

State of Michigan Department of Technology, Management & Budget

Information, Communications and Technology (ICT) Strategy Technical
Advisory Services

Prepared for



Deliverable D — Gap Analysis
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Executive Summary

Executive Summary

Background and Overview

- The State of Michigan partnered with Gartner to ensure alignment of its ICT assets, business model, operations and strategy with current and future needs.
- Understanding the needs of the current and potential customer base to realize opportunities for new or improved services, alternative ways to operate, and other methods of evolving and improving DTMB is critical to the success of the effort.
- Gartner performed an extensive review of the State of Michigan Department of Technology, Management & Budget (DTMB) against nine separate IT roles. The details of the Current State Assessment are documented in Deliverable A — Current State Assessment and Maturity Analysis.
- Gartner used the findings in Deliverable B — Needs Assessment and IT Business Effectiveness Survey Results, and Deliverable C — Identification of Business, Services and Technology Opportunities to determine an appropriate Target State for DTMB.

Executive Summary

Background and Overview (continued)

- Gartner subsequently took this information and determined a target maturity level for each role perspective (enterprise architecture, infrastructure & operations, security, applications, etc.) in each dimension of technology, organization, process, strategy, and service level.
 - The maturity scale is developed using defined evaluation criteria based on industry best practices, meaning that a level 5 is the absolute best practice in the industry for that activity. Relatively few organizations make the investment to become level 5 in all of the areas, because it would be prohibitively expensive to do so without a commensurate payback.
 - Target states were determined using a combination of feedback from DTMB customers' stated needs, and DTMB leadership's stated goal of becoming a best-in-class service provider. If achieved, the target states chosen will very likely exceed the performance of the vast majority of (if not all) public sector organizations.
- Using the Current State and Target State, Gartner prepared Deliverable D — Gap Analysis, to highlight the necessary actions that DTMB must perform in order to move the organization from the Current State to the Target State.

Executive Summary

Gap Analysis Themes

The Gap Analysis identified role-specific gaps that DTMB can address, but a holistic review of these gaps, informed by the findings of Deliverables A — C, reveals several key themes:

- **Improve customer relationship management** — Although the implementation of Information Officers (IOs) is a good initial step for DTMB, the role and responsibilities for customer relationship management must be clearly defined and communicated. Also, DTMB must address its shortage of skilled relationship management staff.
 - **Define a service portfolio that communicates business value** — Although DTMB has various service catalogs and provides monthly SLA reports, DTMB must establish a service portfolio that communicates the business value of its services to its customers. In order to define services in terms of business value, DTMB must work with agencies to define the roles and responsibilities of a business analyst.
 - **Understand and manage to cost** — DTMB information technology services are subject to federal requirements for cost recovery with a 100% chargeback model. Although DTMB's current financial management processes is primarily driven by cost recovery, DTMB must better understand the cost of service delivery and manage its resources accordingly. As DTMB improves its cost estimations and resource management processes, project portfolio management will increase in importance because agency priorities will need to be understood and expectations will need to be managed.
 - **Coordinate innovation efforts** — Although DTMB has established an innovation fund and has been recognized nationally for past projects, DTMB must clearly establish an innovation owner that will be responsible for understanding business needs and technology trends so that innovative services that provide business value can be continually defined and improved.
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Executive Summary

Gap Analysis Themes (continued)

- **Implement end-to-end project management** — Although DTMB has several project management offices (PMOs) and has defined SUITE as a project management methodology, DTMB must formally standardize project management processes and address the need for skilled project managers. The formalization of project management processes will include basic project management functions such as managing scope, schedule and budget, but it must also include project benefits identification, requirements preparation and defined integration points with enterprise architecture, security and procurement.
- **Conduct application portfolio management** — Although DTMB is able to support various types of applications for 17 agencies, there are numerous technology platforms in place today for building applications which should be retired and/or replaced with existing technologies already being used by DTMB. This is evident in the very high-level application support costs found in the Application Benchmark.
- **Optimize procurement and vendor management** — Although procurement is in the same organization as IT, the procurement and vendor management of IT services should be re-examined from a technology and process perspective to drive down contractor costs and ensure that vendors are held to DTMB's quality/delivery standards.

Executive Summary

Gap Analysis Summary

CIO — Business Alignment and Effectiveness

- DTMB needs to develop a closer relationship with the customer agencies by re-examining the IO reporting lines and how IOs are assigned to agencies. The IO model currently does not extend itself through the Center for Shared Solutions effectively to an external customer base.
- No final determination has been made on whether DTMB's end state is to be a world-class IT service provider that sells its services externally, and a sufficient engagement model to make this a reality does not exist.

CIO — Operations Management

- To address customers' concerns about cost management, DTMB should re-examine its financial management processes to focus on a total cost of ownership (TCO) perspective to manage IT assets and report costs to clients. This approach will assist clients in prioritizing projects, understanding total costs, and targeting cost reductions.
- To deal with recruitment of project manager and developer personnel into Agency Services, DTMB should re-examine civil service classification rules, processes and policies that inhibit DTMB's ability to replace high-priced contractors with internal State resources.
- There is currently a lack of relationship management vs. technical career path planning.

Applications

- Application Performance Management is not performed currently in order to drive down application support costs.
- DTMB should enable dynamic, demand-driven sharing of quality assurance and software infrastructure resources across Agency Services in the short term, and sharing of project managers and developers in the medium-to-long term.
- Quality assurance processes and deliverable quality standards need to be centralized and harmonized across all Agency Services teams.
- Although the SUITE process is robust, it is not consistently used, nor institutionalized
- Most COTS and ERP applications are highly customized, driving support costs higher than the 75% percentile peer group.

Executive Summary

Gap Analysis Summary (continued)

Program and Portfolio Management

- The ePMO should span across Infrastructure Services and Agency Services by reporting to an executive-level function that reports up directly to the CIO.
- The Call for Projects process should be focused on enterprise portfolio management, and should be less focused on IT strategic management.

Business Intelligence and Performance Management

- A centralized Business Intelligence, Data Warehousing and Enterprise Information Management organization is needed to coordinate data management across the enterprise and across agency boundaries.
- An Enterprise Information Management strategy needs to be developed across the agencies for the entire State enterprise, which would enable enhanced fraud detection and more citizen-centric services to the public.

Enterprise Architecture

- DTMB should define the vision, goals and scope of the Enterprise Architecture (EA) for Michigan, taking into account the federation of the agencies and their needs.
- DTMB needs to increase scope of EA coverage to include comprehensive data/information architecture, integration architecture, business architecture and solution architecture.
- EA should report into the CIO or separate Chief Technology Officer (CTO) function, as opposed to reporting to Infrastructure Services.

Executive Summary

Gap Analysis Summary (continued)

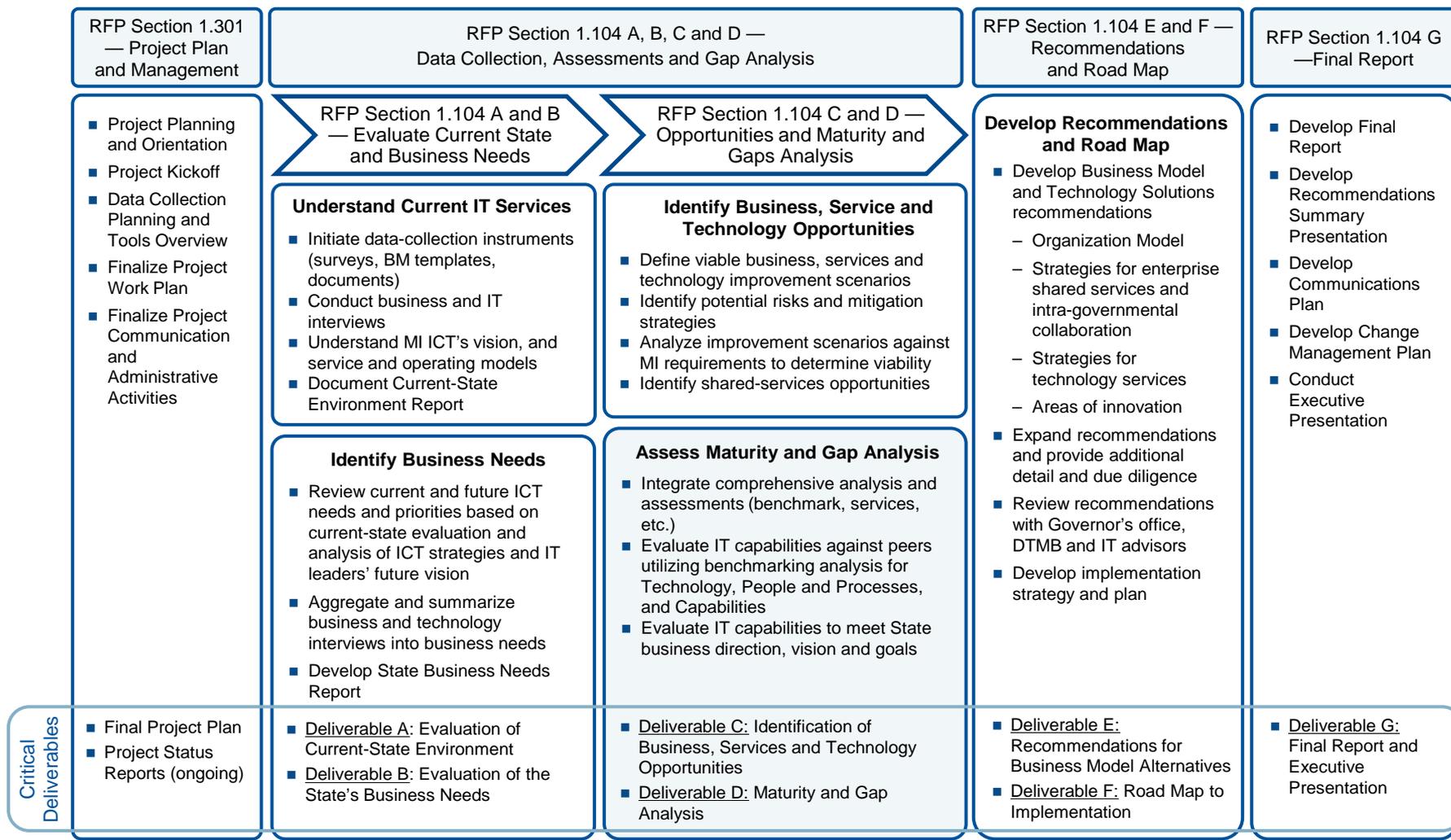
- Infrastructure and Operations**
- A long-term data center strategy is needed to provide additional capacity and capital investment is needed at two of the hosting sites.
 - DTMB needs to improve automation of manual processes within Infrastructure Services (e.g., run book automation, event management, status monitoring, performance management, workflow management).
 - DTMB should reduce/consolidate Infrastructure Services (IS) service catalog from IT Tower-based view to IS common view. Services should be end-user-based/oriented, as opposed to IT Domain-specific. IT product manager should be tasked with ensuring all IT services are delivering the IS common services.

- Procurement and Vendor Management**
- DTMB should develop a clear business case for e-procurement deployment.
 - DTMB should assess opportunities to establish alternatives to some or all of the current commodity contract in order to maximize the value of the admin fee currently paid for this service.
 - DTMB should demonstrate clearly — in the short term — that Michigan will require changes or terminate a contract and leverage an available commodity contract.
 - DTMB should establish a stakeholder group to document a repeatable process that will be used for contract and vendor management moving forward.

- Security and Risk Management**
- DTMB should conduct a comprehensive enterprisewide security risk assessment of the State's environment that identifies the realistic threats facing the State and the gaps the State needs to plug to remediate the threats.

Gap Analysis Approach

Gap Analysis Approach



Gap Analysis Approach

Overview

- The analysis is based on the TOPSS maturity scale, a Gartner model that assesses organizations across technology, organization, process, strategy, and service level. Using TOPSS, the State of Michigan was assessed and placed on a 1–5 maturity scale for each of nine IT roles for the current state, as well as the target state, based on industry trends and best practices.
- The maturity scale is developed on an idealized basis, meaning that a Level 5 is the absolute best practice in the industry for that activity. Relatively few organizations make the investment to become Level 5 in all the areas, because it would be prohibitively expensive to do so without a commensurate payback.
- Target states were determined using a combination of feedback from DTMB customers' stated needs, and DTMB leadership's stated goal of becoming a best-in-class service provider. If achieved, the target states chosen will very highly likely exceed the performance of the vast majority (if not all) of public sector organizations.
- Ultimately, the target maturity levels will be combined with the key needs of DTMB customers to yield a set of opportunities and recommendations for improvement, documented into an actionable road map for the State.

Gartner Framework



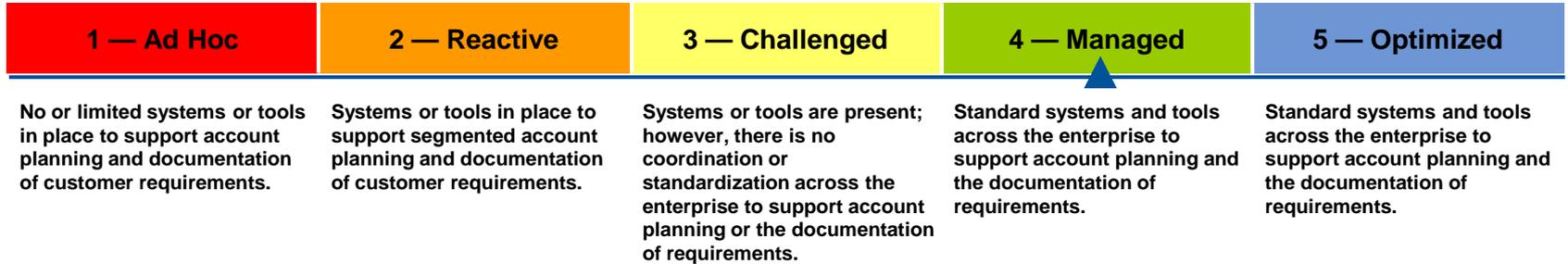
Gap Analysis

CIO — Business Alignment and Effectiveness

Current State = ○
Target State = ▲

CIO — Business Alignment and Effectiveness

Target State — Technology



CIO — Business Alignment and Effectiveness

Gap Analysis — Technology



- IT Accounting and billing to customers should be fully automated through a software tool, as should the budgeting process (which is currently handled primarily in Microsoft Excel).
- Customers are requiring more mobile tools to enable a mobile workforce as budget cuts and other forces factor into the closing of brick-and-mortar office locations. Many of these mobile applications could potentially be shared services and should be explored further.
- DTMB needs to identify ownership for technology innovation and task responsibility for coming up with innovative IT solutions.
- The portfolio of applications should be examined across the enterprise as a significant simplification, standardization and consolidation opportunity.

CIO — Business Alignment and Effectiveness

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No clear organizational structure or overall ownership of responsibilities for client service delivery across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB does not have enough adequately trained staff to support account planning and the documentation of requirements.	<p>Ownership of client service delivery responsibilities within the enterprise exists, but organization is immature and appropriate skill sets are not present. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has staff that has received some of the necessary training (but needs more training) to be adequately prepared to support account planning and the documentation of requirements.	<p>Ownership of client service delivery responsibilities within the enterprise exists, is fairly mature, and exhibits some best practices. Client service delivery skill sets largely align with IT support needs. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has adequately trained resources but is understaffed, which limits the organization's ability to support account planning and the documentation of requirements.	<p>Client service delivery organization is integrated with other key processes and IT roles, and is appropriately organized and staffed. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has a sufficient number of adequately trained resources to support account planning and the documentation of requirements.	<p>Client service delivery processes are mature and efficient. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has a sufficient number of proficient resources to support account planning and documentation of requirements; each role documented as responsible, accountable, consulted and informed.

CIO — Business Alignment and Effectiveness

Gap Analysis — Organization



- DTMB needs to develop a closer relationship with the customer agencies by re-examining the IO reporting lines and how IOs are assigned to agencies.
- There is an opportunity to develop greater interaction and more-structured relationships with private-sector, federal, and other state and local government agencies that could be leveraged with the existing IO structure.
- The Skills Assessment indicates a need to enable IOs and CSDs with greater relationship management skills.
- Succession planning needs to occur in a standardized manner and should incorporate the significant “bench strength” discovered through the Skills Inventory.
- Increase cross-training and knowledge transfer internally, as well as with external vendors.
- Significant consolidation and simplification opportunities exist within Agency Services to combine activities such as quality assurance, software infrastructure and project management in the short term, as well as application development.

CIO — Business Alignment and Effectiveness

Target State — Process

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Client service delivery processes are non-existent or ad hoc. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is not involved with customer-agency IT investment management decisions;■ DTMB does not have documented processes to support account planning and documentation of requirements.	<p>Client service delivery processes are largely documented, but with limited standardization, and are inconsistent from location to location, business unit to business unit. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is inconsistently involved with customer-agency IT investment decisions;■ DTMB has different ad hoc processes to support account planning and documentation of requirements.	<p>Client service delivery processes are standardized and documented, and are consistently applied to the organization. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is consistently involved with customer-agency IT investment decisions — mostly in costing and conducting impact analyses;■ DTMB has a standard, documented process to support account planning and documentation of requirements.	<p>Client service delivery processes are well defined and managed consistently across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is highly involved with customer-agency IT investment decisions — including business case preparation (benefits identification, costing, impact analyses, risk analyses, etc.);■ DTMB has a standard, documented process to support account planning and documentation of requirements.	<p>Client service delivery processes are mature and efficient. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is highly involved with customer-agency IT investment decisions — including business case preparation (benefits identification, costing, impact analyses, risk analyses, etc.);■ DTMB monitors and reports on progress of the investment (i.e., is it on budget, is it delivering the projected ROI, etc.);■ DTMB has defined Service Level Objectives (SLOs) for each customer agency;■ DTMB has a standard, documented process to support account planning and documentation of requirements.

CIO — Business Alignment and Effectiveness

Gap Analysis — Process



- Standardized processes, such as project management, quality assurance and problem management, need to be championed and institutionalized.
- Further develop and institutionalize a process for benefits realization review, in addition to stronger project business case analysis, for customer initiatives.
- Revisit processes and communication between Agency Services and Infrastructure Services to better align with customer needs.
- Define a standardized process for the development of shared services, as well as the transition into the service catalog.
- Formalize processes for private-sector, federal, and other state and local government interaction, rather than personal informal relationships. Include private-sector and other government customers in the initial phases of shared service proposals to effectively gather customer requirements, thereby making proposed services more attractive to these agencies.

CIO — Business Alignment and Effectiveness

Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>There is no strategy or strategic planning function. Common attributes include:</p> <ul style="list-style-type: none"> ■ DTMB has not worked with customer-agencies to develop strategic plans and has no enterprise strategic plan; ■ Strategic planning is not performed across the organization; ■ Operational process and/or technology investment decisions are made locally and independently (in isolation of the wider enterprise) as funding is made available. 	<p>High-level client service delivery strategy is defined but does not have measurable objectives. IT strategy partially aligned with customer business strategies. Common attributes include:</p> <ul style="list-style-type: none"> ■ DTMB has worked with customer agencies to develop agency-specific strategic plans. These individual strategies do not take into account the wider organization, nor are they communicated enterprisewide; ■ Strategic planning occurs for each customer-agency, but it is not coordinated, not clearly defined and does not have measurable objectives; ■ Strategic planning efforts do not take into account the wider organization, nor are they communicated enterprisewide. 	<p>Client service delivery strategy is defined and communicated; however, it is not effectively translated into consistent action. IT strategy mostly aligned with customer business strategies. Common attributes include:</p> <ul style="list-style-type: none"> ■ Customer agencies have defined strategic plan; ■ A high-level enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; ■ Strategic plans for the agency and DTMB are defined and communicated; however, they are not translated into action. 	<p>Client service delivery strategy is clearly defined, communicated and socialized throughout the enterprise. IT strategy strongly aligned with customer strategies. Common attributes include:</p> <ul style="list-style-type: none"> ■ Customer agencies have a defined strategic plan; ■ A detailed enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; ■ Strategy is clearly defined, communicated and socialized throughout the enterprise; ■ Tools, organization and processes are aligned to oversee and ensure the execution of the strategy. 	<p>Client service delivery strategy spans the business and is integrated into enterprise strategic planning, is continually reviewed, and the strategy is updated to align with business objectives. Common attributes include:</p> <ul style="list-style-type: none"> ■ Customer agencies have defined strategic plan; ■ A detailed enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; ■ Strategic planning is holistic, continually reviewed, and the strategy is updated to align with business objectives; ■ Strategy is clearly defined and communication throughout the enterprise.

CIO — Business Alignment and Effectiveness

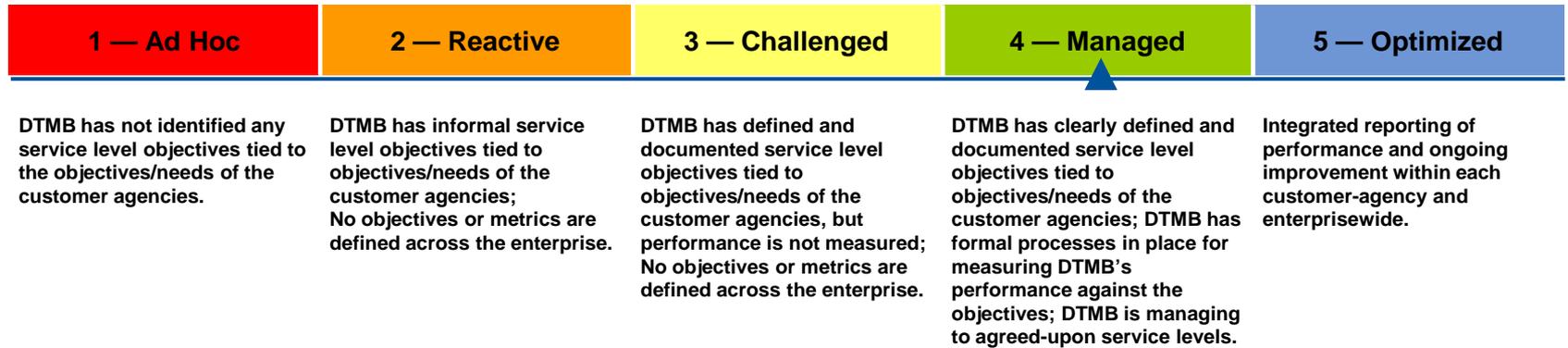
Gap Analysis — Strategy



- IOs need to work with agency customers on a strategic level to fully capture customer requirements and build stronger relationships.
- DTMB needs to position itself as strategically partnering with local governments, and needs to effectively communicate this positioning.
- Based on customer desire for mobile devices and applications for mobile workforce enablement, proactively work with current and potential customers to align DTMB's mobile strategy with client strategies.
- Emphasize internal operational excellence in addition to external relationship excellence and innovation.
- The Call For Projects process is currently used for both project and portfolio management purposes as well as maintaining strategic alignment with State agencies. DTMB should focus the Call For Projects specifically on the PPM function and institute alternate methods for accomplishing strategic alignment.
- DTMB should actively leverage the strategic work of the Office of Enterprise Development.

CIO — Business Alignment and Effectiveness

Target State — Service Level



CIO — Business Alignment and Effectiveness

Gap Analysis — Service Level



- DTMB needs an up-to-date, detailed service catalog for Agency Services.
- Standardized, complete Service Level Agreements (SLAs) need to be fully developed to provide baseline expectations for service, and those SLAs need to be better communicated with agencies.
- Standardized, comprehensive, customer-driven SLA metrics need to be provided to customer agencies at a regular frequency to give insight into how DTMB is performing with regard to service delivery.
- Make billing more intuitive and descriptive in an effort to help customers better understand charges.
- Develop a governance process and policies to encourage anchor tenants and other customer agencies to remain with a shared service.
- Institute Operating Level Agreements between all internal DTMB IT groups to enable accountability throughout the organization.

Gap Analysis

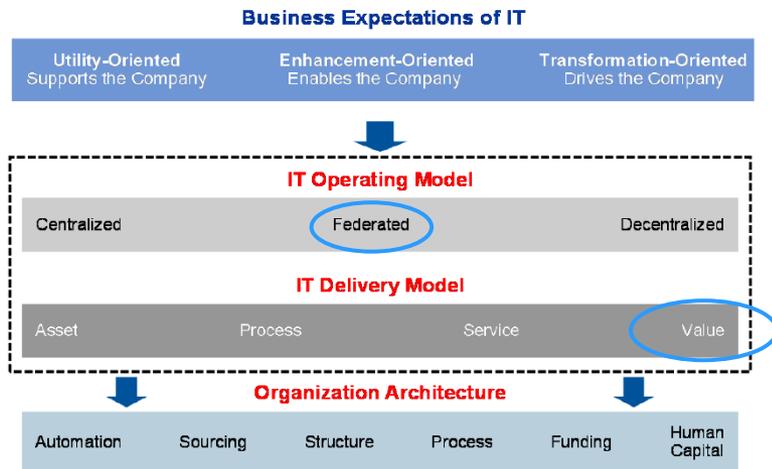
CIO Perspective — Operations Management

Current State = ○
Target State = ▲

CIO — Operations Management

Gartner Framework — Delivery Model

Figure 1. IT Model Hierarchy



Source: Gartner (June 2011)

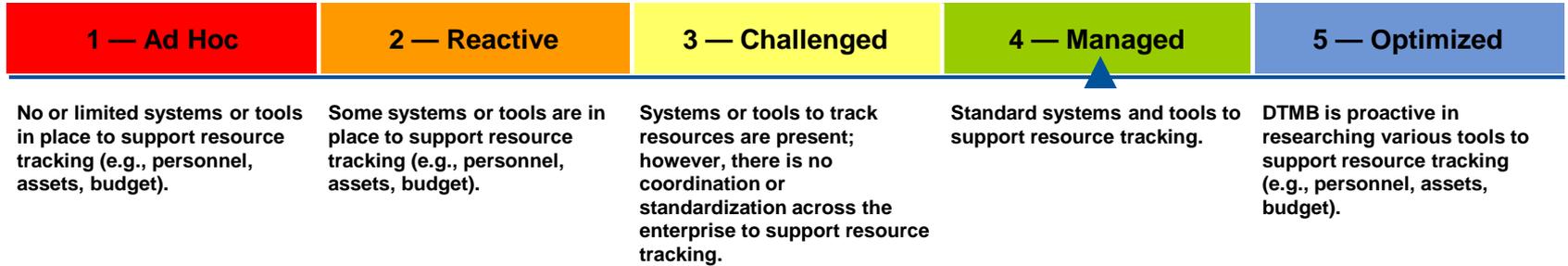
- The vision is for DTMB to be a transformation-oriented entity for the State of Michigan.
 - This is supported by the fact that 100% of the responding agencies stated that they will have “high dependency” on IT in the future.

- Attributes of Value-Optimizing IT Delivery Model.

- Six- to seven-year track record of seamless functional performance.
- Business leaders are as comfortable making IT-related decisions as they are making financial decisions.
- Business dynamics and cultural realities dictate a new level of IT risk and investment.
- Mature governance and a culture of collaboration exist between business unit leaders.
- Market competitiveness allows IT to market its services externally.
- IT organization takes over IT-dependent organizations, most often those that are logistically based and/or enabled by ERP systems where process and technology have fused.
- CIO becomes a COO, with significant responsibility for delivering mission-critical services.

CIO — Operations Management

Target State — Technology



CIO — Operations Management

Gap Analysis — Technology



- The technology requirements will be determined based on the road map designed to enable the organizational change.
- Once the organizational strategy has been determined, executives must be able to view real-time resource utilization, allocation and planning requirements in order to ensure effective execution.

