>$125.00</td>
</tr>
</tbody>
</table>

All other terms, conditions, specifications and pricing remain the same.

Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
July 20, 2013

PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 19
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR: PRIMARY CONTACT EMAIL
Optum Government Solutions, Inc. David Wieber David.wieber@optum.com
822 Centennial Way, Suite 100
Lansing, MI 48917

STATE CONTACTS AGENCY NAME PHONE EMAIL
CONTRACT COMPLIANCE INSPECTOR
BUYER DTMB Joe Kelly 517-373-3993 Kellyj11@michigan.gov

CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)
INITIAL EFFECTIVE DATE INITIAL EXPIRATION DATE INITIAL AVAILABLE OPTIONS EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 21, 2010 December 20, 2015 5, 2 year December 20, 2015
PAYMENT TERMS F.O.B SHIPPED SHIPPED FROM
N/A N/A N/A
ALTERNATE PAYMENT OPTIONS: AVAILABLE TO MiDEAL PARTICIPANTS
☐ P-card ☐ Direct Voucher (DV) ☐ Other ☒ Yes ☐ No
MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:
EXTEND CONTRACT EXPIRATION DATE EXERCISE CONTRACT OPTION YEAR(S) EXTENSION BEYOND CONTRACT OPTION YEARS LENGTH OF OPTION/EXTENSION EXPIRATION DATE AFTER CHANGE
☒ No ☐ Yes ☐ ☐

VALUE/COST OF CHANGE NOTICE: ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$544,000.00 $21,491,398.00

Effective June 10, 2013, this Contract is hereby INCREASED by $544,000.00 per State’s work requests ITB-TH-DW-00016.

All other terms, conditions, specifications and pricing remain the same.

Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933  

February 20, 2013  

CHANGE NOTICE NO. 18  
to  
CONTRACT NO. 071B1300138  
between  
THE STATE OF MICHIGAN  
and  

NAME & ADDRESS OF CONTRACTOR:  
Optum Government Solutions, Inc.  
822 Centennial Way, Suite 100  
Lansing, MI 48917  

PRIMAR CONTACT  
David Wieber  

EMAIL  
David.wieber@optum.com  

STATE CONTACTS  
CONTRACT COMPLIANCE INSPECTOR  
BUYER  
DTMB  
Joe Kelly  
517-373-3993  
Kellyj11@michigan.gov  

CONTRACT SUMMARY:  
DESCRIPTION:  DTMB Data Warehouse Business Intelligence (BI)  

INITIAL EFFECTIVE DATE  
December 21, 2010  
INITIAL EXPIRATION DATE  
December 20, 2015  
INITIAL AVAILABLE OPTIONS  
5, 2 year  
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW  
December 20, 2015  

PAYMENT TERMS  
F.O.B  
SHIPPED  
SHIPPED FROM  
N/A  
N/A  
N/A  
N/A  

ALTERNATE PAYMENT OPTIONS:  
P-card  
Direct Voucher (DV)  
Other  
X Yes  
No  

MINIMUM DELIVERY REQUIREMENTS:  
N/A  

DESCRIPTION OF CHANGE NOTICE:  
EXTEND CONTRACT EXPIRATION DATE  
X No  
Yes  

EXERCISE CONTRACT OPTION YEAR(S)  

EXTENSION BEYOND CONTRACT OPTION YEARS  

LENGTH OF OPTION/EXTENSION  

EXPIRATION DATE AFTER CHANGE  

VALUE/COST OF CHANGE NOTICE:  
$4,274,870.00  

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:  
$20,947,398.00  

Effective Immediately, this Contract is hereby INCREASED by $4,274,870.00 per State’s work requests ITB-TH-0014 and incorporates the Statement of Work below.  

All other terms, conditions, specifications and pricing remain the same.  

Per vendor and agency agreement and the approval of DTMB Procurement.
The data warehouse is maintained and hosted by DTMB and currently supports multiple agencies, including the Michigan Department of Community Health (DCH), the Michigan Department of Human Services (DHS), the Michigan Department of Treasury (Treasury), the Michigan Department of Energy, Labor and Economic Growth (DELEG) and the State Courts Administrative Office (SCAO). Additional agencies may be supported in the future. The State of Michigan wishes to continue to host and administer any replacement systems with existing State staff in existing State facilities.

BI services will be provided in a three-tier fashion. The primary support for an agency’s BI needs will come from its associated DTMB Agency Services team. Where this is not possible, due either to lack of skills or resource shortages, the Center for Shared Solutions and Technology Partnerships (CSSTP) will provide the needed support. However, the State’s need is such that these two groups cannot serve all of its BI needs. In that case, CSSTP will Contract with a pre-qualified BI service Contractor to provide appropriate support. That support may come in the form of staff augmentation where Contractor staff works side by side with DTMB staff under the direction of a DTMB supervisor. It may also be provided as a staff augmentation to an existing CSSTP team. DTMB may choose to Contract with the pre-qualified BI service Contractor through CSSTP to develop a BI application or system with DTMB and Agency oversight for delivery to the State. In that case the BI Contractor must be able to provide knowledge transfer to State staff sufficient to maintain and extend the application.

A Pre-Qualification Program was developed to provide a mechanism for staff augmentation and project development support of the data warehouse and related application development.

This Revised Statement of Work (“Revised SOW”) is issued under the terms of the Contract 071B1300138 between Optum Government Solutions, Inc. (“Optum” or “Contractor” or “Vendor”) and the Michigan Department of Technology, Management and Budget, Procurement, as established under the Data Warehouse and Business Intelligence Program (the ‘138 Contract’) and more specifically under Work Request ITB-TH-00014 for the MDCH Project (“Work Request 14”), and the Optum Technical Proposal and Optum Price Proposal dated December 19, 2011, as amended by subsequent letter amendments (the “Optum Proposals”), where the ‘138 Contract, as amended by Work Request 14 and the Optum Proposals are collectively referred to as the “DTMB Contract”).
Change Notice Number 18  
Contract Number 071B1300138  

Brief Description of Services to be provided:
The State elects to extend PO 084N2201934 issued under the DTMB Contract for six (6) months. Advice of Change (AOC) to PO 084N2201934 is required for support of the new end date of 8/26/13 which will allow ongoing technical support for project(s) of various sizes for the MDCH Data Warehouse that are described in more detail in this Revised SOW. PO new service dates: 2/27/13-8/26/13

BACKGROUND:
MDCH has been using the data warehouse since 1994 to direct policy, detect fraud, identify potentially valuable new initiatives, reduce error rates, calculate rates and more.

MDCH utilizes the data warehouse for multiple purposes including mission critical functions. It functions as the department’s decision support system. MDCH uses data from the warehouse for rate setting for hospitals and managed and long term care providers. It is used to manage the performance of its partners (managed care providers and others) as well as programs within MDCH. The Department has an extensive analytics effort to ensure that funds are being spent most effectively, including detecting and prosecuting fraud, and assure that Medicaid beneficiaries are getting the best care possible. In support of departmental management, the data warehouse is used to analyze trends, report on all aspects of Medicaid, and provide critical support to the budgeting process. Beyond this, the data warehouse provides significant analytical support for epidemiology and other studies.

MDCH will be adapting and expanding its use of the data warehouse as it completes the implementation of ongoing work in its Medicaid Management Information System (MMIS), known as CHAMPS (Community Health Automated Medicaid Processing System). CHAMPS efforts underway include federally mandated projects such as HIPAA 5010 and D.0 processing, ICD-10 and Health Reform. In addition, MDCH will be adding new data sources and increasing their collaboration with other agencies along with adding new analytical tools. The Department expects to utilize the data warehouse for Health Information Technology/Health Information Exchange initiatives, as well as for the state’s Health Insurance Exchange. The Medicaid Electronic Health Record (EHR) Incentive Payment Program and Michigan Health Information Network are American Recovery and Reinvestment Act of 2009 (ARRA) initiatives to improve health care quality, cost, efficiency, and patient safety through electronic exchange of health information. An important requirement of these ARRA initiatives requires the use of clinical data to improve patient care outcomes which will involve significant research efforts using de-identified data. It is anticipated that much of the data will be stored in the data warehouse. To store and use of this ARRA initiative data will require significantly increased data warehouse capabilities.

MDCH has relied on contractor staff to provide data warehouse support and business intelligence services. These services include: providing data warehouse Extract, Transform and Load (ETL) services, application development, web development, business intelligence model, reporting, query development, help desk support, training and data analysis.

The State of Michigan Department of Community Health (MDCH), with assistance of the Michigan Department of Technology, Management & Budget (DTMB), awarded to Optum through the DTMB Contract, under Purchase Order (PO) 084N2201934 to obtain initially, twenty seven (27) FTE positions to support, maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse for one (1) year. As expected, during the current term of the Work Request 14, and through various State Requests and Optum Proposals, the makeup of Optum staffing has changed to meet the State’s needs. The current staffing, position descriptions, associated rates, and estimated maximum hours by position is detailed in the PRICING SUMMARY below, where, for purposes of this SOW, the positions detailed are desired for continuation for an additional six (6) months from February 27, 2013 through August 26, 2013.

The total number of individuals continues to be permissible to be increased or decreased throughout the life of this PO, based on department needs, available department funding, and mutual agreement of the parties.

PROJECT OBJECTIVE:
The objective of AOC to PO 084N2201934 is for Optum through the DTMB Contract, to assist MDCH with the development, support, maintenance and enhancement of MDCH Data Warehouse applications, which is an ongoing activity triggered by changes in federal and state regulations, evolving business needs, opportunities for improving business processes, continued software and hardware upgrades, and break fixes.

SCOPE OF WORK:
• The scope of this Revised SOW is to provide Data Warehouse Business Intelligence (BI) Services on an as needed basis to support maintain and execute enhancement projects of various sizes for the MDCH Data Warehouse set forth in this Revised SOW.
• Develop and maintain Data Warehouse applications that support MDCH’s day-to-day will business operations.
• Resources will become familiar with DTMB personnel, MDCH’s business processes, and DTMB’s State Unified Information Technology Environment (SUITE) and MDCH Management policies and procedures.

TASKS:

REQUIRED TASKS

• Optum must attend orientation, security awareness training and any other relevant security and or confidentiality training requested by MDCH and/or DTMB. Optum staff must sign any appropriate agreements or training certifications.

EXAMPLES OF ONGOING and UPCOMING CONTRACTOR TASKS
(These tasks may change based on direction from the State)

Run production reporting on the data warehouse

Tasks include:
• Complete development of production reports to use the new CHAMPS data warehouse model. This includes reports needed for certification of CHAMPS, the Medicaid Statistical Information System (MSIS) extracts, and other production reports used to manage and evaluate Medicaid programs. Users of these reports include are not limited to MDCH Medicaid management and staff, the State legislature, Federal agencies, counties and providers. Tasks include:
  o Map existing report data elements to corresponding fields in the new CHAMPS data warehouse.
  o Conduct Joint Application Design (JAD) sessions to finalize requirements with MDCH users.
  o Develop, test, and implement the CHAMPS version of the reports, including:
    ▪ Michigan Assistance and Referral Service (MARS) reports
    ▪ Centers for Medicare & Medicaid Services (CMS)-372s for Children’s Waiver, Elderly and Disabled Waiver, and Habilitation Supports Waiver
    ▪ MSIS
    ▪ MA CAP reports. This report packet provides in-depth analysis of the capitation population, and revenues paid out through the capitation system for: Mental Health, Substance Abuse, and the Habilitation Supports Waiver. The report packet is used for Legislative reporting, Federal reporting, and to monitor expenditures by Providing Agency.
    ▪ CMS-416 report and Early and Periodic Screening, diagnostic, and Treatment (EPSDT) letters
• Rewrite production reports to align with HIPAA 5010 and ICD-10 changes.
• Provide input as a pilot state for MSIS Plus. Work with CMS Developers to refine MSIS Plus requirements, record layouts and data definitions. Develop extract processes to align with defined MSIS Plus requirements, create internal system documentation, test files internally and with CMS, and implement approved processes.
• Provide training and support to Department of Technology, Management and Budget (DTMB) staff to facilitate report development and maintenance.
• Provide on-site expertise to incorporate newly-developed processes into the Business Objects environment, coordinate activities with the Consolidated Print Center, and integrate tools used to support data warehouse reporting.

Provide updated analytic, reporting, data mining, and web-based analytic tools to enhance the analytic capability of the staff

MDCH vision continues to include the use of ad-hoc analytic, On Line Analytical Processing (OLAP) and data mining tools. The OLAP and data mining tools are needed to examine our data from multiple
perspectives, which will allow identification of emerging trends and cost savings. This allows the ability to
answer complex questions by performing multidimensional analysis across data sets and programs; and to
drill up and down through successive layers of detail to uncover trends, relationships, and patterns for
improved decision making.

Tasks include:
- Upgrade BI Query Version 9.0.2 to the latest patch release.
- Upgrade from Business Objects XI release 1 (no longer supported) to Business Objects XI release 3.

**Identify and load additional data sets on the data warehouse**

As new systems and data sources are developed that support the administration of the Medicaid program,
and expansions are made to existing source systems, they will be loaded to the data warehouse to be
integrated with existing MDCH data. This data could be Medicaid-specific, or could be non-Medicaid but
provides a longitudinal view of beneficiaries and populations that could affect changes in Medicaid policy.

The process to add these data sets includes: defining requirements/which data tables/fields to include;
determining whether or not to maintain history; developing load programs (using state standard Extract,
Transform, Load (ETL) tool where possible); integrating new data with existing data in the BI Query model;
and training MDCH users.

Tasks include:
- Add Maternal and Infant Health Program (MIHP) Infant Screener data plus additional data
elements from new development to the Maternal Screener, in order to enhance MDCH’s ability to
evaluate the program, evaluate effectiveness of interventions, and assess outcomes.
- Add Children’s Waiver data from multiple sources (including Paradox database that is no longer
supported) for purposes of enrollment and CMS-372 reporting.
- Add Michigan Department of Human Services (MDHS) data needed for Medicaid reporting
required by CMS, and/or establish MDCH access to the MDHS data through a data warehouse
View (e.g., Poverty/Income, Race/Ethnicity).
- Add Home Help data.
  - New data is needed as a result of the new source application being developed to track
    payments. The Home Help payments were administered by MDHS until January, 2010. The
    new source application is being developed by MDCH to track the payments, and the
    corresponding data is needed in the warehouse to be included in the MSIS extracts.
  - New detailed assessment data. This data is maintained in an MDHS source system and
    is needed by MDCH in the warehouse in order to perform analysis using the
    assessment data (e.g., predict impact of policy issues and changes, track beneficiaries,
    track Medicaid expenditures and ultimately, calculate rates).
- Add Medicare Modernization Act (MMA) Territory Batch Query (TBQ) data and develop
  processes for submission and receipt of corresponding data to/from CMS.
- Add Buy-In source data for comparison to Medicare identified on the eligibility records. This will
  be used to ensure completeness of the MMA submissions.
- Add Hospital and Long Term Care Cost Report data that currently resides in a system managed
by Hewlett Packard (HP).
- Add MSIS submission file tables and corresponding data to the data warehouse for use in
  maintaining MSIS history, analysis and resubmission to CMS as necessary.
- Add Michigan Disease Surveillance System (MDSS) data. MDSS enables physicians and clinical
  laboratories to electronically report the occurrence or suspected occurrence of disease, conditions
  or infection required by the Michigan Communicable Disease Reporting Rule. Case reporting and
  management depends on the integration of data from multiple sources (e.g., laboratory results;
  patient information; disease condition, onset, symptoms, and hospitalization dates; and
  medication, treatment and clinical history). MDCH has an opportunity to improve disease tracking
  and monitoring of Medicaid beneficiaries through the integration of MDSS and the MDCH Data
  Warehouse.
- Add Newborn Screening data. This data was previously loaded to the data warehouse, but
  source system has been re-written, and corresponding data warehouse load processes are
  needed to capture data from the new system.
• Add Third Party Recovery data. Existing Medicaid payment recovery systems pull data from the warehouse for purposes of determining amounts to be recovered, but actual amounts recovered are not currently loaded back to the data warehouse. The addition of the recovery amounts to the data warehouse will provide a more complete and accurate representation of Medicaid payment amounts.

• Evaluate other data sources and add those that will benefit Michigan’s Medicaid program or are needed to support reporting requirements.

Changes to existing data loads in order to stay current with enhancements to source systems: MICIS data sets (OASIS, Nursing Home, MDS); CSHCS; MCIR; WIC

As source systems are rewritten to align with new requirements and technology, corresponding enhancements are required to the data warehouse in order to load and store new data elements and provide query and reporting access to the data. Source system changes may be driven by changes at the federal level, such as implementation of the OASIS-C and Minimum Data Set for Nursing Homes (MDS) 3.0 data sets and forms. Source system changes may also be driven by changes at the MDCH level, such as implementation of a new web-based application for Children’s Special Health Care Services (CSHCS), which will include additions to the existing data set.

Tasks include:
• Develop, test and implement data warehouse enhancements as a result changes to source systems, including:
  o OASIS
  o Nursing Home
  o MDS
  o CSHCS
  o WIC (Women, Infants and Children)
  o MCIR (Michigan Care Improvement Registry)

Develop web applications to support Medicaid programs and processes

Tasks include:
• Develop, test and implement web applications to support the following waivers:
  o Children’s Support Waiver (CSW)
  o Severely and Emotionally Disturbed (SED)

These web applications will provide:
  o Automated workflow to process enrollment of waiver beneficiaries (including capture of demographic data not available in BRIDGES)
  o Tracking and reporting of waiver beneficiaries
  o Management and tracking of waiver “slots”
  o Integration with existing systems (e.g., BRIDGES, MDHS’s Services Worker Support System [SWSS])
  o An interface to CHAMPS to provide data needed to process waiver payments.

• Add data for the following home and community based services waivers to be used by the corresponding web applications proposed to support the waivers:
  o CSW
  o SED

• Develop, test and implement an enhanced web-based application for MDCH’s Managed Care Compliance Review Tool to replace the existing Access-based Compliance Review Tool application (the Tool). This will allow health plans and MDCH to update and access information through the web, rather than having to send the Access database back and forth to update information. The Tool summarizes all of the requirements of the Medicaid Comprehensive Health Plan contract, and State and Federal regulations, including fraud and abuse. MDCH conducts an annual compliance review of the designated criteria within the Tool. This Tool is used to document the Health Plans’ compliance with contract requirements as identified in each criterion.
security and model management.

Metadata and field mapping will provide information on the descriptions and uses of the data, flow of the data through the system, relationship to CHAMPS screens, and relationship to legacy data warehouse data elements, as well as the transformation and cleansing procedures. This information will be especially useful to analytic staff that may not be familiar with the operational detail of the data. It will also allow for the administration of the analytic tool environment and assessment of data integrity.

Implementation and enforcement of strong password rules for data warehouse users (90-day expiration, 8-character minimum length, require use of one special character and digit, no reuse of password during 120-day period, lock-out after 3 failed attempts) will increase security and privacy of data in the warehouse. User access will be allowed strictly through the use of Roles and Profiles.

Tasks include:
- Map records to data warehouse fields, including transformation rules and frequency of updates throughout the process (e.g., 837 records, National Council for Prescription Drug Programs (NCPDP), corresponding fields in CHAMPS screens, and use in reports).
- Create business definitions/data dictionary for each data element in the new CHAMPS data model.
- Create and/or modify BI-Query models to allow user-access to pre-defined data sets based on access approved through the security process. For example, access may include combinations such as the following:
  - Identified/Linked
  - De-identified/Linked
  - Identified/Linked & Unlinked
  - De-identified/Linked & Unlinked
- Implement roles and profiles (levels of security) for user access to the new CHAMPS data model.
- Implement strong password rules.
- Develop interface maps for both CHAMPS and the data warehouse.
- Create web-based application that contains all of the mapping documentation and allows users to look up definitions and/or data relationships.

Provide additional data integration across program areas and continue to enhance architecture to align with MITA initiative

Tasks include:
- Enhance architecture to align with MITA by developing data exchanges between the data warehouse and health plans. By making additional data available to health plans, these secure data exchanges promote efficient and effective data integration and sharing for purposes of improving health care outcomes for Medicaid beneficiaries. These data exchanges are adaptable and will be used to help drive the Michigan Health Information Exchange (HIE) initiatives.
- Expand the use of Medicaid data in the Common Citizen and Events Models to assess other events that may be contributing to successes or shortfalls in programs, interventions and outcomes. This will also allow MDCH to collaborate with other departments/agencies to improve Medicaid outcomes.
- Integrate Medicaid data with Corrections data to provide improved ability to identify the cross-population of Medicaid beneficiaries and prisoners, and therefore allow improved tracking and analysis of Medicaid beneficiaries.
- Integrate the data warehouse with other tool sets (e.g., Oracle, Access, ETL tools) to provide the ability to link to data that resides in source systems outside the data warehouse.
- Add new development to migrate data loads to the state’s standard COTS ETL tool (DataStage) to improve data load processes, reduce risk and development/maintenance costs, and minimize differences between data warehouse and source system data.
- Evaluate and purchase tools to align technology framework with Medicaid Information Technology Architecture (MITA) standards (foster integrated, cross-functional business in order to improve administration of Michigan's Medicaid program).
Provide onsite analytic development for the various program models, and analytic tools

Tasks include:
- Update CHAMPS model-specific training manuals.
- Develop and deliver comprehensive training to educate end users on the use of the data based on the new CHAMPS and BRIDGES requirements. The implementation of these two systems resulted in substantial changes to the existing data warehouse and the need to integrate data from both post- and pre-implementation data models.
- Provide comprehensive training to help end users understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program. This will include development of materials for instructor-led classroom training as well as development of web-based training.
- Develop and deliver comprehensive training to educate developers on the new data warehouse structures and the use of data based on the new CHAMPS and BRIDGES requirements.
- Provide comprehensive training to help developers understand the business, and educate them on the relationship between the CHAMPS data and the Medicaid program.
- Provide first-line Help Desk Support to answer end user and developer questions related to the newly defined data models.
- Provide advanced analytic support and development at a level above the typical user’s business and technical knowledge.
- Provide Business Objects training and support for development staff, related to developing production reports on the data warehouse.

Enhance the data warehouse as a result of CHAMPS and BRIDGES

Tasks include:
- Conduct Technical JAD sessions along with CNSI to redefine data extract layouts for the new CHAMPS data sets, as well as relationships between tables, referential integrity, key fields, etc.
- Conduct User JADs for CHAMPS Production model – to define usage requirements, data definitions, and alignment with CHAMPS screens.
- Complete development of various data structures to accommodate CHAMPS and BRIDGES data, based on input from JADs.
- Develop new data warehouse design to add CHAMPS identifiers as key fields in place of business keys, in order to eliminate duplicate records in the data warehouse and keep data synchronized between the two systems.
- Develop new BI Query Views in the data warehouse so that data presented to end users more closely aligns with what is displayed in the CHAMPS screens.
- Add and modify Metadata to reflect the CHAMPS and BRIDGES changes.
- Rewrite data warehouse structure and load programs as a result of changes being implemented in CHAMPS. As approved in the CHAMPS APD-Us, these changes include CHAMPS Change Requests (e.g., addition of new fields and new functionality) that result in a corresponding change to the data warehouse, as well as additional data warehouse testing during the approved CHAMPS implementation extensions.
- To ensure compliance with new Managed Care Organization (MCO) Drug Rebates mandated by Health Care Reform (PPACA – Patient Protection and Affordable Care Act) that went into effect 3/23/10, the following work is required:
  - Create, test and implement new process to provide an interface file to the State’s PBM Pharmacy Benefits Management Services Program (PBM) (Magellan Medicaid Administration, Inc.) containing the MCO Drug claims (NCPDP encounters and Institution/Professional encounters for physician administered drug products) and MCO provider reference data. This data will then be used by the PBM to invoice manufacturers for CMS Federal Drug Rebates.
  - Utilize the NDC (National Drug Code):HCPCS (Healthcare Common procedure Coding System) crosswalk reference table to establish encounter edits and reports for purposes of ensuring the physician administered encounter claims are formatted properly for rebate invoicing.
Change Notice Number 18
Contract Number 071B1300138

- The following require redesign to accommodate the CHAMPS data warehouse changes:
  - MMA Part D submission files.
  - Eligible Months tables.
- Develop data warehouse structure and load programs to accommodate implementation of Medicaid encounter processing in CHAMPS.
- Develop and update end user queries and reports to use the newly defined models representing CHAMPS and BRIDGES data.
- Expand Situational Data in the warehouse. Situational data (fields not used directly to adjudicate a claim) are currently received from CHAMPS in a single, continuous, variable-size field, making it unusable by end users. This data will be parsed and stored in a format that makes it usable.
- Expand the data warehouse to accommodate HiPAA 5010.
- Perform ICD-10 gap analysis for MMIS and other Medicaid systems.
- Expand the data warehouse to accommodate ICD-10.
- Expand the data warehouse to include data needed to support electronic health record (EHR) (e.g., additional provider data, NLR data).
- Expand the data warehouse to include Prior Authorization data from CHAMPS.