CIO — Operations Management

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No clear organizational structure or overall ownership of responsibilities for resource management across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB does not have enough adequately trained staff to support resource management;■ DTMB does not have a personnel management plan or strategy to ensure that DTMB attracts and develops a sufficient number of adequately trained staff to support resource management;■ DTMB has undefined roles and responsibilities to support resource management;■ Functionally and technically siloed.	<p>IT is run like a business, and ownership of client service delivery responsibilities within the enterprise exists, but organization is immature and appropriate skill sets are not present. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has staff that has received some of the necessary training (but needs more training) to be adequately prepared to support resource management;■ DTMB inconsistently applies personnel development processes and does not have a defined hiring/recruiting plan to address projected changes in the workforce (e.g., significant number of potential retirements, changing business needs, etc.) to support resource management;■ DTMB has inconsistently established roles and responsibilities to support resource management.	<p>Ownership of client service delivery responsibilities within the enterprise exists, is fairly mature, and exhibits some best practices. Client service delivery skill sets largely align with IT support needs. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has adequately trained resources but is understaffed, which limits the organization's ability to support resource management;■ DTMB has a personnel management plan or strategy that incorporates a defined training plan to develop adequately trained staff to support resource management;■ DTMB does not have a defined hiring/recruiting plan to address projected changes in the workforce (e.g., significant number of potential retirements, changing business needs, etc.) to support resource management;■ DTMB has consistent and documented roles and responsibilities to support resource management.	<p>Client service delivery organization is integrated with other key processes and IT roles, and is appropriately organized and staffed. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has a sufficient number of adequately trained resources to support resource management;■ DTMB has a personnel management plan or strategy that incorporates a defined training plan to develop adequately trained staff to support resource management;■ DTMB has a defined hiring/recruiting plan to address projected changes in the workforce to support resource management;■ DTMB has documented each role as responsible, accountable, consulted and informed to support resource management.	<p>Client service delivery processes are mature and efficient. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has a sufficient number of proficient resources to support resource management;■ DTMB has a personnel management plan or strategy that incorporates a defined training plan to develop adequately trained staff to support resource management;■ DTMB has a defined hiring/recruiting plan to address projected changes in the workforce (e.g., significant number of potential retirements, changing business needs, etc.) to support resource management;■ Job performance is evaluated, enhanced and rewarded based on defined objectives to support resource management;■ DTMB has documented each role as responsible, accountable, consulted and informed to support resource management.

CIO — Operations Management

Gap Analysis — Organization



- DTMB must select the type of Operating Model that is appropriate for the organization, and this selection will impact the necessary IT Delivery Model and Organization Architecture.
 - A transformational organization requires more of an IT-business matrix around core business processes, services or value centers.
- DTMB should identify economies of scale that could be achieved by reorganizing the current technical silos that exist in Agency Services.
- DTMB must identify the owner of the Service Portfolio, who should be tasked with combining all existing service catalogs, as well as reviewing and updating all service descriptions and SLAs to make them more customer-oriented.
- When performing IT Strategic Planning, the State of Michigan (SOM) must identify the various pieces of the organization that are necessary to accomplish the given goals, and organize those elements to execute on the chosen strategy.
- DTMB should clearly identify an owner to support technology innovation and monitor IT trends, including coordination with Enterprise Architecture to evolve DTMB's pre-approved technical architecture standards to anticipate what other State agency personnel may be hearing in the marketplace.

CIO — Operations Management

Target State — Process

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Process management disciplines are adopted. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is not involved with customer-agency IT investment management decisions;■ DTMB does not have documented process to support account planning and documentation of requirements.	<p>Client service delivery processes are largely documented, but with limited standardization, and are inconsistent from location to location, business unit to business unit. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is inconsistently involved with customer-agency IT investment decisions;■ DTMB has different ad hoc processes to support resource management.	<p>Client service delivery processes are standardized and documented, and are consistently applied to the organization. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is consistently involved with customer-agency IT investment decisions — mostly in costing and conducting impact analyses;■ DTMB has a standard, documented process to support resource management.	<p>Client service delivery processes are well defined and managed consistently across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB is highly involved with customer-agency IT investment decisions — including business case preparation (benefits identification, costing, impact analyses, risk analyses, etc.);■ DTMB's tools and organization are appropriately aligned to efficiently track the needs of the business during the defined processes;■ DTMB has a standard, documented process to support resource management.	<p>Client service delivery processes are mature and efficient. Common attribute, include:</p> <ul style="list-style-type: none">■ DTMB is highly involved with customer-agency IT investment decisions — including business case preparation (benefits identification, costing, impact analyses, risk analyses, etc.);■ DTMB monitors and reports on progress of the investment (i.e., is it on budget, is it delivering the projected ROI, etc.);■ DTMB's tools and organization are appropriately aligned to efficiently track the needs of the business during the defined processes;■ DTMB has defined service level objectives for interactions with each customer agency;■ DTMB has a standard, documented process to support resource management.

CIO — Operations Management

Gap Analysis — Process



- Processes must include effective communication between functional areas as well as service accountability, so that everyone in the supply chain is aware of the results.
- DTMB must understand, define and map the processes necessary to achieve the goals set forth by the CIO.
- Agency Services should begin managing to specified project budgets in terms of hours and dollars for every project.
- In order to address customers' concerns about cost management, DTMB should re-examine its financial management processes to focus on TCO management of service assets, rather than cost recovery/service pricing.
- In order to deal with recruitment of project manager and developer personnel into Agency Services, re-examine civil service classification rules, processes and policies that inhibit DTMB's ability to replace high-priced contractors with internal State resources.

CIO — Operations Management

Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>There is no resource management strategy or strategic planning function. Common attributes include:</p> <ul style="list-style-type: none"> DTMB has no enterprise strategic plan; Strategic planning is not performed across the organization; DTMB does not proactively monitor or respond to industry and technology trends. 	<p>High-level resource management strategy is defined, but does not have measurable objectives. Common attributes include:</p> <ul style="list-style-type: none"> Each service (e.g., enterprise architecture, security, etc.) has an individual strategy, but these individual strategies do not take into account the wider organization, nor are they communicated enterprisewide; Strategic planning efforts do not take into account the wider organization, nor are they communicated enterprisewide; DTMB inconsistently monitors and responds to industry and technology trends, but is not consistent across the enterprise. 	<p>Strategy is defined and communicated; however, it is not effectively translated into consistent action. Common attributes include:</p> <ul style="list-style-type: none"> Technology strategy is explicitly aligned with business goals; A high-level enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; Strategic plans for DTMB are defined and communicated; however, they are not translated into action; DTMB consistently monitors and opportunistically responds to industry and technology trends across the enterprise. 	<p>Resource management strategy is clearly defined, communicated and socialized throughout the enterprise. Common attributes include:</p> <ul style="list-style-type: none"> A detailed enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; The strategic plan includes discrete IT initiatives that are defined and prioritized into an actionable road map that supports the IT Strategy; Resource management strategy is clearly defined, communicated and socialized throughout the enterprise; Tools, organization and processes are aligned to oversee and ensure the execution of the strategy; DTMB consistently monitors and opportunistically responds to industry and technology trends across the enterprise, and inconsistently invests in innovation across the enterprise. 	<p>Client service delivery strategy spans the business and is integrated into enterprise strategic planning, is continually reviewed, and the strategy is updated to align with business objectives. Common attributes include:</p> <ul style="list-style-type: none"> A detailed enterprise strategy that aligns with the State's overall strategy is defined and is communicated enterprisewide; The strategic plan includes discrete IT initiatives that are defined and prioritized into an actionable road map that supports the IT Strategy; The strategic plan has clearly defined measures for success; Strategic planning is holistic, continually reviewed, and the strategy is updated to align with business objectives; Strategy is clearly defined and communication throughout the enterprise; Tools, organization and processes are aligned to oversee and ensure the execution of the strategy; DTMB consistently monitors and opportunistically responds to industry and technology trends across the enterprise, and consistently invests in innovation across the enterprise; DTMB has an established innovation center.

CIO — Operations Management

Gap Analysis — Strategy



- DTMB should focus on the business strategy first, and let technology strategy follow.
- The State needs to create annual operational plans with defined projects, project owners, success criteria, resources and prioritizations.
 - These plans must define business benefits to DTMB.
- The State should prepare service definitions that describe DTMB services in terms of business value delivered to the customer and quantifies the business value delivered.
 - Agencies must understand how delivered value compares with market value.

CIO — Operations Management

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Resource management metrics are not clearly defined. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has not identified any service level objectives tied to the objectives/needs of its executive team or the customer agencies.	<p>Basic resource management metrics exist, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has informal service level objectives tied to objectives/needs of the executive team and customer agencies;■ No objectives or metrics are defined across the enterprise.	<p>Resource management metrics are established, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has defined and documented service level objectives tied to objectives/needs of the executive team and customer agencies, but performance is not measured;■ No objectives or metrics are defined across the enterprise.	<p>Resource management metrics are established, and organization is accountable to other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ DTMB has clearly defined and documented service level objectives tied to objectives/needs of the executive team and customer agencies;■ DTMB has formal processes in place for measuring DTMB's performance against the objectives;■ DTMB is managing to agreed-upon service levels.	<p>Resource management metrics are established, and the organization is fully accountable to other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Integrated reporting of performance and ongoing improvement within each customer-agency and enterprisewide.

CIO — Operations Management

Gap Analysis — Service Level



- DTMB must work with customers to create meaningful SLAs.
- DTMB must establish performance management instrumentation to monitor and measure progress.
 - The specific tool/software is not as important as the consistent use of the tool (i.e., Excel can work).
- DTMB must identify the appropriate metrics necessary to provide the customer agencies a realistic status to its projects (e.g., percentage completed, projected completion date, etc.).

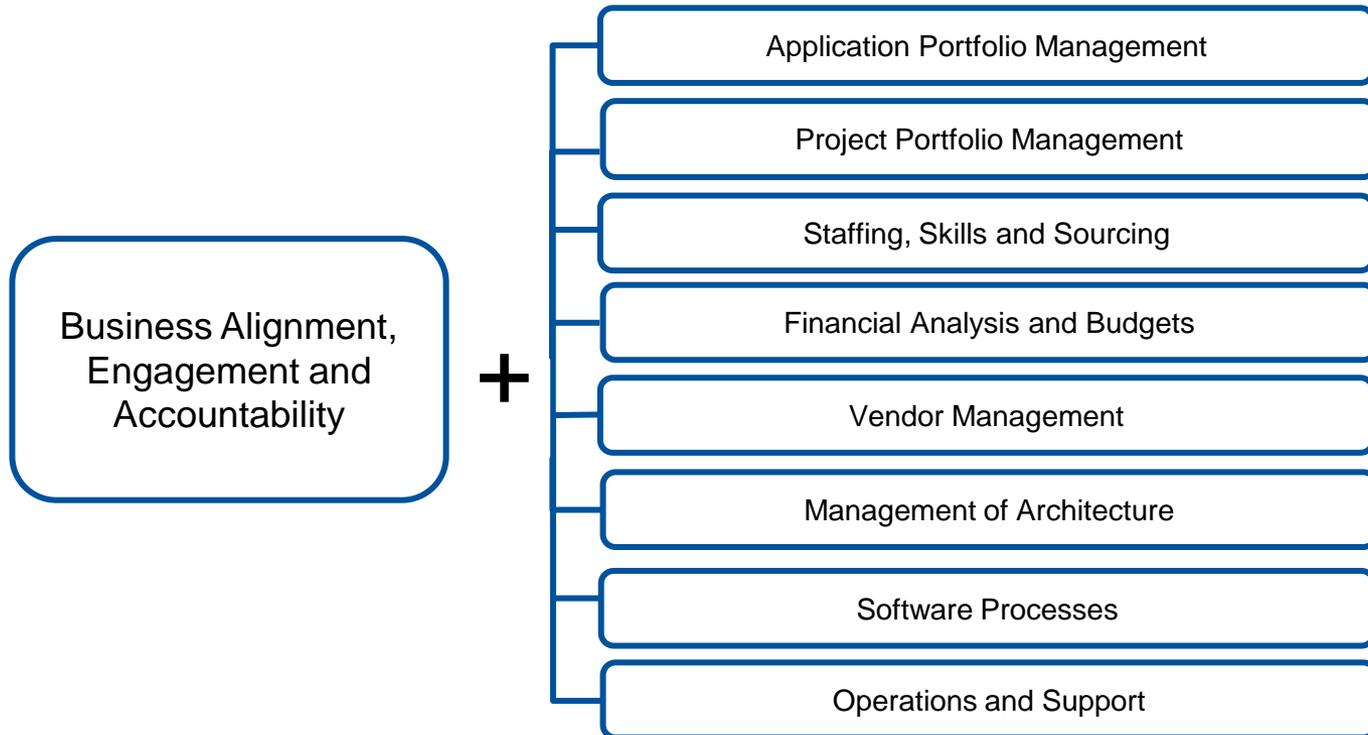
Gap Analysis

Applications

Current State = ○
Target State = ▲

Applications

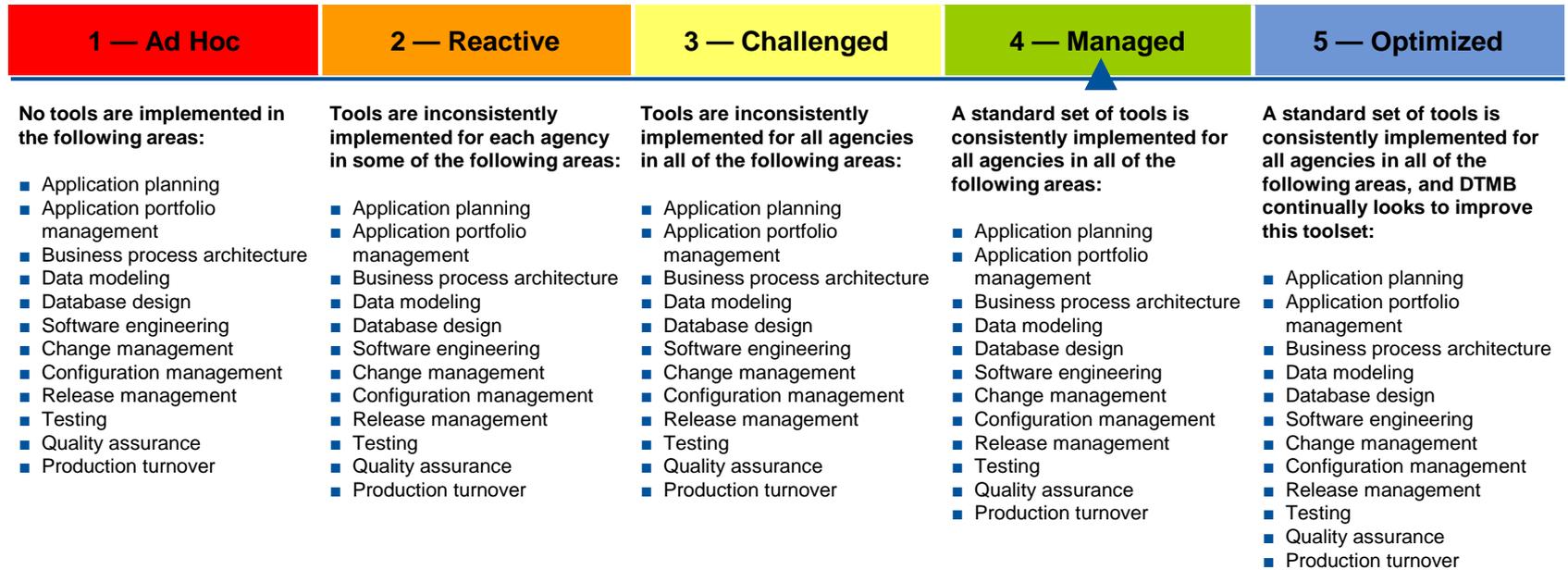
Gartner Framework — Applications



Applications covers more than just the Systems Development life cycle (SDLC); it involves the overall management of the application portfolio, as well as all aspects of managing application development projects and ongoing maintenance.

Applications

Target State — Technology



Applications

Gap Analysis — Technology

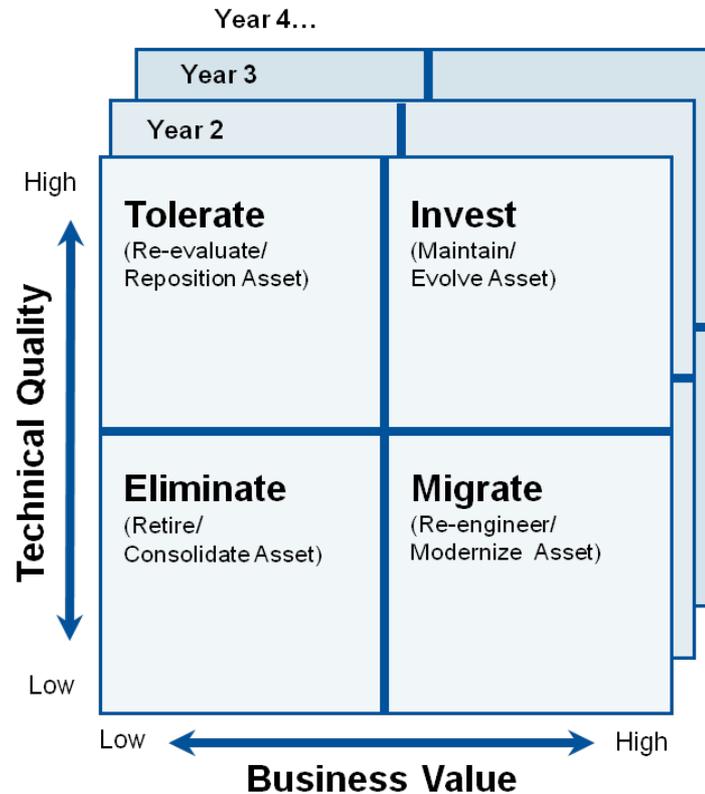


- Standardize code development, code versioning, functional and technical design documentation management, testing tools, and release management across agency project teams.
- Eliminate very old legacy platform applications and accelerate application modernization efforts where possible.
- Expand usage of ChangePoint (or one of the existing similar tools being used by the agency project teams) for application portfolio management, as well as individual project timeline and budget reporting.
- Need to reduce 50+ application language/development tools down to approximately one-half that number overall.

Applications

Target State — Strategy: Gartner Research — Use APM to Categorize the Portfolio: “TIME”

- Satisfies 80% of the business function
 - Platform quality of service required
 - Problem is access, not implementation
-
- Low business value
 - Duplicate implementations
 - Alternate implementations



- New business drivers cross traditional stovepipe applications
 - Data volume precludes conversion
 - E-business needs offered by packaged solution are critical
-
- Burning platform
 - Declining and irreplaceable skill sets
 - Manageable quality of service expectations
 - Resolve merger and acquisition differences

Applications

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>DTMB does not have defined roles/responsibilities or enough adequately trained staff for the following activities:</p> <ul style="list-style-type: none"> ■ Application planning ■ Application analysis ■ Application design ■ Application portfolio management ■ Business process architecture ■ Data modeling ■ Database design ■ Software engineering ■ Change management ■ Configuration management ■ Release management ■ Testing ■ Quality assurance ■ Product turnover 	<p>DTMB has inconsistently established roles and responsibilities for the following activities: DTMB has staff that has received some of the necessary training (but needs more training) to be adequately prepared for the following activities:</p> <ul style="list-style-type: none"> ■ Application planning ■ Application analysis ■ Application design ■ Application portfolio management ■ Business process architecture ■ Data modeling ■ Database design ■ Software engineering ■ Change management ■ Configuration management ■ Release management ■ Testing ■ Quality assurance ■ Product turnover 	<p>DTMB has consistently documented roles and responsibilities for the following activities: DTMB has adequately trained resources to manage resources but is understaffed, which limits its ability to perform the following activities:</p> <ul style="list-style-type: none"> ■ Application planning ■ Application analysis ■ Application design ■ Application portfolio management ■ Business process architecture ■ Data modeling ■ Database design ■ Software engineering ■ Change management ■ Configuration management ■ Release management ■ Testing ■ Quality assurance ■ Product turnover 	<p>DTMB has documented each role as responsible, accountable, consulted and informed for the following activities: DTMB has a sufficient number of adequately trained staff for the following activities:</p> <ul style="list-style-type: none"> ■ Application planning ■ Application analysis ■ Application design ■ Application portfolio management ■ Business process architecture ■ Data modeling ■ Software engineering ■ Change management ■ Configuration management ■ Release management ■ Testing ■ Quality assurance ■ Product turnover 	<p>DTMB has a defined sourcing strategy that evaluates the optimal distribution of insourced and outsourced resources; DTMB has optimized the number of adequately trained staff to manage resources across the enterprise; This includes the identification of resources that should be pooled and shared across the enterprise; DTMB has documented each role as responsible, accountable, consulted and informed for the following activities:</p> <ul style="list-style-type: none"> ■ Application planning ■ Application analysis ■ Application design ■ Application portfolio management ■ Business process architecture ■ Data modeling ■ Database design ■ Software engineering ■ Change management ■ Configuration management ■ Release management ■ Testing ■ Quality assurance ■ Product turnover

Applications

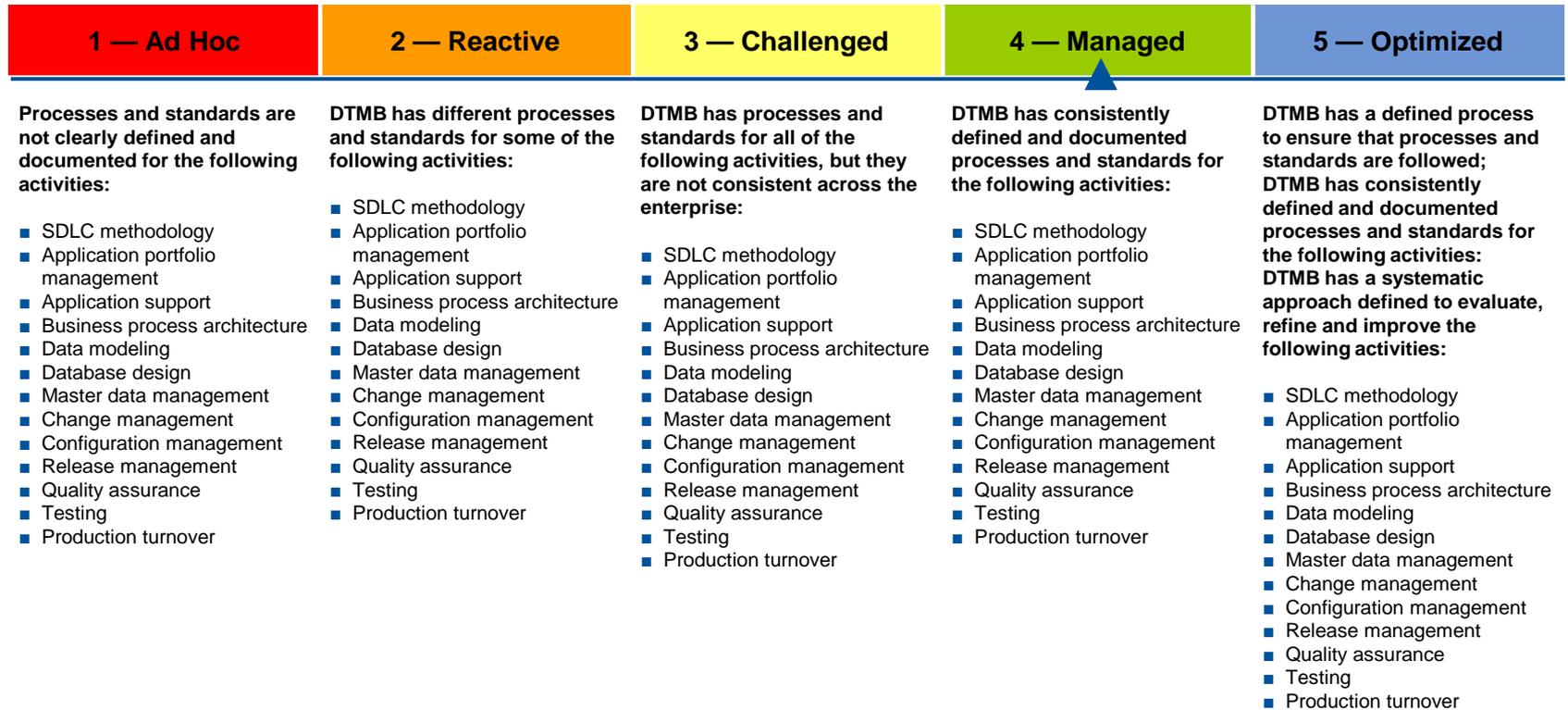
Gap Analysis — Organization



- Improve understanding of each agency's business and skills among business analyst resources.
- For agencies that do not have their own business analyst teams, DTMB needs to supplement their development teams with business analysts who have a deep understanding of their business processes.
- Enable dynamic sharing of software infrastructure across all of Agency Services.
- Enable dynamic sharing of quality assurance resources across all of Agency Services, and standardize testing processes and procedures.
- Once the software infrastructure and quality assurance personnel have been consolidated within Agency Services and the project manager and business analyst roles have been specialized, then the next logical step would be to consolidate developer and project management personnel.
- Commit to either improving the ability to staff developer and project management resources in-house or allow greater flexibility to bring in contractor staff.
- Need to address issues of dual-hatted project managers/business analyst resources, potentially leading to additional barriers for sharing project managers across application teams.

Applications

Target State — Process



Applications

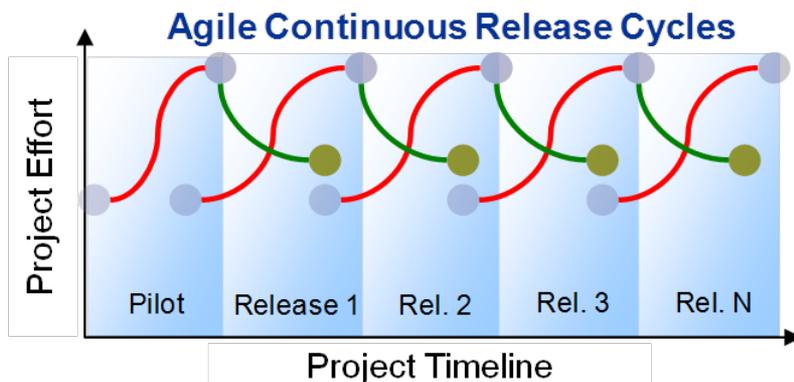
Gap Analysis — Process



- Develop a consistent and standardized capability to report timeline and budget status reporting across all agencies.
- Ensure quality assurance and testing are being performed uniformly across agency project teams per SUITE methodology.
- Provide more guidance to QA teams to completely evaluate the quality of project deliverables, with detailed examples of what constitutes a “good deliverable” for each document type.
- Standardize and ensure adherence to SUITE methodology across agency teams for design, development, testing and release management processes.
- Improve accountability between DTMB IT organizations for delivering to customer expectations.