Enhance the SURS process as a result of CHAMPS and BRIDGES

Tasks include:
- Develop new SURS extract process, which includes three parts:
  - Changes needed as a result of CHAMPS
  - Addition of Encounters to extract process
  - Replace quarterly extract with monthly extract.
- Develop new Audit programs as a result of CHAMPS.

Load Pharmacy data directly to the data warehouse

Tasks include:
- Convert all historical pharmacy claims and load to the new CHAMPS data warehouse structure (will be stored in the same data warehouse tables as fee-for-service (FFS) Claims and Encounters from CHAMPS). This process includes analysis of pharmacy data, mapping legacy data elements to the new data structure, and validation/resolution to synchronize data in the warehouse with PBM data.
- Design and develop processes to load pharmacy claims directly to both Staging and Production tables in the data warehouse (eliminate mainframe functionality and provide process to load data not adjudicated in CHAMPS). Includes implementation of data and file edits as well as processes to track receipt of files.
- Rewrite the CMS NDC Rebate data load to convert data from CMS cartridge tapes into electronic files and load directly to the data warehouse (eliminate mainframe functionality).
- Enhance the PBM data load process to include pharmacy paid claims enhancements. An example is the addition of data needed to further monitor and target outreach for purposes of increasing E-Prescribing in Michigan, and to collect information related to meaningful use.
- Load Pharmacy provider enrollment file from the State’s PBM to the data warehouse.
- Rewrite NCPDP Encounter load programs to align with new CHAMPS structure and PBM data.
- Rewrite the Medicaid Health Plan Point-of-Sale (POS) pharmacy carve-out claim utilization extract to pull data from the new CHAMPS structure. This weekly process creates a file containing pharmacy carve-out claims for beneficiaries enrolled in each plan. The Medicaid Health Plans use the claim data for utilization and disease management programs.

Develop web-based Security application

Tasks include:
- Complete the Data Warehouse Security form/process in the web-based security application. User acceptance testing is currently underway in preparation for production implementation.
- At the request of Michigan Department of Technology, Management and Budget (DTMB), rewrite the internal SQL in the web-based security application to call external stored procedures to provide increased security.
- Develop the Security form/process for access to additional Medicaid applications, such as:
Tasks include:
- Develop code to analyze databases and queries, identify potential areas for enhancement, develop and implement solutions.
- Develop web-based data warehouse audit application.

**Develop Queries and Reports to support the Medicaid Program**

The MDCH Data Warehouse is a critical component in the administration of the Medicaid Program. As such, it is frequently used as a source of information for audits, research, lawsuits, FOIA, and other similar requests for data. These requests typically require response within a short timeframe and require knowledge of both Medicaid and the data warehouse in order to provide required results within the defined timeframe.

Additionally, MDCH will be participating in the ARRA funded comparative effectiveness research (CER). As a participant of CER, MDCH will be providing data extracts related to specific proposals. MDCH will use the data warehouse to provide requested data.

Tasks include:
- Develop code to extract data as requested for CER.
- Develop code to extract data as needed for audits, research, lawsuits, FOIA, and other similar requests.
- Develop code to extract data for use in proof-of-concept of Prospective Payment editing and other
similar requests.

**Develop and Configure Unique Client Identifier (UCI) Replacement**

MDCH developed the UCI using custom code in 2001. The UCI links person-level records from one database to another by evaluating the available data elements such as name, address, IDs – beneficiary, client, consumer – to determine if a match exists. When a match exists, a UCI is assigned that is used in all the databases. Once linked, they remain linked unless manually removed.

Since 2001 when the UCI was first developed, there have been huge technology gains in master person technology. MDCH adopted a new COTS Product that is an independent system, yet fully integrated with the data warehouse, which will drastically reduce the amount of custom development required, speed integrations of additional sources, and reduce the ongoing operating cost of the system.

To enable these recent advances including enhanced person matching algorithms and new standards for identify management (including the required standards for HIE), the following Tasks are required.

Tasks include:
- Install and configure the new hardware and software.
- Implement the software to link all data sets currently included in UCI.
- Integrate the new product with other existing systems.
- Develop a Provider Index within the COTS product.

**IT Classifications/Skills Set and Tasks:**
The requirement is that the individual must possess the skills, knowledge, and experience required to perform the duties effectively and efficiently at the level specified in this Revised SOW, where DTMB and MDCH agrees that the individuals named in the PRICING SUMMARY of this Revised SOW for the applicable positions are deemed to have met these required levels of the indicated positions.

1. **Data Warehouse Project Manager**
   Data warehouse project manager manages the integration and/or development and delivery of very large and complex deliverables directly to the customer. This position provides the primary interface between the Contractor, the State and third party providers.
   - Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
   - Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.
   - Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.
   - Makes sure approved methods, processes and tools are consistently used.
   - Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.
   - Assists the MDCH Agency Project Manager with documentation for managing the data warehouse such as presentations, reports and Advanced Planning Documentation (APD) to be submitted to CMS for funding.

**Required Experience**
- 5+ Years Project Manager or Team Lead Experience.
- 5+ Years Business Intelligence Experience.
- 3+ Years Teradata DW Experience.

2. **Data Warehouse Architect**
Data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.

- Conducts model and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.
- Responsible for data warehouse database design and providing technical direction to modelers, data analysts, ETL developers, and database administrators.
- Develops design proposals to meet MDCH needs
- Approves integrated systems design proposals for technical content.
- Monitors the implementation for technical correctness so that MDCH needs are met.
- Identifies, analyzes and evaluates alternative design solutions.

**Required Experience**

- 6+ Years Data Warehouse Architect and Model Experience.
- Teradata Version 12 or 13 Experience.
- Teradata Utilities Experience.
- 2+ Years Data Warehouse Administrator Experience.

3. **Data Warehouse Database Administrator**

Database administrator (DBA) is responsible for the availability, safety and usefulness of the MDCH data warehouse databases.

- Software installation and database management system upgrades.
- Software upgrades to ensure the database is in compliance with critical security patches, or, software upgrades deemed necessary by the State.
- Working in conjunction with system administrators, server configuration to ensure that the entire database system is capable of providing the services needed.
- Performance monitoring to identify bottlenecks and places where throughput can be improved.
- Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
- Configure access to the data warehouse and communication between the warehouse and other servers.
- Physical database design translates the logical database design to work optimally for the specific database environment.
- Working with MDCH data warehouse developers to establish standards and guidelines for access to MDCH data warehouse databases.
- Backup and Restore management to ensure that no data is lost and those backups can be restored in a timely manner.
- Work with MDCH data warehouse developers and MDCH clients to optimize their queries.

**Required Experience**

- 4+ Teradata Database Administrator Experience.
- 2+ Teradata Version 12 or 13 Experience.
- Teradata Utilities Experience.
- Teradata Manager Experience.
- SQL Assistant Experience.
- UNIX Experience.
- Oracle (9i, 10g, 11g) Experience.

4. **Data Warehouse Database Administrator to serve as a Business Objects Administrator**

The Data Warehouse Database Administrator to serve as a Business Objects Administrator is responsible for the availability, safety and usefulness of the MDCH Business Objects (BO) environment.

- Maintaining all BO user accounts and controlling user’s access to MDCH BO reports.
- Maintaining all ODBC connections to respective data warehouse databases.
- Maintaining print queues and coordinates printing related activities with Consolidate Print Center (CPC).
- Publish Crystal Reports into Business Objects.
- Scheduling reports and verification reports ran at scheduled date/time.
- Coordinating/executing re-runs of reports when required as corrective action to issues.
- Troubleshooting any issues with Reports or the Business Objects Application (Technical support to End Users).
- Central point of contact for all questions related to the BO environment.
- Meeting with MDCH customers to discuss supporting activities. (Bi-weekly DW Projects meeting)
- Maintain web based end user training manual.
- Provide one on one support for DTMB developers and end users to assist them in accomplishing their data reporting needs.
- Oversee Business Objects enterprise environment changes, working with other departments to ensure modifications to the BO environment are properly planned and tested.

**Required Experience**
- 4+ Years Business Objects Administrator Experience.
- 3+ Years Business Objects Universe Development Experience.
- Business Intelligence Tools: Business Objects, Micro Strategy, Crystal Reports.
- Business Objects Version XI r2 and 3.1 Experience.
- Business Objects WEBi and InfoView Training Experience.
- 3+ Years Business Objects Report Developer.

5. **Data Warehouse Developer Senior**
Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**
- 6+ Years SQL Development Experience.
- Business Analyst Experience.
- SQL and Performance Tuning Experience.
- Teradata Utilities Experience
- SQL Assistant Experience.
- UNIX Shell Scripting Experience.

6. **Data Warehouse Developer Junior**
Data warehouse developers perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other MDCH applications. In addition they provide database expertise to other application developers in close collaboration with DBAs and other data management staff.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
- SQL development.
- Work with developers and end user query developers to design and improve database queries.
- Train developers in how best to design queries for a specific database.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers.

**Required Experience**
- 2+ Years SQL Development Experience.
- Teradata Utilities Experience.
7. **Data Warehouse Designer/Modeler**
   Data warehouse designer is responsible for the layout and navigability of a database. This involves defining the tables, keys and relationships that will allow an application to retrieve and update data correctly and efficiently.
   - Working with end users and developers to understand the data needs of MDCH clients.
   - Documenting the MDCH data warehouse data involves including definitions, constraints and access needs.
   - Creating and maintaining MDCH data warehouse logical designs, including Entity Relationship diagrams, which illustrate what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to other data in the database.
   - Creating and maintaining MDCH data warehouse data definition language (DDL) that can be used to create and update the database.
   - Working with the MDCH Data Warehouse DBA and ETL developers, modify the logical design to create a physical design most suited to the database environment and the applications that will use it.
   - Work with MDCH Data Warehouse ETL developers and DBA to create and maintain database design standards.
   - Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their report development related tasks may include:
     - Perform application development tasks in support of building business intelligence applications and integrating data warehouse resources into other Agency applications. Their development related activities may include tasks such as:
     - Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
     - Extract, transform and load systems to move data from the various operational systems in which it is collected to a cleansed, consolidated data warehouse.
     - SQL development.
     - Work with developers and end user query developers to design and improve database queries.
     - Train developers in how best to design queries for a specific database.
   
   **Required Experience**
   - 5+ Years Data Warehouse Modeling Experience.
   - 5+ Years of SQL Development.
   - Data Warehouse Architect Experience.

8. **Data Warehouse Business Intelligence Report Developer**
   Data warehouse Business Intelligence Report Developer is expected to be able to work with agency requestors to define and develop new reports, and provide training and technical support to both DTMB developers and end user query developers.
   - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
   - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
   - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
   - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

   **Required Experience**
   - 5+ Years of Business Objects Report Development Experience.
   - 5+ Years of SQL Development.
   - Business Objects universe development experience.
   - Business Analyst Experience.

9. **Data Warehouse Business Intelligence Analyst Senior**
   Data warehouse business intelligence/analyst works with end users to provide information in a number of
different ways.

- Running JAD sessions to understand what data is needed and how it is likely to be used.
- Creating ad-hoc queries to answer specific user questions.
- Program design and specification.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Supporting end user to enable them to create their own queries and reports as needed.
- Identify data problems and work with developers to correct them.
- Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
- Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
  - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
  - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**

- 6+ Years Project Lead/BI Analyst Experience.
- 4+ Years Business Objects Report Development.
- Business Objects Training Experience.
- SQL Assistant Experience.

**10. Data Warehouse Business Intelligence Analyst Junior**

Data warehouse business intelligence/analyst works with end users to provide information in a number of different ways.

- Running JAD sessions to understand what data is needed and how it is likely to be used.
- Creating ad-hoc queries to answer specific user questions.
- Program design and specification.
- Creating data warehouse based applications including reporting, dashboards and other information analysis and delivery systems.
- Supporting end user to enable them to create their own queries and reports as needed.
- Identify data problems and work with developers to correct them.
- Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
- Organize and run user groups to encourage self-support among end user and DTMB query and other BI application developers.
- Work with agency requestors to define and develop new queries, and provide training and technical support to both DTMB developers and end user query developers. Their tasks may include:
  - Working with end user requestors to understand their data needs and create and implement solutions to those needs.
  - Develop and present training classes for end user developers to help learn how to most effectively use the data warehouse platform and the BI tools available to them to support their own data needs where possible.
  - Develop and present training classes for DTMB developers to better understand how to use the BI development tools to create and implement reporting solution using the data warehouse.
  - Provide one on one support for developers and end users to assist them in accomplishing their data reporting needs.

**Required Experience**
• 2+ Years Project Lead/BI Analyst Experience.
• 1+ Years Business Objects Report Development.

11. Data Warehouse Help Desk Analyst
Help desk staff provide first line support for end users and developers.
• Manages MDCH Data Warehouse mailbox.
  ▪ Assesses user identified issues and provides guidance for resolution.
  ▪ Directs unresolved problems and reports to appropriate staff, if necessary.
  ▪ Tracks and analyzes problem occurrences and resolutions.
• Conducts data warehouse user group training.
• Develops training materials.
• Assists with query/report development.
• Provides user assistance with BI Services tool(s), model/database, business knowledge and recommendations for efficiency and solutions to meet user business needs.

Required Experience
• 3+ Years of Data Warehouse Help Desk Analyst Experience.
• Experience in supporting the end users in accessing the data warehouse and effectively utilize the desktop tools.

12. Web Developer
A Web Developer is responsible for designing and developing web-based applications that interact with and utilize the data warehouse to provide MDCH users with highly interactive, easy to use web-based BI applications.
• Defining and developing applications that rely on unique web-based technology and tools, and that will conform to standards defined by DTMB for user interface and usage of the data warehouse.
• Defining the web application user interface, business rules, database access and data warehouse access, and determining any data sources that need to be imported into the data warehouse for web application operation.
• Producing technical specification documents to review the web application with the user, and conducting JAD sessions to revise and finalize technical specifications.
• Prototyping of web application pages for user review and approval.
• Producing accurate and complete data mapping documents
• Performing user acceptance testing with users and DTMB to confirm that new web applications perform per specifications, and making adjustments to the web application as required
• Maintaining a development and staging environment for the development and testing of enhancements and updates to the web application.

Required Experience
• 5+ Years of Data Warehouse Web Developer Experience.
• Web development: HTML, JavaScript, PHP, Perl.

13. Subject Matter Expert (SME)
A Subject Matter Expert (SME) will be responsible for providing specialized, in-depth knowledge of a business area(s) such as Medicaid, 5010 HIPAA transactions, Pharmacy, ICD-10 and technology solutions.
• Leading or actively participating in work-groups with the need for specialized knowledge.
• Providing guidance on how their area of expertise can resolve an organizational need, and actively participates in all phases of a project/initiative by sharing their knowledge, expertise and ideas.
• Defining technology and business solutions based on thorough understanding of business processes and policies.
• Reviewing, helping re-engineer, or creating new processes and policies,
• Evaluating and defining technology requirements and solutions.
• Defining business needs, and identifying and recommending the most appropriate solutions.
• Providing documentation such as forms, manuals, correspondence, and procedures
Understanding, articulating, and implementing best practices related to their area of expertise.

**Required Experience**

- 5+ Years of Data Warehouse design and development of BI applications using Business Object Toolsets and other BI technologies.
- Experience in recommending appropriate tools and technology required to meet immediate and long-term business and individual self-service reporting needs.

**Transition Plan:**
Not Applicable.

**DELIVERABLES:**
The deliverables and tasks agreed to in this Revised SOW shall comply with the following approval process:

**APPROVAL OF DELIVERABLES, IN GENERAL:**

(a) All Deliverables (Physical Deliverables, Written Deliverables, and Service Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing as applicable in Section 6.3, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

(b) The State’s obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable have been delivered without material deficiencies. If the State determines that the Deliverable has material deficiencies, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State and Contractor receive the Deliverable and agree that the Deliverable is ready for use and, where applicable, Contractor has provided certification in accordance with Section 6.3(a).

(d) The State will approve in writing a Deliverable upon confirming that it conforms to and, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor’s expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

(e) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep any resulting Contract(s) in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the Contract(s) price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State’s general expenses provided the State can furnish proof of such general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

**PROCESS FOR APPROVAL WRITTEN DELIVERABLES:**
The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work/Purchase Order following delivery of the final version of the Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or 
describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF SERVICE DELIVERABLES:
The State Review Period for approval of Service Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) Business Days for a Service Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

PROCESS FOR APPROVAL OF PHYSICAL DELIVERABLES:
The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of Work/Purchase Order (failing which the State Review Period, by default, shall be forty-five (45) continuous Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State’s election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

ACCEPTANCE CRITERIA:
As agreed upon through Statement of Work ITB-TH-00014, the T&M based services shall be accepted based upon time sheets submitted by Contractor and approved by the State for actual hours of Services performed.

PROJECT CONTROL AND REPORTS:
A monthly progress report must be submitted to DCH and DTMB Project Managers throughout the life of this project. The report may be submitted with the billing invoice. Each monthly progress report must contain the following information:

- **Hours**: Indicate the number of hours expended during the past month, and the cumulative total to date for the project.
- **Tasks accomplished**: Indicate what projects have been worked on, and what was completed during the current reporting period.
- **Planned Tasking**: Describe activities to be accomplished during the next reporting period.
- **Funds**: Indicate the amount of funds expended during the current reporting period, and the cumulative total to date for the project.
- **Issues**: Indicate major issues/risks/changes, real or perceived, in relation to the scope of this SOW, and recommend resolutions

SPECIFIC AGENCY STANDARDS:
Agency standards, if any, in addition to DTMB standards.

PAYMENT SCHEDULE:
Payment will be made on an all time and materials (hourly based) must submit time sheets with all invoices and include purchase order basis. DTMB will pay CONTRACTOR upon receipt of properly completed invoices which shall be submitted to the billing address on the State issued purchase order not more often than monthly. DTMB Accounts Payable area will coordinate obtaining Agency Project Manager and DTMB Project Manager approvals. All invoices should reflect actual work completed by payment date, and must be approved by the Agency Project
Manager and DTMB Project Manager prior to payment. The invoices shall describe and document to the State’s satisfaction a description of the work performed the progress of the project, and fees.

Payment shall be considered timely if made by the DTMB within forty-five (45) days after receipt of properly completed invoices.

PRICING SUMMARY
Pricing for the 6 month extension will remain consistent with the pricing applicable to the current positions being provided to MDCH under the DTMB Contract prior to the effective date of this Revised SOW, where such pricing was contained in the Optum Proposal dated December 19, 2011, as amended by subsequent letter amendments and where, for administrative convenience, the named individuals, their titles and hourly rates for Services performed during the six (6) month period covered by this Revised SOW are set forth below:

TABLE 1
### Change Notice Number 18  
Contract Number 07181300138

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Position</th>
<th>Hourly Rate</th>
<th>Estimated Maximum Hours</th>
<th>Estimated Dollars</th>
</tr>
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<tbody>
<tr>
<td>BARNSTEAD, JEANNE</td>
<td>Data Warehouse Project Manager</td>
<td>$144.00</td>
<td>1,040</td>
<td>$149,760</td>
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<td>BHOGAL, PRADIP</td>
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<td>BIEBER, MONTY</td>
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<td>CHRISTIANSEN, JEREMY</td>
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<td>JONES, PHILLIP</td>
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<td>1,040</td>
<td>$141,440</td>
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<tr>
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<td>PEDINNEKALUVU, SIVA</td>
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<td>TATE, JEFF</td>
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<td>Data Warehouse Developer Junior</td>
<td>$136.00</td>
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</table>

**Total Estimated Hours and Dollars**: 28,320 $3,863,120

**ADDITIONAL TIME & MATERIALS LABOR RATES FOR PROFESSIONAL SERVICES:**
To the extent the parties agree that certain specific services must be provided on a time and materials basis, such services must be provided at the Labor Rates (Not to Exceed Hourly Rate cost column). Future amendments to this Revised Statement of Work may utilize this rate structure, as agreed between the Contractor and State. Additionally the Contractor may utilize the rates in order to provide the State with a not to exceed time and materials price. Prices quoted herein will be used for change, addition, and / or deletion of work associated with this Revised SOW. The Estimated Hours is provided below as an estimate only and is not meant to preclude or limit the State from requesting a resource/staffing mix for future projects that exceeds the hours estimate for a specific Staffing Category as long as the Total Additional Professional Services Cost is not exceeded.

**TABLE 2**
<table>
<thead>
<tr>
<th>Staffing Category</th>
<th>Not to Exceed Hourly Rate</th>
<th>Estimated Hours</th>
<th>Total Estimated Price (Multiply NTE Hourly Rate x Estimated Hours)</th>
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</thead>
<tbody>
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<td>Data Warehouse Architect</td>
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<td>Total Additional Professional Services Cost</td>
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</tbody>
</table>

**EXPENSES:**

The State will NOT pay for any travel expenses, including hotel, mileage, meals, parking, etc.

**PROJECT CONTACTS:**

**The MDCH Project Manager is:**
Cynthia Green-Edwards  
Director, Office of Medicaid Health Information Technology  
Michigan Department of Community Health (MDCH)  
500 Pine Street, Capitol Commons Center  
Lansing, Michigan 48933  
517-241-9998  
EDWARDSC@michigan.gov

**The DTMB Project Manager is:**
Carmen Redwine  
Business Relationship Manager - MDCH  
Michigan Department of Technology Management and Budget (DTMB)  
Agency Services – Department of Community Health (DCH)  
300 East Michigan Avenue, Chandler Building  
Lansing, MI  
517-241-2925  
RedwineC1@michigan.gov

**The DTMB Contract Administrator for this project is:**
Joseph Kelly  
Michigan Department of Technology, Management and Budget  
DTMB Procurement - Stevens T. Mason Building – 2nd Floor  
530 W. Allegan Street  
Lansing, MI 48933  
517-373-3993  
Email: kellyj11@michigan.gov
AGENCY RESPONSIBILITIES:

- The State may discontinue the services of any vendor(s) -supplied staff with two weeks’ notice without cause at any time.
- The State will provide access to networks, servers, software license (as appropriate), etc. needed for Vendor to perform tasks required for this Revised SOW.

LOCATION OF WHERE THE WORK IS TO BE PERFORMED:

The work is to be performed, completed, and managed at locations determined by the Vendor, but with the expectation that personnel will be available, on hand and able to complete emergency tasks. In addition, onsite support may be needed and will be identified at such time.

EXPECTED CONTRACTOR WORK HOURS AND CONDITIONS:

Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET.) and possible night and weekend hours depending on position and project requirements. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time. No overtime will be permitted.

RIGHT TO OWNERSHIP:

State intends to own the Software at the end of the Contract

- Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

- Vesting of Rights. The Contractor agrees to assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State’s request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of such assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

January 28, 2013

CHANGE NOTICE NO. 17
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR:

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT

David Wieber

EMAIL

David.wieber@optum.com

TELEPHONE

(517) 993-0929

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE

December 21, 2010

INITIAL EXPIRATION DATE

December 20, 2015

INITIAL AVAILABLE OPTIONS

5, 2 year

EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW

December 20, 2015

PAYMENT TERMS

F.O.B

SHIPPED

SHIPPED FROM

N/A

N/A

N/A

ALTERNATE PAYMENT OPTIONS:

☑ P-card ☐ Direct Voucher (DV) ☐ Other ☑ Yes ☐ No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE

☐ No ☑ Yes ☐

EXERCISE CONTRACT OPTION YEAR(S)

☐ ☑ ☐

EXTENSION BEYOND CONTRACT OPTION YEARS

☐ ☑ ☐

LENGTH OF OPTION/EXTENSION

☐ ☑ ☐

EXPIRATION DATE AFTER CHANGE

☐ ☑ ☐

VALUE/COST OF CHANGE NOTICE:

$280,000.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:

$16,672,528.00

Effective Immediately, the following resource is incorporated into this contract, based on the State’s work requests ITB-JK-DW-0011:

Named Resource: Ravichand Kollia rate of $140.00/hr. not to exceed 2000 hours
State’s Work Request: #ITB-JK-DW-0011 for One (1) Data Warehouse Architect.
Vendor’s Work Request Response: Dated January 10, 2013 to work request ITB- JK-DW-0010.

This contract is also hereby INCREASED by $280,000.00. All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
CHANGE NOTICE NO. 16
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR: | PRIMARY CONTACT | EMAIL
---|---|---
Optum Government Solutions, Inc. | David Wieber | David.wieber@optum.com
822 Centennial Way, Suite 100 | | (517) 993-0929
Lansing, MI 48917

STATE CONTACTS

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTRACT COMPLIANCE INSPECTOR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUYER</td>
<td>DTMB</td>
<td>Joe Kelly</td>
<td>517-373-3993</td>
</tr>
</tbody>
</table>

CHANGE NOTICE:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE: December 21, 2010
INITIAL EXPIRATION DATE: December 20, 2015
INITIAL AVAILABLE OPTIONS: 5, 2 year
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW: December 20, 2015
PAYMENT TERMS: F.O.B
SHIPPED FROM: N/A
SHIPPED TO: N/A

ALTERNATE PAYMENT OPTIONS:
P-card: No
Direct Voucher (DV): No
Other: Yes

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE: No
EXERCISE CONTRACT OPTION YEAR(S): Yes
EXTENSION BEYOND CONTRACT OPTION YEARS: No
LENGTH OF OPTION/EXTENSION: No
EXPIRATION DATE AFTER CHANGE: No

VALUE/COST OF CHANGE NOTICE: $130,000.00
ESTIMATED REVISED AGGREGATE CONTRACT VALUE: $16,392,528.00

Effective Immediately, the following resource is incorporated into this contract, based on the State’s work requests ITB-JK-DW-0011:

Named Resource: Amarnath Kogantiat a rate of $125.00/hr. not to exceed 1040 hours
State’s Work Request: #ITB-JK-DW-0011 for One (1) Data Warehouse Developer.
Vendor’s Work Request Response: Dated January 10, 2013 to work request ITB- JK-DW-0011.

This contract is also hereby INCREASED by $130,000.00. All other terms, conditions, specifications and pricing remain the same.
Per vendor and agency agreement and the approval of DTMB Procurement.
STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
December 7, 2012
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 15

to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN

and

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

David Wieber
David.wieber@optum.com
(517) 993-0929

Contract Compliance Inspector
Joe Kelly
517-373-3993
Kellyj11@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE
INITIAL EXPIRATION DATE
December 21, 2010
December 20, 2015

INITIAL AVAILABLE OPTIONS
5, 2 year

EXPIRATION DATE BEFORE CHANGE(S)
December 20, 2015

PAYMENT TERMS
F.O.B

SHIPPED

SHIPPED FROM
N/A

ALTERNATE PAYMENT OPTIONS:
available to MiDEAL participants

P-card
Direct Voucher (DV)
Other

Yes
No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE
Exercise Contract Option Year(s)
Extension Beyond Contract Option Years
Length of Option/Extension
Expiration Date After Change

No
Yes

VALUE/COST OF CHANGE NOTICE:
$280,000.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$16,262,528.00

Effective November 28, 2012, the following resources are incorporated into this contract, based on the State’s work requests ITB-JK-DW-0005:

Named Resource: Vigneshwar Reddymasu at a rate of $140.00/hr. not to exceed 2000 hours
State’s Work Request: #ITB-JK-DW-0005 for One (1) Data Warehouse Modeler.
Vendor’s Work Request Response: Dated November 8, 2012 to work request ITB-JK-DW-0005.

This contract is also hereby INCREASED by $280,000.00. All other terms, conditions, specifications and pricing remain the same.
Per vendor and agency agreement and the approval of DTMB Procurement.
CHANGE NOTICE NO. 14

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

Optum Government Solutions, Inc.

NAME & ADDRESS OF CONTRACTOR:  PRIMARY CONTACT  EMAIL

Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI  48917

David Wieber  David.wieber@optum.com

(517) 993-0929

STATE CONTACTS

AGENCY  NAME  PHONE  EMAIL

BUYER  DTMB  Joe Kelly  517-373-3993  Kellyj11@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION:  DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE:  December 21, 2010

INITIAL EXPIRATION DATE:  December 20, 2015

INITIAL AVAILABLE OPTIONS:  5, 2 year

EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW:  December 20, 2015

PAYMENT TERMS:  F.O.B

SHIPPED FROM:  N/A

ALTERNATE PAYMENT OPTIONS:  AVAILABLE TO MIDEAL PARTICIPANTS

P-card  Direct Voucher (DV)  Other  Yes  No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE:  No

EXERCISE CONTRACT OPTION YEAR(S):  Yes

EXTENSION BEYOND CONTRACT OPTION YEARS:  No

LENGTH OF OPTION/EXTENSION:  N/A

EXPIRATION DATE AFTER CHANGE:  N/A

VALUE/COST OF CHANGE NOTICE:  $0.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:  $15,982,528.00

Effective immediately, the following resources are incorporated into this contract, based on the State’s work request ITB-TH-00014:

Named Resource:  Raja Krishnamoorthy – Subject Matter Expert MPI (PM focus)

Casey Foth – Subject Matter Expert MPI

Jeremy Valcourt – Subject Matter Expert MPI

Tim Carey - Data Warehouse Project Manager

All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
CHANGE NOTICE NO. 13

to

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

Optum Government Solutions, Inc.

822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR:  PRIMARY CONTACT  EMAIL

Optum Government Solutions, Inc.  David Wieber  David.wieber@optum.com

822 Centennial Way, Suite 100  (517) 993-0929
Lansing, MI 48917

STATE CONTACTS  AGENCY  NAME  PHONE  EMAIL

CONTRACT COMPLIANCE INSPECTOR  DTMB  Joe Kelly  517-373-3993  Kellyj11@michigan.gov

CONTRACT SUMMARY:

DESCRIPTION:  DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE  INITIAL EXPIRATION DATE  INITIAL AVAILABLE OPTIONS  EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW

December 21, 2010  December 20, 2015  5, 2 year  December 20, 2015

PAYMENT TERMS  F.O.B  SHIPPED  SHIPPED FROM

N/A  N/A  N/A  N/A

ALTERNATE PAYMENT OPTIONS:  AVAILABLE TO MiDEAL PARTICIPANTS

☐ P-card  ☑ Direct Voucher (DV)  ☐ Other  ☑ Yes  ☐ No

MINIMUM DELIVERY REQUIREMENTS:

N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE  EXERCISE CONTRACT OPTION YEAR(S)  EXTENSION BEYOND CONTRACT OPTION YEARS  LENGTH OF OPTION/EXTENSION  EXPIRATION DATE AFTER CHANGE

☒ No  ☐ Yes  ☐  ☐

VALUE/COST OF CHANGE NOTICE:  ESTIMATED REVISED AGGREGATE CONTRACT VALUE:

$530,000.00  $15,982,528.00

Effective November 5, 2012, the following resources are incorporated into this contract, based on the State’s work requests ITB-JK-DW-0003 and ITB-JK-DW-0004:

Named Resource:  Kiran Vootkuri at a rate of $135.00/hr not to exceed 2000 hours
State’s Work Request:  #ITB-JK-DW-0003 for One (1) Data Warehouse Senior Developer.
Vendor’s Work Request Response:  Dated October 2, 2012 to work request ITB- JK-DW-0003.

Named Resource:  Dheeraj Kumar at a rate of $130.00/hr not to exceed 2000 hours
State’s Work Request:  #ITB-JK-DW-0004 for One (1) Data Warehouse Senior Developer.
Vendor’s Work Request Response:  Dated October 2, 2012 to work request ITB- JK-DW-0004.
This contract is also hereby INCREASED by $530,000.00. All other terms, conditions, specifications and pricing remain the same. Per vendor and agency agreement and the approval of DTMB Procurement.
CHANGE NOTICE NO. 12
to
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

NAME & ADDRESS OF CONTRACTOR:  
Optum Government Solutions, Inc.  
822 Centennial Way, Suite 100  
Lansing, MI 48917

STATE CONTACTS
AGENCY
NAME
PHONE
EMAIL

CONTRACT COMPLIANCE INSPECTOR
BUYER
DTMB
Joe Kelly
517-373-3993
Kellyj11@michigan.gov

DESCRIPTION:  DTMB Data Warehouse Business Intelligence (BI)

INITIAL EFFECTIVE DATE
INITIAL EXPIRATION DATE
INITIAL AVAILABLE OPTIONS
EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
December 21, 2010
December 20, 2015
5, 2 year
December 20, 2015

PAYMENT TERMS
F.O.B
SHIPPED
SHIPPED FROM
N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS:
☐ P-card
☐ Direct Voucher (DV)
☐ Other
☒ Yes
☐ No

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:

EXTEND CONTRACT EXPIRATION DATE
EXERCISE CONTRACT OPTION YEAR(S)
EXTENSION BEYOND CONTRACT OPTION YEARS
LENGTH OF OPTION/EXTENSION
EXPIRATION DATE AFTER CHANGE
☐ No
☐ Yes
☐
☐

VALUE/COST OF CHANGE NOTICE:
$250,000.00

ESTIMATED REVISED AGGREGATE CONTRACT VALUE:
$15,452,528.00

Effective September 30, 2012, the following resource is incorporated into this contract, based on the State’s work request ITB-JK-0001:

Named Resource:  Jagdish Kannapan

State's Work Request:  #ITB-JK-0001 for One (1) Data Warehouse BI ETL Developer.

Vendor’s Work Request Response:  Dated September 24, 2012 to work request ITB-JK-0001.

This contract is also hereby INCREASED by $250,000.00.  All other terms, conditions, specifications and pricing remain the same.  Per vendor and agency agreement and the approval of DTMB Procurement.
CHANGE NOTICE NO. 11
To
CONTRACT NO. 071B1300138
Between
THE STATE OF MICHIGAN
And

NAME & ADDRESS OF CONTRACTOR: Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT: David Wieber
EMAIL: David.wieber@optum.com
TELEPHONE: (517) 993-0929

STATE CONTACTS
AGENCY: DTMB
NAME: Joe Kelly
PHONE: (517) 373-3993
EMAIL: kellyj11@michigan.gov

INITIAL CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL TERM
5 years

EFFECTIVE DATE: December 21, 2010
EXPIRATION DATE: December 20, 2015
AVAILABLE OPTIONS: 5, 2 year options

PAYMENT TERMS
F.O.B

SHIPPED
SHIPPED FROM
N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS: AVAILABLE TO MiDEAL PARTICIPANTS
☐ P-card ☐ Direct Voucher (DV) ☐ Other ☑ YES ☐ NO

MINIMUM DELIVERY REQUIREMENTS: N/A

DESCRIPTION OF CHANGE NOTICE:
OPTION EXERCISED: ☑ NO ☐ YES
IF YES, NEW EXPIRATION DATE:

Effective immediately, the following resource is incorporated into this contract, based on the State’s work request ITB-TH-00017:

Named Resource: Amarnath Koganti

State’s Work Request: #ITB-TH-00017 for One (1) Data Warehouse BI ETL Developer.

Vendor’s Work Request Response: Dated June 27, 2012 to work request ITB-TH-00017.

All other terms, conditions, specifications and pricing remain the same.

VALUE/COST OF CHANGE NOTICE: $130,000.00
| ESTIMATED AGGREGATE CONTRACT VALUE: | $14,121,088.00 |
CHANGE NOTICE NO. 10
To
CONTRACT NO. 071B1300138
Between
THE STATE OF MICHIGAN
And
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

STATE CONTACTS
AGENCY
NAME
PHONE
EMAIL

CONTRACT COMPLIANCE INSPECTOR: DTMB Joe Kelly (517) 373-3993 kellyj11@michigan.gov

INITIAL CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

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<th>INITIAL EXPIRATION DATE</th>
<th>AVAILABLE OPTIONS</th>
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<td>December 20, 2015</td>
<td>5, 2 year options</td>
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</table>

PAYMENT TERMS: F.O.B SHIPPED SHIPPED FROM

N/A N/A N/A N/A

ALTERNATE PAYMENT OPTIONS: AVAILABLE TO MIDEAL PARTICIPANTS

☐ P-card ☐ Direct Voucher (DV) ☐ Other ☑ YES ☐ NO

MINIMUM DELIVERY REQUIREMENTS: N/A

DESCRIPTION OF CHANGE NOTICE:
OPTION EXERCISED: ☑ NO ☐ YES IF YES, NEW EXPIRATION DATE:

Effective immediately, this Contract is INCREASED by $2,204,000.00 to cover the cost of the following resources for year 2.

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Rate</th>
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<tbody>
<tr>
<td>DW Project Manager</td>
<td>Melissa Jourden</td>
<td>$144.00</td>
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<tr>
<td>DW Architect</td>
<td>Ray Desmeules</td>
<td>$160.00</td>
</tr>
<tr>
<td>DW Modeler</td>
<td>Lee Ritchie</td>
<td>$140.00</td>
</tr>
<tr>
<td>DW Database Administrator</td>
<td>Mohommod Khan</td>
<td>$136.00</td>
</tr>
<tr>
<td>BO Administrator</td>
<td>Murali Mahadevan</td>
<td>$146.00</td>
</tr>
<tr>
<td>DW Business Analyst</td>
<td>Jim Davis</td>
<td>$140.00</td>
</tr>
<tr>
<td>DW Developer</td>
<td>Bruce Grant</td>
<td>$136.00</td>
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<tr>
<td>DW Developer</td>
<td>Sai Swaroop Mudduluru</td>
<td>$100.00</td>
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</table>

1300138
All other terms, conditions, specifications, and pricing remain the same.

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<td>VALUE/COST OF CHANGE NOTICE:</td>
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</table>
CHANGE NOTICE NO. 9
To
CONTRACT NO. 071B1300138
Between
THE STATE OF MICHIGAN
And

NAME & ADDRESS OF CONTRACTOR:
Optum Government Solutions, Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

PRIMARY CONTACT
David Wieber

EMAIL
David.wieber@optum.com

TELEPHONE
(517) 993-0929

STATE CONTACTS
CONTRACT COMPLIANCE INSPECTOR:
DTMB
Joe Kelly
(517) 373-3993
kellyj11@michigan.gov

INITIAL CONTRACT SUMMARY:
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

INITIAL TERM
5 years

EFFECTIVE DATE
December 21, 2010

EXPIRATION DATE
December 20, 2015

AVAILABLE OPTIONS
5, 2 year options

PAYMENT TERMS
F.O.B

SHIPPED
SHIPPED FROM

N/A
N/A
N/A

ALTERNATE PAYMENT OPTIONS:
AVAILABLE TO MiDEAL PARTICIPANTS

☐ P-card ☐ Direct Voucher (DV) ☐ Other ☒ YES ☐ NO

MINIMUM DELIVERY REQUIREMENTS:
N/A

DESCRIPTION OF CHANGE NOTICE:
OPTION EXERCISED: ☒ NO ☐ YES

IF YES, NEW EXPIRATION DATE:

Effective immediately, this Contract is INCREASED by $1,666,560.

All other terms, conditions, specifications, and pricing remain the same.

Per agency (ITB-TH-00016) request for Department of Human Services Data Warehouse Project, vendor agreement (dated June 19, 2012) and State selection of Madhu Gajula and Manju Sabbaiah for 3 years at 1984 hours per year, and DTMB Procurement approval.

VALUE/COST OF CHANGE NOTICE:
$1,666,560.00

ESTIMATED AGGREGATE CONTRACT VALUE:
$13,991,088.00
STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48913

CHANGE NOTICE NO. 8  
To  
CONTRACT NO. 071B1300138  

Between  
THE STATE OF MICHIGAN  
And  

<table>
<thead>
<tr>
<th>NAME &amp; ADDRESS OF CONTRACTOR:</th>
<th>PRIMARY CONTACT</th>
<th>EMAIL</th>
</tr>
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</table>
| Optum Government Solutions, Inc.  
822 Centennial Way, Suite 100  
Lansing, MI 48917 | David Wieber | David.wieber@optum.com |

<table>
<thead>
<tr>
<th>CONTRACT CONTACTS</th>
<th>AGENCY</th>
<th>NAME</th>
<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
</table>
| DTMB  
Tammi Hart | (517) 335-4770 | Hartt3@michigan.gov |

INITIAL CONTRACT SUMMARY:  
DESCRIPTION: DTMB Data Warehouse Business Intelligence (BI)

<table>
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<th>EFFECTIVE DATE</th>
<th>INITIAL EXPIRATION DATE</th>
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<td>5 two year options</td>
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<th>ALTERNATE PAYMENT OPTIONS:</th>
<th>AVAILABLE TO MIDEAL PARTICIPANTS</th>
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<tbody>
<tr>
<td>☐ P-card</td>
<td>☐ Direct Voucher (DV)</td>
</tr>
<tr>
<td>☐ Other</td>
<td>☑ YES</td>
</tr>
<tr>
<td>☐ NO</td>
<td></td>
</tr>
</tbody>
</table>

| MINIMUM DELIVERY REQUIREMENTS: | N/A |

DESCRIPTION OF CHANGE NOTICE:  
OPTION EXERCISED: ☒ NO ☐ YES  
IF YES, NEW EXPIRATION DATE:  

Effective immediately, Integris Inc name has changed to Optum Government Solutions, Inc., with no change to the FEIN number. Per vendor and agency agreement and DTMB Procurement approval.

VALUE/COST OF CHANGE NOTICE: $0

ESTIMATED AGGREGATE CONTRACT VALUE: $12,324,582.00
CHANGE NOTICE NO. 7
TO
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and
Integris Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

TELEPHONE: (517) 327-2199
David Wieber

VENDOR NUMBER/MAIL CODE

NAME & ADDRESS OF VENDOR

TELEPHONE: (517) 335-4770
Tammi Hart

VENDOR NUMBER/MAIL CODE

BUYER/CA

Email: david.wieber@optum.com

MINIMUM DELIVERY REQUIREMENTS

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

NATURE OF CHANGE (S):

Effective immediately, this contract is hereby INCREASED by $9,556,928.00 per State’s work request: ITB-TH-00014 for DCH Data Warehouse project. Vendor’s work request response: dated December 19, 2011, to work request ITB-TH-00014.

All other terms, conditions, specifications and pricing remain the same.

AUTHORITY/REASON:

Per vendor and agency agreement and the approval of DTMB Procurement.

INCREASE: $9,556,928.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: $12,324,528.00
CHANG NOTICE NO. 6
TO
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and
Integris Inc. David Wieber
822 Centennial Way, Suite 100
Lansing, MI 48917

Email: david.wieber@optum.com

Buyer/CA (517) 335-4770 Tammi Hart

Contract Compliance Inspector:

DTMB-Data Warehouse Business Intelligence (BI)

CONTRACT PERIOD: 5 yrs. + 2 two-year options From: December 21, 2010 To: December 20, 2015

TERMS

SHIPEMENT

F.O.B.

SHIPPED FROM

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

NATURE OF CHANGE (S):

Effective immediately, the following changes are incorporated into the contract, as a result of February 7, 2012 Admin Board review:

The total estimated contract value has been reduced by $7,949,387.50.

The reduced funds have been reallocated into a pool to support the Data Warehouse Business Intelligence program, administered by DTMB Procurement. Funds will be made available following a second tier selection process.

All other terms, conditions, specifications and pricing remain the same.

AUTHORITY/REASON:

Per vendor and agency agreement and the approval of DTMB Procurement and the approval of the State Administrative Board on February 7, 2012.

DECREASE: $7,949,387.50

TOTAL REVISED ESTIMATED CONTRACT VALUE: $2,767,600.00
CHANGE NOTICE NO. 5
TO
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and
NAME & ADDRESS OF VENDOR
Integris Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

TELEPHONE: (517) 327-2199
David Wieber

VENDOR NUMBER/MAIL CODE

BUYER/CA (517) 335-4770
Tammi Hart

Email: david.wieber@optum.com

Contract Compliance Inspector:
DTMB-Data Warehouse Business Intelligence (BI)

TERMS SHIPMENT

F.O.B. NA SHIPPED FROM NA

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

NATURE OF CHANGE (S):

Effective immediately, the following resource is incorporated into this contract, based on the State’s work request ITB-TH-00013:

Named Resource: Ravichand Kolli

State’s Work Request: #ITB-TH-00013 for One (1) Data Warehouse Architect.

Vendor’s Work Request Response: Dated December 16, 2011 to work request ITB-TH-00013.

All other terms, conditions, specifications and pricing remain the same.

AUTHORITY/REASON:

Per vendor and agency agreement and the approval of DTMB Procurement.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: $10,716,987.50
CHANGE NOTICE NO. 4
TO
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

Integris Inc.
822 Centennial Way, Suite 100
Lansing, MI 48917

Email: david.wieber@optum.com

Telephone: (517) 327-2199
David Wieber

Vendor Number/MAIL CODE
Buyer/CA (517) 335-4770
Tammi Hart

Contract Compliance Inspector:
DTMB-Data Warehouse Business Intelligence (BI)

Contract Period: 5 yrs. + 5 two-year options
From: December 21, 2010 To: December 20, 2015

Terms: NA

Shipments: NA

F.O.B.: NA

Shipped From: NA

Minimum Delivery Requirements:

Miscellaneous Information:

This contract is extended to all local units of government.

Nature of Change (s):

Effective immediately, the following resource is incorporated into this contract, based on work request ITB-TH-00010:

Named Resource: Vigneshwar Reddymasu @ $120/hour.

State’s Work Request: #ITB-TH-00010 for One (1) Data Warehouse Modeler.

All other terms, conditions, specifications and pricing remain the same.

Authority/Reason:

Per vendor and agency agreement and the approval of DTMB Procurement.

Total estimated contract value remains: $10,716,987.50
STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PURCHASING OPERATIONS  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933  

CHANGE NOTICE NO. 3  
TO  
CONTRACT NO. 071B1300138  
between  
THE STATE OF MICHIGAN  
and  

<table>
<thead>
<tr>
<th>NAME &amp; ADDRESS OF VENDOR</th>
<th>TELEPHONE: (517) 327-2199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integris Inc.</td>
<td>David Wieber</td>
</tr>
<tr>
<td>822 Centennial Way, Suite 100</td>
<td></td>
</tr>
<tr>
<td>Lansing, MI 48917</td>
<td>Email: <a href="mailto:david.wieber@bull.com">david.wieber@bull.com</a></td>
</tr>
</tbody>
</table>

Contract Compliance Inspector:  
DTMB-Data Warehouse Business Intelligence (BI)  

<table>
<thead>
<tr>
<th>TELEPHONE: (517) 335-4770</th>
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<tbody>
<tr>
<td>Tammi Hart</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<tr>
<th>BUYER/CA</th>
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<tbody>
<tr>
<td>(517) 335-4770</td>
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<table>
<thead>
<tr>
<th>NATURE OF CHANGE (S):</th>
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</thead>
</table>

Effective immediately, the contract is updated with the following contact information:  

David Wieber  
(517) 327-2199  
David.Wieber@bull.com  
822 Centennial Way, Suite 100  
Lansing, MI 48917  

All other terms, conditions, specifications and pricing remain the same.  

AUTHORITY/REASON:  

Per vendor request.  