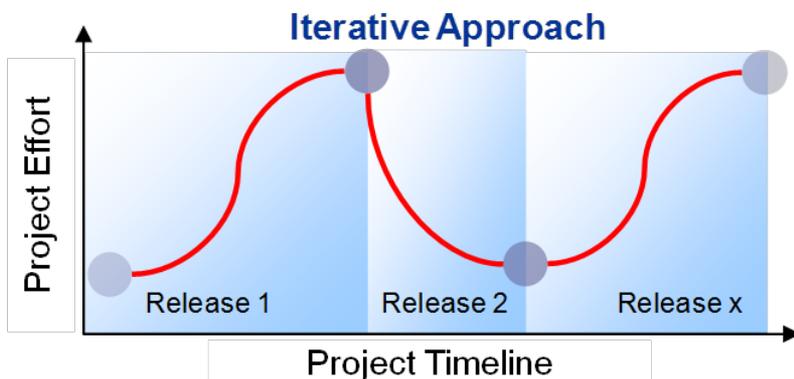
Applications

Target State — Process: Gartner Research — Agile and Iterative Development: A Product Delivery Focus



■ Agile Cycle

- Continuous cycle of design and optimization
- Typically, iteration is under six weeks
- New policies and rules can be tested and deployed in a day



■ Iterative Cycle

- Pilot iteration
- First major release in four to six months
- Subsequent releases every three to four months

Some Agency Services teams are already utilizing Agile-style development methodologies, which allow them to deliver functionality frequently to end customers, rather than waiting long periods of time to get one big release.

Applications

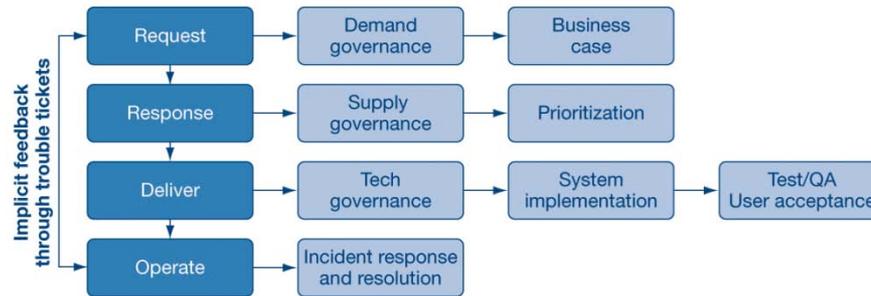
Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>There is no defined Applications strategic plan. Common attributes include:</p> <ul style="list-style-type: none">■ Limited agency engagement for application budget creation;■ No management insight into application performance;■ No application portfolio management;■ Limited agency accountability for application investments or budget.	<p>High-level Applications strategy is defined, but does not have measurable objectives. Common attributes include:</p> <ul style="list-style-type: none">■ Some agencies are engaged for application budget creation;■ Ad hoc management insight into application performance;■ Ad hoc application portfolio management;■ Inconsistent agency accountability for application investments or budget.	<p>Applications strategy is defined and communicated; however, it is not effectively translated into consistent action. Common attributes include:</p> <ul style="list-style-type: none">■ All agencies are inconsistently engaged for application budget creation;■ Management has insight into application performance for all agencies;■ Application portfolio management is performed for all agencies;■ Agency accountability for application investments or budget is tracked by the agencies.	<p>Applications strategy is clearly defined, communicated and socialized throughout the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ All agencies are consistently engaged for application budget creation;■ Management has insight into application performance for all agencies;■ Application portfolio management is performed for all agencies;■ Agency accountability for application investments or budget is tracked at DTMB.	<p>Applications strategy spans the business and is integrated into enterprise strategic planning, is continually reviewed, and the strategy is updated to align with business objectives. Common attributes include:</p> <ul style="list-style-type: none">■ All agencies are consistently engaged for application budget creation;■ DTMB proactively works with agencies to identify and secure funding sources;■ Management has insight into application performance for all agencies, and actively identifies applications to sunset;■ Application portfolio management is performed for all agencies, and defined processes are in place to evaluate the possibility of sharing applications across agencies;■ Agency accountability for application investments or budget is tracked at DTMB.

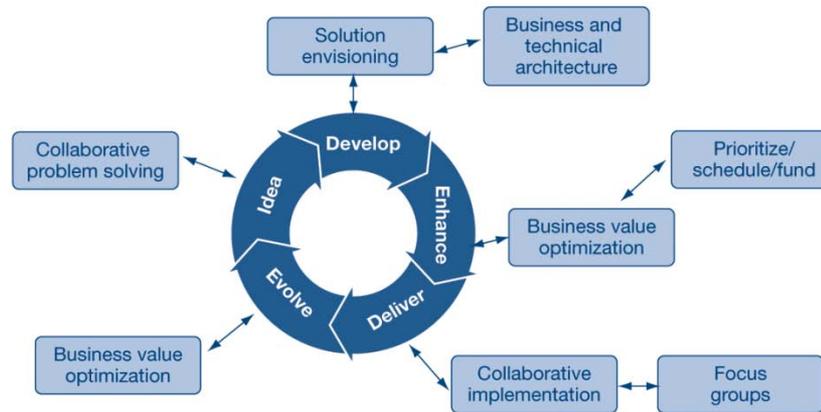
Applications

Target State — Process: Gartner Research — Moving From Delivery to Engagement...

Delivery-focused IT



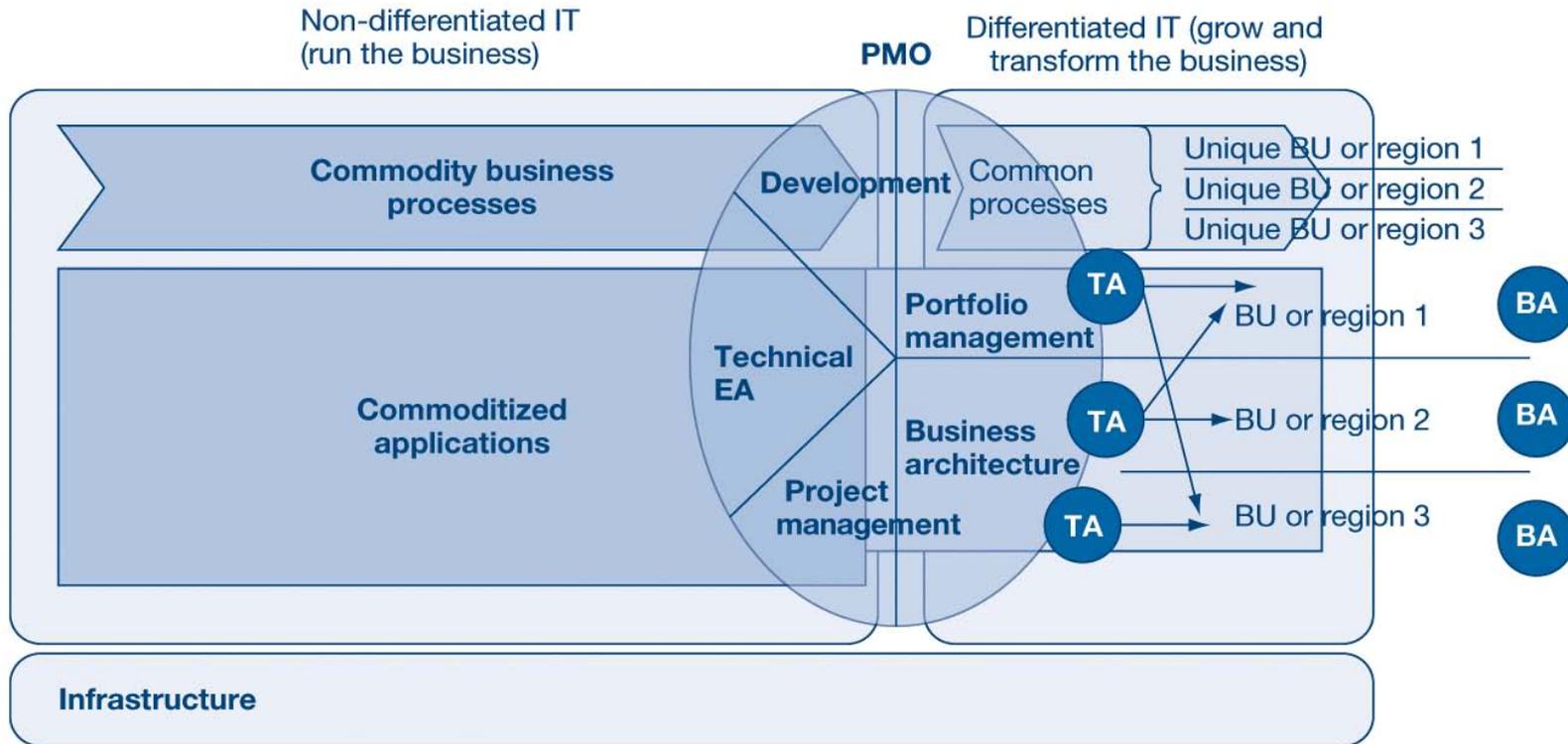
Engagement-focused IT



“Engagement” describes how business-facing personnel in IT take accountability — not just for delivering work products, but also for leadership, collaboration, customer service and cultivating trusted-advisor relationships with business peers with whom they are aligned.

Applications

Target State — Process: Gartner Research — ...To Architecture-Based Engagement



TA = technical architect focused on business architecture and business process
 BA = business architect
 Business process is the common language; business architecture is the common solutions framework

Applications

Gap Analysis — Strategy



- Ensure that all Information Officers are able to provide their partner agencies with strategic-level support where they should be spending the vast majority of their time.
- Revamp budgeting and associated Call for Projects processes to be more focused on enterprise IT and agency strategies.
- Application Portfolio Management should be expanded to become one of the primary drivers of the applications organization.
- Application development and maintenance work should also become more Business Architecture-driven, with a full Enterprise Architecture view of the enterprise.

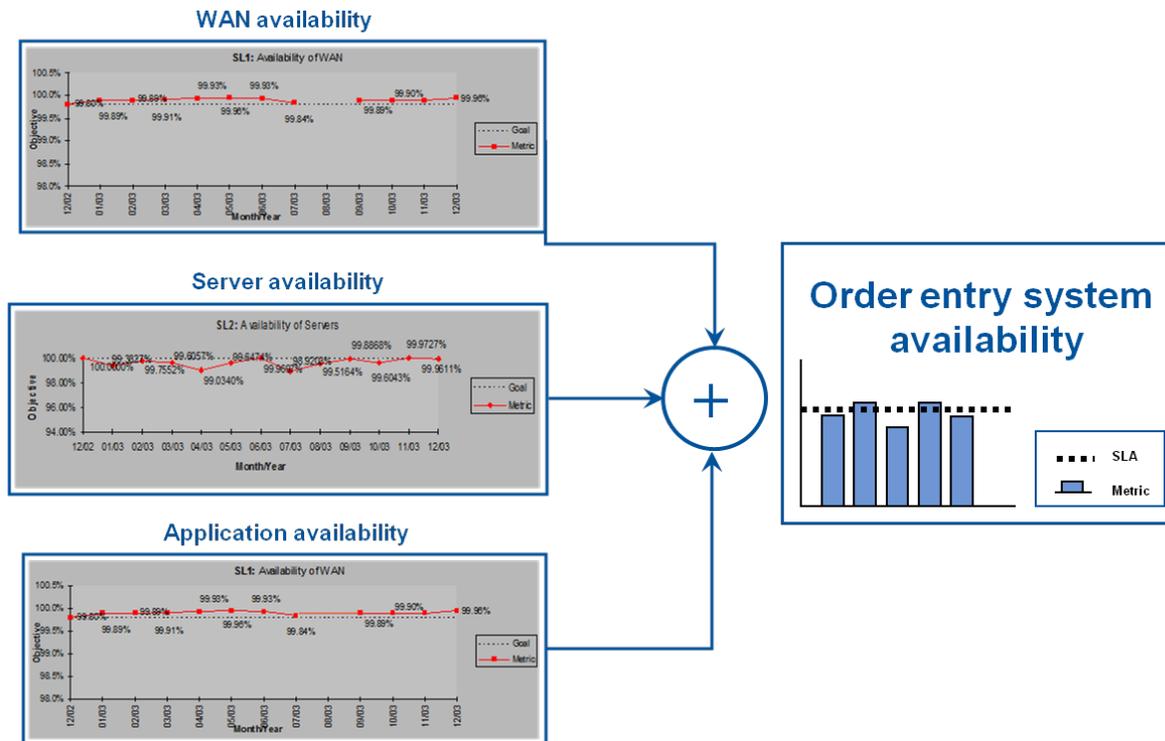
Applications

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Application service levels not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ Application development service levels are not defined at the beginning of each project;■ Application support service levels (e.g., uptime, availability, time to restore, etc.) are not defined.	<p>Basic Application service levels exist, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ Application development service levels are sometimes defined at the beginning of each project;■ Application support service levels (e.g., uptime, availability, time to restore, etc.) are ad hoc.	<p>Application service-level agreements and metrics are established, and organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Application development service levels are always defined at the beginning of each project, but are inconsistently tracked during the project;■ Application support service levels (e.g., uptime, availability, time to restore, etc.) are consistently defined across the enterprise but inconsistently tracked.	<p>Application service-level agreements and metrics are established, and organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Application development service levels are always defined at the beginning of each project but are consistently tracked during the project;■ Application support service levels (e.g., uptime, availability, time to restore, etc.) are consistently defined across the enterprise and are consistently tracked/reported against.	<p>Application service-level agreements and metrics are collaboratively and regularly agreed to with customers, and organization is fully accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Application development service levels are always defined at the beginning of each project, but are consistently tracked during the project;■ Application support service levels (e.g., uptime, availability, time to restore, etc.) are consistently defined across the enterprise and are consistently tracked/reported against;■ Organizational performance is evaluated, enhanced and rewarded based on defined objectives.

Applications

Target State — Service Level: Gartner Research — It Is Possible to Make Technical Metrics Meaningful to Business Stakeholders



Business stakeholders do not care if the individual components of a system are up and running. They only care if the service/application/system those components combine to deliver is available and performing at an ideal level.

Applications

Target State — Service Level: Gartner Research — Project Status Dashboard Example — U.S. Federal Government

DOI - Integrated Reporting of Wildland-Fire Information (iRWIn)

> Cost Details > Schedule Details > Performance Metrics > Contracts > Reports > Exhibit 300

Overall Rating



2.7

▼ Number of Rebaselines¹: 3

Show Calculations

Investment Information

Agency Head
Kenneth L. Salazar
Agency
Department of the Interior
Bureau
Agency-Wide Activity



Bernard
Mazer
Agency CIO

Investment Phase

Mixed Life Cycle

Description

Wildland Fire needs to take an integrated, service-oriented approach to developing [more..](#)

FY2011 (CY Continuing Resolution) Spending

\$1.5 M

Investment End Date

09/30/2024

Status

Continuing



Date of last reported change to any milestone: March 21, 2011
Current



Date of last reported change to any milestone: March 21, 2011
Current



Date Last Reported: March 21, 2011

More-advanced project dashboards provide even greater transparency by putting this information online that anyone can access, and updating the status data on a periodic basis, which could be weekly or monthly.

Applications

Target State — Service Level: Gartner Research — Project Status Dashboard Example — State Government

State Agency

Project Name	Sponsor	Size	Dashboard					Project Phase	Estimated End Date
			Scope	Schedule	Staff	Finance	Tech		
ZZZ Project	Dept 1	L						Phase	xx/xx/xxxx

STATUS:

ISSUES:

Project Status dashboards do not need to be overly complex, but they do need to communicate basic status data for each project, such as current adherence to schedule, budget, expected staffing levels, scope management and estimated end date.

Applications

Gap Analysis — Service Level



- More-consistent execution of projects, with improved on-time and on-budget reporting of project status.
- Complete and transparent dashboarding/reporting of agency-specific application availability and performance in “near real time.”

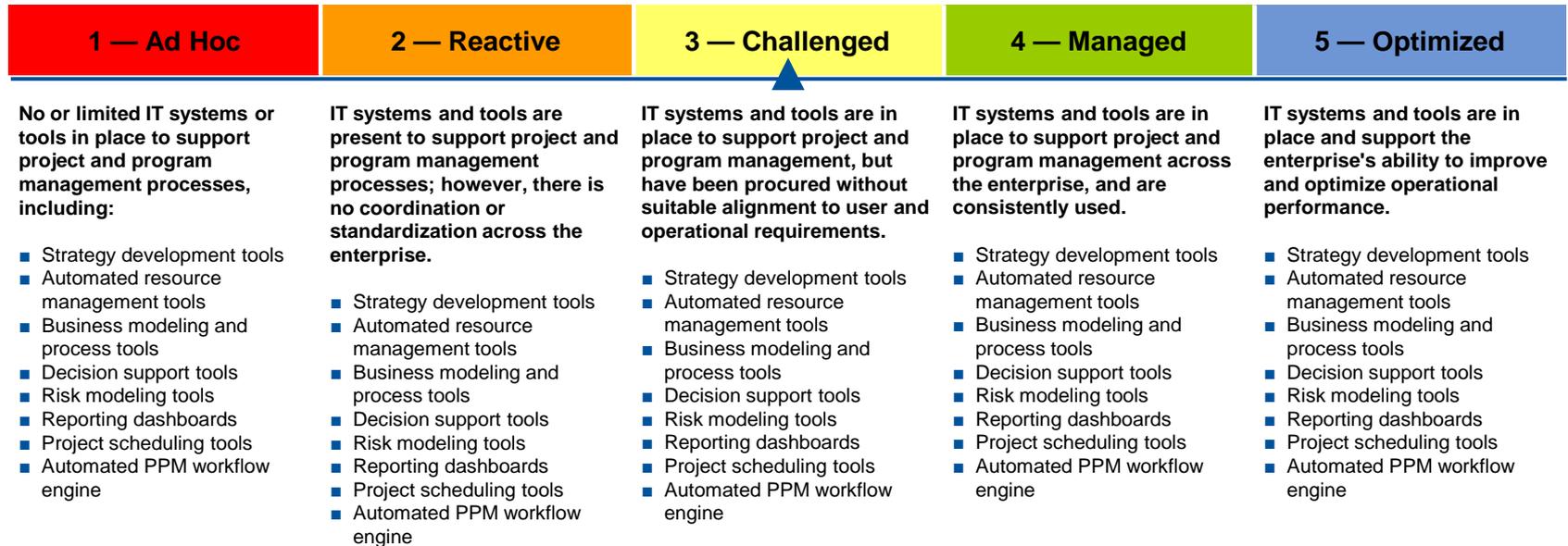
Gap Analysis

Program and Portfolio Management

Current State = ○
Target State = ▲

Program and Portfolio Management

Target State — Technology



Program and Portfolio Management

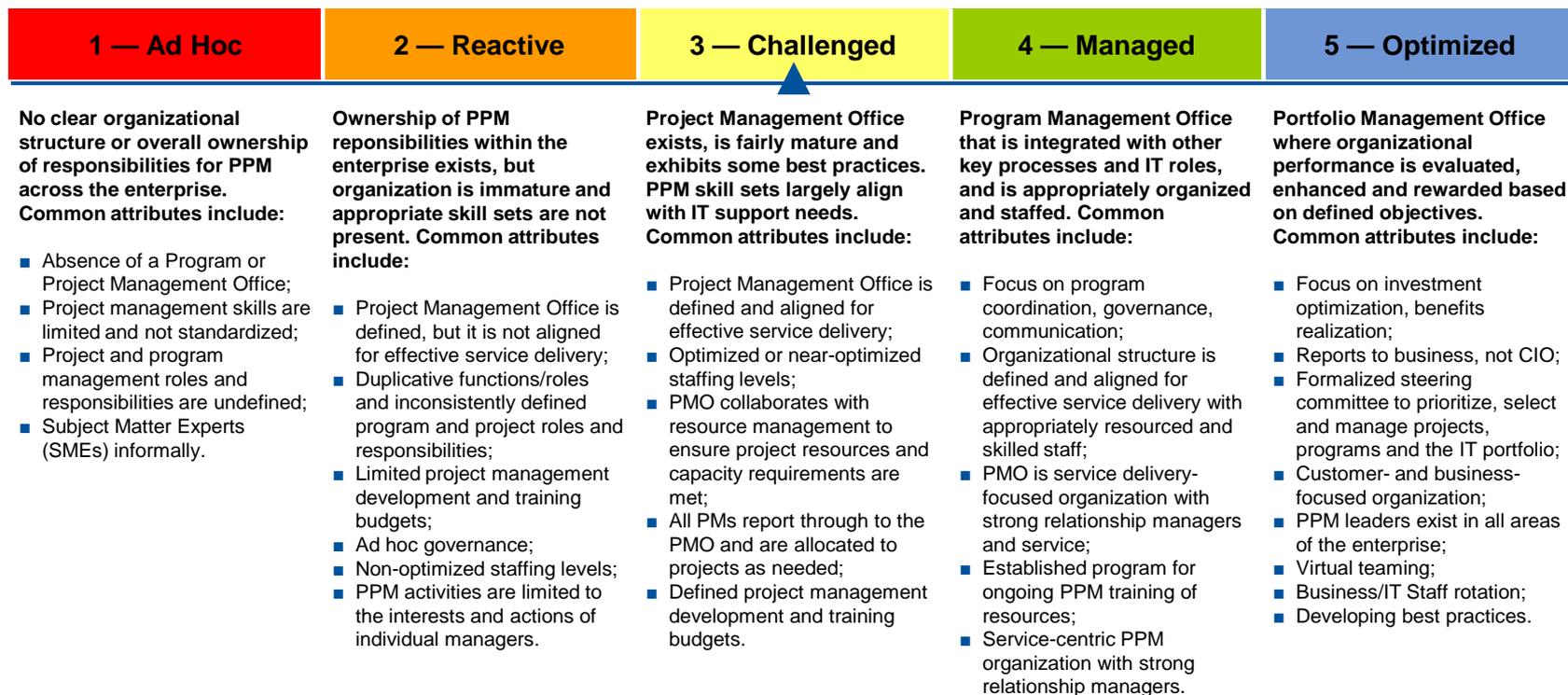
Gap Analysis — Technology



- ChangePoint needs to be institutionalized as the enterprisewide project management tool, with all business units using the tool to effectively report and capture project information.
- More integrated and automated project management tools are needed, as numerous manual tools are currently in use.
- Additional technology solutions in place at DTMB (e.g., timekeeping solution) should integrate into program and portfolio management tools (ChangePoint).

Program and Portfolio Management

Target State — Organization



Program and Portfolio Management

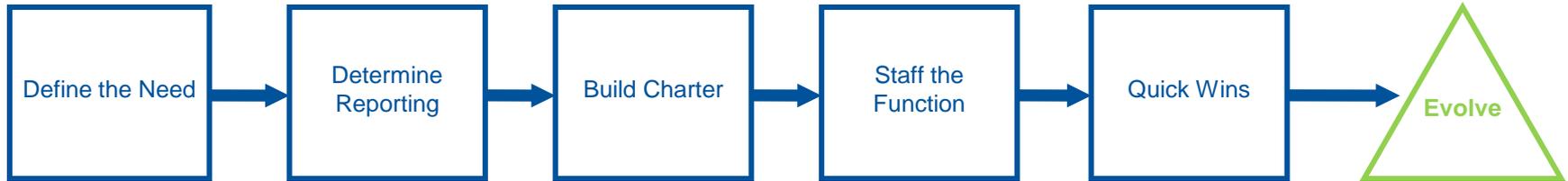
Gap Analysis — Organization



- PMO skill sets should become more standardized, with PMOs all exhibiting approximately the same level of skill and knowledge.
- PMO roles should be staffed with employees who have willingly chosen to focus on project management, rather than employees who were pulled from other occupations to fill a vacancy.
- Given the general lack of project management skills that were reported in the Job Skills Assessment, increased project management training should occur to equip PMs with necessary critical job skills.
- The ePMO should span across Infrastructure Services and Agency Services by reporting to an executive-level function that reports up directly to the CIO.
- Governance oversight and authority should be increased for the ePMO.
- PMOs should report into the ePMO to better align DTMB strategy and goals with agency unit strategy and goals.
- Improve workforce planning, recruiting and retention of project management resources.

Program and Portfolio Management

Gartner Framework — Importance of an ePMO

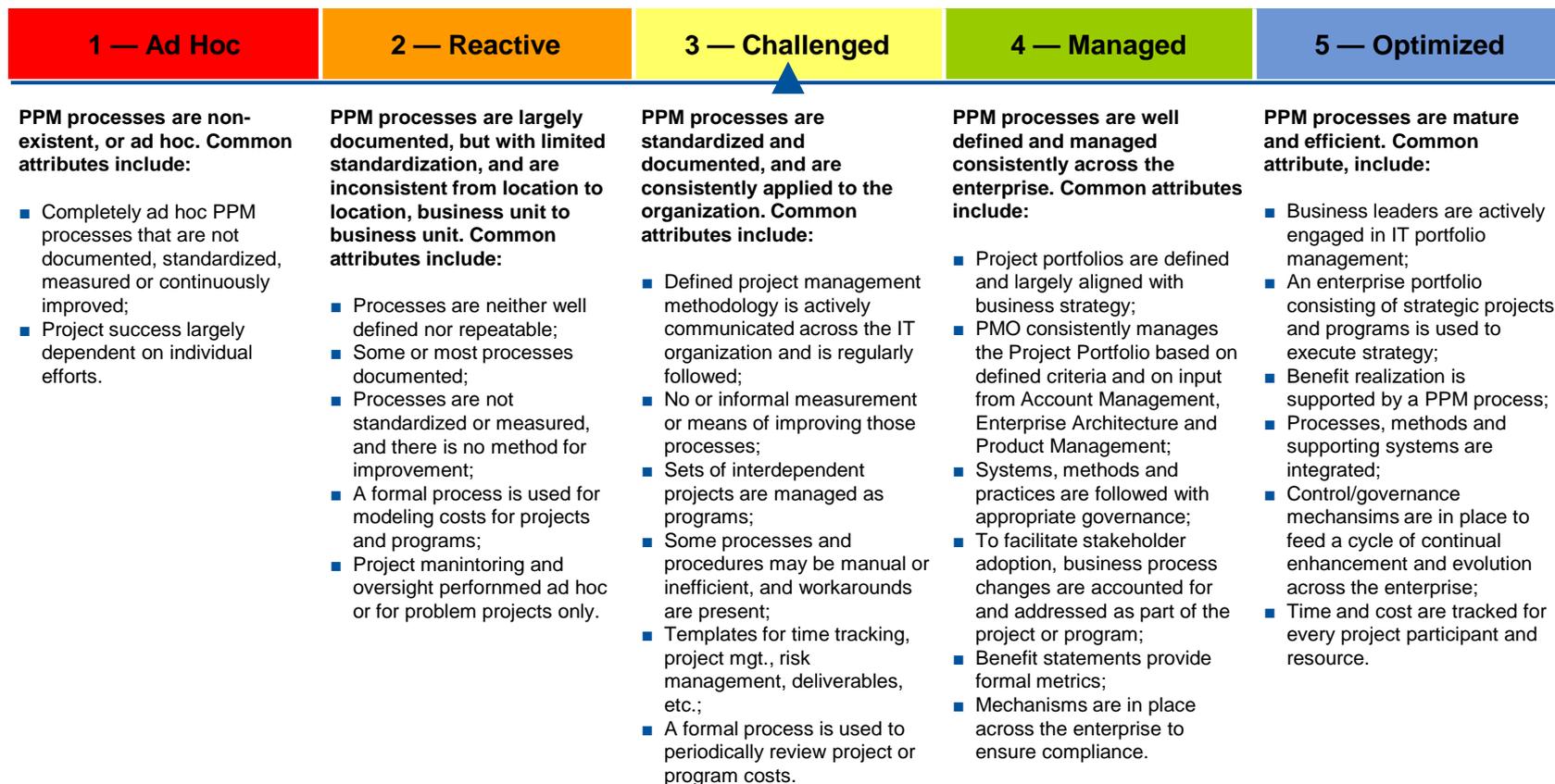


- Solve the problems the business cares about
- Realize PPM leadership is about people and change
- Small is good
- Measure something
- “Just enough” approach

Properly establishing the charter of the ePMO is essential to realizing the strategic value of project, program and portfolio management.