TOTAL ESTIMATED CONTRACT VALUE REMAINS: $10,716,987.50
CHANGE NOTICE NO. 2
TO
CONTRACT NO. 071B1300138
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR
Integris Inc.
12125 Technology Drive
Eden Prairie, MN 55344

TELEPHONE: (517) 327-2280
Renee Owings

VENDOR NUMBER/MAIL CODE

BUYER/CA (517) 335-4770
Tammi Hart

Email: Renee.Owings@ingenix.com

Contract Compliance Inspector:
DTMB-Data Warehouse Business Intelligence (BI)

CONTRACT PERIOD: 5 yrs. + 5 two-year options
From: December 21, 2010 To: December 20, 2015

TERMS
NA

SHIPMENT
NA

F.O.B.
NA

SHIPPED FROM
NA

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

NATURE OF CHANGE (S):

Effective immediately, the following resource is added to this contract:

Mohommod Khan, reduced rate from $140, to $136, for years one and two, and reduce rate from $143 to $140 for years three, four and five.

All other terms, conditions, specifications and pricing remain the same.

AUTHORITY/REASON:

Per DTMB-Purchasing Operations approval.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: $10,716,987.50
CHANGE NOTICE NO. 1

TO

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

Integris Inc.
12125 Technology Drive
Eden Prairie, MN 55344

TELEPHONE: (517) 327-2280

Renee Owings

VENDOR NUMBER/MAIL CODE

BUYER/CA (517) 335-4770

Email: Renee.Owings@ingenix.com

Tammi Hart

Contract Compliance Inspector:

DTMB-Data Warehouse Business Intelligence (BI)

CONTRACT PERIOD: 5 yrs. + 5 two-year options

From: December 21, 2010 To: December 20, 2015

TERMS

F.O.B.

NA

SHIPTMENT

NA

SHIPPED FROM

NA

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

NATURE OF CHANGE (S):

Effective July 7, 2011, the following resources are hereby incorporated into this Contract based on the State’s Work Request for the Labor Category corresponding to such resource (the “Work Request”) and Vendor’s Work Request response corresponding to such Work Request (the “Work Request Response”), where the pricing, terms and conditions of the Work Request and Work Request Responses are hereby incorporated by reference as part of this Contract:

<table>
<thead>
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<th>Named Resource</th>
<th>State’s Work Request</th>
<th>Vendor’s Work Request Response</th>
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<tbody>
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<td>Raynald Desmeules</td>
<td>WORK REQUEST NO. ITB-TH-00003 FOR ONE (1) DATA WAREHOUSE ARCHITECT</td>
<td>Vendor’s Response dated June 21, 2011, as amended by Revision dated July 7, 2011, in both cases to Work Request Response to Work Request No. ITB-TH-00003</td>
</tr>
<tr>
<td>Lee Ritchie</td>
<td>Work Request No. ITB-TH-00004 FOR ONE (1) DATA WAREHOUSE MODELER</td>
<td>Vendor’s Response dated June 21, 2011 to Work Request No. ITB-TH-00004</td>
</tr>
<tr>
<td>Jim Davis</td>
<td>WORK REQUEST NO. ITB-TH-00005 FOR ONE (1) DATA WAREHOUSE BUSINESS INTELLIGENCE ANALYST SENIOR</td>
<td>Vendor’s Response dated June 21, 2011, as amended by Revision dated July 7, 2011, in both cases to Work Request Response to Work Request No. ITB-TH-00005</td>
</tr>
<tr>
<td>Melissa Jourden</td>
<td>WORK REQUEST NO. ITB-TH-</td>
<td>Vendor’s Response dated June 21, 2011 to Work Request Response to Work Request No. ITB-TH-00005</td>
</tr>
<tr>
<td>Request No. ITB-TH-00006 FOR ONE (1) DATA WAREHOUSE PROJECT MANAGER</td>
<td>Request No. ITB-TH-00006</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>Bruce Grant</td>
<td>Vendor’s Response dated June 21, 2011 to Work Request No. ITB-TH-00007</td>
<td></td>
</tr>
<tr>
<td>Santosh Gangisetty</td>
<td>Vendor’s Response dated June 21, 2011 to Work Request No. ITB-TH-00007</td>
<td></td>
</tr>
<tr>
<td>Sai Swaroop Mudduluru</td>
<td>Vendor’s Response dated June 21, 2011 to Work Request No. ITB-TH-00007</td>
<td></td>
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<tr>
<td>Murali K. Mahadevan</td>
<td>Vendor’s Response dated June 21, 2011, as amended by Revision dated July 7, 2011, in both cases to Work Request Response to Work Request No. ITB-TH-00008</td>
<td></td>
</tr>
</tbody>
</table>

Please also note that the buyer has been CHANGED to Tammi Hart. All other terms, conditions, specifications and pricing remain the same.

**AUTHORITY/REASON:**

Per the above referenced Work Requests and Vendor’s Work Request Responses, along with DTMB-Purchasing Operations approval.

**TOTAL ESTIMATED CONTRACT VALUE REMAINS:** $10,716,987.50
NOTICE

TO

CONTRACT NO. 071B1300138

between

THE STATE OF MICHIGAN

and

Integris Inc.
12125 Technology Drive
Eden Prairie, MN 55344

TELEPHONE: (517) 327-2280
Renee Owings

VENDOR NUMBER/MAIL CODE

BUYER/CA (517) 241-0239
Jacque Kuch

Email: Renee.Owings@ingenix.com

Contract Compliance Inspector:

DTMB-Data Warehouse Business Intelligence (BI)

CONTRACT PERIOD: 5 yrs. + 5 two-year options
From: December 21, 2010 To: December 20, 2015

TERMS

NA

SHIPMENT

NA

F.O.B.

NA

SHIPPED FROM

NA

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:

THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

The terms and conditions of this Contract are those of ITB #071I0200068 this Contract Agreement and the vendor’s quote dated May 25, 2010. In the event of any conflicts between the specifications, terms and conditions indicated by the State and those indicated by the vendor, those of the State take precedence.

Estimated Contract Value: $10,716,987.50
STATE OF MICHIGAN  
DEPARTMENT OF MANAGEMENT AND BUDGET  
ACQUISITION SERVICES  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

CONTRACT NO.  071B1300138  
between  
THE STATE OF MICHIGAN  
and  
Integris Inc.  
12125 Technology Drive  
Eden Prairie, MN 55344

TELEPHONE: (517) 327-2280  
Renee Owings  
VENDOR NUMBER/MAIL CODE  
BUYER/CA  (517) 241-0239  
Email: Renee.Owings@ingenix.com  
Jacque Kuch

Contract Compliance Inspector:  
DTMB-Data Warehouse Business Intelligence (BI)

CONTRACT PERIOD:  5 yrs. + 5 two-year options  
From: December 21, 2010  
To: December 20, 2015

TERMS  
F.O.B.  
SHIPMENT

NA  
NA

SHIPPED FROM  
NA

MINIMUM DELIVERY REQUIREMENTS

MISCELLANEOUS INFORMATION:  
THIS CONTRACT IS EXTENDED TO ALL LOCAL UNITS OF GOVERNMENT.

The terms and conditions of this Contract are those of ITB #071I0200068 this Contract Agreement and the vendor’s quote dated May 25, 2010. In the event of any conflicts between the specifications, terms and conditions indicated by the State and those indicated by the vendor, those of the State take precedence.

Estimated Contract Value:  $10,716,987.50

All terms and conditions of the invitation to bid are made a part hereof.

FOR THE VENDOR:  
Integris, Inc.  
Firm Name

Jerry Knutson, Chief Financial Officer  
Authorized Agent Signature

Authorized Agent (Print or Type)

Date

FOR THE STATE:  
Signature  
Greg Faremouth  
Name/Title  
IT Division Director  
Division

Date
STATE OF MICHIGAN
Department of Management and Budget
Purchasing Operations

Contract No.071B1300138
Data Warehouse Business Intelligence

Buyer Name: Jacque Kuch
Telephone Number: 517-241-0239
E-Mail Address: kuchj@michigan.gov
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### DEFINITIONS

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<tr>
<td>Days</td>
<td>Means calendar days unless otherwise specified.</td>
</tr>
<tr>
<td>24x7x365</td>
<td>Means 24 hours a day, seven days a week, and 365 days a year (including the 366th day in a leap year).</td>
</tr>
<tr>
<td>Additional Service</td>
<td>Means any Services/Deliverables within the scope of the Contract, but not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.</td>
</tr>
<tr>
<td>Audit Period</td>
<td>See Section 2.110</td>
</tr>
<tr>
<td>Backup and Restore</td>
<td>Two processes required for ensuring that data is not lost due to failure. Backup is the process of saving the data from the Data Warehouse to tape or some other persistent storage medium. Restore is the process of replacing that data on the Data Warehouse (in its original form) from the backup medium.</td>
</tr>
<tr>
<td>Business Day</td>
<td>Whether capitalized or not, shall mean any day other than a Saturday, Sunday or State-recognized legal holiday (as identified in the Collective Bargaining Agreement for State employees) from 8:00am EST through 5:00pm EST unless otherwise stated.</td>
</tr>
<tr>
<td>Blanket Purchase Order</td>
<td>An alternate term for Contract as used in the State's computer system.</td>
</tr>
<tr>
<td>Business Critical</td>
<td>Any function identified in any Statement of Work as Business Critical.</td>
</tr>
<tr>
<td>Chronic Failure</td>
<td>Defined in any applicable Service Level Agreements.</td>
</tr>
<tr>
<td>Conversion</td>
<td>Conversion is the process of modifying the State’s current application that utilizes the Teradata data warehouse to operate with the Vendor’s proposed solution. This will include conversion of the Extract Transform and Load (ETL) processes, reporting system configuration, production system conversion, and testing.</td>
</tr>
<tr>
<td>Deliverable</td>
<td>Physical goods and/or commodities as required or identified by a Statement of Work</td>
</tr>
<tr>
<td>Test/Development/DR System</td>
<td>This is a smaller version of the production data warehouse system used on a day by day basis for testing and development purposes, but can be used to replace the majority of the production data warehouse functionality in the event of a catastrophic failure of the production system.</td>
</tr>
<tr>
<td>Disaster Recovery</td>
<td>This is the process/system that provides a way to continue to use data warehouse functionality in the event of a catastrophic failure of the production data warehouse that makes it unavailable for an extended time.</td>
</tr>
<tr>
<td>DMB</td>
<td>Michigan Department of Management and Budget</td>
</tr>
<tr>
<td>Environmentally preferable products</td>
<td>A product or service that has a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Such products or services may include, but are not limited to, those that contain recycled content, minimize waste, conserve energy or water, and reduce the amount of toxics either disposed of or consumed.</td>
</tr>
<tr>
<td>Excusable Failure</td>
<td>See Section 2.244.</td>
</tr>
<tr>
<td>Hazardous material</td>
<td>Any material defined as hazardous under the latest version of federal Emergency Planning and Community Right-to-Know Act of 1986 (including revisions adopted during the term of the Contract).</td>
</tr>
<tr>
<td>Incident</td>
<td>Any interruption in Services.</td>
</tr>
<tr>
<td>ITB</td>
<td>A generic term used to describe an Invitation to Bid. The ITB serves as the document for transmitting the RFP to potential bidders.</td>
</tr>
<tr>
<td>Key Personnel</td>
<td>Any Personnel designated in Article 1 as Key Personnel.</td>
</tr>
<tr>
<td>Migration</td>
<td>For the purpose of this RFP migration will be defined as the movement of the data from the State’s existing data warehouse to the new data warehouse platform.</td>
</tr>
<tr>
<td>New Work</td>
<td>Any Services/Deliverables outside the scope of the Contract and not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ozone-depleting substance</td>
<td>Any substance the Environmental Protection Agency designates in 40 CFR part 82 as: (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or (2) Class II, including, but not limited to, hydro chlorofluorocarbons</td>
</tr>
<tr>
<td>Platform</td>
<td>the hardware and software components that comprise the entire data warehouse system</td>
</tr>
<tr>
<td>Post-Consumer Waste</td>
<td>Any product generated by a business or consumer which has served its intended end use, and which has been separated or diverted from solid waste for the purpose of recycling into a usable commodity or product, and which does not include post-industrial waste.</td>
</tr>
<tr>
<td>Post-Industrial Waste</td>
<td>Industrial by-products that would otherwise go to disposal and wastes generated after completion of a manufacturing process, but do not include internally generated scrap commonly returned to industrial or manufacturing processes.</td>
</tr>
<tr>
<td>Recycling</td>
<td>The series of activities by which materials that are no longer useful to the generator are collected, sorted, processed, and converted into raw materials and used in the production of new products. This definition excludes the use of these materials as a fuel substitute or for energy production.</td>
</tr>
<tr>
<td>Deleted – Not Applicable</td>
<td>Section is not applicable or included in this RFP. This is used as a placeholder to maintain consistent numbering.</td>
</tr>
<tr>
<td>Reuse</td>
<td>Using a product or component of municipal solid waste in its original form more than once.</td>
</tr>
<tr>
<td>RFP</td>
<td>Request for Proposal designed to solicit proposals for services</td>
</tr>
<tr>
<td>Services</td>
<td>Any function performed for the benefit of the State.</td>
</tr>
<tr>
<td>Source reduction</td>
<td>Any practice that reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, energy recovery, treatment, or disposal.</td>
</tr>
<tr>
<td>State Location</td>
<td>Any physical location where the State performs work. State Location may include state-owned, leased, or rented space.</td>
</tr>
<tr>
<td>Subcontractor</td>
<td>A company Contractor delegates performance of a portion of the Services to, but does not include independent Contractors engaged by Contractor solely in a staff augmentation role.</td>
</tr>
<tr>
<td>Unauthorized Removal</td>
<td>Contractor’s removal of Key Personnel without the prior written consent of the State.</td>
</tr>
<tr>
<td>Waste prevention</td>
<td>Source reduction and reuse, but not recycling.</td>
</tr>
<tr>
<td>Waste reduction and Pollution prevention</td>
<td>The practice of minimizing the generation of waste at the source and, when wastes cannot be prevented, utilizing environmentally sound on-site or off-site reuse and recycling. The term includes equipment or technology modifications, process or procedure modifications, product reformulation or redesign, and raw material substitutions. Waste treatment, control, management, and disposal are not considered pollution prevention, per the definitions under Part 143, Waste Minimization, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended.</td>
</tr>
<tr>
<td>Work in Progress</td>
<td>A Deliverable that has been partially prepared, but has not been presented to the State for Approval.</td>
</tr>
<tr>
<td>Work Product</td>
<td>Refers to any data compilations, reports, and other media, materials, or other objects or works of authorship created or produced by the Contractor as a result of an in furtherance of performing the services required by this Contract.</td>
</tr>
</tbody>
</table>
Article 1 – Statement of Work (SOW)

1.000 Project Identification

1.001 Project Request
The purpose of this contract is to provide a source of Business Intelligence professional services to support the State’s data warehouse and related development.

The data warehouse is maintained and hosted by the Department of Technology, Management and Budget (DTMB) and currently supports multiple agencies, including the Michigan Department of Community Health (DCH), the Michigan Department of Human Services (DHS), the Michigan Department of Treasury (Treasury), the Michigan Department of Energy, Labor and Economic Growth (DELEG), and the State Courts Administrative Office (SCAO). Additional agencies may be supported in the future. The State of Michigan wishes to continue to host and administer any replacement systems with existing State staff in existing State facilities.

1.100 Scope of Work and Deliverables

1.101 In Scope
Providing staff augmentation and project development support for data warehouse and related application development.

1.103 Environment
The links below provide information on the State’s Enterprise IT policies, standards and procedures which includes security policy and procedures, IT strategic plan, eMichigan web development and the State Unified Information Technology Environment (SUITE).

All services and products provided in this Contract must comply with all applicable State IT policies and standards. The Contractor must request any exception to State IT policies and standards in accordance with DTMB processes. The State may deny the exception request or seek a policy or standards exception.

Enterprise IT Policies, Standards and Procedures:
http://www.michigan.gov/dit/0,1607,7-139-34305---,00.html

Enterprise IT Security Policy and Procedures:
All computer information systems and applications operate in a secure manner and comply with State Enterprise IT Security Policy and Procedures as found on the website:
http://www.michigan.gov/dit/0,1607,7-139-34305-108216--,00.html
The State’s security environment includes:
- DTMB Single Login.
- DTMB provided SQL security database.
- Secured Socket Layers.
- SecurID (State Security Standard for external network access and high risk Web systems)

IT Strategic Plan:
http://www.michigan.gov/dit/0,1607,7-139-30637-135173--,00.html

IT eMichigan Web Development Standard Tools:

The State Unified Information Technology Environment (SUITE):
Includes standards for project management, systems engineering, and associated forms and templates – must be followed: http://www.michigan.gov/suite

Agency Specific Technical Environment
The agencies that use the Teradata use a range of databases and operating systems including Oracle on HP/UX, Solaris and Windows, SQL/Server on Windows and MySQL on Linux.

The State supports a common Business Objects reporting/query system that is used by several agencies to access the data warehouse. It runs on HP/UX with an Oracle 10g repository.

Three of the agencies (DCH, Treasury, and SCAO) use BI/Query to access the data warehouse.

1.104 Work and Deliverables
Deliverables described in section 1.104 are not all inclusive.

Professional Business Intelligence (BI) Services
Requirements:

The State requires BI services in support of the data warehouse. In some cases this will be to support agencies without sufficient DTMB support to enable them to accomplish this with state staff. In other cases the agency has extensive DTMB support, but requires staff augmentation to assist them to deal with agency demand for services. In yet others an agency may ask for the pre-qualified BI service Contractor to quote and build a system for the agency to maintain.

Pre-qualified Contractors will be required to sign this Primary Contract with DTMB Purchasing Operations.

The Primary Contracts and any resulting Work Contracts will be written so as to incorporate by reference all the terms of this Contract. DTMB may include additional terms and conditions within their specific Work Request. There is no stated or implied guarantee that Work Contracts will be awarded to any pre-qualified Contractor(s) by the SOM.

In any of these cases there will be specific skill sets required including:

1. Data Warehouse Project Manager
   - Manages the integration and/or development and delivery of very large and complex deliverables directly to the customer, or in support of a major enterprise-wide program. This position provides the primary interface between the Contractor, the State and third party providers.
   
   - Establishes and manages the project plan, according to SUITE standards, including the development schedule, resource requirements and integration efforts of third party products. Periodically reports progress to State management.
• Motivates and directs project team; sets goals, objectives and priorities; assigns and reviews work.

• Acts as the primary interface with the State on issues regarding the project deliverable. Makes sure customer reviews are held with the customer user community and obtains sign-off on status reports and requirements.

• Makes sure approved methods, processes and tools are consistently used.

• Is accountable for meeting project schedule and results as well as for the State customer satisfaction and quality of the deliverables.

2. Data Warehouse Architect
• The data warehouse architect designs total solutions involving multiple systems for large organizations. Solutions may use third party hardware and software. Participates/leads in the construction of models and pilot programs with senior level managers.

• Conducts models and pilot programs to test proposals or develop solutions to problems. Develops measurement criteria to evaluate programs and projects and develops or reviews estimates on technical aspects of projects.

• Develops design proposals to meet customer needs

• Approves integrated systems design proposals for technical content.

• Monitors the implementation for technical correctness so that customer needs are met.

• Identifies, analyzes and evaluates alternative design solutions.

3. Data Warehouse Database Administrator
• A database administrator (DBA) is responsible for the availability, safety and usefulness of a database. This may include tasks such as:
  o Software Installation and database management system upgrades.
  o Software upgrades to ensure the database is in compliance with critical security patches, or, software upgrades deemed necessary by the State.
  o Working in conjunction with system administrators, server configuration to ensure that the entire database system is capable of providing the services needed.
  o Performance monitoring to identify bottlenecks and places where throughput can be improved.
  o Security administration to ensure that the database cannot be accessed by unauthorized parties or damaged by anyone.
  o Configure access to the data warehouse and communication between the warehouse and other servers.
  o Physical database design translates the logical database design to work optimally for the specific database environment.
  o Working with developers, establish standards and guidelines for access to the database.
  o Backup and Restore management to ensure that no data is lost and that backups can be restored in a timely manner.
  o Work with developers to optimize their queries.
4. Data Warehouse Developer Senior/Junior
   • Data warehouse developers perform application development tasks in support of building business
     intelligence applications and integrating data warehouse resources into other Agency applications.
     In addition they provide database expertise to other application developers in close collaboration
     with DBAs and other data management staff. This may include tasks such as:
     o Creating data warehouse based applications including reporting, dashboards and other
       information analysis and delivery systems.
     o Extract, transform and load systems to move data from the various operational systems in which
       it is collected to a cleansed, consolidated data warehouse.
     o SQL development.
     o Work with developers and end user query developers to design and improve database queries.
     o Train developers in how best to design queries for a specific database.

5. Data Warehouse Designer/Modeler
   • A data warehouse designer is responsible for the layout and navigability of a database. This
     involves defining the tables, keys and relationships that will allow an application to retrieve and
     update data correctly and efficiently. This may include tasks such as:
     o Working with end users and developers to understand the data needs of an application and the
       larger systems.
     o Providing different designs for different database uses. For example an OLTP database design
       will not be the same as one for a data warehouse. Designers must understand the uses to
       which their designs will be put.
     o Documenting the data involved including definitions, constraints and access needs.
     o Creating and maintaining logical designs, including Entity Relationship diagrams, which illustrate
       what data will be stored, how it is organized, how it can be retrieved (keys) and how it relates to
       other data in the database.
     o Creating and maintaining data definition language (DDL) that can be used to create and update
       the database.
     o Working with the DBA and application developers, modify the logical design to create a physical
       design most suited to the database environment and the applications that will use it.
     o Work with developers and DBA to create and maintain database design standards.

6. Data Warehouse Business Intelligence Report Developer
   • Data reporting staff work with agency requestors to define and develop new queries, and provide
     training and technical support to both DIT developers and end user query developers. Their tasks
     may include:
     o Working with end user requestors to understand their data needs and create and implement
       solutions to those needs.
     o Develop and present training classes for end user developers to help learn how to most
       effectively use the data warehouse platform and the BI tools available to them to support their
       own data needs where possible.
     o Develop and present training classes for DIT developers to better understand how to use the BI
       development tools to create and implement reporting solution using the data warehouse.
     o Provide one on one support for developers and end users to assist them in accomplishing their
       data reporting needs.

7. Data Warehouse Business Intelligence Analyst Senior/Junior
   • Business Intelligence/Data Warehouse staff work with end users to provide information in a number
     of different ways. This may include tasks such as:
     o Running Joint Application Design (JAD) sessions to understand what data is needed and how it
       is likely to be used.
     o Creating ad-hoc queries to answer specific user questions.
     o Program design and specification.
     o Creating data warehouse based applications including reporting, dashboards and other
       information analysis and delivery systems.
Supporting end user to enable them to create their own queries and reports as needed.
Identify data problems and work with developers to correct them.
Using advanced analytics, provide agencies with predictive and explanatory analysis to enable them to better accomplish their missions.
Organize and run user groups to encourage self support among end user and DTMB query and other BI application developers.

8. Data Warehouse Help Desk Analyst
- Help desk staff provide first line support for end users and developers, when there are problems with their use of the data warehouse and BI tools.
  - Accept problem reports and provide guidance for correction, or pass on status information where possible.
  - Direct unresolved problem reports to second line support (this may be either DTMB DCO or developer staff or Contractor staff responsible for a BI application).
  - Track and analyze problem occurrences and resolution.

9. Subject Matter Expert
- The Subject Matter Expert (SME) is an individual who has special, in-depth knowledge of one or more business area(s), for example tax compliance or Medicaid, and who understands business processes and policies well enough to work with Agency stakeholders and business leaders to help define technology solutions in support of new BI initiatives. This may include tasks such as:
  - Helping evaluate and define technology requirements in support of strategic Business Intelligence objectives, whether enterprise wide or Agency specific.
  - Helping define business needs and identifying and recommending the most appropriate solution in support of new Business Intelligence initiatives.

10. Web Developer
- The Web Developer is a technical specialist who designs and develops web-based applications that interact with and utilize the data warehouse to provide Agency users with highly interactive, easy to use web-based BI applications. Many of the job duties and responsibilities of the Web Developer are similar to the DW Developer role, but differ in that the Web developer works with agency staff and DTMB developers to define and develop applications that rely on unique web-based technology and tools, and that will conform to standards defined by DTMB for user interface and usage of the data warehouse. This may include tasks such as:
  - Working with department requestors to define the web application user interface, business rules, database access and data warehouse access;
  - Producing technical specification documents to review the web application with the user, and conducting JAD sessions to revise and finalize technical specifications;
  - Producing prototypes of web application pages for user review and approval;
  - Working with users to determine any data sources that need to be imported into the data warehouse for web application operation;
  - Producing accurate and complete data mapping documents;
  - Creating web pages using business rules, user interface standards and data warehouse access, as defined by users and conforming to DTMB guidelines;
  - Performing user acceptance tests with users and DTMB to confirm that new web applications perform per specifications and making adjustments to the web applications, as required;
  - Maintaining a developing and staging environment for the development and testing of enhancements to the web applications; and
  - Producing the proper RFC documentation, application package and database packages for DTMB to implement.

11. Advanced Analytics Software Consultant
The Advanced Analytics Software Consultant (AASC) is a technical specialist with strong expertise designing and implementing BI solutions that are based on the use of advanced analytical technologies and tools. The AASC has hands-on experience evaluating, selecting, customizing, integrating, and deploying sophisticated data analysis tools to enable the use of data mining, predictive analytics and statistical analysis applications, along with the training to use and support them. The job duties and responsibilities of the AASC include:

- Evaluating and selecting appropriate 3rd party product solutions based on specific customer business needs for advanced analytics, including recommending strategies for integration, required customizations, and implementation
- Customizing and integrating the advanced data analysis tools in a data warehouse environment to enable the use of predictive analytics, data mining, grouping technologies, and statistical analysis tools;
- Monitoring the integration and implementation for technical correctness assuring that Agency and DTMB needs are met; and
- Developing and delivering customized training for the end users and DTMB staff on the effective use the advanced analytical solutions

12. Principal Consultant

- The Principal Consultant has a deep and diverse background in data warehouse technologies with extensive experience in a variety of relational database systems, business intelligence and advanced analytical tools, data integration technologies, development languages, data governance and data management strategies, methodologies and solutions. The tasks may include:
  - Counseling business stakeholders and executives in the planning and use of advanced data warehousing and business intelligence technology to address key business issues and challenges
  - Assessing the needs of large organizations;
  - Evaluating solution alternatives and helping to define the scope of the solution;
  - Defining critical success factors for implementation projects;
  - If required, assisting in the development of functional requirements specific to the Agency’s business needs and operational environment;
  - Assessing and advising management on the project approach to deploying data warehousing, data management and/or business intelligence solutions;
  - Providing senior level public healthcare policy and program expertise by assisting the State with coverage initiatives, interpretation of federal regulations, waiver proposals and other strategic program and planning initiatives.

13. Knowledge Transfer/Transition

While the BI services Contractor(s) will be working closely with DTMB staff in most cases, they are still required to provide documentation for any work that they do, which describes both what was done and why it was done in that fashion. In addition BI services staff will be required to perform informal training to state staff on platform issues, applications written by the Contractor, and general data warehouse usage.

1.200 Roles and Responsibilities

1.201 Contractor Staff, Roles, and Responsibilities

Business Intelligence Services Staff Requirements
1. Contractor(s) must manage and implement BI projects with minimal State involvement.
2. Contractor(s) must provide services during normal working hours (Monday through Friday, 7:00 a.m. to 6:00 p.m. ET.) and possible night and weekend hours depending on position and project requirements. No overtime will be authorized or paid. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work
hours in the best interest of the project. Contractor(s) shall observe the same standard holidays as State employees. The State does not compensate for holiday pay. Contractor(s) will not be reimbursed for travel expenses or travel time.

3. Contractor(s) work is to be performed, completed, and managed in the Lansing, MI area:

4. Obtaining BI Services
   The State after formalizing a comprehensive Work Request will facilitate the second tier selection process for each Contracting effort. A Work Request template will identify the statement of work, category of service, period of performance, deliverables, specific response information required, work evaluation and payment criteria, and any special terms and conditions.

   a. Contractor(s) must respond fully to a service request with the following candidate information within five (5) days of issuance by the State on the Bid4Michigan site. Responses must include:

      - Resumes of qualified staff for each position the State has requested.
      - Date of availability for each candidate.
      - The results of two reference checks that the Contractor(s) has performed on the proposed individual, including the names and telephone numbers of the references themselves. At least one of these reference checks must be from a supervisor.
      - Verification of a candidate’s permission to work in the United States.
      - Rate for each resume submitted. Rates may not exceed the rates in the Contract. However, the rates may be less, depending on the State’s requirements, nature of the job market, and the candidate’s abilities.

   b. Contractor(s) may request clarification regarding the State’s request during the response period. If the Contractor is unable to provide the personnel requested, the Contractor must record this fact in a written response to the State.

   c. The State will evaluate the resumes and references of submitted candidates. Selection will be based on a best value evaluation using the criteria identified in the Work Request and the rate provided by the Contractor. Other selection criteria or tools which may be in the best interest of the State may be utilized to make a selection.

      The State may contact the Contractor to request an interview with a candidate. The Contractor will be responsible for setting up all interviews. At the State’s discretion, the interview may be conducted over the telephone. The State may, at its discretion, request a face-to-face interview. In this case, all expenses travel or otherwise, resulting from such a request must be borne by the Contractor.

   d. After selecting the resume(s) that present the best value to the State, the State will notify Contractor(s) regarding its selection.

5. Contractor(s) will be responsible for setting up all interviews between the candidates and DTMB/Agency management, if requested by DTMB.

6. Contractor(s) will provide a mechanism for expedited procurement of staff to meet a need for immediate replacement or for mission critical services.

7. Contractor(s) will ensure that the staff proposed for this assignment are fully trained and meet the skill set requirements of the job position being filled. The State makes changes to its technical architectures from time to time. If a Contract individual is assigned to a State project or support area and the technology associated with their assignment changes, the Contractor(s) are responsible for training in the new or changed technology (e.g., Contractor personnel needs training in a particular tool in order to perform their State assignment.) or providing new resources who are trained in the new tool, at the State’s discretion. Contractor(s) or the assigned Contract staff may elect to pay for the training necessary to continue working on the assignment. The cost of the course, including any travel expenses, and the training hours will not be billable to the State.
8. Contractor(s) is responsible for providing a 30 day written notice to the State in addition to a plan for transitioning to a new resource including knowledge transfer in the event an individual is terminated or voluntarily withdrawn from an assignment. The State will not reimburse the Contractor for both the departing resource and the incoming resource during the transition period. The State can request the Contractor replace the individual with an individual of equal or greater qualifications.

a. Contractor(s) staff will be subject to the rules, regulations, and policies of DTMB and the Michigan Department of Civil Service.

b. Contractor(s) staff assigned to work with restricted (a.k.a. sensitive) data have an obligation to safeguard and protect the confidentiality of such data. Further, if the staff member accidentally or purposefully releases restricted or sensitive data, the Contractor assumes full responsibility for any resulting penalties.

c. Contractor(s) assumes full responsibility for the acts of all subcontractors.

d. Contractor(s) may use subcontractors to fulfill requirements of the Contract. If subcontractors are employed, Contractor will pay subcontractors within 30 days of the Contractor's monthly invoice, to the extent that Ingenix’s invoice includes work done by it’s sub-contractors that meets the requirements of the corresponding subcontract, and as long as the State has not withheld payments to contractor due to the unsatisfactory performance of the sub-contractor.

e. Contractor(s) will ensure that staff exhibits professional conduct and act in the best interest of the State.

Contractor(s) may not remove or reassign staff to other Contracts unless mutually agreed upon by the State and the Contractor(s). If staff is removed without compliance the State has the right to impose a monetary penalty of up to 1% of the previous month's invoice total as the State’s sole and exclusive remedy.

On Site Work Requirements

Requirements:

1. Location of Work
   The work is to be performed, completed, and managed at the following locations:
   • State office buildings in the immediate Lansing, MI area.
   • Some professional services related to projects may be performed in the Contractor’s office in the Lansing area on a case by case basis as mutually agreed upon.

2. Travel:
   a. No travel or expenses will be reimbursed. This includes travel costs related to training provided to the State by the Contractor.
   b. Travel time will not be reimbursed.

3. Additional Security and Background Check Requirements:
   Contractor must present certifications evidencing satisfactory Michigan State Police Background checks ICHAT and drug tests for all staff identified for assignment to this project.

   All proposed Contractor personnel for platform and BI services must satisfy the security requirements for the agencies in which they will be working—at the minimum signing the Agency security forms. In addition some Agencies (Treasury for example) require personnel to attend additional security training and agree to be bound by their requirements.

   In addition, proposed Contractor personnel will be required to complete and submit an RI-8 Fingerprint Card for the National Crime Information Center (NCIC) Finger Prints, if required by project.
Contractor will pay for all costs associated with ensuring their staff meets all requirements.

1.202 State Staff, Roles, and Responsibilities

A. The State will provide the following resources for the Contractor’s use:
   - Work space
   - Minimal clerical support
   - Telephone
   - PC workstation
   - Printer
   - Access to copiers and fax machine. This includes software licenses as appropriate.

B. A purchase order (PO) will be issued for all resources working under this Contract.

C. The State will notify Contractor(s) in writing if a senior resource is not performing at senior level. The Contractor(s) will be responsible for finding a senior level replacement, or will reduce the hourly rate for the person to that of a non-senior resource, at the discretion of the State.

The State project team for the Data Warehouse Platform Contract (071B1300109), will consist of Executive Subject Matter Experts (SME’s), project support, and a DTMB and Agency project managers.

D. Executive Subject Matter Experts

1. The Executive Subject Matter Experts (SME) representing the business units involved will provide the business knowledge required for any conversion activities. The Executive SME’s will be empowered to:
   - Resolve project issues in a timely manner
   - Review project plan, status, and issues
   - Resolve deviations from project plan
   - Provide acceptance sign-off
   - Utilize change control procedures
   - Ensure timely availability of State resources
   - Make key implementation decisions, as identified by the Contractor’s project manager, within 48-hours of their expected decision date.

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency/Division</th>
<th>Title</th>
<th>Phone/e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forrest Cumberworth</td>
<td>Treasury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cynthia Green-Edwards</td>
<td>Community Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>George Noonan</td>
<td>Human Services</td>
<td>Manager Data Analysis and Information Management</td>
<td></td>
</tr>
<tr>
<td>Dean Feldpausch</td>
<td>MSHDA</td>
<td>Department Manager</td>
<td></td>
</tr>
<tr>
<td>Marcus Dobek</td>
<td>SCAO</td>
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<tr>
<td>Carol Steel Sherman</td>
<td>DTMB/DCO</td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td>Richard Burgis</td>
<td>DTMB</td>
<td>Manager</td>
<td></td>
</tr>
</tbody>
</table>

E. State Project Managers - (DTMB and Agency)

1. DTMB and Agencies will provide Project Managers who will be responsible for the State’s infrastructure and coordinate with the Contractor in determining the system configuration.

The State's Project Manager will provide the following services:
   - Provide State facilities, as needed
   - Coordinate the State resources necessary for the project
   - Facilitate coordination between various external Contractor s
   - Facilitate communication between different State departments/divisions
   - Provide acceptance and sign-off of deliverable/milestone
   - Review and sign-off on timesheets and invoices
   - Resolve project issues
• Escalate outstanding/high priority issues
• Utilize change control procedures
• Conduct regular and ongoing review of the project to confirm that it meets original objectives and requirements
• Document and archive all important project decisions
• Arrange, schedule and facilitate State staff attendance at all project meetings.

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency/Division</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tess Layman</td>
<td>DTMB</td>
<td>Project Manager</td>
</tr>
<tr>
<td>George Noonan</td>
<td>Human Services</td>
<td>Manager Data Analysis and Information Management</td>
</tr>
<tr>
<td>Cynthia Green Edwards</td>
<td>Community Health</td>
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</tr>
<tr>
<td>Dean Feldpausch</td>
<td>MSHDA</td>
<td>Department Manager</td>
</tr>
<tr>
<td>Marcus Dobek</td>
<td>SCAO</td>
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</tbody>
</table>

2. The Data Warehouse Platform Contract (071B1300109) will be managed by the DTMB DCO Project Manager.

<table>
<thead>
<tr>
<th>DTMB DCO Project Manager</th>
<th>Agency/Division</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carol Steel Sherman</td>
<td>DTMB</td>
<td>DCO Director</td>
</tr>
</tbody>
</table>

3. DTMB shall provide a Contract Administrator whose duties shall include, but not be limited to, supporting the management of the BI Services Contract.

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency/Division</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>DTMB/Bureau of Strategic Policy</td>
<td></td>
<td>Contract Administrator</td>
</tr>
</tbody>
</table>
F. State Project Structure

The Data Warehouse Platform Contract and the projects under this Contract will be managed by a Steering committee consisting of the Medicaid Director, the Agency IOs responsible for the groups that use the Data Warehouse, the SCAO IT director and the DTMB DCO director. They will be responsible for overall direction and resolving any issues that arise.

A Project Control Office (PCO) will be used to manage the day-to-day operations of the Data Warehouse Platform Contract and projects under this Contract on a state-wide basis. Each agency will manage its own migration and implementation under the Data Warehouse Platform Contract, and the activities required under this Contract, in each case under the coordination of the PCO. This structure is illustrated below:

![Diagram showing the structure of the Data Warehouse Platform Contract and project management](image)

1.400 Project Management - Reserved

1.600 Compensation and Payment

1.601 Compensation And Payment

A. Method of Payment

The BI services will be paid according to specified payment terms in each Work Request.

B. Travel

The State will not pay for any travel expenses, including hotel, mileage, meals, parking, etc., except on an exception basis as set forth in Section 1.601(C) below. Travel time will not be reimbursed.

C. Out-of-Pocket Expenses
Contractor out-of-pocket expenses are not separately reimbursable by the State unless, on a case-by-case basis for unusual expenses, the State has agreed in advance and in writing to reimburse Contractor for such an expense at the State’s current travel reimbursement rates.

In the event travel is required, all travel reimbursement will be paid according to the State of Michigan’s Standardized Travel Rates and Regulations. This information may be found at: http://www.michigan.gov/dmb/0,1607,7-150-9141_13132---,00.html

All air, car and hotel reservations must be made through the State Contract with Passageways Travel at (517) 333-5880 or (800) 915-8729. All original receipts must be included with your travel voucher and invoices, which must include the purchase order number. Failure to follow this policy will result in reduced reimbursement.

D. Purchase Orders
- The parties agree that the Services/Deliverables to be rendered by the Contractor pursuant to this Contract (and any future amendments of it) will be defined and described in detail in Purchase Orders (PO) executed under this Contract. Contractor shall not be obliged or authorized to commence any work until authorized via a PO issued against this Contract. The Contractor shall perform in accordance with this Contract, including the Purchase Orders executed under it.

E. Invoicing
Contractor will submit properly itemized invoices to “Bill To” Address on Purchase Order. Invoices must provide and itemize, as applicable:
- Contract number;
- Purchase Order number
- Contractor name, address, phone number, and Federal Tax Identification Number;
- Description of any commodities/hardware, including quantity ordered;
- Date(s) of delivery and/or date(s) of installation and set up;
- Price for each item, or Contractor’s list price for each item and applicable discounts;
- Maintenance charges;
- Net invoice price for each item;
- Shipping costs;
- Other applicable charges;
- Total invoice price; and
- Payment terms, including any available prompt payment discount.
- Hours worked and time period for invoiced hours.
- Name of Contracted employee.

Incorrect or incomplete invoices will be returned to Contractor for correction and reissue.
**Article 2, Terms and Conditions**

### 2.000 Contract Structure and Term

#### 2.001 Contract Term

This Contract is for a period of five (5) years beginning December 21, 2010 through December 20, 2015. All outstanding Purchase Orders must also expire upon the termination (cancellation for any of the reasons listed in Section 2.150) of the Contract, unless otherwise extended under the Contract. Absent an early termination for any reason, Purchase Orders issued but not expired, by the end of the Contract’s stated term, will remain in effect for the balance of the fiscal year for which they were issued.

#### 2.002 Options to Renew

This Contract may be renewed in writing by mutual agreement of the parties not less than 30 days before its expiration. The Contract may be renewed for up to five (5) additional two (2) year periods.

#### 2.003 Legal Effect

Contractor shall show acceptance of this Contract by signing two copies of the Contract and returning them to the Contract Administrator. The Contractor shall not proceed with the performance of the work to be done under the Contract, including the purchase of necessary materials, until both parties have signed the Contract to show acceptance of its terms, and the Contractor receives a Contract release/purchase order that authorizes and defines specific performance requirements.

Except as otherwise agreed in writing by the parties, the State assumes no liability for costs incurred by Contractor or payment under this Contract, until Contractor is notified in writing that this Contract (or Change Order) has been approved by the State Administrative Board (if required), approved and signed by all the parties, and a Purchase Order against the Contract has been issued.

#### 2.004 Attachments & Exhibits

All Attachments and Exhibits affixed to any and all Statement(s) of Work, or appended to or referencing this Contract, are incorporated in their entirety and form part of this Contract.

#### 2.005 Ordering

The State will issue a written Purchase Order, Blanket Purchase Order, Direct Voucher or Procurement Card Order, which must be approved by the Contract Administrator or the Contract Administrator's designee, to order any Services/Deliverables under this Contract. All orders are subject to the terms and conditions of this Contract. No additional terms and conditions contained on either a Purchase Order or Blanket Purchase Order apply unless they are also specifically contained in that Purchase Order or Blanket Purchase Order’s accompanying Statement of Work. Exact quantities to be purchased are unknown, however, the Contractor will be required to furnish all such materials and services as may be ordered during the CONTRACT period. Quantities specified, if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities.

#### 2.006 Order of Precedence

The Contract, including any Statements of Work and Exhibits, to the extent not contrary to the Contract, each of which is incorporated for all purposes, constitutes the entire agreement between the parties with respect to the subject matter and supersedes all prior agreements, whether written or oral, with respect to the subject matter and as additional terms and conditions on the purchase order must apply as limited by Section 2.005.

In the event of any inconsistency between the terms of the Contract and a Statement of Work, the terms of the Statement of Work will take precedence (as to that Statement of Work only); provided, however, that a Statement of Work may not modify or amend the terms of the Contract, which may be modified or amended only by a formal Contract amendment.
2.007 Headings
Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of the Contract.

2.008 Form, Function & Utility
If the Contract is for use of more than one State agency and if the Deliverable/Service does not meet the form, function, and utility required by that State agency, that agency may, subject to State purchasing policies, procure the Deliverable/Service from another source.

2.009 Reformation and Severability
Each provision of the Contract is severable from all other provisions of the Contract and, if one or more of the provisions of the Contract is declared invalid, the remaining provisions of the Contract remain in full force and effect.

2.010 Consents and Approvals
Except as expressly provided otherwise in the Contract, if either party requires the consent or approval of the other party for the taking of any action under the Contract, the consent or approval must be in writing and must not be unreasonably withheld or delayed.

2.011 No Waiver of Default
If a party fails to insist upon strict adherence to any term of the Contract then the party has not waived the right to later insist upon strict adherence to that term, or any other term, of the Contract.

2.012 Survival
Any provisions of the Contract that impose continuing obligations on the parties, including without limitation the parties’ respective warranty, indemnity and confidentiality obligations, survive the expiration or termination of the Contract for any reason. Specific references to survival in the Contract are solely for identification purposes and not meant to limit or prevent the survival of any other section.

2.020 Contract Administration

2.021 Issuing Office
This Contract is issued by the Department of Technology, Management and Budget, Purchasing Operations (collectively, including all other relevant State of Michigan departments and agencies, the “State”). Purchasing Operations is the sole point of contact in the State with regard to all procurement and Contractual matters relating to the Contract. The Purchasing Operations Contract Administrator for this Contract is:

Jacque Kuch, Buyer
Purchasing Operations
Department of Technology, Management and Budget
Mason Bldg, 2nd Floor
PO Box 30026
Lansing, MI 48909
kuchj@michigan.gov
517-241-0239

2.022 Contract Compliance Inspector
The Director of Purchasing Operations directs the person named below, or his or her designee, to monitor and coordinate the activities for the Contract on a day-to-day basis during its term. Monitoring Contract activities does not imply the authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions and specifications of the Contract. Purchasing Operations is the only State office authorized to change, modify, amend, alter or clarify the prices, specifications, terms and conditions of this Contract. The Contract Compliance Inspector for this Contract is:
2.023 Project Manager

The following individual will oversee the project:

Tess Layman  
Michigan Department of Technology, Management and Budget  
235 S Grand Ave  
Lansing, MI 48933  
Email laymant@michigan.gov  
Phone: (517)335-3779

2.024 Change Requests

The State reserves the right to request from time to time any changes to the requirements and specifications of the Contract and the work to be performed by the Contractor under the Contract. During the course of ordinary business, it may become necessary for the State to discontinue certain business practices or create Additional Services/Deliverables. At a minimum, to the extent applicable, the State would like the Contractor to provide a detailed outline of all work to be done, including tasks necessary to accomplish the Services/Deliverables, timeframes, listing of key personnel assigned, estimated hours for each individual per task, and a complete and detailed cost justification.

If the State requests or directs the Contractor to perform any Services/Deliverables that are outside the scope of the Contractor’s responsibilities under the Contract (“New Work”), the Contractor must notify the State promptly, and before commencing performance of the requested activities, that it believes the requested activities are New Work. If the Contractor fails to notify the State before commencing performance of the requested activities, any such activities performed before the Contractor gives notice shall be conclusively considered to be in-scope Services/Deliverables, not New Work.

If the State requests or directs the Contractor to perform any services or provide deliverables that are consistent with and similar to the Services/Deliverables being provided by the Contractor under the Contract, but which the Contractor reasonably and in good faith believes are not included within the Statements of Work, then before performing such services or providing such deliverables, the Contractor shall notify the State in writing that it considers the services or deliverables to be an Additional Service/Deliverable for which the Contractor should receive additional compensation. If the Contractor does not so notify the State, the Contractor shall have no right to claim thereafter that it is entitled to additional compensation for performing that service or providing that deliverable. If the Contractor does so notify the State, then such a service or deliverable shall be governed by the Change Request procedure in this Section.

In the event prices or service levels are not acceptable to the State, the Additional Services or New Work shall be subject to competitive bidding based upon the specifications.

(1) Change Request at State Request

If the State should require Contractor to perform New Work, Additional Services or make changes to the Services that would affect the Contract completion schedule or the amount of compensation due Contractor (a “Change”), the State shall submit a written request for Contractor to furnish a proposal for carrying out the requested Change (a “Change Request”).

(2) Contractor Recommendation for Change Requests:

Contractor shall be entitled to propose a Change to the State, on its own initiative, should it be of the opinion that this would benefit the Contract.
(3) Upon receipt of a Change Request or on its own initiative, Contractor shall examine the implications of the requested Change on the technical specifications, Contract schedule and price of the Deliverables and Services and shall submit to the State without undue delay a written proposal for carrying out the Change. Contractor’s proposal will include any associated changes in the technical specifications, Contract schedule and price and method of pricing of the Services. If the Change is to be performed on a time and materials basis, the Amendment Labor Rates shall apply to the provision of such Services. If Contractor provides a written proposal and should Contractor be of the opinion that a requested Change is not to be recommended, it shall communicate its opinion to the State but shall nevertheless carry out the Change as specified in the written proposal if the State directs it to do so.

(4) By giving Contractor written notice within a reasonable time, the State must be entitled to accept a Contractor proposal for Change, to reject it, or to reach another agreement with Contractor. Should the parties agree on carrying out a Change, a written Contract Change Notice must be prepared and issued under this Contract, describing the Change and its effects on the Services and any affected components of this Contract (a “Contract Change Notice”).