Program and Portfolio Management

Target State — Process



Program and Portfolio Management

Gap Analysis — Process

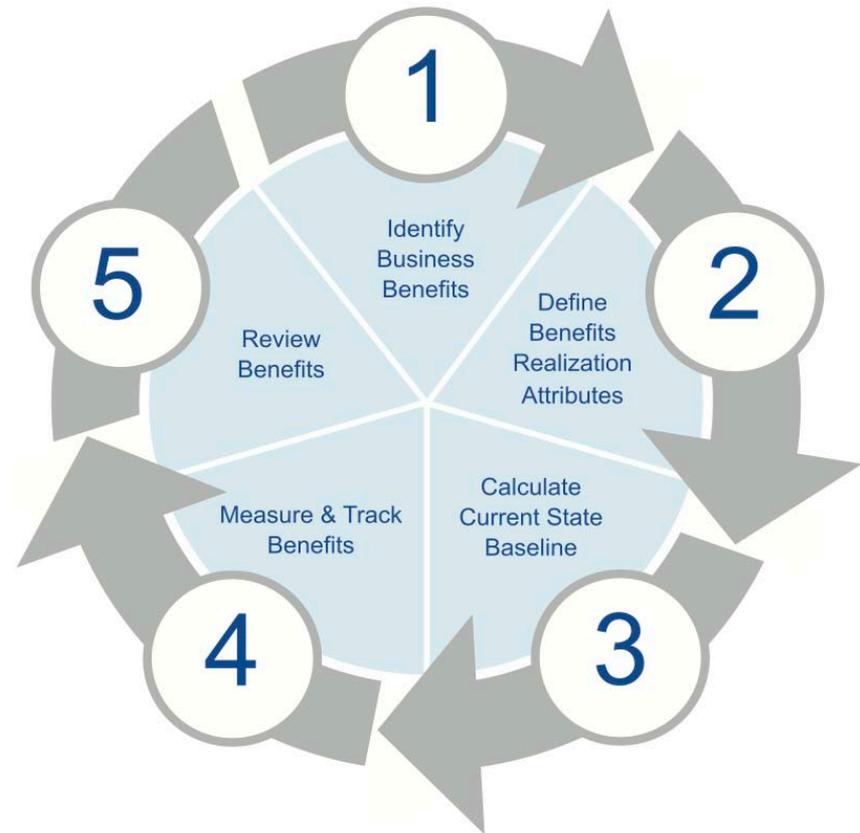


- Standardization needs to occur around project management processes that include transparent reporting of budget (in hours and dollars) and scheduling for every project, as well as accountability for meeting projects on-time and on-budget.
- DTMB needs to further develop and institutionalize a review process to evaluate projects from an ROI standpoint. This process should then guide business decisions (e.g., do we continue on the project? do we mitigate the project?). ROI does not need to be evaluated in strictly monetary terms, but can include a variety of evaluation metrics (e.g., increased number of customers served, increased response time, etc.).
- The ePMO should standardize guidelines and guide the institutionalization of best practices around a Call for Projects at the Agency level.
- Procurement and Enterprise Architecture should have an increased level of inclusion in the initial stages of the Call for Projects process.
- The ePMO should become the focal point for instituting a Benefits Realization process within the organization.

Program and Portfolio Management

Gartner Framework — Post-Implementation Benefits Realization Reviews

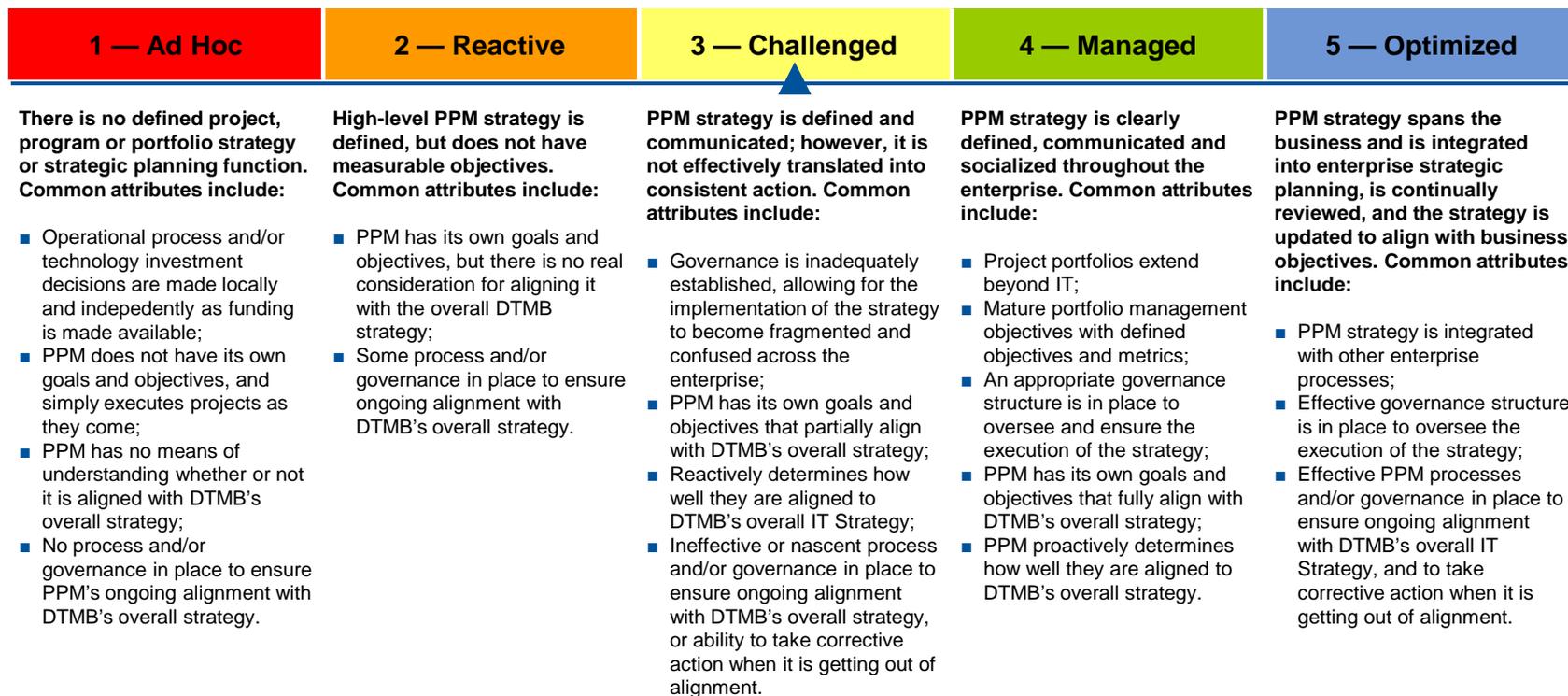
- Gartner Research recommends a five-step process cycle for ensuring that projects and programs achieve their stated business benefits — as well as the enabling technical benefits. This project is effectively the “Review Benefits” step of that process.



Gartner has a framework for post-implementation benefits realization reviews. Such a review would ensure that project and portfolio management within DTMB aligns with DTMB and Agency strategy.

Program and Portfolio Management

Target State — Strategy



Program and Portfolio Management

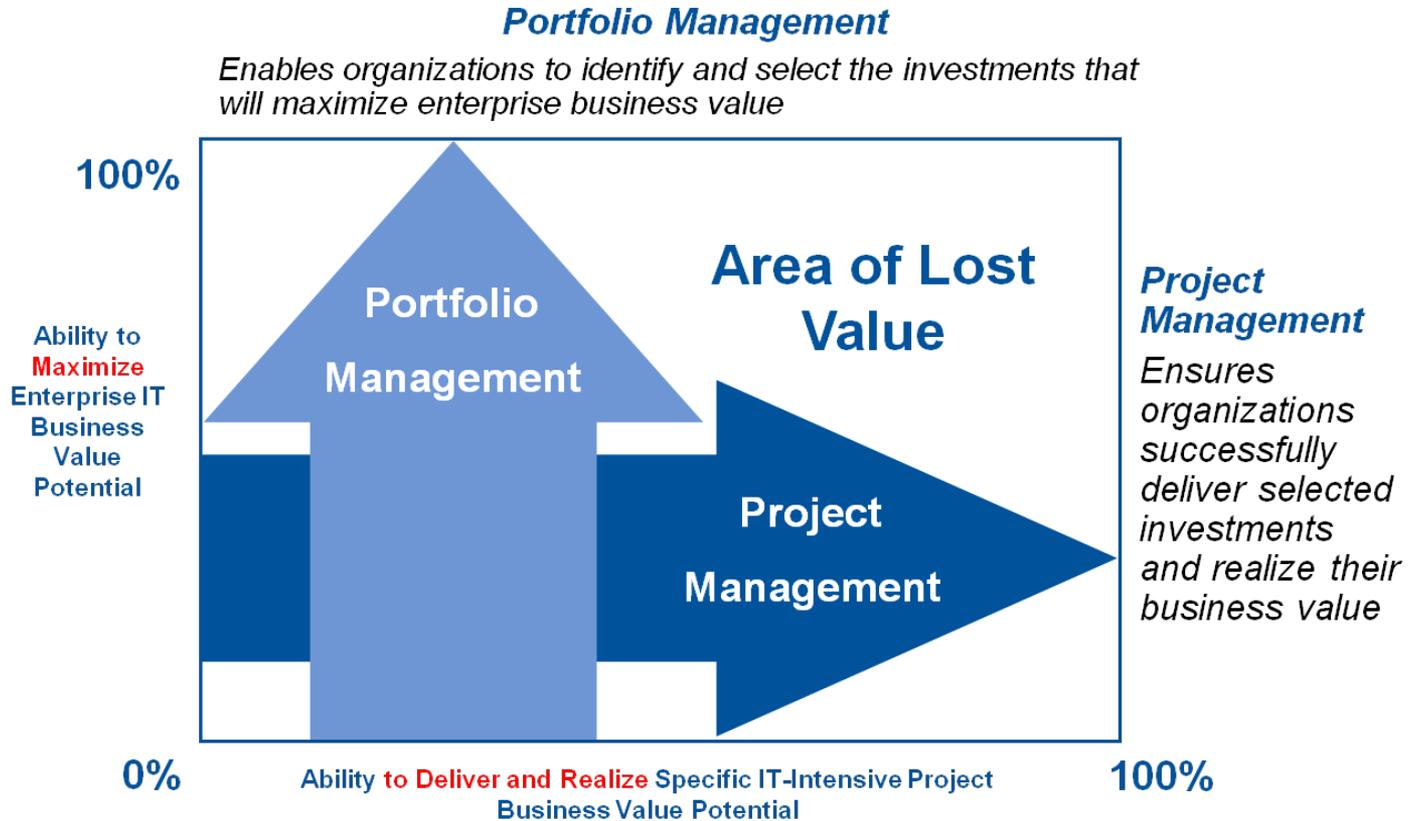
Gap Analysis — Strategy



- DTMB needs to better align with agency customers to ensure agency projects undertaken align with DTMB's strategy to the highest degree possible, as well as meet the strategic needs of the agencies.
- The Call for Projects process should be focused on enterprise portfolio management, and should be less focused on IT strategic management.

Program and Portfolio Management

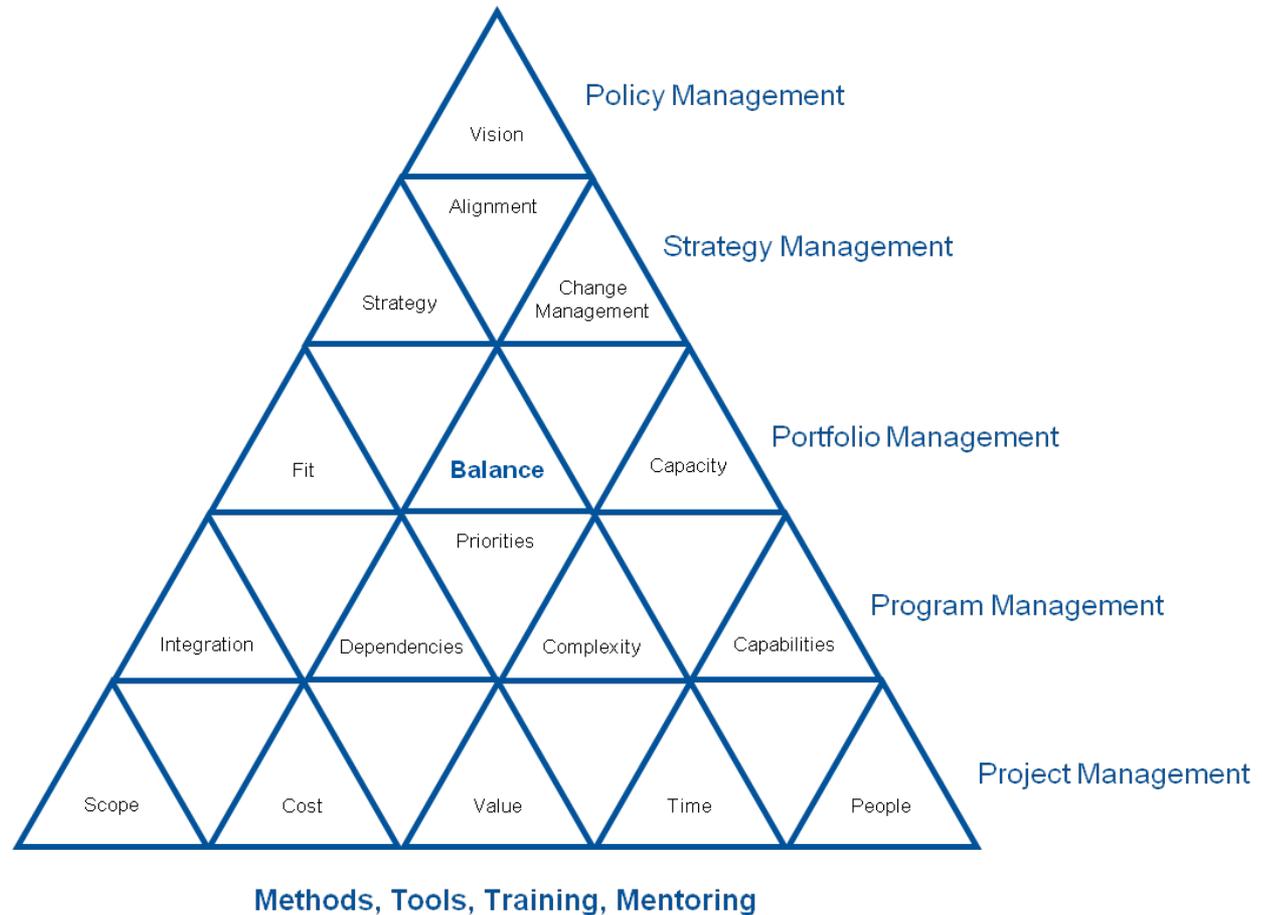
Gartner Framework — Project Management vs. Portfolio Management



To deliver on DTMB's strategic vision, both Project and Portfolio management need to be a focus for the State of Michigan.

Program and Portfolio Management

Gartner Framework — Where the PMO Fits



The right PMO structure will help DTMB stay in balance and realize its strategic vision.

Program and Portfolio Management

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>PPM service levels not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ No PPM service levels or metrics for which they are accountable to either end customers or other groups within DTMB;■ No means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>Basic PPM service levels exist, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ Few metrics are defined for PPM;■ No, or a few, basic PPM service-level agreements and metrics for which they are accountable to either end customers or other groups within DTMB;■ Ability to accurately calculate metrics is limited;■ Little means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>PPM service-level agreements and metrics are established and organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Ability to accurately calculate PPM metrics that end customers partially believe to be accurate;■ PPM is partially able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Metrics mostly related to project and project manager performance;■ No means of continuously improving to achieve better levels of customer satisfaction;■ Service levels to support chargeback and other financial allocation mechanisms exist, but are not fully mature.	<p>PPM service-level agreements and metrics are established, and IT support organization is managing to agreed-upon service levels. Common attributes include:</p> <ul style="list-style-type: none">■ PPM service-level agreements and metrics for which they are accountable to be benchmarked against peers;■ Ability to accurately calculate PPM metrics that end customers and other DTMB groups mostly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Ability to work toward improving actual delivery to current service-level agreements;■ Service levels to support chargeback and other financial allocation mechanisms exist.	<p>PPM service-level agreements and metrics are collaboratively and regularly agreed to with customers, and organization is fully accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Ability to accurately calculate PPM metrics that end customers truly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Means of continuously improving to achieve better levels of customer satisfaction and to increase those service levels in the future;■ Best-practice chargeback and other financial allocation mechanisms are in place.

Program and Portfolio Management

Gap Analysis — Service Level



- Enterprisewide reporting on the total number of projects occurring and related metrics (e.g., the number of projects on-budget) needs to be captured and disseminated.
- In addition to total costs, ROI needs to be evaluated and consistently tracked for projects. ROI can be defined in terms of non-monetary benefits.
- Better communication needs to occur to notify customer agencies as to what information is available for projects. Additionally, a comprehensive centralized dashboard needs to be developed to provide such information to customers.

Gap Analysis

Business Intelligence and Performance Management

Current State = ○
Target State = ▲

Business Intelligence and Performance Management

Gartner Framework — Business Intelligence

Business Intelligence

Integration

- BI infrastructure
- Metadata management
- Development environment
- Workflow and collaboration

Information Delivery

- Reporting
- Ad hoc query
- Dashboards
- Search-based BI

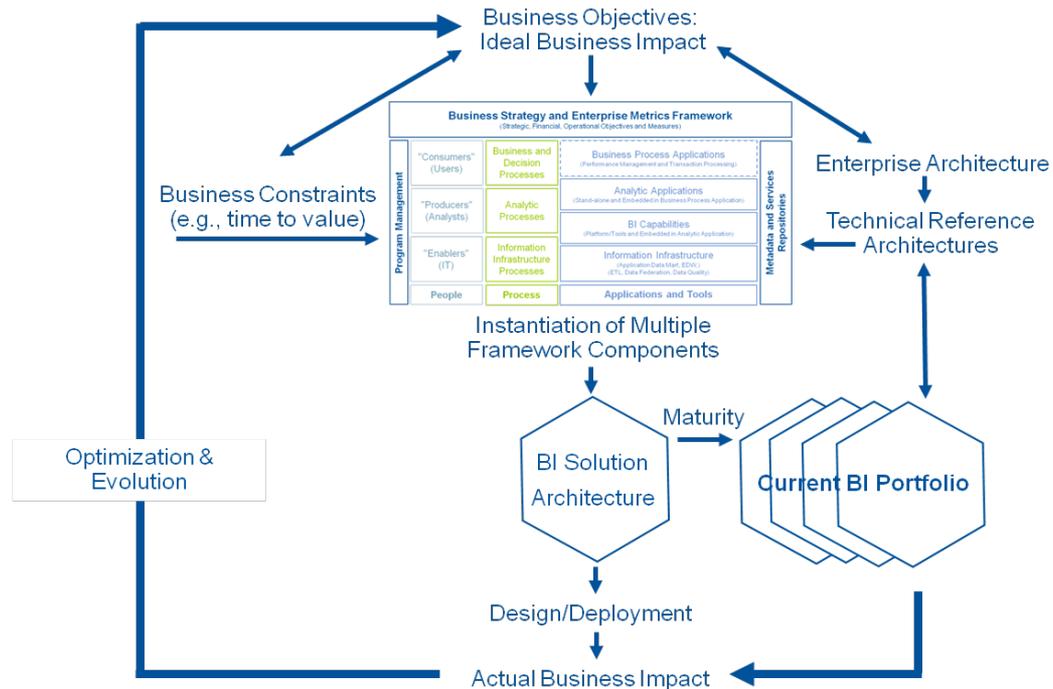
Analysis

- Online Analytical Processing (OLAP)
- Scorecarding
- Visualization
- Predictive modeling and data mining

Business Intelligence involves more than just the technical platforms for generating reports. It also involves the management of data for historical and predictive analytic purposes, as well as the governance of information utilized throughout the enterprise.

Business Intelligence and Performance Management

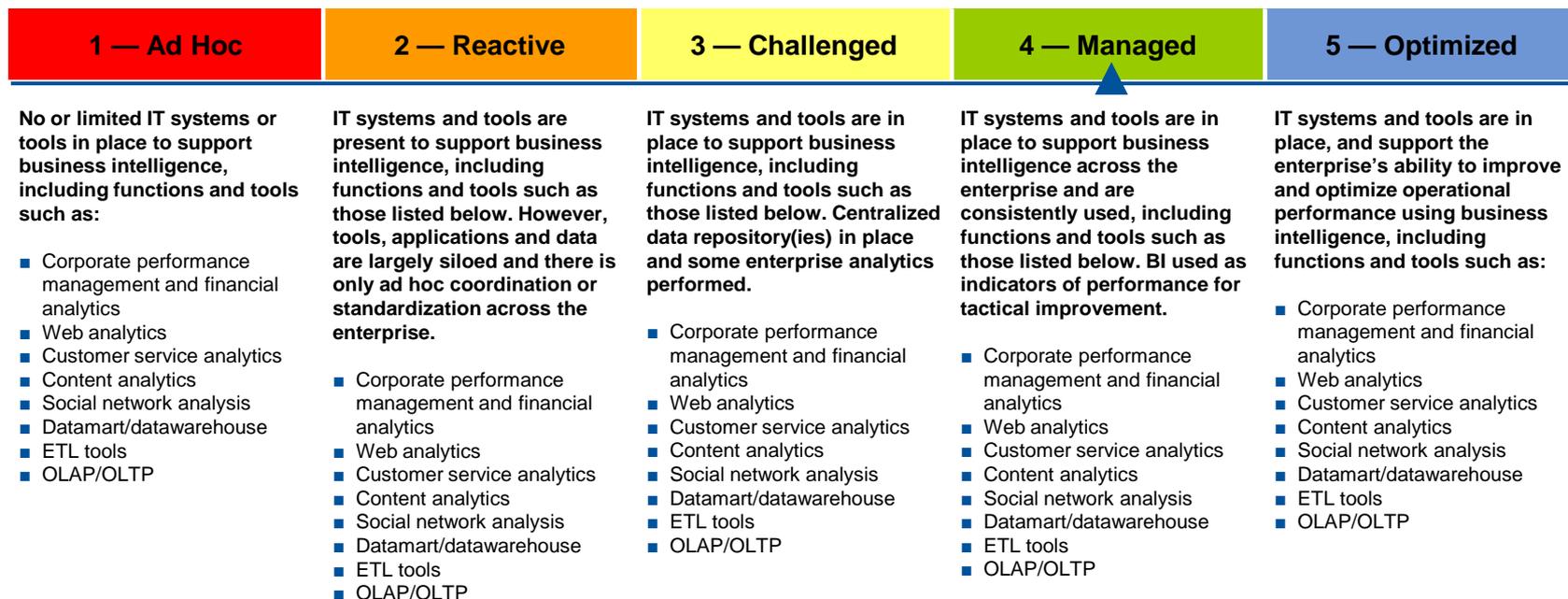
Gartner Research — Architecting for Next Generation of BICC



Enterprise Architecture plays a crucial role in connecting the highest-level enterprise metrics being developed through the Office of Enterprise Development to the actual BI solutions being implemented and the continuous optimization and evolution of those BI solutions. The Information Architecture work needs to be combined with the Technical Architecture work already completed to deliver actual business impact.

Business Intelligence and Performance Management

Target State — Technology



Business Intelligence and Performance Management

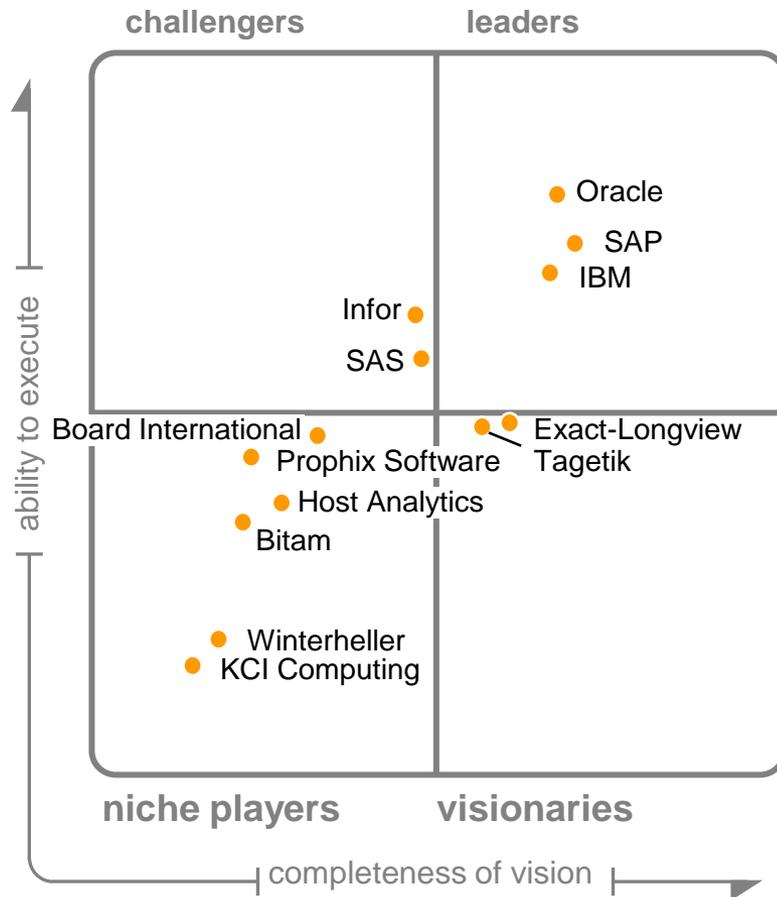
Gap Analysis — Technology



- Examine the source systems from which the data warehouses are built to ensure that all data needed for existing management reporting and future predictive analytics are being captured.
- Migrate Performance Management team from Excel, PowerPoint and SharePoint toolset to the BusinessObjects Strategy Management solution.
- Ensure that the data sources and metrics calculations being used for the highest-level strategic metrics are connected to the data and metrics being used within the agencies for operational reporting.

Business Intelligence and Performance Management

Gartner Research — Magic Quadrant for Corporate Performance Management (CPM) Suites



As of March 2011

(From "Magic Quadrant for Corporate Performance Management Suites," 8 March 2011)

- Mega-vendors dominate the market — this is now a mature market.
- DTMB Office of Enterprise Development has identified already existing SAP BusinessObjects Strategy Management solution as its future platform for Corporate Performance Management, which is in Gartner's Leaders quadrant.