(5) No proposed Change must be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Technology, Management and Budget, Purchasing Operations.

(6) If the State requests or directs the Contractor to perform any activities that Contractor believes constitute a Change, the Contractor must notify the State that it believes the requested activities are a Change before beginning to work on the requested activities. If the Contractor fails to notify the State before beginning to work on the requested activities, then the Contractor waives any right to assert any claim for additional compensation or time for performing the requested activities. If the Contractor commences performing work outside the scope of this Contract and then ceases performing that work, the Contractor must, at the request of the State, retract any out-of-scope work that would adversely affect the Contract.

2.025 Notices
Any notice given to a party under the Contract must be deemed effective, if addressed to the party as addressed below, upon: (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this Section; (iii) the third Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.

State:

State of Michigan
Purchasing Operations
Attention: Jacque Kuch
PO Box 30026
530 West Allegan
Lansing, Michigan 48909

Integris, Inc.
285 Billerica Road, Suite 200
Chelmsford, MA 01824
Attn: Vice President and General Manager, Ingenix Government Solutions

Either party may change its address where notices are to be sent by giving notice according to this Section.

2.026 Binding Commitments
Representatives of Contractor must have the authority to make binding commitments on Contractor’s behalf within the bounds set forth in the Contract. Contractor may change the representatives from time to time upon written notice.

2.027 Relationship of the Parties
The relationship between the State and Contractor is that of client and independent Contractor. No agent, employee, or servant of Contractor or any of its Subcontractors must be or must be deemed to be an employee, agent or servant of the State for any reason. Contractor will be solely and entirely responsible for
its acts and the acts of its agents, employees, servants and Subcontractors during the performance of the Contract.

2.028 Covenant of Good Faith
Each party must act reasonably and in good faith. Unless stated otherwise in the Contract, the parties will not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required of them in order for the other party to perform its responsibilities under the Contract.

2.029 Assignments
Neither party may assign the Contract, or assign or delegate any of its duties or obligations under the Contract, to any other party (whether by operation of law or otherwise), without the prior written consent of the other party; provided, however, that the State may assign the Contract to any other State agency, department, division or department without the prior consent of Contractor and Contractor may assign the Contract to an affiliate so long as the affiliate is adequately capitalized and can provide adequate assurances that the affiliate can perform the Contract. The State may withhold consent from proposed assignments, subcontracts, or novations when the transfer of responsibility would operate to decrease the State’s likelihood of receiving performance on the Contract or the State’s ability to recover damages.

Contractor may not, without the prior written approval of the State, assign its right to receive payments due under the Contract. If the State permits an assignment, the Contractor is not relieved of its responsibility to perform any of its Contractual duties, and the requirement under the Contract that all payments must be made to one entity continues.

If the Contractor intends to assign the Contract or any of the Contractor's rights or duties under the Contract, the Contractor must notify the State in writing at least 90 days before the assignment. The Contractor also must provide the State with adequate information about the assignee within a reasonable amount of time before the assignment for the State to determine whether to approve the assignment.

2.030 General Provisions

2.031 Media Releases
News releases (including promotional literature and commercial advertisements) pertaining to the RFP and Contract or project to which it relates shall not be made without prior written State approval, and then only in accordance with the explicit written instructions from the State. No results of the activities associated with the RFP and Contract are to be released without prior written approval of the State and then only to persons designated.

2.032 Contract Distribution
Purchasing Operations retains the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Purchasing Operations.

2.033 Permits
Contractor must obtain and pay any associated costs for all required governmental permits, licenses and approvals for the delivery, installation and performance of the Services. The State must pay for all costs and expenses incurred in obtaining and maintaining any necessary easements or right of way.

2.034 Website Incorporation
The State is not bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of the content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representative of the State.
2.035 Future Bidding Preclusion
Contractor acknowledges that, to the extent this Contract involves the creation, research, investigation or generation of a future RFP; it may be precluded from bidding on the subsequent RFP. The State reserves the right to disqualify any bidder if the State determines that the bidder has used its position (whether as an incumbent Contractor, or as a Contractor hired to assist with the RFP development, or as a Contractor offering free assistance) to gain a competitive advantage on the RFP

2.036 Freedom of Information
All information in any proposal submitted to the State by Contractor and this Contract is subject to the provisions of the Michigan Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq (the “FOIA”).

2.037 Disaster Recovery
Contractor and the State recognize that the State provides essential services in times of natural or man-made disasters. Therefore, except as so mandated by Federal disaster response requirements, Contractor personnel dedicated to providing Services/Deliverables under this Contract will provide the State with priority service for repair and work around in the event of a natural or man-made disaster.

2.040 Financial Provisions

2.041 Fixed Prices for Services/Deliverables
Each Statement of Work or Purchase Order issued under this Contract shall specify (or indicate by reference to the appropriate Contract Exhibit) the firm, fixed prices for all Services/Deliverables, and the associated payment milestones and payment amounts, where such firm fixed price shall be expressed on an hourly rates by labor categories and in no event shall such rates exceed those set forth as not to exceed rates in Exhibit A attached hereto and incorporated by reference herein. The State may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

2.042 Adjustments for Reductions in Scope of Services/Deliverables
If the scope of the Services/Deliverables under any Statement of Work issued under this Contract is subsequently reduced by the State, the parties shall negotiate an equitable reduction in Contractor’s charges under such Statement of Work commensurate with the reduction in scope.

2.043 Services/Deliverables Covered
For all Services/Deliverables to be provided by Contractor (and its Subcontractors, if any) under this Contract, the State shall not be obligated to pay any amounts in addition to the charges specified in this Contract.

2.044 Invoicing and Payment – In General
(a) Each Statement of Work issued under this Contract shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts.

(b) Each Contractor invoice will show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State’s accounting and charge-back requirements. Invoices for Services performed on a time and materials basis will show, for each individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable hourly billing rate. Prompt payment by the State is contingent on the Contractor’s invoices showing the amount owed by the State.

(c) Correct invoices will be due and payable by the State, in accordance with the State’s standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within 45 days after receipt, provided the State determines that the invoice was properly rendered.

(d1) All invoices should reflect actual work done. Specific details of invoices and payments will be agreed upon between the Contract Administrator and the Contractor after the proposed Contract Agreement has
been signed and accepted by both the Contractor and the Director of Purchasing Operations, Department of Technology, Management and Budget. This activity will occur only upon the specific written direction from Purchasing Operations.

The specific payment schedule for any Contract(s) entered into, as the State and the Contractor(s) will mutually agree upon. The schedule should show payment amount and should reflect actual work done by the payment dates, less any penalty cost charges accrued by those dates. As a general policy statements shall be forwarded to the designated representative by the 15th day of the following month.

The Government may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

2.045 Pro-ration
To the extent there are any Services that are to be paid for on a monthly basis, the cost of such Services shall be pro-rated for any partial month.

2.046 Antitrust Assignment
The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

2.047 Final Payment
The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party’s continuing obligations under the Contract, nor will it constitute a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor’s acceptance of final payment by the State under this Contract shall constitute a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still unsettled.

2.048 Electronic Payment Requirement
Electronic transfer of funds is required for payments on State Contracts. Contractors are required to register with the State electronically at http://www.cpexpress.state.mi.us. As stated in Public Act 431 of 1984, all Contracts that the State enters into for the purchase of goods and services shall provide that payment will be made by electronic fund transfer (EFT).

2.050 Taxes

2.051 Employment Taxes
Contractors are expected to collect and pay all applicable federal, state, and local employment taxes, including the taxes.

2.052 Sales and Use Taxes
Contractors are required to be registered and to remit sales and use taxes on taxable sales of tangible personal property or services delivered into the State. Contractors that lack sufficient presence in Michigan to be required to register and pay tax must do so as a volunteer. This requirement extends to: (1) all members of any controlled group as defined in § 1563(a) of the Internal Revenue Code and applicable regulations of which the company is a member, and (2) all organizations under common control as defined in § 414(c) of the Internal Revenue Code and applicable regulations of which the company is a member that make sales at retail for delivery into the State are registered with the State for the collection and remittance of sales and use taxes. In applying treasury regulations defining “two or more trades or businesses under common control” the term “organization” means sole proprietorship, a partnership (as defined in § 701(a) (2) of the Internal Revenue Code), a trust, an estate, a corporation, or a limited liability company.
2.060 Contract Management

2.061 Contractor Personnel Qualifications

All persons assigned by Contractor to the performance of Services under this Contract must be employees of Contractor or its majority-owned (directly or indirectly, at any tier) subsidiaries (or a State-approved Subcontractor) and must be fully qualified to perform the work assigned to them. Contractor must include a similar provision in any subcontract entered into with a Subcontractor. For the purposes of this Contract, independent Contractors engaged by Contractor solely in a staff augmentation role must be treated by the State as if they were employees of Contractor for this Contract only; however, the State understands that the relationship between Contractor and Subcontractor is an independent Contractor relationship.

2.062 Contractor Key Personnel

(a) The Contractor must provide the Contract Compliance Inspector with the names of the Key Personnel.
(b) Key Personnel must be dedicated as defined in the Statement of Work to the Project for its duration in the applicable Statement of Work.
(c) The State will have the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, will introduce the individual to the appropriate State representatives, and will provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection.
(d) Contractor must not remove any Key Personnel from their assigned roles on the Contract without the prior written consent of the State. The Contractor’s removal of Key Personnel without the prior written consent of the State is an unauthorized removal (“Unauthorized Removal”). Unauthorized Removals does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation or for cause termination of the Key Personnel’s employment. Unauthorized Removals does not include replacing Key Personnel because of promotions or other job movements allowed by Contractor personnel policies or Collective Bargaining Agreement(s) as long as the State receives prior written notice before shadowing occurs and Contractor provides 30 days of shadowing unless parties agree to a different time period. The Contractor with the State must review any Key Personnel replacements, and appropriate transition planning will be established. Any Unauthorized Removal may be considered by the State to be a material breach of the Contract, in respect of which the State may elect to exercise its termination and cancellation rights.
(e) The Contractor must notify the Contract Compliance Inspector and the Contract Administrator at least 10 business days before redeploying non-Key Personnel, who are dedicated to primarily to the Project, to other projects. If the State does not object to the redeployment by its scheduled date, the Contractor may then redeploy the non-Key Personnel.

2.063 Re-assignment of Personnel at the State’s Request

The State reserves the right to require the removal from the Project of Contractor personnel found, in the judgment of the State, to be unacceptable. The State’s request must be written with reasonable detail outlining the reasons for the removal request. Additionally, the State’s request must be based on legitimate, good faith reasons. Replacement personnel for the removed person must be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed personnel, the State agrees to an equitable adjustment in schedule or other terms that may be affected by the State’s required removal. If any incident with removed personnel results in delay not reasonably anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Service will not be counted for a time as agreed to by the parties.
2.064 **Contractor Personnel Location**
All staff assigned by Contractor to work on the Contract will perform their duties either primarily at Contractor’s offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel will, at a minimum, spend at least the amount of time on-site at State facilities as indicated in the applicable Statement of Work. Subject to availability, selected Contractor personnel may be assigned office space to be shared with State personnel.

2.065 **Contractor Identification**
Contractor employees must be clearly identifiable while on State property by wearing a State-issued badge, as required. Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with State personnel by telephone or other means.

2.066 **Cooperation with Third Parties**
Contractor agrees to cause its personnel and the personnel of any Subcontractors to cooperate with the State and its agents and other Contractors including the State’s Quality Assurance personnel. As reasonably requested by the State in writing, the Contractor will provide to the State’s agents and other Contractors reasonable access to Contractor’s Project personnel, systems and facilities to the extent the access relates to activities specifically associated with this Contract and will not interfere or jeopardize the safety or operation of the systems or facilities. The State acknowledges that Contractor’s time schedule for the Contract is very specific and agrees not to unnecessarily or unreasonably interfere with, delay or otherwise impede Contractor’s performance under this Contract with the requests for access.

2.067 **Contract Management Responsibilities**
Contractor shall be responsible for all acts and omissions of its employees, as well as the acts and omissions of any other personnel furnished by Contractor to perform the Services. Contractor shall have overall responsibility for managing and successfully performing and completing the Services/Deliverables, subject to the overall direction and supervision of the State and with the participation and support of the State as specified in this Contract. Contractor’s duties will include monitoring and reporting the State’s performance of its participation and support responsibilities (as well as Contractor’s own responsibilities) and providing timely notice to the State in Contractor’s reasonable opinion if the State’s failure to perform its responsibilities in accordance with the Project Plan is likely to delay the timely achievement of any Contract tasks.

The Contractor will provide the Services/Deliverables directly or through its affiliates, subsidiaries, subcontractors or resellers. Regardless of the entity providing the Service/Deliverable, the Contractor will act as a single point of contact coordinating these entities to meet the State’s need for Services/Deliverables. Nothing in this Contract, however, shall be construed to authorize or require any party to violate any applicable law or regulation in its performance of this Contract.

2.068 **Contractor Return of State Equipment/Resources**
The Contractor must return to the State any State-furnished equipment, facilities and other resources when no longer required for the Contract in the same condition as when provided by the State, reasonable wear and tear excepted.

2.070 **Subcontracting by Contractor**

2.071 **Contractor full Responsibility**
Contractor shall have full responsibility for the successful performance and completion of all of the Services and Deliverables. The State will consider Contractor to be the sole point of contact with regard to all Contractual matters under this Contract, including payment of any and all charges for Services and Deliverables.

2.072 **State Consent to delegation**
Contractor shall not delegate any duties under this Contract to a Subcontractor unless the Department of Technology, Management and Budget, Purchasing Operations has given written consent to such delegation.
The State shall have the right of prior written approval of all Subcontractors and to require Contractor to replace any Subcontractors found, in the reasonable judgment of the State, to be unacceptable. The State’s request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State’s request shall be based on legitimate, good faith reasons. Replacement Subcontractor(s) for the removed Subcontractor shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed Subcontractor, the State will agree to an equitable adjustment in schedule or other terms that may be affected by the State’s required removal. If any such incident with a removed Subcontractor results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLA for the affected Work will not be counted for a time agreed upon by the parties.

2.073 Subcontractor bound to Contract
In any subcontracts entered into by Contractor for the performance of the Services, Contractor shall require the Subcontractor, to the extent of the Services to be performed by the Subcontractor, to be bound to Contractor by the terms of this Contract and to assume toward Contractor all of the obligations and responsibilities that Contractor, by this Contract, assumes toward the State. The State reserves the right to receive copies of and review all subcontracts, although Contractor may delete or mask any proprietary information, including pricing, contained in such Contracts before providing them to the State. The management of any Subcontractor will be the responsibility of Contractor, and Contractor shall remain responsible for the performance of its Subcontractors to the same extent as if Contractor had not subcontracted such performance. Contractor shall make all payments to Subcontractors or suppliers of Contractor. Except as otherwise agreed in writing by the State and Contractor, the State will not be obligated to direct payments for the Services other than to Contractor. The State’s written approval of any Subcontractor engaged by Contractor to perform any obligation under this Contract shall not relieve Contractor of any obligations or performance required under this Contract. A list of the Subcontractors, if any, approved by the State as of the execution of this Contract, together with a copy of the applicable subcontract is attached.

2.074 Flow Down
Except where specifically approved in writing by the State on a case-by-case basis, Contractor shall flow down the obligations in Sections 2.031, 2.060, 2.100, 2.110, 2.120, 2.130, and 2.200 in all of its agreements with any Subcontractors.

2.075 Competitive Selection
The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the Contract.

2.080 State Responsibilities

2.081 Equipment
The State will provide only the equipment and resources identified in the Statements of Work and other Contract Exhibits.

2.082 Facilities
The State must designate space as long as it is available and as provided in the Statement of Work, to house the Contractor’s personnel whom the parties agree will perform the Services/Deliverables at State facilities (collectively, the “State Facilities”). The Contractor must have reasonable access to, and unless agreed otherwise by the parties in writing must observe and comply with all rules and regulations relating to each of the State Facilities (including hours of operation) used by the Contractor in the course of providing the Services. Contractor agrees that it will not, without the prior written consent of the State, use any State Facilities or access any State information systems provided for the Contractor’s use, or to which the Contractor otherwise gains access in the course of performing the Services, for any purpose other than providing the Services to the State.
2.090 Security

2.091 Background Checks
On a case-by-case basis, the State may investigate the Contractor's personnel before they may have access to State facilities and systems. The scope of the background check is at the discretion of the State and the results will be used to determine Contractor personnel eligibility for working within State facilities and systems. The investigations will include Michigan State Police Background checks (ICHAT) and may include the National Crime Information Center (NCIC) Finger Prints. Proposed Contractor personnel may be required to complete and submit an RI-8 Fingerprint Card for the NCIC Finger Print Check. Any request for background checks will be initiated by the State and will be reasonably related to the type of work requested.

All Contractor personnel will also be expected to comply with the State’s security and acceptable use policies for State IT equipment and resources. See http://www.michigan.gov/dit. Furthermore, Contractor personnel will be expected to agree to the State’s security and acceptable use policies before the Contractor personnel will be accepted as a resource to perform work for the State. It is expected the Contractor will present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff will be expected to comply with all Physical Security procedures in place within the facilities where they are working.

2.092 Security Breach Notification
If the Contractor breaches this Section, the Contractor must (i) promptly cure any deficiencies and (ii) comply with any applicable federal and state laws and regulations pertaining to unauthorized disclosures. Contractor and the State will cooperate to mitigate, to the extent practicable, the effects of any breach, intrusion, or unauthorized use or disclosure. Contractor must report to the State in writing any use or disclosure of Confidential Information, whether suspected or actual, other than as provided for by the Contract within 10 days of becoming aware of the use or disclosure or the shorter time period as is reasonable under the circumstances.

2.093 PCI DATA Security Requirements
Contractors with access to credit/debit card cardholder data must adhere to the Payment Card Industry (PCI) Data Security requirements. Contractor agrees that they are responsible for security of cardholder data in their possession. Contractor agrees that data can ONLY be used for assisting the State in completing a transaction, supporting a loyalty program, supporting the State, providing fraud control services, or for other uses specifically required by law.

Contractor agrees to provide business continuity in the event of a major disruption, disaster or failure.

The Contractor will contact the Department of Technology, Management and Budget, Financial Services immediately to advise them of any breaches in security where card data has been compromised. In the event of a security intrusion, the Contractor agrees the Payment Card Industry representative, or a Payment Card Industry approved third party, will be provided with full cooperation and access to conduct a thorough security review. The review will validate compliance with the Payment Card Industry Data Security Standard for protecting cardholder data. Contractor agrees to properly dispose sensitive cardholder data when no longer needed. The Contractor will continue to treat cardholder data as confidential upon Contract termination.

The Contractor will provide the Department of Technology, Management and Budget, Financial Services documentation showing PCI Data Security certification has been achieved. The Contractor will advise the Department of Technology, Management and Budget, Financial Services of all failures to comply with the PCI Data Security Requirements. Failures include, but are not limited to system scans and self-assessment questionnaires. The Contractor will provide a time line for corrective action.
2.100 Confidentiality

2.101 Confidentiality
Contractor and the State each acknowledge that the other possesses and will continue to possess confidential information that has been developed or received by it. As used in this Section, “Confidential Information” of Contractor must mean all non-public proprietary information of Contractor (other than Confidential Information of the State as defined below), which is marked confidential, restricted, proprietary, or with a similar designation. “Confidential Information” of the State must mean any information which is retained in confidence by the State (or otherwise required to be held in confidence by the State under applicable federal, state and local laws and regulations) or which, in the case of tangible materials provided to Contractor by the State under its performance under this Contract, is marked as confidential, proprietary or with a similar designation by the State. “Confidential Information” excludes any information (including this Contract) that is publicly available under the Michigan FOIA.

2.102 Protection and Destruction of Confidential Information
The State and Contractor will each use at least the same degree of care to prevent disclosing to third parties the Confidential Information of the other as it employs to avoid unauthorized disclosure, publication or dissemination of its own confidential information of like character, but in no event less than reasonable care. Neither Contractor nor the State will (i) make any use of the Confidential Information of the other except as contemplated by this Contract, (ii) acquire any right in or assert any lien against the Confidential Information of the other, or (iii) if requested to do so, refuse for any reason to promptly return the other party’s Confidential Information to the other party. Each party will limit disclosure of the other party’s Confidential Information to employees and Subcontractors who must have access to fulfill the purposes of this Contract. Disclosure to, and use by, a Subcontractor is permissible where (A) use of a Subcontractor is authorized under this Contract, (B) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the Subcontractor’s scope of responsibility, and (C) Contractor obligates the Subcontractor in a written Contract to maintain the State’s Confidential Information in confidence. At the State’s request, any employee of Contractor and of any Subcontractor having access or continued access to the State’s Confidential Information may be required to execute an acknowledgment that the employee has been advised of Contractor’s and the Subcontractor’s obligations under this Section and of the employee’s obligation to Contractor or Subcontractor, as the case may be, to protect the Confidential Information from unauthorized use or disclosure.

Promptly upon termination or cancellation of the Contract for any reason, Contractor must certify to the State that Contractor has destroyed all State Confidential Information.

2.103 Exclusions
Notwithstanding the foregoing, the provisions in this Section will not apply to any particular information which the State or Contractor can demonstrate (i) was, at the time of disclosure to it, in the public domain; (ii) after disclosure to it, is published or otherwise becomes part of the public domain through no fault of the receiving party; (iii) was in the possession of the receiving party at the time of disclosure to it without an obligation of confidentiality; (iv) was received after disclosure to it from a third party who had a lawful right to disclose the information to it without any obligation to restrict its further disclosure; or (v) was independently developed by the receiving party without reference to Confidential Information of the furnishing party. Further, the provisions of this Section will not apply to any particular Confidential Information to the extent the receiving party is required by law to disclose the Confidential Information, provided that the receiving party (i) promptly provides the furnishing party with notice of the legal request, and (ii) assists the furnishing party in resisting or limiting the scope of the disclosure as reasonably requested by the furnishing party.

2.104 No Implied Rights
Nothing contained in this Section must be construed as obligating a party to disclose any particular Confidential Information to the other party, or as granting to or conferring on a party, expressly or impliedly, any right or license to the Confidential Information of the other party.
2.105 Respective Obligations
The parties’ respective obligations under this Section must survive the termination or expiration of this Contract for any reason.

2.110 Records and Inspections

2.111 Inspection of Work Performed
The State’s authorized representatives must at all reasonable times and with 10 days prior written request, have the right to enter Contractor’s premises, or any other places, where the Services are being performed, and must have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon 10 Days prior written notice and at all reasonable times, the State’s representatives must be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that the access will not reasonably interfere or jeopardize the safety or operation of the systems or facilities. Contractor must provide all reasonable facilities and assistance for the State’s representatives.

2.112 Examination of Records
For seven years after the Contractor provides any work under this Contract (the "Audit Period"), the State may examine and copy any of Contractor’s books, records, documents and papers pertinent to establishing Contractor’s compliance with the Contract and with applicable laws and rules. The State must notify the Contractor 20 days before examining the Contractor's books and records. The State does not have the right to review any information deemed confidential by the Contractor to the extent access would require the confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

2.113 Retention of Records
Contractor must maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract according to generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records must be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor’s records is initiated before the end of the Audit Period, the records must be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

2.114 Audit Resolution
If necessary, the Contractor and the State will meet to review each audit report promptly after issuance. The Contractor will respond to each audit report in writing within 30 days from receipt of the report, unless a shorter response time is specified in the report. The Contractor and the State must develop, agree upon and monitor an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in the audit report.

2.115 Errors
If the audit demonstrates any errors in the documents provided to the State, then the amount in error must be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four invoices. If a balance remains after four invoices, then the remaining amount will be due as a payment or refund within 45 days of the last quarterly invoice that the balance appeared on or termination of the Contract, whichever is earlier.

In addition to other available remedies, the difference between the payment received and the correct payment amount is greater than 10%, then the Contractor must pay all of the reasonable costs of the audit.
2.120 Warranties

2.121 Warranties and Representations

The Contractor represents and warrants:

(a) It is capable in all respects of fulfilling and must fulfill all of its obligations under this Contract. The performance of all obligations under this Contract must be provided in a timely, professional, and workman-like manner and must meet the performance and operational standards required under this Contract.

(b) The Contractor’s response to Work Request(s) identify the equipment and software and services necessary for the Deliverable(s) to perform and Services to operate in compliance with the Contract’s requirements and other standards of performance.

(c) It is the lawful owner or licensee of any Deliverable licensed or sold to the State by Contractor or developed by Contractor under this Contract, and Contractor has all of the rights necessary to convey to the State the ownership rights or licensed use, as applicable, of any and all Deliverables. None of the Deliverables provided by Contractor to the State under neither this Contract, nor their use by the State will infringe the patent, copyright, trade secret, or other proprietary rights of any third party.

(d) If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor’s name), then in addition to Contractor’s other responsibilities with respect to the items in this Contract, Contractor must assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.

(e) The Contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter into this Contract, on behalf of Contractor.

(f) It is qualified and registered to transact business in all locations where required.

(g) Neither the Contractor nor any Affiliates, nor any employee of either, has, must have, or must acquire, any Contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor’s performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor must notify the State about the nature of the conflict or appearance of impropriety within two days of learning about it.

(h) Neither Contractor nor any Affiliates, nor any employee of either has accepted or must accept anything of value based on an understanding that the actions of the Contractor or Affiliates or employee on behalf of the State would be influenced. Contractor must not attempt to influence any State employee by the direct or indirect offer of anything of value.

(i) Neither Contractor nor any Affiliates, nor any employee of either has paid or agreed to pay any person, other than bona fide employees and consultants working solely for Contractor or the Affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.

(j) The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other bidder; and no attempt was made by Contractor to induce any other person to submit or not submit a proposal for the purpose of restricting competition.

(k) All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the RFP or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by the financial statements, reports, other information. Since the respective dates or periods covered by the financial statements, reports, or other information, there have been no material adverse changes in the business, properties, financial condition, or results of operations of Contractor.

(l) All written information furnished to the State by or for the Contractor in connection with this Contract, including its bid, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make the information not misleading.

(m) It is not in material default or breach of any other Contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any Contract with the State or any of its departments that was terminated.
by the State or the department within the previous five years for the reason that Contractor failed to
perform or otherwise breached an obligation of the Contract.

(n) If any of the certifications, representations, or disclosures made in the Contractor’s original bid response
change after Contract award, the Contractor is required to report those changes immediately to the
Department of Technology, Management and Budget, Purchasing Operations.

2.122 Warranty of Merchantability-Reserved

2.123 Warranty of Fitness for a Particular Purpose-Reserve

2.124 Warranty of Title
Contractor shall, in providing goods to the State, convey good title in those goods, whose transfer is right and
lawful. All goods provided by Contractor shall be delivered free from any security interest, lien, or
encumbrance of which the State, at the time of Contracting, has no knowledge. Goods provided by Contractor,
under this Contract, shall be delivered free of any rightful claim of any third person by of infringement or the
like.

2.125 Equipment Warranty-Reserved

2.126 Equipment to be New-Reserved

2.127 Prohibited Products-Reserved

2.128 Consequences for Breach
In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in this
section, the breach may be considered as a default in the performance of a material obligation of this Contract.

2.130 Insurance

2.131 Liability Insurance
The Contractor must provide proof of the minimum levels of insurance coverage as indicated below. The
insurance must protect the State from claims that may arise out of or result from the Contractor’s performance
of services under the terms of this Contract, whether the services are performed by the Contractor, or by any
subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they
may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices,
commissions, officers, employees and agents for recovery of damages to the extent these damages are
covered by the insurance policies the Contractor is required to maintain under this Contract.

All insurance coverage provided relative to this Contract/Purchase Order is PRIMARY and NON-
CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance must be written for not less than any minimum coverage specified in this Contract or required by
law, whichever is greater.

The insurers selected by Contractor must have an A.M. Best rating of A or better, or as otherwise approved in
writing by the State, or if the ratings are no longer available, with a comparable rating from a recognized
insurance rating agency. All policies of insurance required in this Contract must be issued by companies that
have been approved to do business in the State.
See www.michigan.gov/dleg.

Where specific limits are shown, they are the minimum acceptable limits. If Contractor’s policy contains higher
limits, the State must be entitled to coverage to the extent of the higher limits.

The Contractor is required to pay for and provide the type and amount of insurance checked ☑ below:
1. Commercial General Liability with the following minimum coverage:
   $2,000,000 General Aggregate Limit other than Products/Completed Operations
   $2,000,000 Products/Completed Operations Aggregate Limit
   $1,000,000 Personal & Advertising Injury Limit
   $1,000,000 Each Occurrence Limit

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor's business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

3. Workers' compensation coverage must be provided according to applicable laws governing the employees and employers work activities in the state of the Contractor’s domicile. If a self-insurer provides the applicable coverage, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees’ activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision must not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

4. Employers liability insurance with the following minimum limits:
   $100,000 each accident
   $100,000 each employee by disease
   $500,000 aggregate disease

5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in collusion with others, in a minimum amount of one million dollars ($1,000,000.00) with a maximum deductible of fifty thousand dollars ($50,000.00).

6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars ($10,000,000.00), which must apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.

7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage:
   three million dollars ($3,000,000.00) each occurrence and three million dollars ($3,000,000.00) annual aggregate.

8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of the office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to its replacement value, where the office space and its contents are under the care, custody and control of Contractor. The policy must cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State must be endorsed on the policy as a loss payee as its interests appear.
2.132 Subcontractor Insurance Coverage
Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor must require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor’s insurance on the coverage required in this Section. Subcontractor(s) must fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor’s liability or responsibility.

2.133 Certificates of Insurance and Other Requirements
Contractor must furnish to DTMB Purchasing Operations, certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the “Certificates”). The Certificate must be on the standard “accord” form or equivalent. The Contract Number or the Purchase Order Number must be shown on the Certificate Of Insurance To Assure Correct Filing. All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) must contain a provision indicating that coverage afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without 30 days prior written notice, except for 10 days for non-payment of premium, having been given to the Director of Purchasing Operations, Department of Technology, Management and Budget. The notice must include the Contract or Purchase Order number affected. Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor must provide evidence that the State and its agents, officers and employees are listed as additional insured under each commercial general liability and commercial automobile liability policy. In the event the State approves the representation of the State by the insurer’s attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

The Contractor must maintain all required insurance coverage throughout the term of the Contract and any extensions and, in the case of claims-made Commercial General Liability policies, must secure tail coverage for at least three years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and must not be construed, to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor is responsible for all deductibles with regard to the insurance. If the Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State’s written consent, then the State may, after the State has given the Contractor at least 30 days written notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor, or the Contractor must pay that cost upon demand by the State.

2.140 Indemnification

2.141 General Indemnification
To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys’ fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor or any of its subcontractors, or by anyone else for whose acts any of them may be liable.

2.142 Code Indemnification
To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor’s breach of the No Surreptitious Code Warranty.
2.143 Employee Indemnification
In any claims against the State of Michigan, its departments, divisions, agencies, sections, commissions, officers, employees and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract must not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker’s disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

2.144 Patent/Copyright Infringement Indemnification
To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys’ fees and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that the action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of the equipment, software, commodity or service, or the use or reproduction of any documentation provided with the equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or service, or its operation, become or in the State’s or Contractor’s opinion be likely to become the subject of a claim of infringement, the Contractor must at the Contractor’s sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if the option is not reasonably available to the Contractor, (ii) replace or modify to the State’s satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if the option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor’s charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Contractor has no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys’ fees related to, any claim based upon (i) equipment developed based on written specifications of the State; (ii) use of the equipment in a configuration other than implemented or approved in writing by the Contractor, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Contractor under this Contract.

2.145 Continuation of Indemnification Obligations
The Contractor’s duty to indemnify under this Section continues in full force and effect, notwithstanding the expiration or early cancellation of the Contract, with respect to any claims based on facts or conditions that occurred before expiration or cancellation.

2.146 Indemnification Procedures
The procedures set forth below must apply to all indemnity obligations under this Contract.
(a) After the State receives notice of the action or proceeding involving a claim for which it will seek indemnification, the State must promptly notify Contractor of the claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to notify the Contractor relieves the Contractor of its indemnification obligations except to the extent that the Contractor can prove damages attributable to the failure. Within 10 days following receipt of written notice from the State relating to any claim, the Contractor must notify the State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a “Notice of Election”). After notifying Contractor of a claim and before the State receiving Contractor’s Notice of Election, the State is entitled to defend against the claim, at the
Contractor’s expense, and the Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during that period.

(b) If Contractor delivers a Notice of Election relating to any claim: (i) the State is entitled to participate in the defense of the claim and to employ counsel at its own expense to assist in the handling of the claim and to monitor and advise the State about the status and progress of the defense; (ii) the Contractor must, at the request of the State, demonstrate to the reasonable satisfaction of the State, the Contractor’s financial ability to carry out its defense and indemnity obligations under this Contract; (iii) the Contractor must periodically advise the State about the status and progress of the defense and must obtain the prior written approval of the State before entering into any settlement of the claim or ceasing to defend against the claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State has the right, at its own expense, to control the defense of that portion of the claim involving the principles of Michigan governmental or public law. But the State may retain control of the defense and settlement of a claim by notifying the Contractor in writing within 10 days after the State’s receipt of Contractor’s information requested by the State under clause (ii) of this paragraph if the State determines that the Contractor has failed to demonstrate to the reasonable satisfaction of the State the Contractor’s financial ability to carry out its defense and indemnity obligations under this Section. Any litigation activity on behalf of the State, or any of its subdivisions under this Section, must be coordinated with the Department of Attorney General. In the event the insurer’s attorney represents the State under this Section, the insurer’s attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

(c) If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State may defend the claim in the manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor must promptly reimburse the State for all the reasonable costs and expenses.

2.150 Termination/Cancellation

2.151 Notice and Right to Cure

If the Contractor breaches the Contract, and the State in its sole discretion determines that the breach is curable, then the State will provide the Contractor with written notice of the breach and a time period (not less than 30 days) to cure the Breach. The notice of breach and opportunity to cure is inapplicable for successive or repeated breaches or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage, or destruction of any real or tangible personal property.

2.152 Termination for Cause

(a) The State may terminate this Contract, for cause, by notifying the Contractor in writing, if the Contractor (i) breaches any of its material duties or obligations under this Contract (including a Chronic Failure to meet any particular SLA), or (ii) fails to cure a breach within the time period specified in the written notice of breach provided by the State

(b) If this Contract is terminated for cause, the Contractor must pay all costs incurred by the State in terminating this Contract, including but not limited to, State administrative costs, reasonable attorneys’ fees and court costs, and any reasonable additional costs the State may incur to procure the Services/Deliverables required by this Contract from other sources. Re-procurement costs are not consequential, indirect or incidental damages, and cannot be excluded by any other terms otherwise included in this Contract, provided the costs are not in excess of 50% more than the prices for the Service/Deliverables provided under this Contract.

(c) If the State chooses to partially terminate this Contract for cause, charges payable under this Contract will be equitably adjusted to reflect those Services/Deliverables that are terminated and the State must pay for all Services/Deliverables for which Final Acceptance has been granted provided up to the termination date. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

(d) If the State terminates this Contract for cause under this Section, and it is determined, for any reason, that Contractor was not in breach of Contract under the provisions of this section, that termination for cause
must be deemed to have been a termination for convenience, effective as of the same date, and the rights and obligations of the parties must be limited to that otherwise provided in this Contract for a termination for convenience.

2.153 Termination for Convenience
The State may terminate this Contract for its convenience, in whole or part, if the State determines that a termination is in the State’s best interest. Reasons for the termination must be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the Services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Services no longer practical or feasible, (c) unacceptable prices for Additional Services or New Work requested by the State, or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any RFP issued by the State. The State may terminate this Contract for its convenience, in whole or in part, by giving Contractor written notice at least 30 days before the date of termination. If the State chooses to terminate this Contract in part, the charges payable under this Contract must be equitably adjusted to reflect those Services/Deliverables that are terminated. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

2.154 Termination for Non-Appropriation
(a) Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this Contract. If funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available, the State must terminate this Contract and all affected Statements of Work, in whole or in part, at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The State must give Contractor at least 30 days advance written notice of termination for non-appropriation or unavailability (or the time as is available if the State receives notice of the final decision less than 30 days before the funding cutoff).

(b) If funding for the Contract is reduced by law, or funds to pay Contractor for the agreed-to level of the Services or production of Deliverables to be provided by Contractor are not appropriated or otherwise unavailable, the State may, upon 30 days written notice to Contractor, reduce the level of the Services or the change the production of Deliverables in the manner and for the periods of time as the State may elect. The charges payable under this Contract will be equitably adjusted to reflect any equipment, services or commodities not provided by reason of the reduction.

(c) If the State terminates this Contract, eliminates certain Deliverables, or reduces the level of Services to be provided by Contractor under this Section, the State must pay Contractor for all Work-in-Process performed through the effective date of the termination or reduction in level, as the case may be and as determined by the State, to the extent funds are available. This Section will not preclude Contractor from reducing or stopping Services/Deliverables or raising against the State in a court of competent jurisdiction, any claim for a shortfall in payment for Services performed or Deliverables finally accepted before the effective date of termination.

2.155 Termination for Criminal Conviction
The State may terminate this Contract immediately and without further liability or penalty in the event Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense related to a State, public or private Contract or subcontract.

2.156 Termination for Approvals Rescinded
The State may terminate this Contract if any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services under Constitution 1963, Article 11, § 5, and Civil Service Rule 7-1. In that case, the State will pay the Contractor for only the work completed to that point under the Contract. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in the written notice.

2.157 Rights and Obligations upon Termination
(a) If the State terminates this Contract for any reason, the Contractor must (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for
preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor’s possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables intended to be transferred to the State at the termination of the Contract and which are resulting from the Contract (which must be provided to the State on an “As-Is” basis except to the extent the amounts paid by the State in respect of the items included compensation to Contractor for the provision of warranty services in respect of the materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.

(b) If the State terminates this Contract before its expiration for its own convenience, the State must pay Contractor for all charges due for Services provided before the date of termination and, if applicable, as a separate item of payment under this Contract, for Work In Process, on a percentage of completion basis at the level of completion determined by the State. All completed or partially completed Deliverables prepared by Contractor under this Contract, at the option of the State, becomes the State’s property, and Contractor is entitled to receive equitable fair compensation for the Deliverables. Regardless of the basis for the termination, the State is not obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

(c) Upon a good faith termination, the State may assume, at its option, any subcontracts and agreements for services and deliverables provided under this Contract, and may further pursue completion of the Services/Deliverables under this Contract by replacement Contract or otherwise as the State may in its sole judgment deem expedient.

2.158 Reservation of Rights
Any termination of this Contract or any Statement of Work issued under it by a party must be with full reservation of, and without prejudice to, any rights or remedies otherwise available to the party with respect to any claims arising before or as a result of the termination.

2.160 Termination by Contractor

2.161 Termination by Contractor
If the State breaches the Contract, and the Contractor in its sole discretion determines that the breach is curable, then the Contractor will provide the State with written notice of the breach and a time period (not less than 30 days) to cure the breach. The Notice of Breach and opportunity to cure is inapplicable for successive and repeated breaches.

The Contractor may terminate this Contract if the State (i) materially breaches its obligation to pay the Contractor undisputed amounts due and owing under this Contract, (ii) breaches its other obligations under this Contract to an extent that makes it impossible or commercially impractical for the Contractor to perform the Services, or (iii) does not cure the breach within the time period specified in a written notice of breach. But the Contractor must discharge its obligations under Section 2.160 before it terminates the Contract.

2.170 Transition Responsibilities

2.171 Contractor Transition Responsibilities
If the State terminates this Contract, for convenience or cause, or if the Contract is otherwise dissolved, voided, rescinded, nullified, expires or rendered unenforceable, the Contractor agrees to comply with direction provided by the State to assist in the orderly transition of equipment, services, software, leases, etc. to the State or a third party designated by the State. If this Contract expires or terminates, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services within a reasonable period of time that in no event will exceed 90 days. These efforts must include, but are not limited to, those listed in Sections 2.141, 2.142, 2.143, 2.144, and 2.145.
2.172 Contractor Personnel Transition
The Contractor must work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor must allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by this Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor’s subcontractors or vendors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor’s subcontractors or vendors. Contractor will notify all of Contractor’s subcontractors of procedures to be followed during transition.

2.173 Contractor Information Transition
The Contractor agrees to provide reasonable detailed specifications for all Services/Deliverables needed by the State, or specified third party, to properly provide the Services/Deliverables required under this Contract. The Contractor will provide the State with asset management data generated from the inception of this Contract through the date on which this Contractor is terminated in a comma-delineated format unless otherwise requested by the State. The Contractor will deliver to the State any remaining owed reports and documentation still in Contractor’s possession subject to appropriate payment by the State.

2.174 Contractor Software Transition
The Contractor must reasonably assist the State in the acquisition of any Contractor software required to perform the Services/use the Deliverables under this Contract. This must include any documentation being used by the Contractor to perform the Services under this Contract. If the State transfers any software licenses to the Contractor, those licenses must, upon expiration of the Contract, transfer back to the State at their current revision level. Upon notification by the State, Contractor may be required to freeze all non-critical changes to Deliverables/Services.

2.175 Transition Payments
If the transition results from a termination for any reason, the termination provisions of this Contract must govern reimbursement. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after Contract expiration that result from transition operations) at the rates agreed upon by the State. The Contractor will prepare an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

2.176 State Transition Responsibilities
In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to reconcile all accounts between the State and the Contractor, complete any pending post-project reviews and perform any others obligations upon which the State and the Contractor agree.
(a) Reconciling all accounts between the State and the Contractor;
(b) Completing any pending post-project reviews.

2.180 Stop Work

2.181 Stop Work Orders
The State may, at any time, by written stop work order to Contractor, require that Contractor stop all, or any part, of the work called for by the Contract for a period of up to 90 calendar days after the stop work order is delivered to Contractor, and for any further period to which the parties may agree. The stop work order must be identified as a stop work order and must indicate that it is issued under this Section 2.150. Upon receipt of the stop work order, Contractor must immediately comply with its terms and take all reasonable steps to minimize incurring costs allocable to the work covered by the stop work order during the period of work stoppage. Within the period of the stop work order, the State must either: (a) cancel the stop work order; or (b) terminate the work covered by the stop work order as provided in Section 2.130.
2.182 Cancellation or Expiration of Stop Work Order
The Contractor must resume work if the State cancels a Stop Work Order or if it expires. The parties will agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract must be modified, in writing, accordingly, if: (a) the stop work order results in an increase in the time required for, or in Contractor’s costs properly allocable to, the performance of any part of the Contract; and (b) Contractor asserts its right to an equitable adjustment within 30 calendar days after the end of the period of work stoppage; provided that, if the State decides the facts justify the action, the State may receive and act upon a Contractor proposal submitted at any time before final payment under the Contract. Any adjustment will conform to the requirements of Section 2.024.

2.183 Allowance of Contractor Costs
If the stop work order is not canceled and the work covered by the stop work order is terminated for reasons other than material breach, the termination must be deemed to be a termination for convenience under Section 2.153, and the State will pay reasonable costs resulting from the stop work order in arriving at the termination settlement. For the avoidance of doubt, the State is not liable to Contractor for loss of profits because of a stop work order issued under this Section.

2.190 Dispute Resolution

2.191 In General
Any claim, counterclaim, or dispute between the State and Contractor arising out of or relating to the Contract or any Statement of Work must be resolved as follows. For all Contractor claims seeking an increase in the amounts payable to Contractor under the Contract, or the time for Contractor's performance, Contractor must submit a letter, together with all data supporting the claims, executed by Contractor’s Contract Administrator or the Contract Administrator's designee certifying that (a) the claim is made in good faith, (b) the amount claimed accurately reflects the adjustments in the amounts payable to Contractor or the time for Contractor’s performance for which Contractor believes the State is liable and covers all costs of every type to which Contractor is entitled from the occurrence of the claimed event, and (c) the claim and the supporting data are current and complete to Contractor's best knowledge and belief.

2.192 Informal Dispute Resolution
(a) All disputes between the parties must be resolved under the Contract Management procedures in this Contract. If the parties are unable to resolve any disputes after compliance with the processes, the parties must meet with the Director of Purchasing Operations, DTMB, or designee, for the purpose of attempting to resolve the dispute without the need for formal legal proceedings, as follows:
(1) The representatives of Contractor and the State must meet as often as the parties reasonably deem necessary to gather and furnish to each other all information with respect to the matter in issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives must discuss the problem and negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding.
(2) During the course of negotiations, all reasonable requests made by one party to another for non-privileged information reasonably related to the Contract will be honored in order that each of the parties may be fully advised of the other's position.
(3) The specific format for the discussions will be left to the discretion of the designated State and Contractor representatives, but may include the preparation of agreed upon statements of fact or written statements of position.
(4) Following the completion of this process, the Director of Purchasing Operations, DTMB, or designee, must issue a written opinion regarding the issue(s) in dispute within 30 calendar days. The opinion regarding the dispute must be considered the State’s final action and the exhaustion of administrative remedies.
(b) This Section will not be construed to prevent either party from instituting, and a party is authorized to institute, formal proceedings earlier to avoid the expiration of any applicable limitations period, to preserve a superior position with respect to other creditors, or under Section 2.193.
(c) The State will not mediate disputes between the Contractor and any other entity, except state agencies, concerning responsibility for performance of work under the Contract.
2.193 Injunctive Relief
The only circumstance in which disputes between the State and Contractor will not be subject to the provisions of Section 2.192 is where a party makes a good faith determination that a breach of the terms of the Contract by the other party is the that the damages to the party resulting from the breach will be so immediate, so large or severe and so incapable of adequate redress after the fact that a temporary restraining order or other immediate injunctive relief is the only adequate remedy.

2.194 Continued Performance
Each party agrees to continue performing its obligations under the Contract while a dispute is being resolved except to the extent the issue in dispute precludes performance (dispute over payment must not be deemed to preclude performance) and without limiting either party’s right to terminate the Contract as provided in Section 2.150, as the case may be.

2.200 Federal and State Contract Requirements

2.201 Nondiscrimination
In the performance of the Contract, Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, and marital status, physical or mental disability. Contractor further agrees that every subcontract entered into for the performance of this Contract or any purchase order resulting from this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required under the Elliot Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, et seq., and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, et seq., and any breach of this provision may be regarded as a material breach of the Contract.

2.202 Unfair Labor Practices
Under 1980 PA 278, MCL 423.321, et seq., the State must not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under section 2 of the Act. This information is compiled by the United States National Labor Relations Board. A Contractor of the State, in relation to the Contract, must not enter into a Contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Under section 4 of 1980 PA 278, MCL 423.324, the State may void any Contract if, after award of the Contract, the name of Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of Contractor appears in the register.

2.203 Workplace Safety and Discriminatory Harassment
In performing Services for the State, the Contractor must comply with the Department of Civil Services Rule 2-20 regarding Workplace Safety and Rule 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor must comply with Civil Service regulations and any applicable agency rules provided to the Contractor. For Civil Service Rules, see http://www.mi.gov/mdcs/0,1607,7-147-6877---,00.html.

2.204 Prevailing Wage
The rates of wages and fringe benefits to be paid each class of individuals employed by the Contractor, its subcontractors, their subcontractors, and all persons involved with the performance of this Contract in privity of Contract with the Contractor shall not be less than the wage rates and fringe benefits established by the Michigan Department of Labor and Economic Development, Wage and Hour Bureau, schedule of occupational classification and wage rates and fringe benefits for the local where the work is to be performed. The term Contractor shall include all general Contractors, prime Contractors, project managers, trade Contractors, and all of their Contractors or subcontractors and persons in privity of Contract with them.