Business Intelligence and Performance Management

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No clear organizational structure or overall ownership of responsibilities for business intelligence across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ Business application, business analysts, IT staff, executive management and PPM users are not competent and have low levels of skills required to leverage BI initiatives;■ Reporting requires individuals aggregating data from disparate data sources with known gaps;■ Low staffing levels and skill sets;■ Undefined roles and responsibilities;■ Low customer confidence in IT.	<p>Ownership of business intelligence responsibilities within the enterprise exists, but organization is immature and some of the appropriate skill sets are not present. Common attributes include:</p> <ul style="list-style-type: none">■ Business application, business analysts, IT staff, executive management and PPM users are not competent and have low levels of skills required to leverage BI initiatives;■ Missing key organization functions/roles;■ Inconsistently defined roles and responsibilities;■ Limited staff development and training budgets;■ Duplicative roles■ Non-optimized staffing levels.	<p>Organization is fairly mature and exhibits some best practices. Skill sets largely align with business intelligence needs. Common attributes include:</p> <ul style="list-style-type: none">■ Business application, business analysts, IT staff, executive management and PPM users are not competent and have low levels of skills required to leverage BI initiatives;■ Alignment of resources by roles and skills;■ Appropriate staffing or skills not in place for some elements of business intelligence;■ Optimized or near-optimized staffing levels;■ Working to adopt best practices;■ Comprehensive staff development programs.	<p>Business intelligence organizational structure is defined and aligned for effective service delivery, with appropriately resourced and skilled staff. Common attributes include:</p> <ul style="list-style-type: none">■ Business application, business analysts, IT staff, executive management and PPM users are not competent and have low levels of skills required to leverage BI initiatives;■ Business intelligence and performance DTMB;■ Established program for ongoing training of resources;■ Metrics-driven performance management■ Detailed role definition.	<p>Business intelligence competency center exists, and organizational performance is evaluated, enhanced and rewarded based on defined objectives. Common attributes include:</p> <ul style="list-style-type: none">■ Business application, business analysts, IT staff, executive management and PPM users are not competent and have low levels of skills required to leverage BI initiatives;■ Organizational structure is defined and aligned for effective service delivery, with appropriately resourced and skilled staff.

Business Intelligence and Performance Management

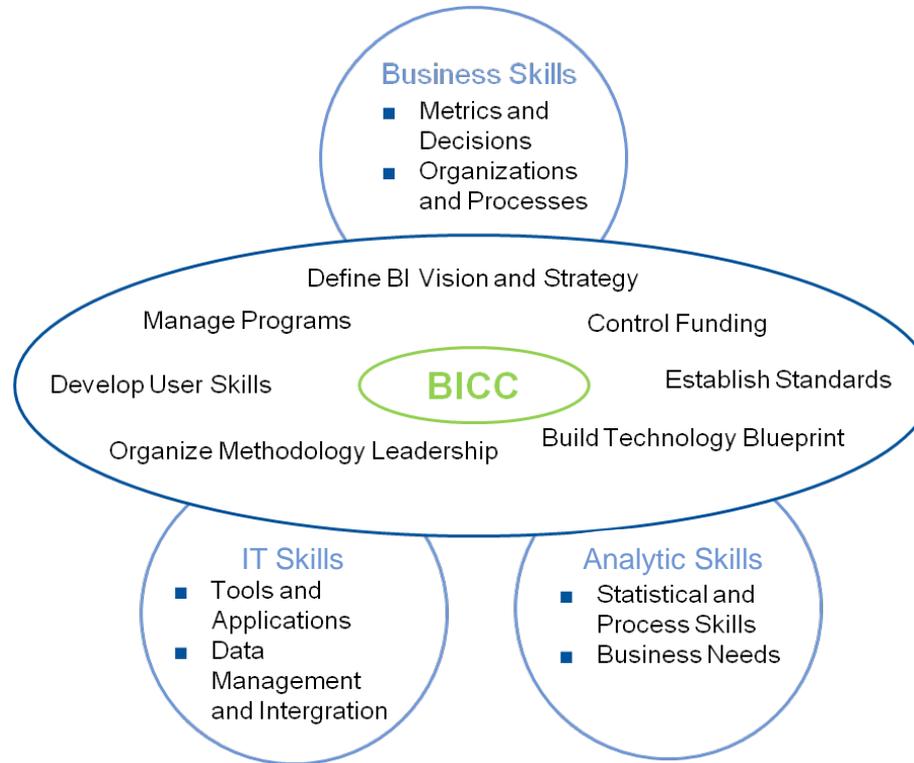
Gap Analysis — Organization



- A centralized Business Intelligence, Data Warehousing and Enterprise Information Management organization is needed to coordinate data management across the enterprise and across agency boundaries.
- Included in this organization would be a capability to do Master Data Management, Data Quality efforts and Data Cleansing activities on an enterprise basis. This capability should also facilitate over-arching enterprise reporting across the Agencies.
- The Enterprise Architecture team needs to be an integral part of this Enterprise Information Management effort as part of their Information Architecture function.

Business Intelligence and Performance Management

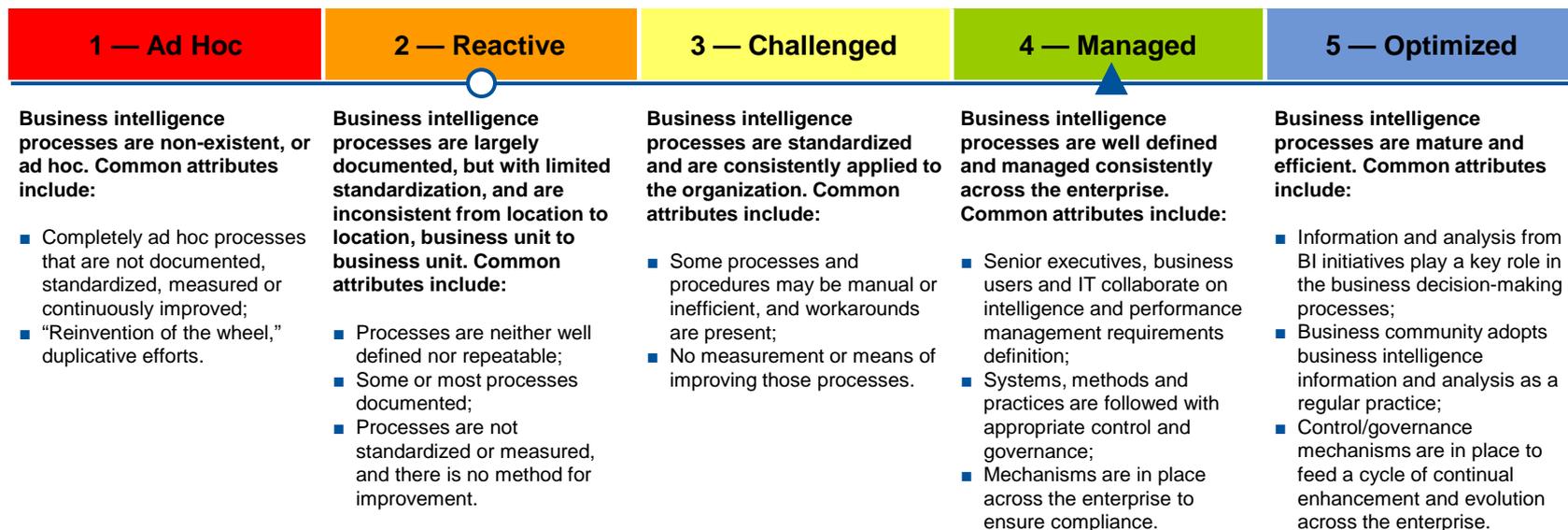
Gartner Research — Integrate Essential BI Competencies and Skills With a BICC



A centralized Business Intelligence Competency Center/Center of Excellence is a best-practice vehicle to coordinate all the performance management, predictive analytics and management reporting activities across the enterprise.

Business Intelligence and Performance Management

Target State — Process



Business Intelligence and Performance Management

Gap Analysis — Process



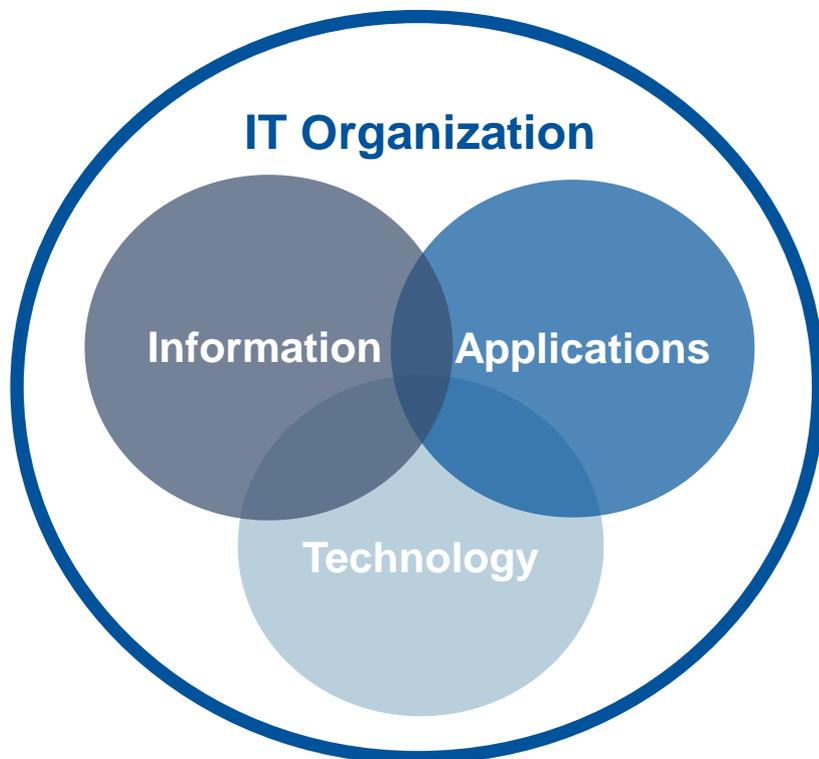
- Formalized, standardized processes around data quality, data cleansing and master data management need to be implemented on a cross-agency, enterprisewide basis.
- Processes for development of data warehouses and reports should be standardized across agency teams.

Business Intelligence and Performance Management

Gartner Research —

Enterprise Information Management (EIM): The Context of Information Governance

A Commitment to Managing Information



In a Programmatic Framework



As EIM is to “information,” so Master Data Management (MDM) is to “master data.”

Business Intelligence and Performance Management

Gartner Research — What Is Master Data Management?

- Master data is the official, consistent set of identifiers, extended attributes and hierarchies of the enterprise. Examples of core entities are parties (customers, prospects, people, citizens, employees, vendors, suppliers and trading partners), places (locations, offices, regional alignments and geographies) and things (accounts, assets, policies, products and services). Groupings of master data include organizational hierarchies, sales territories, product roll-ups, pricing lists, customer segmentations and preferred suppliers. ***MDM is the workflow process in which business and IT work together to ensure the uniformity, accuracy, stewardship and accountability of the enterprise's official, shared information assets.***

Business Intelligence and Performance Management

Gartner Research — Why Does Your Organization Need MDM Governance?

- MDM is not just about implementing technology; we are governing people and process.
- MDM won't "work" long-term without active governance; data quality and accuracy of master data will erode over time, and processes will break down.
- MDM spans departments, divisions and trading boundaries — multiple stakeholder needs have to be reconciled.
- Many people (often powerful people) feel a sense of ownership about the data that are created in their systems.
- MDM supports many business and IT initiatives. A single governance routine is required to support all, to reduce process redundancy.
- Efficacy in decision making will fall if MDM does not take place.

Business Intelligence and Performance Management

Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Business intelligence services are not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none"> ■ No service-level agreements or metrics for which they are accountable to either end customers or other groups within DTMB; ■ No means of working with customers on an ongoing basis to understand actual delivery against service-level agreements; ■ No means of continuously improving to achieve better levels of customer satisfaction. 	<p>Business intelligence services are provided in the form of standard reporting and some analytics, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none"> ■ No or few objectives or metrics are defined for business intelligence services, or across the enterprise; ■ Have limited agreements and metrics for which they are accountable to either end customers or other groups within DTMB ■ Ability to accurately calculate those metrics is limited; ■ Little means of working with customers on an ongoing basis to understand actual delivery against service-level agreements; ■ No means of continuously improving to achieve better levels of customer satisfaction. 	<p>Business intelligence service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none"> ■ Ability to accurately calculate metrics that end customers and other DTMB groups partially believe to be accurate; ■ Business intelligence function is partially able to work with customers on an ongoing basis to understand actual delivery against service-level agreements; ■ No means of continuously improving to achieve better levels of customer satisfaction; ■ Service levels to support chargeback and other financial allocation mechanisms exist, but are not fully mature. 	<p>Business intelligence service-level agreements and metrics are established, and the IT support organization is managing to agreed-upon service levels. Common attributes include:</p> <ul style="list-style-type: none"> ■ Service-level agreements, and metrics for which they are accountable to end customers and other groups within DTMB, are benchmarked against peers; ■ Ability to accurately calculate metrics that end customers and other DTMB groups mostly believe to be accurate; ■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements; ■ Ability to work toward improving actual delivery to current service-level agreements, but not toward increasing those service levels in the future; ■ Service levels to support chargeback and other financial allocation mechanisms exist. 	<p>Business intelligence service-level agreements and metrics are collaboratively and regularly agreed to with customers, and the organization is fully accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none"> ■ Business intelligence service levels tied to business performance outcome metrics; ■ Ability to accurately calculate business intelligence metrics that end customers and other DTMB groups truly believe to be accurate; ■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements; ■ Means of continuously improving to achieve better levels of customer satisfaction and to increase those service levels in the future; ■ Best-practice chargeback and other financial allocation mechanisms are in place to deliver cost-effective and high-quality services.

Business Intelligence and Performance Management

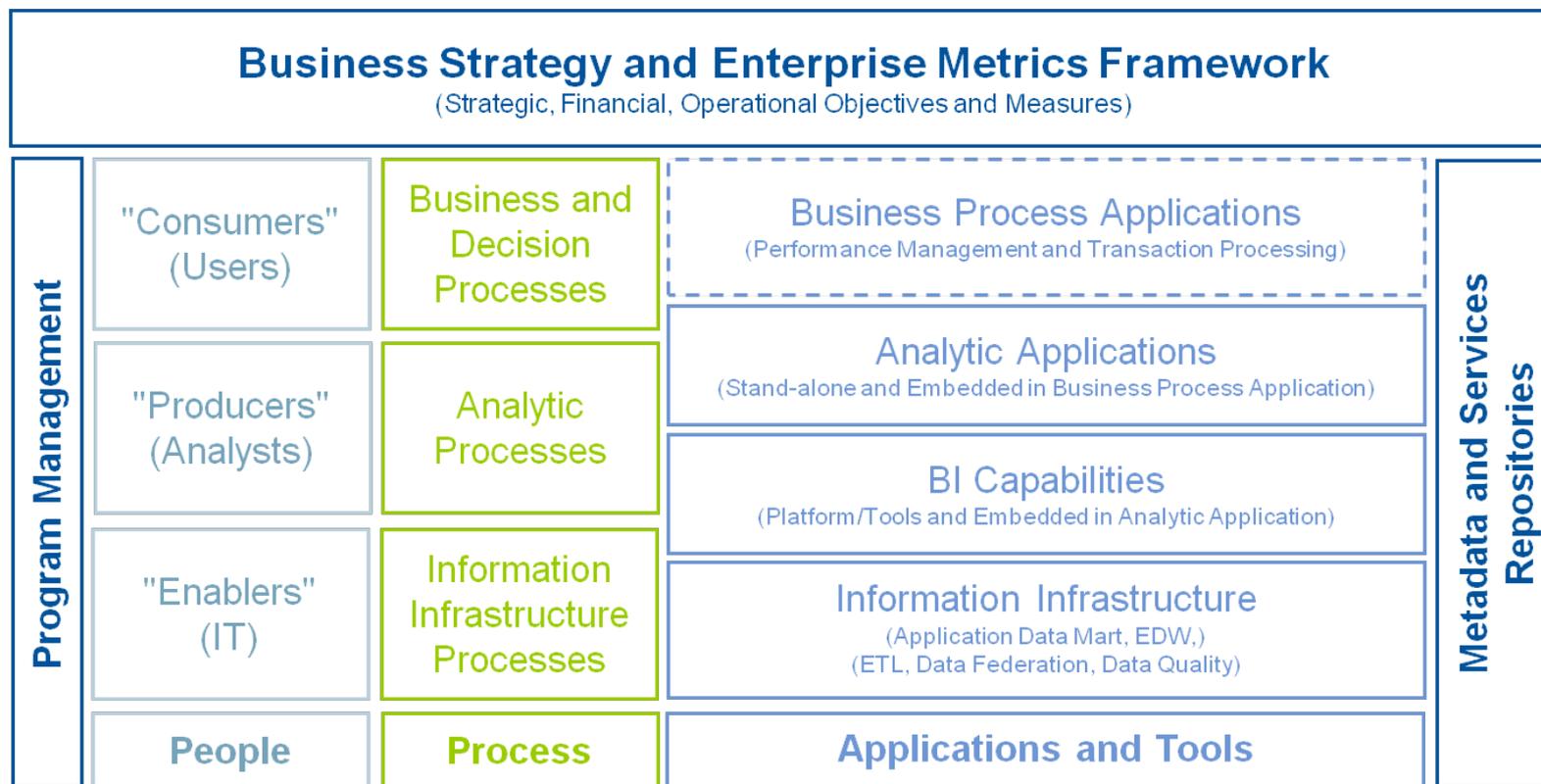
Gap Analysis — Strategy



- An Enterprise Information Management strategy needs to be developed across the agencies for the entire State enterprise, which would enable enhanced fraud detection and more citizen-centric services to the public.
- A cross-agency Business Intelligence strategy that articulates how the State will go from its current state to the desired predictive analytics capability that several agencies want, as well as the DTMB Office of Enterprise Development, is needed.

Business Intelligence and Performance Management

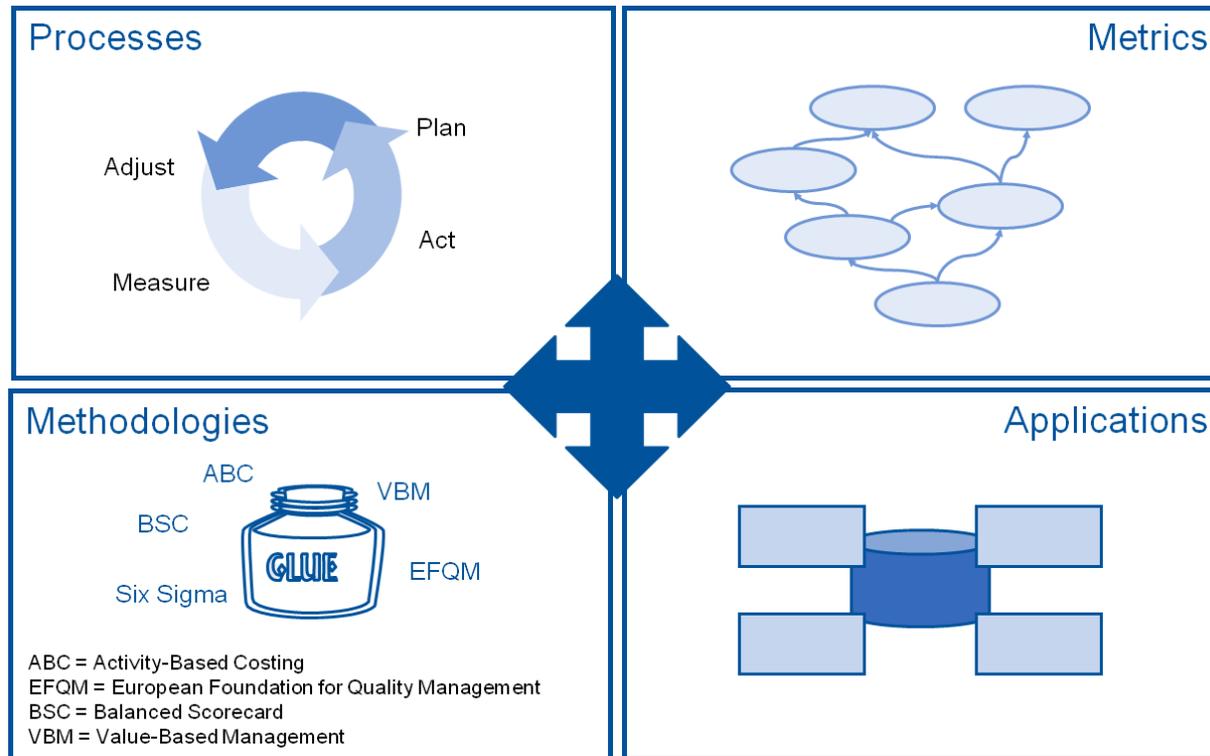
Gartner Framework — Performance Management



The top-level agency metrics developed as part of Performance Management should drive all the analytics and reporting activities down through each of the management layers in the agencies, and it should all be supported by enterprise information management/governance.

Business Intelligence and Performance Management

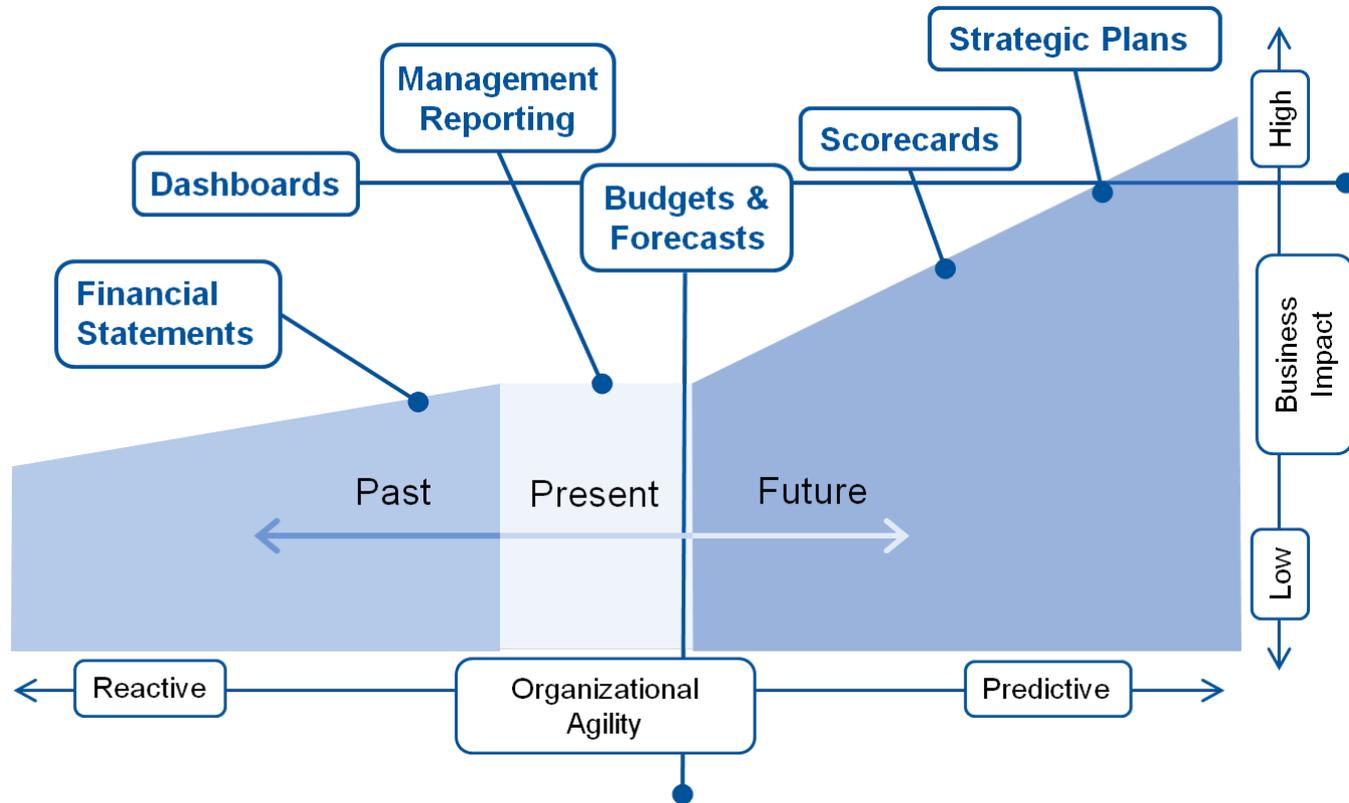
Gartner Research — Corporate Performance Management (CPM)



Corporate Performance Management normally starts out with the processes and metrics that the State of Michigan has initiated, and it is now time to connect these components with the metrics throughout the enterprise and the BI solutions already in place.

Business Intelligence and Performance Management

Gartner Research — CPM — A Variety of Purposes



A combined BI/CPM effort would allow the State of Michigan to “see” up and down the organization chart, and it would also allow the State to connect historical data with present management reporting to a predictive analytics capability in the future, which will have the highest business impact.

Business Intelligence and Performance Management

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Business intelligence services are not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ No service-level agreements or metrics for which they are accountable to either end customers or other groups within DTMB;■ No means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>Business intelligence services are provided in the form of standard reporting and some analytics, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ No or few objectives or metrics are defined for business intelligence services, or across the enterprise;■ Have limited agreements and metrics for which they are accountable to either end customers or other groups within DTMB;■ Ability to accurately calculate those metrics is limited;■ Little means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>Business intelligence service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Ability to accurately calculate metrics that end customers and other DTMB groups partially believe to be accurate;■ Business intelligence function is partially able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction;■ Service levels to support chargeback and other financial allocation mechanisms exist, but are not fully mature.	<p>Business intelligence service-level agreements and metrics are established, and the IT support organization is managing to agreed-upon service levels. Common attributes include:</p> <ul style="list-style-type: none">■ Service-level agreements and metrics for which they are accountable to end customers and other groups within DTMB, are benchmarked against peers;■ Ability to accurately calculate metrics that end customers and other DTMB groups mostly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Ability to work toward improving actual delivery to current service-level agreements, but not toward increasing those service levels in the future;■ Service levels to support chargeback and other financial allocation mechanisms exist.	<p>Business intelligence service-level agreements and metrics are collaboratively and regularly agreed to with customers, and the organization is fully accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Business intelligence service levels tied to business performance outcome metrics;■ Ability to accurately calculate business intelligence metrics that end customers and other DTMB groups truly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Means of continuously improving to achieve better levels of customer satisfaction and to increase those service levels in the future;■ Best-practice chargeback and other financial allocation mechanisms are in place to deliver cost-effective and high-quality services.

Business Intelligence and Performance Management

Gap Analysis — Service Level



- Service level metrics are needed to assess the availability and performance of the end-user tools, such as BusinessObjects and Cognos.
- Service level metrics are needed to assess data quality and master data standardization across the enterprise.

Business Intelligence and Performance Management

Gartner Research — Potential BI Metrics

Strategic Outcomes	Tactical Measures	Feedback
<ul style="list-style-type: none">■ Efficiency: Product line, sales channels, sales generators■ Business value received by users (qualitative)■ Enterprise business value■ Increased productivity	<ul style="list-style-type: none">■ Turnaround time on support calls■ System uptime, hardware utilization■ Data sources supported■ Usage■ License management	<ul style="list-style-type: none">■ 360-degree assessment■ User satisfaction ratings■ TRACK survey■ External input

While Usage is an important metric in terms of BI/CPM service level performance, it is a best practice to gather several other metrics in order to ensure the State of Michigan is getting the best value for money out of its BI/CPM efforts.

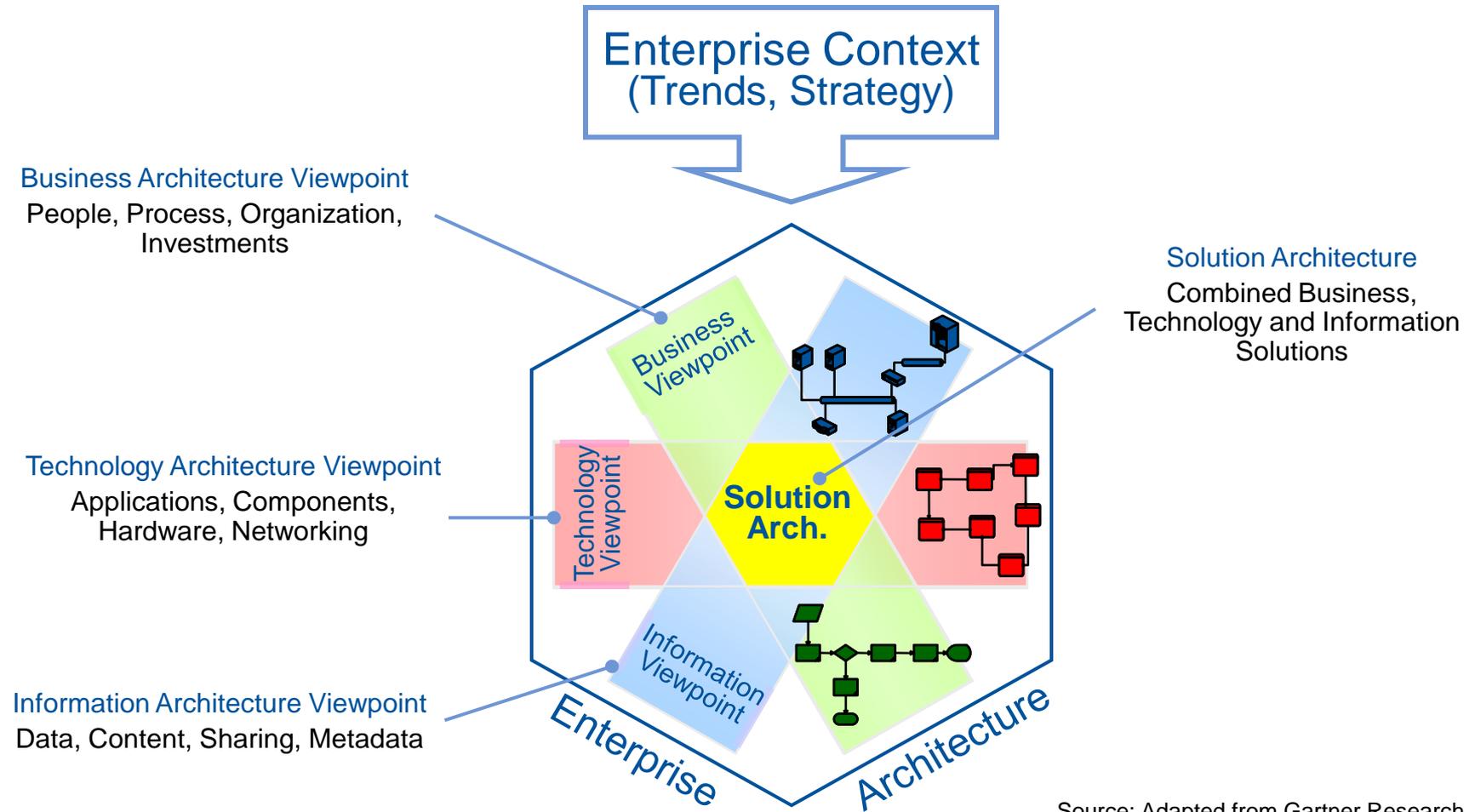
Gap Analysis

Enterprise Architecture

Current State = ○
Target State = ▲

Enterprise Architecture

Gartner Framework



Source: Adapted from Gartner Research

Enterprise Architecture

Gartner Research

- Enterprise architecture is...
 - ...the process (it's a process and a thing)
 - ...of translating business vision and strategy
 - ...into effective enterprise change (if no change is needed, no architecture is needed)
 - ...by creating, communicating and improving the key requirements, principles and models that describe the enterprise's future state and enable its evolution (architecture produces the creative constraints that bind implementation decisions).
- The scope of the enterprise architecture includes...
 - ...the people, processes, information and technology of the enterprise, (architecture is not just about technology)
 - ...and their relationships to one another and to the external environment.
- Enterprise architects compose...
 - ...holistic solutions
 - ...that address the business challenges of the enterprise
 - ... and support the governance needed to implement them.

Enterprise architecture means architecting the enterprise for change.

Source: Gartner Research

Enterprise Architecture

Gartner Research — Common Misconceptions

- EA is not...
 - A repository or tool
 - An asset inventory
 - A reporting system
 - A procedural hurdle designed to slow projects down
 - “IT Architecture”
 - The assembled documentation of all projects or solutions
 - A one-time planning exercise

Enterprise Architecture

Gartner Research — What Value Is Delivered by EA?

EXAMPLES

Improve Operational Efficiency

- Increase economies of scale through standards
- Eliminate unused solutions, applications and technologies
- Deliver a manageable IT environment

Improve Effectiveness

- Focus investment where it produces the most business value
- Improve user experience by reducing complexity

Increase Speed and Agility

- Reduce time to market of new products/services
- Enable new functionality needed
- Enable interoperability and agility in response to changing needs

Reduce Risk

- Improve alignment of IT initiatives with strategic business needs
- Reduce chance of “dead-end” technology investments

Answer: It depends on what your business needs

Enterprise Architecture

Gartner Research — Key Questions About EA

WHO?

Who is involved?

EA Practitioners

Project teams and solution experts

Stakeholders

HOW?

How?

Just in Time

Just Enough

Iterative

WHEN?

When?

Ongoing

Scheduled and ad hoc activities

Proactive and repeatable

WHY?

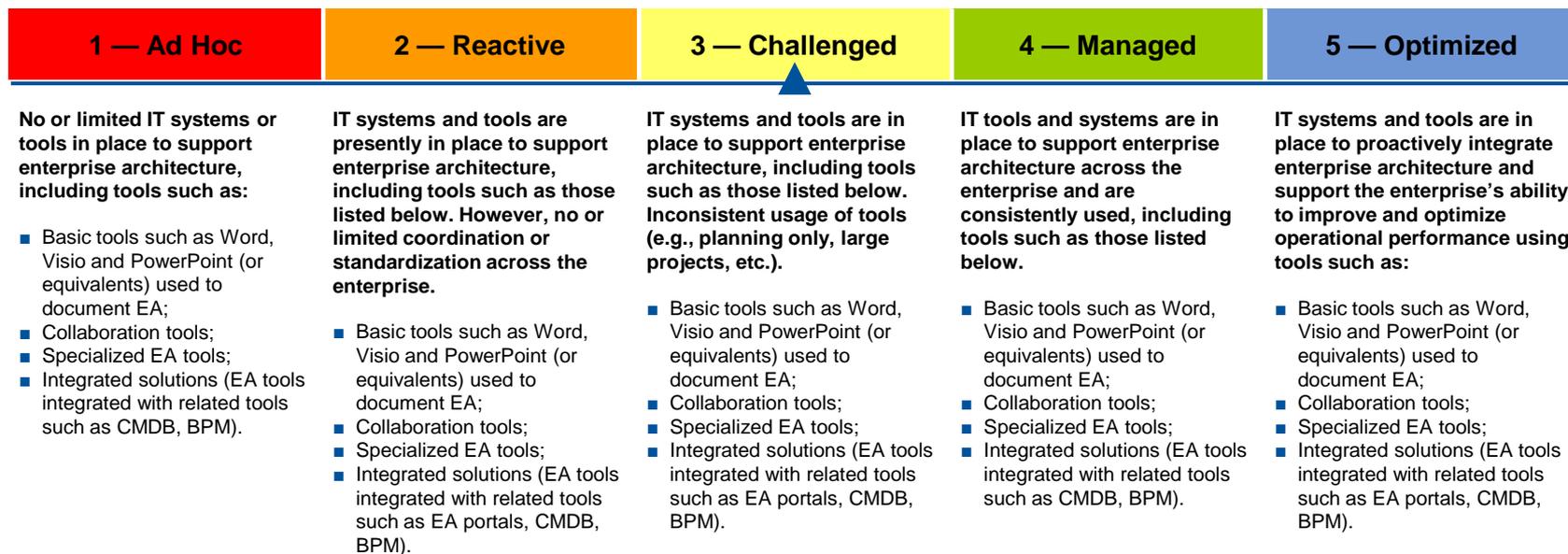
Why?

Focused on resolving business challenges

Driving change in response to business needs

Enterprise Architecture

Target State — Technology



Enterprise Architecture

Gap Analysis — Technology



- Refine the current EA Framework to identify the broader scope, and redesign the EA repository for collecting the current-state baseline information and providing work space for developing the target state.
 - Develop short communications materials (two to three slides and a short Web page) that can be used to introduce the framework (purpose and structure) to Michigan’s employees, and also include the functions that EA will perform and their value to Michigan, EA governance and their processes for decision making, and linkages to important EA artifacts.
- Improve the usefulness of EA repository and its access to provide templates, tools and services that the EA team provides.
 - Long-term investment in the EA tool and repository can be made after the EA process and alignment issues are addressed.

Enterprise Architecture

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No clear organizational structure or overall ownership of EA responsibilities for the enterprise. Common attributes include:</p> <ul style="list-style-type: none"> ■ EA not valued within the organization; ■ No dedicated resources for enterprise architecture as their primary responsibility; ■ No or low EA accountability at both the project and ongoing operations levels; ■ No or extremely limited EA training or certifications present; ■ Low skill sets; ■ Undefined roles and responsibilities. 	<p>Ownership of EA responsibilities within the enterprise exists, but the organization is immature and some of the appropriate skill sets are not present. Common attributes include:</p> <ul style="list-style-type: none"> ■ General understanding of the importance of EA, but largely viewed as project and operational “overhead”; ■ Organizational structure is defined but it is not aligned for effective service delivery; ■ Ad hoc EA “policing” of adherence to standards; ■ Missing key organization functions/roles; ■ One or a few dedicated resources for enterprise architecture as their primary responsibility; ■ Low EA accountability at both the project and ongoing operations levels, often only for major projects/initiatives; ■ Limited EA training or certifications present. 	<p>EA organizational structure defined and fairly mature, and exhibits some best practices. Skill sets largely align with EA needs, and training and certifications are present. Common attributes include:</p> <ul style="list-style-type: none"> ■ EA valued and partially integrated into program/project and operational organizational structure; ■ Single organization unit “owns” EA; ■ Organizational structure is defined and aligned for effective service delivery; ■ Alignment of resources by roles and skills; ■ Appropriate number of dedicated resources for enterprise architecture as their primary responsibility; ■ Working to adopt best practices; ■ Some competency centers established; ■ Defined senior-level governance structure and charters; ■ Basic but effective staff development, training and certification programs in place. 	<p>EA organizational structure defined and aligned for effective service delivery and enforcement, with appropriately resourced and skilled staff. Common attributes include:</p> <ul style="list-style-type: none"> ■ EA valued and completely integrated into program/project and operational organizational structure; ■ Organizational structure is defined and aligned for effective service delivery, with appropriately resourced and skilled staff; ■ Subject matter experts recruited temporarily into EA virtual teams to participate in development; ■ Established program for ongoing training of resources and resource development; ■ Service delivery-focused organization with strong relationship managers and service line; ■ Trusted service provider and demonstrated value to business; ■ Metrics-driven performance management; ■ Detailed role definition. 	<p>EA organizational performance is evaluated, enhanced and rewarded based on defined objectives. Common attributes include:</p> <ul style="list-style-type: none"> ■ EA sits at executive level and is an integral part of corporate culture; ■ Organizational structure integrated with business and focused on business outcomes; ■ Business/IT Staff rotation; ■ Developing best practices; ■ Focused staff development and training competency centers; ■ Business-driven metrics and resourcing.

Enterprise Architecture

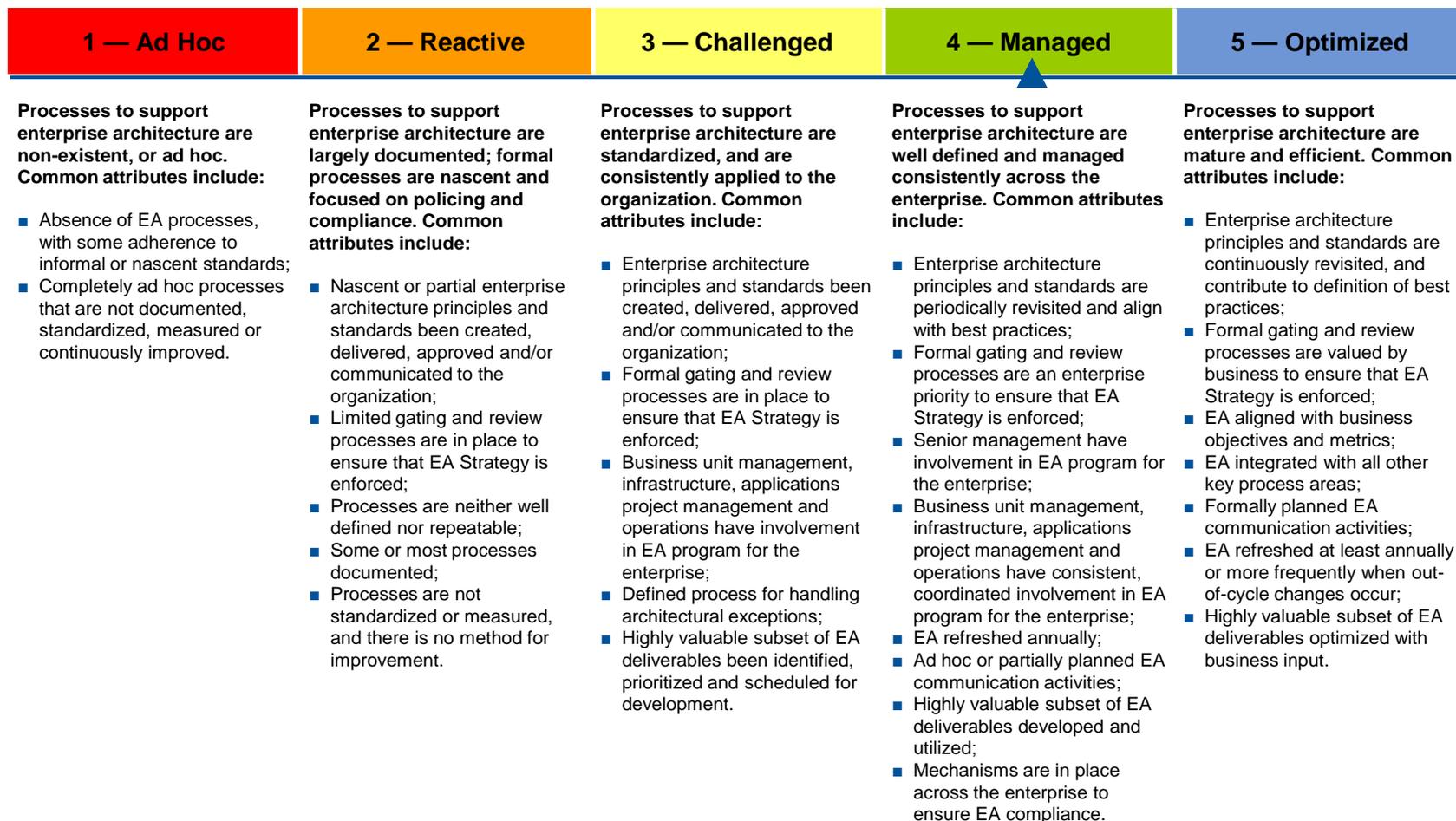
Gap Analysis — Organization



- EA should report into the CIO or separate CTO function, as opposed to reporting to Infrastructure Services.
- EA should be tied strongly to Capital Planning and project management functions.
- Need for evaluating staffing levels and staffing mix across DTMB for EA.
- Need to reinstitute the previous EA steering committee and reinforce it with formal charters and governance mechanisms.
- Need to clarify roles and responsibilities, handoffs and EA requirements between EA Division, EA Core team, Agency Services and Shared Solutions.
- Need for application and solution architects at Agency Services. Solution architects should have dotted reporting relationship to EA Division.
- Need for communication planning.
- Need for EA training and skill building across DTMB.

Enterprise Architecture

Target State — Process



Enterprise Architecture

Target State — Process: Gartner Research — Ten Best Practices for EA Programs

1. Charter the EA Program
2. Develop and Execute a Communications Plan
3. Treat Each Iteration Like a Project
4. Start with the Business Strategy and Engage Business Sponsorship
5. Determine the Future State Before the Current State
6. Be Pragmatic (do what's do-able)
7. Don't Ignore Governance
8. Set Up a Measurement Program
9. Track EA Program Maturity
10. Pay as Much Attention to Talent as to Skill

Enterprise Architecture

Target State — Process: Gartner Research — Worst EA Practices

1. No Link to Strategic Planning and Budgeting
2. Strict Adherence to an EA Framework
3. Lack of Governance
4. Overly Standardized
5. Lack of Business Focus
6. “Ivory Tower” Approach
7. Lack of Open Communication
8. Excessive Focus on Current State; Not Enough Creativity Toward the Future State
9. No Linkage or Integration with Customer/Business Needs

Source: Gartner Research — “Thirteen worst EA practices — Betsy Burton”, August 2011

Enterprise Architecture

Gap Analysis — Process



- Engage in business architecture by directly working with the Office of the CIO and key business stakeholders.
 - EA must consistently anticipate its customers' technology needs and help to prepare various Agencies within DTMB for the ongoing technology changes.
- Align the SOM EA discipline to a standard industry EA methodology or EA framework.
- Define/refresh/update the EA target-state directions and documentation with associated migration plan.
- Develop robust communications processes for informing stakeholders and participants about EA events and activities, soliciting input, feedback and recommendations for the EA, and ensuring that all MI employees are aware of their obligation to comply with and leverage the EA. These processes must also include messages that show the value and benefits achieved by EA.
 - EA must engage both the agency customers as well as the rest of DTMB and acquire buy-in on their processes. This is an iterative and ongoing process.
- Develop guidance processes for providing training on the EA directions, technologies and standards, and for providing assistance to projects.
 - Prove the value of the EA program to SOM executive and agency leadership and the business stakeholders.

Enterprise Architecture

Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>There is no defined strategy for enterprise architecture. Common attributes include:</p> <ul style="list-style-type: none">■ EA does not have its own goals and objectives, and simply reacts to most-vocal or influential customers (either internal or external);■ EA has no means of understanding whether or not it is aligned with DTMB's overall strategy;■ No process and/or governance in place to ensure ongoing alignment with DTMB's overall strategy.	<p>An enterprise architecture strategy exists, but it is not coordinated, not clearly defined, and does not have measurable objectives. Common attributes include:</p> <ul style="list-style-type: none">■ EA strategy does not fully integrate with the wider organization, nor is it communicated enterprisewide;■ EA has its own goals and objectives, but there is no real consideration for aligning it with the overall DTMB strategy;■ Some means of understanding whether or not it is optimizing to its own desired goals, but cannot determine if it is really working toward DTMB's overall strategy;■ No or limited ability to ensure ongoing alignment with DTMB's overall strategy.	<p>The enterprise architecture strategy is defined and communicated; however, it is not consistently or effectively translated into action. Common attributes include:</p> <ul style="list-style-type: none">■ EA governance is inadequately established, allowing for the implementation of the strategy to become fragmented and confused across the enterprise;■ EA has its own goals and objectives that partially align with DTMB's overall strategy;■ Reactively determines how well they are aligned to DTMB's overall strategy;■ Ineffective or nascent ability to ensure ongoing alignment with DTMB's overall strategy, or ability to take corrective action when it is getting out of alignment.	<p>The enterprise architecture strategy is clearly defined, communicated and socialized throughout the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ EA governance effectively used to articulate how architecture development decisions are made;■ EA has its own goals and objectives that fully align with DTMB's overall strategy;■ Proactively determines how well they are aligned to DTMB's overall strategy;■ Adequate ability to ensure ongoing alignment with DTMB's overall strategy, or to take corrective action when it is getting out of alignment.	<p>Enterprise architecture is fully integrated with strategic planning, continually reviewed, and the strategy is updated to align with business objectives. Common attributes include:</p> <ul style="list-style-type: none">■ EA governance fully and effectively integrated with business;■ EA strategy is clearly defined and communicated throughout the enterprise;■ The IT role has its own goals and objectives that fully align with DTMB's overall strategy;■ Proactively determines how well they are aligned to DTMB's overall strategy;■ Effective ability to ensure ongoing alignment with DTMB's overall strategy, and to take corrective action when it is getting out of alignment.

Enterprise Architecture

Gap Analysis — Strategy



- Define the vision, goals and scope of the EA for Michigan, taking into account the federation of the agencies and their needs.
 - Need to increase scope of EA coverage to include comprehensive data/information architecture, integration architecture and Business Architecture.
 - Develop EA principles for making decisions that improve business-IT alignment. Principles can be used when making target-state decisions for the EA, when making solution design decisions, and when evaluating compliance of proposed solutions with the EA while prioritizing value areas when considering tradeoffs.
- Need to devise strategy for managing and coordinating solution architecture of DTMB Agencies.
- Develop improved communication strategies to various stakeholders such as Agency and Executive Management, EA core team, project teams and internally within the EA Division.
- Develop future state by researching emerging technologies and defining/refining the target states for each architecture based on new requirements and technologies.
- Clarify the roles and responsibilities for EA compliance/participation expectations of all stakeholders (responsible, accountable, consulted, informed (RACI)-type approach).

Enterprise Architecture

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>EA services are not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ No service-level agreements or metrics for which they are accountable to either end customers or other groups within DTMB;■ No means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>EA services are provided, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ No or few objectives or metrics are defined for EA services, or across the enterprise;■ Have limited EA service-level agreements and metrics for which they are accountable to either end customers or other groups within DTMB;■ Ability to accurately calculate those metrics is limited;■ Little means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>EA service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Ability to accurately calculate metrics that end customers and other DTMB groups partially believe to be accurate;■ EA is partially able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction;■ Service levels to support chargeback and other financial allocation mechanisms exist, but are not fully mature.	<p>EA service-level agreements and metrics are established, and the IT support organization is managing to agreed-upon service levels. Common attributes include:</p> <ul style="list-style-type: none">■ EA service-level agreements, and metrics for which they are accountable to end customers and other groups within DTMB, are benchmarked against peers;■ Ability to accurately calculate metrics that end customers and other DTMB groups mostly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Ability to work toward improving actual delivery to current service-level agreements, but not toward increasing those service levels in the future;■ Service levels to support chargeback and other financial allocation mechanisms exist.	<p>EA service-level agreements and metrics are collaboratively and regularly agreed to with customers, and the organization is fully accountable to end customers and other groups within DTMB.</p> <ul style="list-style-type: none">■ Ability to accurately calculate metrics that end customers and other DTMB groups truly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Means of continuously improving to achieve better levels of customer satisfaction and to increase those service levels in the future;■ Best-practice chargeback and other financial allocation mechanisms are in place to deliver cost-effective and high-quality services.

Enterprise Architecture

Gap Analysis — Service Level



- EA must establish service-level agreements with its customers to ensure they have measurable outcomes for their services.
- Need for performance metrics, cost metrics, quality metrics, productivity metrics and cycle time measurements. A sampling of potential EA metrics is provided on the subsequent six slides.

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Reuse of Hardware Components	Hardware costs per project — trend over time	Percentage of capacity used or volume of unused capacity	Percentage of projects compliant with enterprise technical and solution architecture (ETA/ESA) and number of platform types	Number of projects to raise EA exemption
	Reuse of Software Components	Percentage reduction in number of support/infrastructure products	Improvement in downtime/availability measures	Reduction in total number of standard technologies/products	Reduction in rate of urgent infrastructure projects
		Percentage reduction in number of applications	Number of new products licensed vs. existing licenses leveraged	Number of solutions reused without change	Percentage of application functionality assessed and documented
		Consistency of interfaces — amount of downtime due to interface faults	Number of patterns reused and/or number of products reused	Reduction in design time achieved by leveraging existing solutions	Reduction in number of manual interfaces
	Total investment in new applications (bought or built) over time	Reuse and repeat of common designs that speed decision making in projects, resulting in less time to complete design			

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES (continued)

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Reduced Time to Delivery	Time taken to complete a project solution from inception to delivery — average time taken and total time spent	Number or percentage of projects reviewed and at what level	Percentage of projects compliant	Number of architects per project and vice versa
			Time taken to complete specific phases of the software delivery life cycle	Project completion times and performance improvement (less last-minute work due to poor planning)	Reduction in rate of urgent infrastructure projects
	More-Efficient Program Management	Percentage of projects identified through EA process compared to ad hoc identification	Percentage of projects reviewed	Percentage of successful projects in which EA team participated	Reduction in the number ad hoc project requests
		Amount of architect time per project	Number of rejections per project reviewed		Percentage of successful projects
	Reduced Support Costs	Number of applications and platforms reduced over time	Amount of data reuse	Number of configured items	Number of retirement and containment targets reduced over time
		Number of calls to help desk	Amount of customization — fit to build, customize, configure, install and reuse	Savings by configuration area, year and application	Number of changes to applications over time
	Total cost of AD staff and tools to modify those applications over time		Percentage of interfaces accessed by more than one application		

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES (continued)

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Lower Acquisition Costs	Percentage reuse of existing assets Number of volume discounts negotiated and purchased	Percentage of common product sets defined and reduction in purchase contract costs Total enterprise IT cost because of reduced redundancy, complexity and portfolio size	Reduction in number of special purchases required	Number of changes/revisions during implementation
	Technical Adaptability	Percentage reduction in the number of compliance waivers issued	Number of infrastructure change management requests Number of outages per domain	Number of single authoritative data sources for key information assets	Number of patterns, domains and services defined and amount of reuse
	Tighter Alignment to Business Strategy	Percentage of IT initiatives aligned, as identified through EA process Number of cases where new technology was not adopted; some where it was	Number of projects funded and implemented, as identified by EA process Number of new business plans with EA involvement	Number of business plans with IT initiatives included Percent of “business-aligned” projects	Number of IT trends planned for in the future-state architecture Number of environmental/industry trends articulated in future-state architecture
	Business Agility	Percentage increase in market share	Decrease in time to market for new products Number of business processes documented and optimized	Number of business projects defined by EA process Improvement in “anytime, anywhere, any way” access to information	Number of new processes identified and improved Improvement in frontier analysis and response to environmental change

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES (continued)

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Knowledge Development	Improvement (over time) in the time for report products and accuracy of information	Reduction in the number of authoritative sources for critical information assets	Percentage of time EA group and business are engaged	Increase in EA's role in strategic and business planning process
	More-Sophisticated Asset Management	Reduction in number of assets requiring maintenance	Number of assets retired and/or improved per year	Number of times assets are assessed for value per year	Number of asset status reviews annually
	Reduced Risk	Number of unauthorized access and changes to information and applications	Usage of EA website by business	Amount of time EA group spends supporting critical business planning activity and decision making	Number of new solutions aligned with EA future state
		Reduction in number of risk management issues recorded in projects	Number of devices and channels for user access		Number of projects that comply with risk management guidelines
	Tighter Strategic Alignment With Partners	Reduction in number of vendors	Engagement with outsourcer — time spent by EA team	Number of externally extended business processes that are documented and optimized	Anecdotal documentation that the EA process improved B2B innovation
	Number of volume discounts negotiated and purchased				

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES (continued)

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Business Context	Time from strategy announcement until a prioritized project pipeline is presented to review and funding bodies	Time from identification of trend to implementation	Number of identified emerging technologies implemented	Number of times environment, industry and IT trend information is delivered per year
	Future-State Architecture		Time from identification of enterprise business strategy (EBS) to implementation	Number of EBSs implemented	
		Percentage of EA compliance waivers due to future-state architecture not meeting business needs	Number of projects that leverage EA repository for future-state designs	Number of projects that use and are compliant with EA principles	Satisfaction survey results — extent to which projects have been able to leverage EA information
	Current-State Architecture	Number of business lines that consult EA team	Number of new projects that trigger a change in the EA	Overall project success in achieving business requirements	Refresh of cycle times for each domain
		Number of diverse technologies and products supported	Number of deliverables produced	Age distribution of applications	IT customer satisfaction survey results
		Reduction in number of IT assets within the portfolio over time	Amount of downtime (outage) during “go-live” phases of projects	Number of IT assets and business areas that have their architecture well-documented	Extent to which EA information on IT assets and business process is easily available