The Contractor, its subcontractors, their subcontractors and all persons involved with the performance of this Contract in privity of Contract with the Contractor shall keep posted on the work site, in a conspicuous place, a copy of all wage rates and fringe benefits as prescribed in the Contract. You must also post, in a conspicuous place, the address and telephone number of the Michigan Department of Labor and Economic Development, the office responsible for enforcement of the wage rates and fringe benefits. You shall keep an accurate
record showing the name and occupation of the actual wage and benefits paid to each individual employed in connection with this Contract. This record shall be available to the State upon request for reasonable inspection.

If any trade is omitted from the list of wage rates and fringe benefits to be paid to each class of individuals by the Contractor, it is understood that the trades omitted shall also be paid not less than the wage rate and fringe benefits prevailing in the local where the work is to be performed.

2.210 Governing Law

2.211 Governing Law
The Contract must in all respects be governed by, and construed according to, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of any other jurisdiction to the extent not inconsistent with, or pre-empted by federal law.

2.212 Compliance with Laws
Contractor shall comply with all applicable state, federal and local laws and ordinances in providing the Services/Deliverables.

2.213 Jurisdiction
Any dispute arising from the Contract must be resolved in the State of Michigan. With respect to any claim between the parties, Contractor consents to venue in Ingham County, Michigan, and irrevocably waives any objections it may have to the jurisdiction on the grounds of lack of personal jurisdiction of the court or the laying of venue of the court or on the basis of forum non conveniens or otherwise. Contractor agrees to appoint agents in the State of Michigan to receive service of process.

2.220 Limitation of Liability

2.221 Limitation of Liability
Neither the Contractor nor the State is liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability does not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney’s fees awarded by a court in addition to damages after litigation based on this Contract.

The Contractor’s liability for damages to the State is limited to two times the value of the Individual Statement of Work or $500,000 which ever is higher. The foregoing limitation of liability does not apply to claims for infringement of United States patent, copyright, trademarks or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney’s fees awarded by a court in addition to damages after litigation based on this Contract.

The State’s liability for damages to the Contractor is limited to the value of the Contract.

2.230 Disclosure Responsibilities

2.231 Disclosure of Litigation
Contractor must disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors or any litigation, investigations or proceedings under the Sarbanes-Oxley Act. In addition, each Contractor (and each Subcontractor) must notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions, to which Contractor (or, to the extent Contractor is aware, any Subcontractor) is a party, and which involves: (i) disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor; or (ii) a claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor by a governmental or public entity arising out of their business dealings with
governmental or public entities. The Contractor must disclose in writing to the Contract Administrator any litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") within 30 days of its occurrence. Details of settlements that are prevented from disclosure by the terms of the settlement may be annotated. Information provided to the State from Contractor's publicly filed documents referencing its material litigation will be deemed to satisfy the requirements of this Section.

If any Proceeding disclosed to the State under this Section, or of which the State otherwise becomes aware, during the term of this Contract would cause a reasonable party to be concerned about:
(a) the ability of Contractor (or a Subcontractor) to continue to perform this Contract according to its terms and conditions, or
(b) whether Contractor (or a Subcontractor) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in the Proceeding, which conduct would constitute a breach of this Contract or a violation of Michigan law, regulations or public policy, then the Contractor must provide the State all reasonable assurances requested by the State to demonstrate that:
   (1) Contractor and its Subcontractors will be able to continue to perform this Contract and any Statements of Work according to its terms and conditions, and
   (2) Contractor and its Subcontractors have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in the Proceeding.

(c) Contractor must make the following notifications in writing:
   (1) Within 30 days of Contractor becoming aware that a change in its ownership or officers has occurred, or is certain to occur, or a change that could result in changes in the valuation of its capitalized assets in the accounting records, Contractor must notify DTMB Purchasing Operations.
   (2) Contractor must also notify DMB Purchasing Operations within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.
   (3) Contractor must also notify DMB Purchase Operations within 30 days whenever changes to company affiliations occur.

2.232 Call Center Disclosure
Contractor and/or all subcontractors involved in the performance of this Contract providing call or contact center services to the State must disclose the location of its call or contact center services to inbound callers. Failure to disclose this information is a material breach of this Contract.

2.233 Bankruptcy
The State may, without prejudice to any other right or remedy, terminate this Contract, in whole or in part, and, at its option, may take possession of the "Work in Process" and finish the Works in Process by whatever appropriate method the State may deem expedient if:
(a) the Contractor files for protection under the bankruptcy laws;
(b) an involuntary petition is filed against the Contractor and not removed within 30 days;
(c) the Contractor becomes insolvent or if a receiver is appointed due to the Contractor's insolvency;
(d) the Contractor makes a general assignment for the benefit of creditors; or
(e) the Contractor or its affiliates are unable to provide reasonable assurances that the Contractor or its affiliates can deliver the services under this Contract.

Contractor will fix appropriate notices or labels on the Work in Process to indicate ownership by the State. To the extent reasonably possible, materials and Work in Process must be stored separately from other stock and marked conspicuously with labels indicating ownership by the State.
2.240 Performance

2.241 Time of Performance
(a) Contractor must use commercially reasonable efforts to provide the resources necessary to complete all Services and Deliverables according to the time schedules contained in the Statements of Work and other Exhibits governing the work, and with professional quality.
(b) Without limiting the generality of Section 2.241, Contractor must notify the State in a timely manner upon becoming aware of any circumstances that may reasonably be expected to jeopardize the timely and successful completion of any Deliverables/Services on the scheduled due dates in the latest State-approved delivery schedule and must inform the State of the projected actual delivery date.
(c) If the Contractor believes that a delay in performance by the State has caused or will cause the Contractor to be unable to perform its obligations according to specified Contract time periods, the Contractor must notify the State in a timely manner and must use commercially reasonable efforts to perform its obligations according to the Contract time periods notwithstanding the State’s failure. Contractor will not be in default for a delay in performance to the extent the delay is caused by the State.

2.242 Service Level Agreement (SLA)
(a) SLAs will be completed with the following operational considerations:
   (1) SLAs will not be calculated for individual Incidents where any event of Excusable Failure has been determined; Incident means any interruption in Services.
   (2) SLAs will not be calculated for individual Incidents where loss of service is planned and where the State has received prior notification or coordination.
   (3) SLAs will not apply if the applicable Incident could have been prevented through planning proposed by Contractor and not implemented at the request of the State. To invoke this consideration, complete documentation relevant to the denied planning proposal must be presented to substantiate the proposal.
   (4) Time period measurements will be based on the time Incidents are received by the Contractor and the time that the State receives notification of resolution based on 24x7x365 time period, except that the time period measurement will be suspended based on the following:
      (i) Time period(s) will not apply where Contractor does not have access to a physical State Location and where access to the State Location is necessary for problem identification and resolution.
      (ii) Time period(s) will not apply where Contractor needs to obtain timely and accurate information or appropriate feedback and is unable to obtain timely and accurate information or appropriate feedback from the State.
(b) Chronic Failure for any Service(s) will be defined as three unscheduled outage(s) or interruption(s) on any individual Service for the same reason or cause or if the same reason or cause was reasonably discoverable in the first instance over a rolling 30 day period. Chronic Failure will result in the State’s option to terminate the effected individual Service(s) and procure them from a different vendor for the chronic location(s) with Contractor to pay the difference in charges for up to three additional months. The termination of the Service will not affect any tiered pricing levels.
(c) Root Cause Analysis will be performed on any Business Critical outage(s) or outage(s) on Services when requested by the Contract Administrator. Contractor will provide its analysis within two weeks of outage(s) and provide a recommendation for resolution.
(d) All decimals must be rounded to two decimal places with five and greater rounding up and four and less rounding down unless otherwise specified.

2.243 Liquidated Damages - Reserved

2.244 Excusable Failure
Neither party will be liable for any default, damage or delay in the performance of its obligations under the Contract to the extent the default, damage or delay is caused by government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, war, water or other forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers’ failures, or acts or omissions of common carriers, fire; riots, civil disorders;
strikes or other labor disputes, embargoes; injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of a party; provided the non-performing party and its Subcontractors are without fault in causing the default or delay, and the default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans.

If a party does not perform its Contractual obligations for any of the reasons listed above, the non-performing party will be excused from any further performance of its affected obligation(s) for as long as the circumstances prevail. But the party must use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay. A party must promptly notify the other party in writing immediately after the excusable failure occurs, and also when it abates or ends.

If any of the above-enumerated circumstances substantially prevent, hinder, or delay the Contractor’s performance of the Services/provision of Deliverables for more than 10 Business Days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State’s option: (a) the State may procure the affected Services/Deliverables from an alternate source, and the State is not be liable for payment for the unperformed Services/ Deliverables not provided under the Contract for so long as the delay in performance continues; (b) the State may terminate any portion of the Contract so affected and the charges payable will be equitably adjusted to reflect those Services/Deliverables terminated; or (c) the State may terminate the affected Statement of Work without liability to Contractor as of a date specified by the State in a written notice of termination to the Contractor, except to the extent that the State must pay for Services/Deliverables provided through the date of termination.

The Contractor will not have the right to any additional payments from the State as a result of any Excusable Failure occurrence or to payments for Services not rendered/Deliverables not provided as a result of the Excusable Failure condition. Defaults or delays in performance by Contractor which are caused by acts or omissions of its Subcontractors will not relieve Contractor of its obligations under the Contract except to the extent that a Subcontractor is itself subject to an Excusable Failure condition described above and Contractor cannot reasonably circumvent the effect of the Subcontractor’s default or delay in performance through the use of alternate sources, workaround plans or other means.

2.250 Approval of Deliverables

2.251 Delivery of Deliverables

A list of the Deliverables to be prepared and delivered by Contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document (“Written Deliverable”) or a Custom Software Deliverable is attached, if applicable. All Deliverables shall be completed and delivered for State review and written approval and, where applicable, installed in accordance with the State-approved delivery schedule and any other applicable terms and conditions of this Contract.

Prior to delivering any Deliverable to the State, Contractor will first perform all required quality assurance activities, and, in the case of Custom Software Deliverables, System Testing to verify that the Deliverable is complete and in conformance with its specifications. Before delivering a Deliverable to the State, Contractor shall certify to the State that (1) it has performed such quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during such quality assurance activities and testing, (4) the Deliverable is in a suitable state of readiness for the State’s review and approval, and (5) the Deliverable/Service has all Critical Security patches/updates applied.

In discharging its obligations under this Section, Contractor shall be at all times (except where the parties agree otherwise in writing) in compliance with Level 3 of the Software Engineering Institute’s Capability Maturity Model for Software ("CMM Level 3") or its equivalent.

2.252 Contractor System Testing
Contractor will be responsible for System Testing each Custom Software Deliverable in Contractor’s development environment prior to turning over the Custom Software Deliverable to the State for User Acceptance Testing and approval. Contractor’s System Testing shall include the following, at a minimum, plus any other testing required by CMM Level 3 or Contractor’s system development methodology:

Contractor will be responsible for performing Unit Testing and incremental Integration Testing of the components of each Custom Software Deliverable.

Contractor’s System Testing will also include Integration Testing of each Custom Software Deliverable to ensure proper inter-operation with all prior software Deliverables, interfaces and other components that are intended to inter-operate with such Custom Software Deliverable, and will include Regression Testing, volume and stress testing to ensure that the Custom Software Deliverables are able to meet the State’s projected growth in the number and size of transactions to be processed by the Application and number of users, as such projections are set forth in the applicable Statement of Work.

Contractor’s System Testing will also include Business Function Testing and Technical Testing of each Application in a simulated production environment. Business Function Testing will include testing of full work streams that flow through the Application as the Application will be incorporated within the State’s computing environment. The State shall participate in and provide support for the Business Function Testing to the extent reasonably requested by Contractor. Within ten (10) days before the commencement of Business Function Testing pursuant to this Section, Contractor shall provide the State for State review and written approval Contractor’s test plan for Business Function Testing.

Within five (5) Business Days following the completion of System Testing pursuant to this Section, Contractor shall provide to the State a testing matrix establishing that testing for each condition identified in the System Testing plans has been conducted and successfully concluded. To the extent that testing occurs on State premises, the State shall be entitled to observe or otherwise participate in testing under this Section as the State may elect.
2.253 Approval of Deliverables, In General

All Deliverables (Written Deliverables and Custom Software Deliverables) require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which, in the case of Custom Software Deliverables, will include the successful completion of State User Acceptance Testing, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables being reviewed. If Contractor fails to provide a Deliverable to the State in a timely manner, the State will nevertheless use commercially reasonable efforts to complete its review or testing within the applicable State Review Period.

Before commencement of its review or testing of a Deliverable, the State may inspect the Deliverable to confirm that all components of the Deliverable (e.g., software, associated documentation, and other materials) have been delivered. If the State determines that the Deliverable is incomplete, the State may refuse delivery of the Deliverable without performing any further inspection or testing of the Deliverable. Otherwise, the review period will be deemed to have started on the day the State receives the Deliverable and the applicable certification by Contractor in accordance with this Section.

The State will approve in writing a Deliverable upon confirming that it conforms to and, in the case of a Custom Software Deliverable, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor’s expense all deficiencies in the Deliverable that remain outstanding at the time of State approval.

If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing State approval of a Deliverable, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep this Contract in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the Contract price for such Deliverable and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State’s general expenses without the need to furnish proof in substantiation of such general expenses; or (iii) terminate this Contract for default, either in whole or in part by notice to Contractor (and without the need to afford Contractor any further opportunity to cure). Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

The State, at any time and in its own discretion, may halt the UAT or approval process if such process reveals deficiencies in or problems with a Deliverable in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the review or UAT process and, in that event, Contractor will correct the deficiencies in such Deliverable in accordance with the Contract, as the case may be.

Approval in writing of a Deliverable by the State shall be provisional; that is, such approval shall not preclude the State from later identifying deficiencies in, and declining to accept, a subsequent Deliverable based on or which incorporates or inter-operates with an approved Deliverable, to the extent that the results of subsequent review or testing indicate the existence of deficiencies in the subsequent Deliverable, or if the Application of which the subsequent Deliverable is a component otherwise fails to be accepted pursuant to Section 2.080.
2.254 Process for Approval of Written Deliverables
The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work following delivery of the final version of the Written Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Written Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Written Deliverable (or at the State’s election, subsequent to approval of the Written Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor’s correction efforts will be made at no additional charge. Upon receipt of a corrected Written Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Written Deliverable to confirm that the identified deficiencies have been corrected.

2.255 Process for Approval of Custom Software Deliverables
The State will conduct UAT of each Custom Software Deliverable in accordance with the following procedures to determine whether it meets the criteria for State approval – i.e., whether it conforms to and performs in accordance with its specifications without material deficiencies.

Within thirty (30) days (or such other number of days as the parties may agree to in writing) prior to Contractor’s delivery of any Custom Software Deliverable to the State for approval, Contractor shall provide to the State a set of proposed test plans, including test cases, scripts, data and expected outcomes, for the State’s use (which the State may supplement in its own discretion) in conducting UAT of the Custom Software Deliverable. Contractor, upon request by the State, shall provide the State with reasonable assistance and support during the UAT process.

For the Custom Software Deliverables listed in an attachment, the State Review Period for conducting UAT will be as indicated in the attachment. For any other Custom Software Deliverables not listed in an attachment, the State Review Period shall be the number of days agreed in writing by the parties (failing which it shall be forty-five (45) days by default). The State Review Period for each Custom Software Deliverable will begin when Contractor has delivered the Custom Software Deliverable to the State accompanied by the certification required by this Section and the State’s inspection of the Deliverable has confirmed that all components of it have been delivered.

The State’s UAT will consist of executing test scripts from the proposed testing submitted by Contractor, but may also include any additional testing deemed appropriate by the State. If the State determines during the UAT that the Custom Software Deliverable contains any deficiencies, the State will notify Contractor of the deficiency by making an entry in an incident reporting system available to both Contractor and the State. Contractor will modify promptly the Custom Software Deliverable to correct the reported deficiencies, conduct appropriate System Testing (including, where applicable, Regression Testing) to confirm the proper correction of the deficiencies and re-deliver the corrected version to the State for re-testing in UAT. Contractor will coordinate the re-delivery of corrected versions of Custom Software Deliverables with the State so as not to disrupt the State’s UAT process. The State will promptly re-test the corrected version of the Software Deliverable after receiving it from Contractor.

Within three (3) business days after the end of the State Review Period, the State will give Contractor a written notice indicating the State’s approval or rejection of the Custom Software Deliverable according to the criteria and process set out in this Section.
2.256 Final Acceptance
“Final Acceptance” shall be considered to occur when the Custom Software Deliverable to be delivered has been approved by the State and has been operating in production without any material deficiency for fourteen (14) consecutive days. If the State elects to defer putting a Custom Software Deliverable into live production for its own reasons, not based on concerns about outstanding material deficiencies in the Deliverable, the State shall nevertheless grant Final Acceptance of the Project.

2.260 Ownership

2.261 Ownership of Work Product by State
The State owns all Deliverables, as they are work made for hire by the Contractor for the State. The State owns all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

2.262 Vesting of Rights
With the sole exception of any preexisting licensed works identified in the SOW, the Contractor assigns, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any the Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon the State’s request, the Contractor must confirm the assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State may obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

2.263 Rights in Data
The State is the owner of all data made available by the State to the Contractor or its agents, Subcontractors or representatives under the Contract. The Contractor will not use the State’s data for any purpose other than providing the Services, nor will any part of the State’s data be disclosed, sold, assigned, leased or otherwise disposed of to the general public or to specific third parties or commercially exploited by or on behalf of the Contractor. No employees of the Contractor, other than those on a strictly need-to-know basis, have access to the State’s data. Contractor will not possess or assert any lien or other right against the State’s data. Without limiting the generality of this Section, the Contractor must only use personally identifiable information as strictly necessary to provide the Services and must disclose the information only to its employees who have a strict need-to-know the information. The Contractor must comply at all times with all laws and regulations applicable to the personally identifiable information.

The State is the owner of all State-specific data under the Contract. The State may use the data provided by the Contractor for any purpose. The State will not possess or assert any lien or other right against the Contractor’s data. Without limiting the generality of this Section, the State may use personally identifiable information only as strictly necessary to utilize the Services and must disclose the information only to its employees who have a strict need to know the information, except as provided by law. The State must comply at all times with all laws and regulations applicable to the personally identifiable information. Other material developed and provided to the State remains the State’s sole and exclusive property.

2.264 Ownership of Materials
The State and the Contractor will continue to own their respective proprietary technologies developed before entering into the Contract. Any hardware bought through the Contractor by the State, and paid for by the State, will be owned by the State. Any software licensed through the Contractor and sold to the State, will be licensed directly to the State.
2.270  State Standards

2.271  Existing Technology Standards
The Contractor will adhere to all existing standards as described within the comprehensive listing of the State’s existing technology standards at http://www.michigan.gov/dmb.

2.272  Acceptable Use Policy
To the extent that Contractor has access to the State computer system, Contractor must comply with the State’s Acceptable Use Policy, see http://www.michigan.gov/dmb/0,1607,7-150-56355---,00.html. All Contractor employees must be required, in writing, to agree to the State’s Acceptable Use Policy before accessing the State system. The State reserves the right to terminate Contractor’s access to the State system if a violation occurs.

2.273  Systems Changes
Contractor is not responsible for and not authorized to make changes to any State systems without written authorization from the Project Manager. Any changes Contractor makes to State systems with the State’s approval must be done according to applicable State procedures, including security, access and configuration management procedures.

2.280  Extended Purchasing

2.281  MiDEAL (Michigan Delivery Extended Agreements Locally)
Act Number 431 of the Public Acts of 1984 permits the State of Michigan, Department of Management and Budget, to provide purchasing services to any city, village, county, township, school district, intermediate school district, non-profit hospital, institution of higher education, community, or junior college. As a result of the enactment of this legislation, the MIDEAL Program has been developed. This program extends the use of state contracts to program members. The governmental agency must enter into an agreement with the State of Michigan to become authorized to participate, thus ensuring that local units of government secure a greater return for the expenditure of public funds.

In those cases, contract vendors supply merchandise at the established State of Michigan contract prices and terms. The Bidder must submit invoices and pay the authorized MIDEAL member on a direct and individual basis according to contract terms.

IT IS MANDATORY THAT ALL CONTRACTS RESULTING FROM THIS RFP WILL BE MADE AVAILABLE TO ALL STATE OF MICHIGAN AGENCIES AND AUTHORIZED MIDEAL PURCHASING PROGRAM MEMBERS.

Please Visit Mi DEAL at www.michigan.gov/buymichiganfirst under MiDeal.

Estimated requirements for authorized local units of government are not included in the quantities shown in this RFP.

2.282  State Employee Purchases – Reserved

2.290  Environmental Provision

2.291  Environmental Provision-Reserved

2.300  Deliverables

2.301  Software – Reserved

2.302  Hardware – Reserved

2.303  Equipment to be New-Reserved

2.304  Equipment to be New and Prohibited Products-Reserved
2.310 Software Warranties

2.311 Performance Warranty-Reserved
2.312 No Surreptitious Code Warranty-Reserved
2.313 Calendar Warranty-Reserved
2.314 Third-party Software Warranty-Reserved
2.315 Physical Media Warranty-Reserved

2.320 Software Licensing

2.321 Cross-License, Deliverables Only, License to Contractor -Reserved
2.322 Cross-License, Deliverables and Derivative Work, License to Contractor-Reserved
2.323 License Back to the State-Reserved
2.324 License Retained by Contractor-Reserved
2.325 Pre-existing Materials for Custom Software Deliverables-Reserved

2.330 Source Code Escrow

2.331 Definition -Reserved
2.332 Delivery of Source Code into Escrow-Reserved
2.333 Delivery of New Source Code into Escrow-Reserved
2.334 Verification-Reserved
2.335 Escrow Fees-Reserved
2.336 Release Events-Reserved
2.337 Release Event Procedures-Reserved
2.338 License-Reserved
2.339 Derivative Works-Reserved

2.400 Other Provisions - Reserved
## Cost Table – Attachment A

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Total availability per year (in FTEs)</th>
<th>Not To Exceed Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Warehouse Project Manager</td>
<td>4</td>
<td>$168.00</td>
</tr>
<tr>
<td>Data Warehouse Architect</td>
<td>15</td>
<td>$188.00</td>
</tr>
<tr>
<td>Data Warehouse Data Designer/Modeler</td>
<td>10</td>
<td>$163.00</td>
</tr>
<tr>
<td>Data Warehouse Developer Senior/Junior</td>
<td>18</td>
<td>$158.00</td>
</tr>
<tr>
<td>Data Warehouse Business Intelligence Analyst Senior/Junior</td>
<td>15</td>
<td>$158.00</td>
</tr>
<tr>
<td>Data Warehouse Database Administrator</td>
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<td>$163.00</td>
</tr>
<tr>
<td>Data Warehouse Business Intelligence Report Developer</td>
<td>7</td>
<td>$158.00</td>
</tr>
<tr>
<td>Data Warehouse Help Desk Analyst</td>
<td>4</td>
<td>$145.00</td>
</tr>
</tbody>
</table>

1. The FTE counts represent the named resources for which we have provided resumes. Our more extensive Ingenix Business Intelligence experienced employee population along with our subcontractor network provide us with additional FTE levels that could be engaged to deliver Business Intelligence services for the State.

2. These are not to exceed, five (5) year rates that will be appropriately discounted as individual SOWs are issued.

<table>
<thead>
<tr>
<th>Position Type</th>
<th>Total availability per year (in FTEs)</th>
<th>Not To Exceed Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DW Web Developer</td>
<td>3</td>
<td>$120.00</td>
</tr>
<tr>
<td>Subject Matter Expert</td>
<td>4</td>
<td>$350.00</td>
</tr>
<tr>
<td>Advanced Analytics Software Consultant</td>
<td>1</td>
<td>$275.00</td>
</tr>
<tr>
<td>Principal Consultant</td>
<td>1</td>
<td>$450.00</td>
</tr>
</tbody>
</table>

1. The FTE counts represent the named resources for which we have provided resumes. Our more extensive Ingenix Business Intelligence experienced employee population along with our subcontractor network provide us with additional FTE levels that could be engaged to deliver Business Intelligence services for the State.

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