Enterprise Architecture

Gap Analysis — Service Level (continued)

MEASUREMENT CATEGORIES (continued)

	<i>Basic Financial Measures</i>	<i>Productivity/Efficiency</i>	<i>Quality/Effectiveness</i>	<i>Delivery Process</i>	
Assessment Areas	Gap Analysis — Migration Plan	Percentage of change initiatives identified that are funded	Alignment of IT initiatives with business strategy	Number of EA artifacts used in budget and program planning activity cycles	Number of initiatives identified that have been funded and initiated
	Governance and Management		Number of projects sponsored by business	Number of projects where EA assistance was requested/provided	
		Number of projects that complete self-certification in all stages	Number of full-time equivalents (FTEs)	Extent to which a governance process is clearly defined and the percentage of projects that follow it	Number of projects progressed with EA review required
			Project IT spending, as a measure of influence		
General EA Success		Number of projects that pass EA compliance		Level of input to other organizational planning processes	
	Number of times EA teams are consulted for advice and guidance	Number of EA artifacts produced and circulated yearly	Number of EA website visitors	Number of attendees at EA-initiated meetings over time	
	Number of domains (business, information, technical and solution) that have future states defined	Number of artifacts replaced/refreshed yearly	Number of business and IT capabilities delivered against those defined through the EA process	Surveyed number of employees who know what the EA team does	

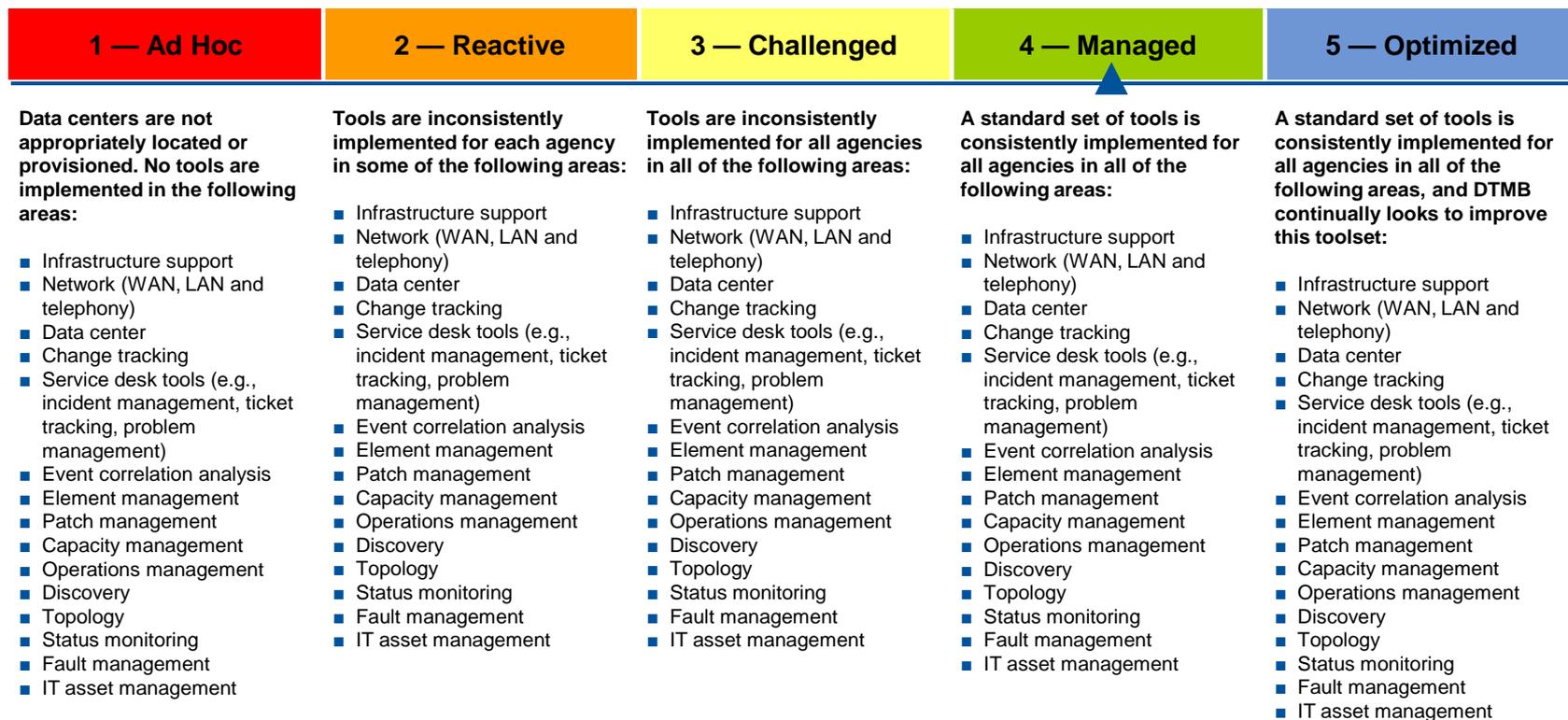
Gap Analysis

Infrastructure and Operations

Current State = ○
Target State = ▲

Infrastructure and Operations

Target State — Technology



Infrastructure and Operations

Gap Analysis — Technology



- Increase virtualization footprint and adoption rate.
- Need for improved automation of manual processes within Infrastructure (run book automation, event management, status monitoring, performance management, workflow management).
- Re-evaluation of storage tiers to align with industry norm (and cost/price).
- Long-term data center strategy to provide additional capacity, based on capacity and capital investment, is needed at two of the hosting sites.
- Integrated (or single) Configuration Management Database (CMDB) across the IT towers.
- Improved monitoring capability that is able to offer infrastructure and application performance management and domain-level monitoring with event correlation (tied to CMDB and incident management).
- Automate the server, network and application management processes in a way that enables IS to access end-to-end response time as experienced by the customers.

Infrastructure and Operations

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>DTMB does not have defined roles/responsibilities or enough adequately trained staff for the following activities:</p> <ul style="list-style-type: none"> ■ Customer relationship management ■ Service management ■ Process management (e.g., change manager, capacity manager, incident manager, etc.) ■ Infrastructure support ■ Platform/technical specialties ■ I&O financial management 	<p>DTMB has inconsistently established roles and responsibilities for the following activities: DTMB has staff that has received some of the necessary training (but needs more training) to be adequately prepared for the following activities:</p> <ul style="list-style-type: none"> ■ Customer relationship management ■ Service management ■ Process management (e.g., change manager, capacity manager, incident manager, etc.) ■ Infrastructure support ■ Platform/technical specialties ■ I&O financial management 	<p>DTMB has consistently documented roles and responsibilities for the following activities: DTMB has adequately trained resources to manage resources but is understaffed, which limits their ability to perform the following activities:</p> <ul style="list-style-type: none"> ■ Customer relationship management ■ Service management ■ Process management (e.g., change manager, capacity manager, incident manager, etc.) ■ Infrastructure support ■ Platform/technical specialties ■ I&O financial management 	<p>DTMB has documented each role as responsible, accountable, consulted and informed for the following activities: DTMB has a sufficient number of adequately trained staff for the following activities:</p> <ul style="list-style-type: none"> ■ Customer relationship management ■ Service management ■ Process management (e.g., change manager, capacity manager, incident manager, etc.) ■ Infrastructure support ■ Platform/technical specialties ■ I&O financial management 	<p>DTMB has a defined sourcing strategy that evaluates the optimal distribution of insourced and outsourced resources; DTMB has optimized the number of adequately trained staff to manage resources across the enterprise for the following activities:</p> <ul style="list-style-type: none"> ■ Customer relationship management ■ Service management ■ Process management (e.g., change manager, capacity manager, incident manager, etc.) ■ Infrastructure support ■ Platform/technical specialties ■ I&O financial management

Infrastructure and Operations

Gap Analysis — Organization



- Eliminate overlaps in functional/duplicate roles.
- Align teams by industry norm to create engineering and operational teams to manage the infrastructure environment.
- Need for cross-platform infrastructure architects who can work across the IT towers.
- Need for Tier 2/Tier 3 incident managers who are accountable for triaging and managing all incidents coming into the IT towers.
- Focus on improving customer-facing processes around incident management, problem management, provisioning, responsiveness, etc.
- Need for IT service product manager.
- Re-evaluate contracting strategy to utilize contractors for core engineering and operational functions (e.g., backup and storage). Try to convert contractor staffing to internal staff to help reduce overall cost of service and eliminate single points of failure in key areas.

Infrastructure and Operations

Gap Analysis — Organization (continued)



- Need for matrixed or dedicated cross-functional team (IT tower SMEs) for managing critical applications.
- Need to eliminate key single points of failure and implement formal succession planning across all key areas.
- Need to institute training program, with a special focus on customer-facing areas.
- Need to strengthen the role of IT finance manager.
- Need for overall IT Risk management function.
- Create an advanced infrastructure technology teams for forward-looking planning and managing of proactive, futuristic technologies.

Infrastructure and Operations

Target State — Process



1 — Ad Hoc

I&O processes are non-existent, or ad hoc. Common attributes include:

- Policies and automation do not extend across IT and business processes (i.e., risk assessment, IT service self-provisioning, and IT dashboards);
- Process integration and handoff points not in place between IT architecture, applications and I&O;
- Applications and I&O are not integrated to make pre-production testing more rigorous;
- Tools are not integrated at the data and functional level across processes;
- Processes and standards are not clearly defined.

2 — Reactive

I&O processes are largely documented, but with limited standardization and are inconsistent from location to location, business unit to business unit. Common attributes include:

- Policies and automation inconsistently extend across IT and business processes (i.e., risk assessment, IT service self-provisioning, and IT dashboards.);
- Process integration and handoff points informally in place between IT architecture, applications and I&O;
- Applications and I&O are inconsistently integrated to make pre-production testing more rigorous;
- Some tools are integrated at the data and functional level across a few of the processes;
- DTMB has ad-hoc processes and standards e not clearly defined.

3 — Challenged

I&O processes are standardized and documented and are consistently applied to the organization. Common attributes include:

- Policies and automation consistently extend across IT and business processes (i.e., risk assessment, IT service self-provisioning, and IT dashboards);
- Process integration and handoff points are formally in place between IT architecture, applications and I&O
- Applications and I&O are consistently integrated to make pre-production testing more rigorous;
- Tools are integrated at the data and functional level across the processes;
- DTMB has formal processes and standards.

4 — Managed

I&O processes are well defined and managed consistently across the enterprise. Common attributes include:

- Policies and automation consistently extend across IT and business processes (i.e., risk assessment, IT service self-provisioning, and IT dashboards);
- Process integration and handoff points are formally in place between IT architecture, applications and I&O;
- Applications and I&O are consistently integrated to make pre-production testing more rigorous;
- Tools are integrated at the data and functional level across the processes;
- DTMB has consistently defined and documented processes.

5 — Optimized

I&O processes are mature and efficient. Common attributes include:

- DTMB has a defined process to ensure that processes and standards are followed;
- Policies and automation consistently extend across IT and business processes (i.e., risk assessment, IT service self-provisioning, and IT dashboards);
- Process integration and handoff points are formally in place between IT architecture, applications and I&O;
- Applications and I&O are consistently integrated to make pre-production testing more rigorous;
- Tools are integrated at the data and functional level across the processes.

Infrastructure and Operations

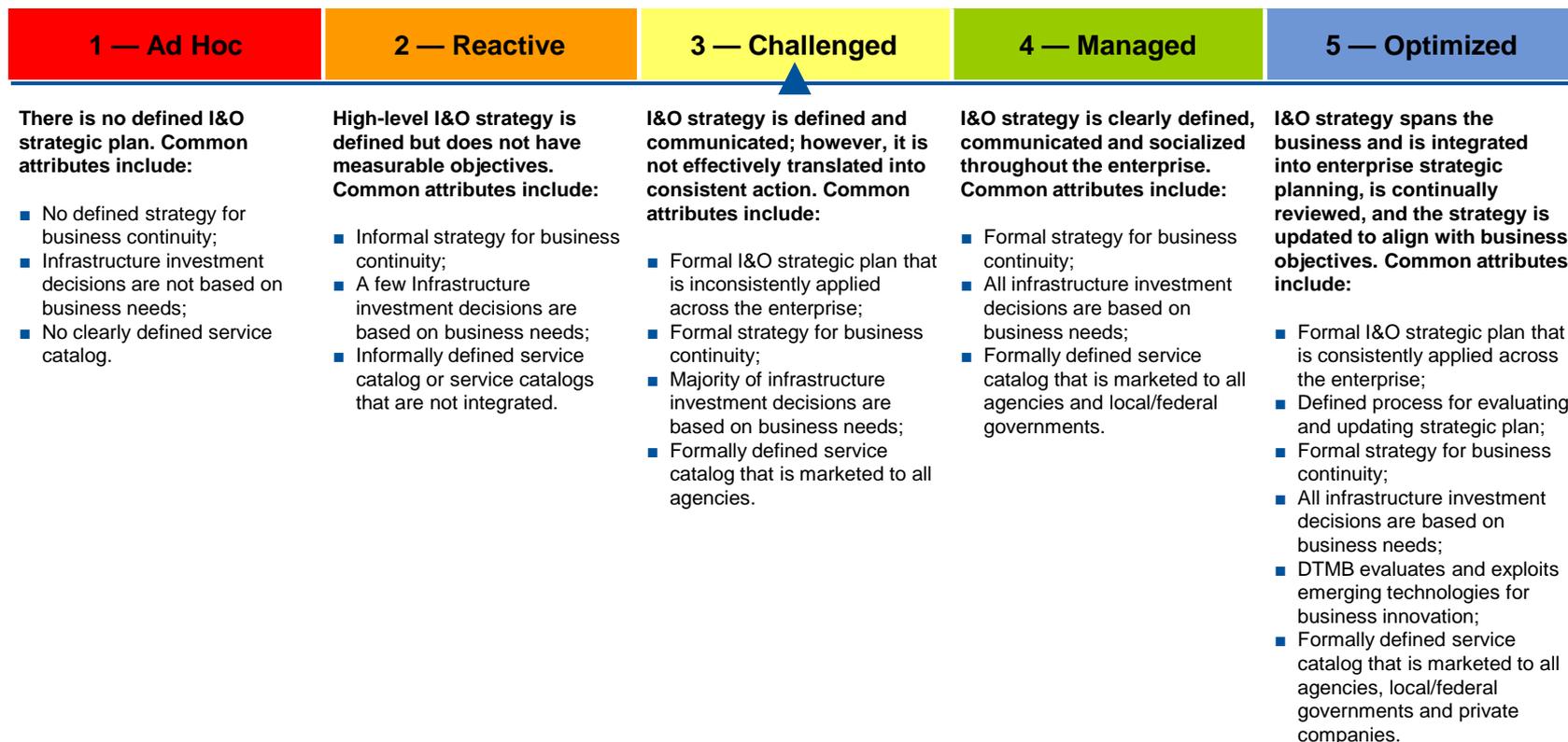
Gap Analysis — Process



- Need for a comprehensive Information Technology Service Management (ITSM) road map across the IT towers for foundational ITIL (IT Infrastructure Library) processes such as incident, change, configuration, problem and asset management.
- Evaluate adopting comprehensive ITSM framework or integrated toolset that provides integrated incident, change, configuration and asset management capabilities.
- Map out interfaces, handoffs and trigger points between core operations processes.
- Need for integrated (or adopt single) CMDB across the core IT towers.
- Need for integrated (or adopt single) change management process across all IT towers.
- Need for Infrastructure Services-level performance management and capacity management processes.
- Automate the processes for service request and fulfillment; infrastructure and application provisioning with measurements in place to identify cycle times and bottlenecks.

Infrastructure and Operations

Target State — Strategy



Infrastructure and Operations

Gap Analysis — Strategy



- Need for formal IT operations steering committee to provide governance, strategy, funding, decision making, dispute resolution and prioritization.
- Reduce/consolidate IS service catalog from IT tower-based view to IS common view. Services should be end-user-based/oriented, as opposed to IT Domain-specific. IT product manager should be tasked with ensuring all IT services are delivering the IS common services.
 - Need for re-evaluating Cloud service offering to make it attractive to customers.
- Conduct regular customer satisfaction surveys to identify areas of strengths and areas of improvements, based on feedback.
- Need for communications plan and strategy that span all aspects of IS services, both internal and external.
- Need for business relationship management function for dialoging with customers (DTMB Agencies and IOs).
- Need for data center strategy to manage impending capacity/refresh issue.

Infrastructure and Operations

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>I&O service levels not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ Infrastructure and data center metrics are not defined;■ Project metrics are not defined at the beginning of the project;■ Metrics to measure I&O service are not captured or available;■ Disaster recovery objectives [Mean Time To Recovery (MTTR), Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs)] are not defined for critical business systems.	<p>Basic I&O service levels exist, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ Infrastructure and data center metrics are generally known but informally defined;■ Project metrics are informally defined at the beginning of the project;■ Metrics to measure I&O service are available, but not meaningful for day-to-day operational management and for service management as per service catalog;■ Disaster recovery objectives [Mean Time To Recovery (MTTR), Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs)] are informally defined.	<p>I&O service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Infrastructure and data center metrics are formally defined but inconsistently tracked;■ Project metrics are formally defined at the beginning of the project but inconsistently tracked;■ Metrics to measure I&O service are published, and are being used to manage operations and service catalog;■ Disaster recovery objectives [Mean Time To Recovery (MTTR), Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs)] are formally defined for critical business systems.	<p>I&O service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Infrastructure and data center metrics are formally defined and consistently tracked;■ Project metrics are formally defined at the beginning of the project and consistently tracked;■ Metrics to measure I&O service are published, utilized for operational management, service delivery and are being used to improve services;■ Disaster recovery objectives [Mean Time To Recovery (MTTR), Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs)] are formally defined.	<p>I&O service-level agreements and metrics are collaboratively and regularly agreed to with customers, and the organization is fully accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Infrastructure and data center metrics are formally defined and consistently tracked;■ Project metrics are formally defined at the beginning of the project and consistently tracked;■ Metrics to measure I&O service are published, utilized for operational management, service delivery and are being used to improve services;■ Disaster recovery objectives [Mean Time To Recovery (MTTR), Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs)] are formally defined.

Infrastructure and Operations

Gap Analysis — Service Level



- Need for metrics measurement and reporting that are truly useful to customer Agencies.
- Need for utilizing metrics for internal management of resources, equipment, cycle times, performance and cost.
- Put in place end-to-end metrics across the infrastructure towers.
- Need for periodic metric improvement, especially for customer-facing processes.
- Need for building a performance dashboard that can provide customers with results of overall performance.
- Need for driving customer satisfaction-based metrics for improvement.

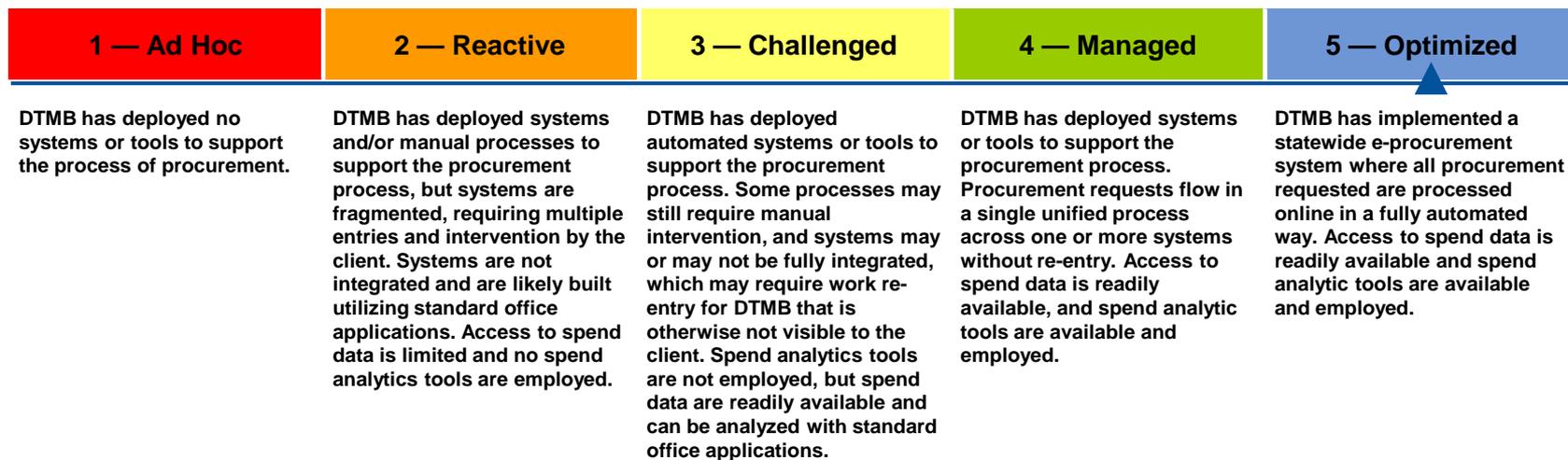
Gap Analysis

IT Sourcing and Vendor Management

Current State = ○
Target State = ▲

IT Sourcing

Target State — Technology



IT Sourcing

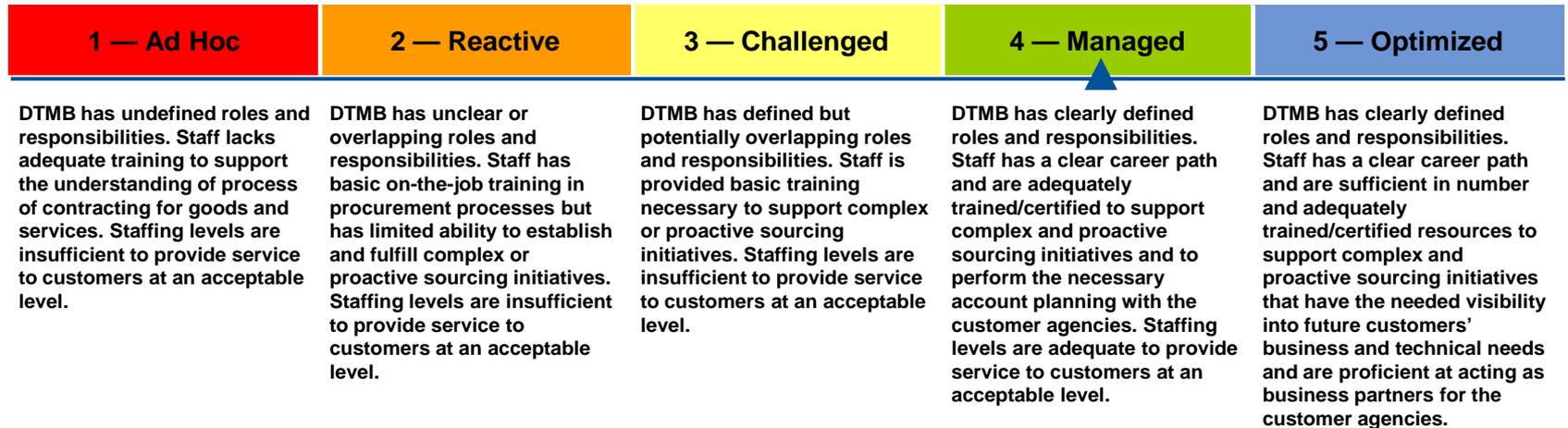
Gap Analysis — Technology



- Establish clear policies and processes related to the use of the existing systems.
- Incorporate more rigor into the Call for Projects process that allows for electronic parsing of key factors for procurement planning for proactive preparation.
- Develop clear business case for e-procurement deployment.

IT Sourcing

Target State — Organization



IT Sourcing

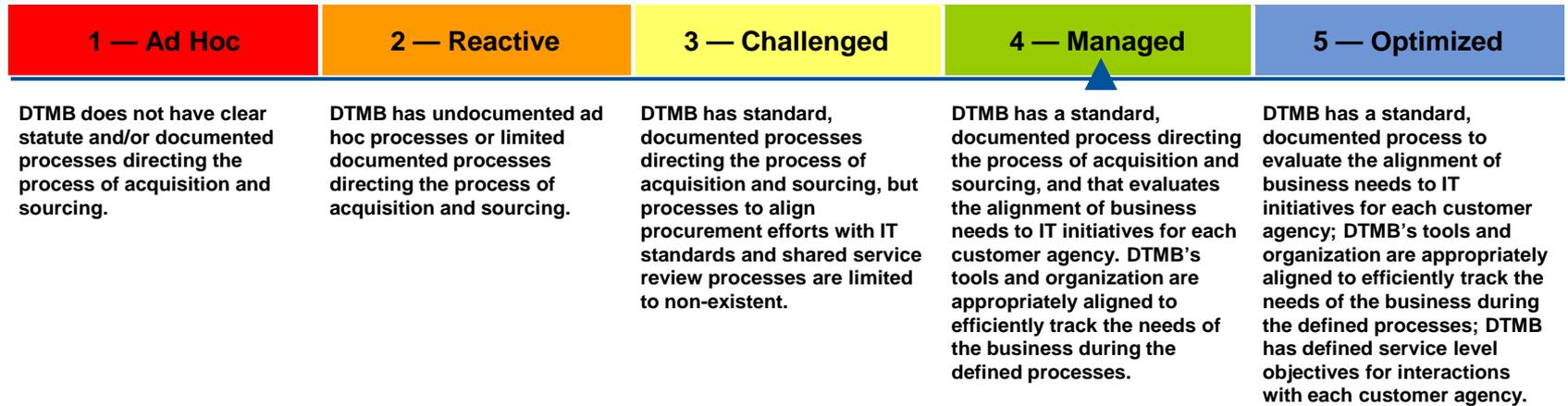
Gap Analysis — Organization



- Align purchasing and procurement functions organizationally.
- Assess opportunities to establish alternatives to some or all of the current commodity contract in order to maximize the value of the admin fee currently paid for this service.
- Consider targeted resources with multiplying effects (e.g., Virginia Information Technologies Agency, legal asset).

IT Sourcing

Target State — Process



IT Sourcing

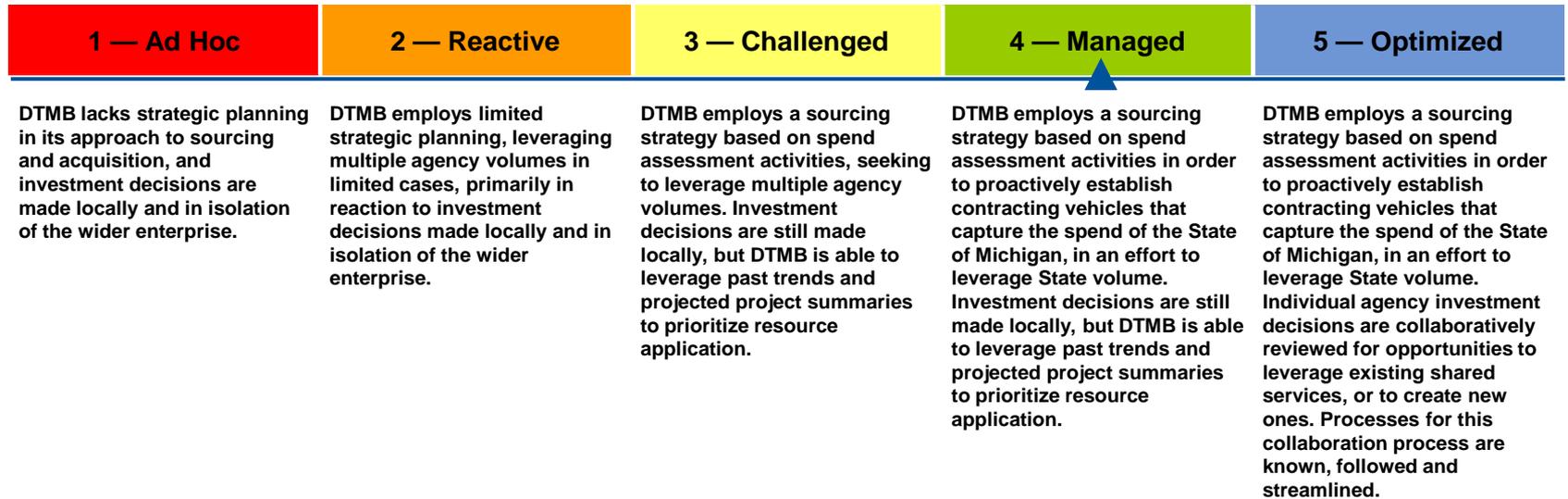
Gap Analysis — Process



- Establish clear — and higher-dollar-threshold — delegation of authority for agency-specific procurements.
- Procurement manual with audience of agencies and DTMB liaison assets.
- Procurement representative as a peer reviewer in DTMB standards and architecture reviews.

IT Sourcing

Target State — Strategy



IT Sourcing

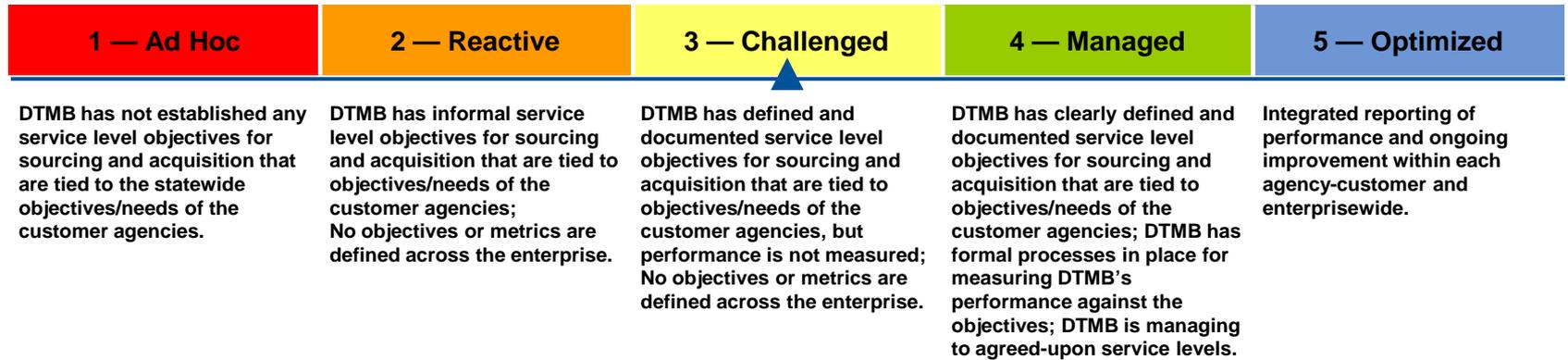
Gap Analysis — Strategy



- Assess alternatives to improve spend assessment in the short term, and deploy assets as necessary to improve spend tracking in the interim.
- Establish consistent and repeatable requirements for vendor reporting of spend in the interim.
- Establish a representative basket of goods for peer price comparisons and a consistent schedule for comparison to buying peers.

IT Sourcing

Target State — Service Level



IT Sourcing

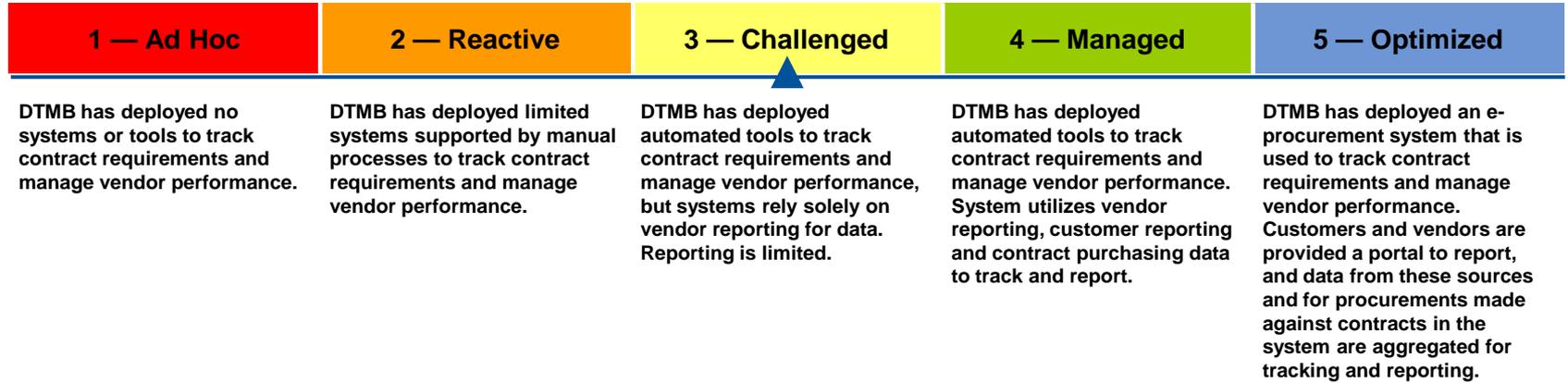
Gap Analysis — Service Level



- Set expectation for the process with end users that clearly identifies a base schedule of events, milestones, go/no-go decision points.
- Establish performance levels that are within the control of the procurement operation.
- Establish performance levels that will be possible under a unified workflow via an e-procurement tool.

Vendor Management

Target State — Technology



Vendor Management

Gap Analysis — Technology



- Decompose existing contract portfolio to capture major status and decision points in scorecard format.
- Assess requirements for a contract management system and determine if contract system can/should be acquired independently of an e-procurement solution.

Vendor Management

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>DTMB has no identified organizational unit tasked with contract and vendor management.</p>	<p>DTMB has no identified organizational unit tasked with contract and vendor management. Staff in various areas may perform some of the functions related to contract and vendor management, but there is no formal training or unified process or approach.</p>	<p>DTMB has clearly identified roles and responsibilities for vendor and contract management functions. Performance of the function is still fragmented or is performed as an additional duty by procurement staff. There is limited training for Staff.</p>	<p>DTMB has clearly identified roles and responsibilities and a defined organizational unit responsible for vendor and contract management functions. Staff performing the function is separate from procurement staff and they are adequately trained to perform their duties.</p>	<p>DTMB has clearly identified roles and responsibilities and a defined organizational unit responsible for vendor and contract management functions. Staff performing the function is separate from procurement staff and they are adequately trained and/or certified to perform their duties.</p>

Vendor Management

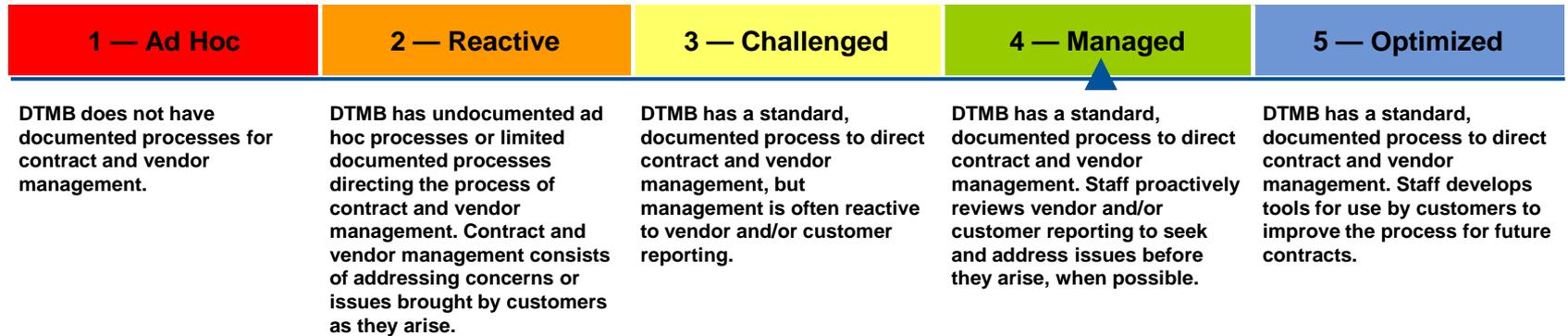
Gap Analysis — Organization



- Establish an interim “go-to” resource to coordinate planning, policy and process related to contract management.
- Establish clear scope of responsibility for a vendor management unit that assesses pros and cons of previous contract administration unit.
- Build business case for additional staffing of vendor and contract oversight.

Vendor Management

Target State — Process



Vendor Management

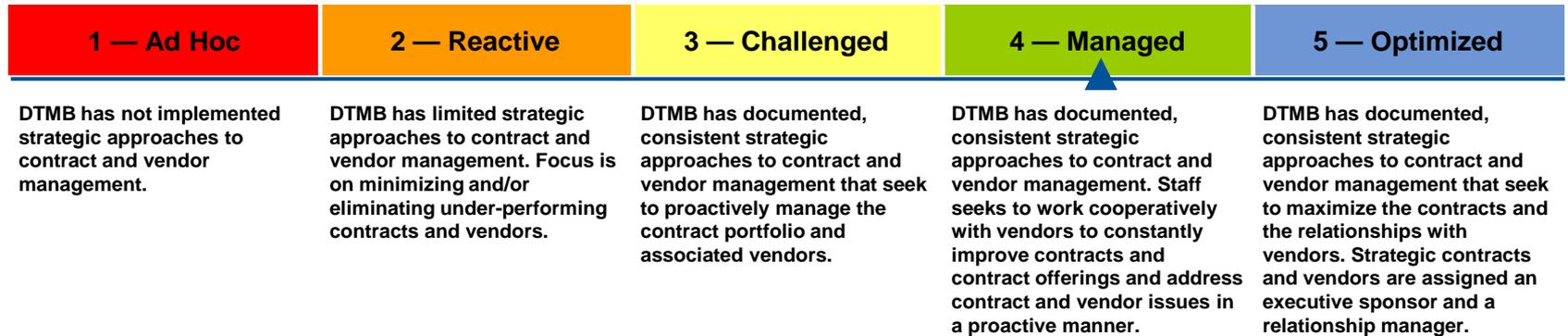
Gap Analysis — Process



- Establish a stakeholder group to document a repeatable process that will be used for contract and vendor management going forward.
- Deliver a Major Contact Management Guide that is required for project managers to incorporate into planning and risk assessment plans.
- Incorporate complementary processes as a component of a new Procurement Manual.

Vendor Management

Target State — Strategy



Vendor Management

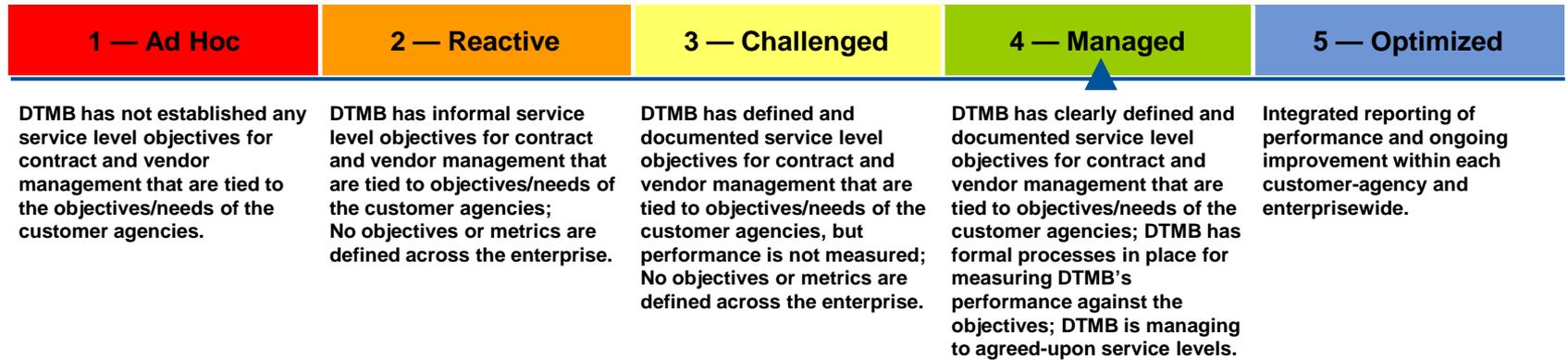
Gap Analysis — Strategy



- Leverage contract portfolio effort described in technology assessment section to determine proactive recomplete schedule.
- Demonstrate clearly — in the short term — that Michigan will require changes or terminate a contract and leverage an available commodity contract.
- Renegotiate with vendors to capture in flight savings when representative basket indicates Michigan is receiving worse pricing than peers.

Vendor Management

Target State — Service Level



Vendor Management

Gap Analysis — Service Level



- Establish a stakeholder group to document performance measures required for internal measures that will be used for contract and vendor management going forward (Phase One).
- Establish a stakeholder group to document performance measures required as a component of going-forward terms and conditions that will be used consistently in contracts going forward (Phase Two).

Gap Analysis

Security and Risk Management

Current State = ○
Target State = ▲

Security and Risk Management

Target State — Technology

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No or limited IT systems or tools in place to support security, including tools such as:</p> <ul style="list-style-type: none">Endpoint Security and Mobility ToolsNetwork and Data Center Security ToolsApplication and Software SecurityData Security ToolsIdentity and Access Management ToolsCloud Security ToolsMonitoring ToolsVulnerability Management Tools	<p>IT systems and tools are presently in place to support security, including tools such as those listed below. However, no or limited coordination or standardization across the enterprise.</p> <ul style="list-style-type: none">Endpoint Security and Mobility ToolsNetwork and Data Center Security ToolsApplication and Software SecurityData Security ToolsIdentity and Access Management ToolsCloud Security ToolsMonitoring ToolsVulnerability Management Tools	<p>IT systems and tools are in place to support security, including tools such as those listed below. Inconsistent usage of tools (e.g., planning only, large projects, etc.).</p> <ul style="list-style-type: none">Endpoint Security and Mobility ToolsNetwork and Data Center Security ToolsApplication and Software SecurityData Security ToolsIdentity and Access Management ToolsCloud Security ToolsMonitoring ToolsVulnerability Management Tools	<p>IT tools and systems are in place to support security across the enterprise and are consistently used, including tools such as those listed below.</p> <ul style="list-style-type: none">Endpoint Security and Mobility ToolsNetwork and Data Center Security ToolsApplication and Software SecurityData Security ToolsIdentity and Access Management ToolsCloud Security ToolsMonitoring ToolsVulnerability Management Tools	<p>IT systems and tools are in place to proactively integrate security and support the enterprise's ability to improve and optimize operational performance using tools such as:</p> <ul style="list-style-type: none">Endpoint Security and Mobility ToolsNetwork and Data Center Security ToolsApplication and Software SecurityData Security ToolsIdentity and Access Management ToolsCloud Security ToolsMonitoring ToolsVulnerability Management Tools

Security and Risk Management

Gap Analysis — Technology



- Look at capabilities of all tools and turn on more features to give better and proactive visibility.
- Leverage contracts with tool vendors* to get paid and, if possible, free training from vendor sales engineer personnel.
 - Hold brownbag training sessions to understand advanced feature sets that the tools bring to bear, and turn on the features after internal training.
 - Work with third-party organizations that DTMB has relationships with to bring on external senior personnel to help with ad hoc training on tools and technology that have been deployed.
- Perform vulnerability scanning and compliance across all areas of IT infrastructure to include servers, network devices and desktops.
 - In the future, devise a strategy to start scanning and protecting mobile devices (smartphones, tablets, mobile platform devices, etc.).**

* Critical Infrastructure Protection (CIP) is in the process of bringing in a full-time dedicated Symantec professional into the Chief Security Office (CSO) to assist with security operations and training.

** CIP will be conducting a pilot with AT&T to manage security for mobile devices that are on the SOM network in calendar year 2012.

Security and Risk Management

Target State — Organization

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>No clear organizational structure or overall ownership of security responsibilities for the enterprise. Common attributes include:</p> <ul style="list-style-type: none"> ■ Very few dedicated resources for security as their primary responsibility; ■ Low security accountability at both the project and ongoing operations levels; ■ No or extremely limited security training or certifications present; ■ Low skill sets; ■ Undefined roles and responsibilities. 	<p>Ownership of security responsibilities within the enterprise exists, but the organization is immature and some of the appropriate skill sets are not present. Common attributes include:</p> <ul style="list-style-type: none"> ■ Organizational structure is defined but it is not aligned for effective service delivery; ■ Technology-centric organization with tiered support; ■ Missing key organization functions/roles; ■ Inconsistently defined roles and responsibilities; ■ Nascent process-based roles; ■ Limited staff development and training budgets; ■ Staff utilization metrics; ■ Formal performance reviews; ■ Duplicative roles; ■ No succession planning with key single points of failure; ■ Ad hoc governance; ■ Non-optimized staffing levels; ■ Weak budget-level IT finance. 	<p>Security organizational structure defined and fairly mature, and exhibits some best practices. Skill sets largely align with security needs and training, and certifications are present. Common attributes include:</p> <ul style="list-style-type: none"> ■ Defined, empowered role for a CISO or similar position; ■ Organizational structure is defined and aligned for effective service delivery; ■ Process-driven organization; ■ Consolidated organization with matrix management; ■ Alignment of resources by roles and skills; ■ Appropriate staffing or skills not in place for some elements; ■ Optimized or near-optimized staffing levels; ■ Working to adopt best practices; ■ Some competency centers; ■ Defined senior-level governance structure and charters; ■ Effective succession planning with no single points of failure; ■ Comprehensive staff development programs. 	<p>Security organizational structure defined and aligned for effective service delivery and enforcement with appropriately resourced and skilled staff. Common attributes include:</p> <ul style="list-style-type: none"> ■ Organizational structure is defined and aligned for effective service delivery with appropriately resourced and skilled staff; ■ Established program for ongoing training; ■ Service-centric organization; ■ Service delivery-focused organization with strong relationship managers and service line financial management roles; ■ Trusted service provider to business; ■ Skills portfolio management; ■ Formal multi-tiered governance structure with charters; ■ Metrics-driven performance management; ■ Detailed role definition. 	<p>Security organizational performance is evaluated, enhanced and rewarded, based on defined objectives. Common attributes include:</p> <ul style="list-style-type: none"> ■ Security accountability integrated effectively into the business; ■ Customer- and business-focused organization; ■ Virtual teaming; ■ Business/IT Staff rotation; ■ Developing best practices; ■ Focused staff development and training competency centers; ■ Business-driven metrics and resourcing.

Security and Risk Management

Gap Analysis — Organization



- Institute training program for junior resources to help build skills and competencies.
- Build career path for junior resources to help with career progression, and perform rotational duties to help them learn and understand all aspects of security management and operations.
 - Provide opportunities for specialization.
 - Goal is to keep resources busy with learning new things and building specialization so that they do not have time/need to think about other jobs.
- Develop career path and incentive programs to develop more senior staff, and retain them.
 - Provide visibility of key security staff at senior levels of the State’s organization.
- Consolidate all security monitoring functions into security operations.
- Stand up a 24/7 dedicated Security Operations Center (SOC) function with proactive monitoring skills.
 - Need to look for risk items beyond just the tool, saying these are risk items.

Security and Risk Management

Target State — Process

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Processes to support security are non-existent, or ad hoc. Common attributes include:</p> <ul style="list-style-type: none">■ Completely ad hoc processes that are not documented, standardized, measured or continuously improved;■ "Reinvention of the wheel," duplicative efforts.	<p>Processes to support security are largely documented; formal processes are nascent and focused on policing and compliance. Common attributes include:</p> <ul style="list-style-type: none">■ Security processes have been partially integrated (at the user interface, data or activity levels) with other related processes, including relevant operations and service management processes;■ Processes are neither well defined nor repeatable;■ Some or most processes documented;■ Processes are not standardized or measured, and there is no method for improvement.	<p>Processes to support security are standardized and are consistently applied to the organization. Common attributes include:</p> <ul style="list-style-type: none">■ Security processes have been largely integrated (at the user interface, data or activity levels) with other related processes, including relevant operations and service management processes;■ Some processes and procedures may be manual or inefficient, and workarounds are present;■ No measurement or means of improving those processes.	<p>Processes to support security are well defined and managed consistently across the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ Security processes have been formally and effectively integrated (at the user interface, data or activity levels) with other related processes, including relevant operations and service management processes;■ Systems, methods and practices are followed with appropriate control and governance;■ Mechanisms are in place across the enterprise to ensure compliance.	<p>Processes to support security are mature and efficient. Common attributes include:</p> <ul style="list-style-type: none">■ Best practices for security processes are present, and have been optimally integrated (at the user interface, data or activity levels) with other related processes, including relevant operations and service management processes;■ Continuous measurement and improvement of security processes is a core competency;■ Control/governance mechanisms are in place to feed a cycle of continual enhancement and evolution across the enterprise.

Security and Risk Management

Gap Analysis — Process



- Conduct a comprehensive enterprisewide security risk assessment of the State’s environment that identifies the realistic threats facing the State and the gaps the State needs to plug to remediate the threats.
 - Maintain and update the risk assessment process on a periodic basis.
- Implement more-frequent user awareness training; focus on specific risks instead of general policies.
 - Focus additional training for programming staff to ensure application development process follows security guidelines and requirements.
- Build a process to review and update policies on a regular basis and institutionalize it (security operations, policy management, infrastructure services). Institute process improvement by reviewing and updating policies on regular basis to keep up with threats and technology trends.
- Integrate asset management to track which valid devices are on the network and their configuration details.
- Perform enterprisewide scans of all systems — not just PCI-specific devices.
- Create process to patch desktop applications — not just OS.

Security and Risk Management

Target State — Strategy

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>There is no defined strategy for security. Common attributes include:</p> <ul style="list-style-type: none">■ Security does not have its own goals and objectives and simply reacts to most-vocal or influential customers (either internal or external);■ Security has no means of understanding whether or not it is aligned with DTMB's overall strategy;■ No process and/or governance in place to ensure ongoing alignment with DTMB's overall strategy.	<p>A security strategy exists, but it is not coordinated, not clearly defined and does not have measurable objectives. Common attributes include:</p> <ul style="list-style-type: none">■ Security strategy does not fully integrate with the wider organization, nor is it communicated enterprisewide;■ Security has its own goals and objectives, but there is no real consideration for aligning it with the overall DTMB strategy;■ Some means of understanding whether or not it is optimizing to its own desired goals, but cannot determine if it is really working toward DTMB's overall strategy;■ No or limited ability to ensure ongoing alignment with DTMB's overall strategy.	<p>The security strategy is defined and communicated; however, it is not consistently or effectively translated into action. Common attributes include:</p> <ul style="list-style-type: none">■ Security governance is inadequately established, allowing for the implementation of the strategy to become fragmented and confused across the enterprise;■ Security has its own goals and objectives that partially align with DTMB's overall strategy;■ Reactively determines how well they are aligned to DTMB's overall strategy;■ Ineffective or nascent ability to ensure ongoing alignment with DTMB's overall strategy, or ability to take corrective action when it is getting out of alignment.	<p>The security strategy is clearly defined, communicated and socialized throughout the enterprise. Common attributes include:</p> <ul style="list-style-type: none">■ Security governance effectively used to articulate how architecture development decisions are made;■ Security has its own goals and objectives that fully align with DTMB's overall strategy;■ Proactively determines how well they are aligned to DTMB's overall strategy;■ Adequate ability to ensure ongoing alignment with DTMB's overall strategy, or to take corrective action when it is getting out of alignment.	<p>Security is fully integrated with strategic planning, continually reviewed, and the strategy is updated to align with business objectives. Common attributes include:</p> <ul style="list-style-type: none">■ Security governance function is integrated with the organization's corporate and IT governance functions;■ Security strategy is clearly defined and communication throughout the enterprise;■ Security has its own goals and objectives that fully align with DTMB's overall strategy;■ Proactively determines how well they are aligned to DTMB's overall strategy;■ Effective ability to ensure ongoing alignment with DTMB's overall strategy, and to take corrective action when it is getting out of alignment.

Security and Risk Management

Gap Analysis — Strategy



- Conduct a comprehensive enterprisewide security risk assessment of the State’s environment that identifies the realistic threats facing the State and the gaps the State needs to plug to remediate the threats.
 - Maintain and update the risk assessment process on a periodic basis.
- Implement more-frequent user awareness training; focus on specific risks instead of general policies.
 - Focus additional training for programming staff to ensure application development process follows security guidelines and requirements.
- Build a process to review and update policies on a regular basis and institutionalize it (security operations, policy management, infrastructure services). Institute process improvement by reviewing and updating policies on regular basis to keep up with threats and technology trends.
- Integrate asset management to track which valid devices are on the network and their configuration details.
- Perform enterprisewide scans of all systems — not just PCI-specific devices.
- Create process to patch desktop applications — not just OS.

Security and Risk Management

Target State — Service Level

1 — Ad Hoc	2 — Reactive	3 — Challenged	4 — Managed	5 — Optimized
<p>Security services are not clearly defined or negotiated with the customer. Common attributes include:</p> <ul style="list-style-type: none">■ No service-level agreements or metrics for which they are accountable to either end customers or other groups within DTMB;■ No means of working with customers on an ongoing basis to understand actual delivery against service level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>Security services are provided, but performance is not effectively measured. Common attributes include:</p> <ul style="list-style-type: none">■ No or few objectives or metrics are defined for security services, or across the enterprise;■ Have limited security service-level agreements and metrics for which they are accountable to either end customers or other groups within DTMB;■ Ability to accurately calculate those metrics is limited;■ Little means of working with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction.	<p>Security service-level agreements and metrics are established, and the organization is accountable to end customers and other groups within DTMB. Common attributes include:</p> <ul style="list-style-type: none">■ Ability to accurately calculate metrics that end customers and other DTMB groups partially believe to be accurate;■ Security is partially able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ No means of continuously improving to achieve better levels of customer satisfaction;■ Service levels to support chargeback and other financial allocation mechanisms exist, but are not fully mature.	<p>Security service-level agreements and metrics are established, and the IT support organization is managing to agreed-upon service levels. Common attributes include:</p> <ul style="list-style-type: none">■ Security service-level agreements, and metrics for which they are accountable to end customers and other groups within DTMB, are benchmarked against peers;■ Ability to accurately calculate metrics that end customers and other DTMB groups mostly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Ability to work toward improving actual delivery to current service-level agreements, but not toward increasing those service levels in the future;■ Service levels to support chargeback and other financial allocation mechanisms exist.	<p>Security service-level agreements and metrics are collaboratively and regularly agreed to with customers, and the organization is fully accountable to end customers and other groups within DTMB.</p> <ul style="list-style-type: none">■ Ability to accurately calculate metrics that end customers and other DTMB groups truly believe to be accurate;■ Fully able to work with customers on an ongoing basis to understand actual delivery against service-level agreements;■ Means of continuously improving to achieve better levels of customer satisfaction and to increase those service levels in the future;■ Best-practice chargeback and other financial allocation mechanisms are in place to deliver cost-effective and high-quality services.



Security and Risk Management

Target State — Service Level: Sample Security Metrics

- **Inventory (Asset Count)**
 - People: Users, security FTEs
 - Equipment: Desktops, servers, network devices, security devices
 - Resources: Connections, applications
- **Program Status (Against Planned Objectives)**
 - Percent YTD spending of security budget
 - Percent completion of annual objectives
 - Percent confidence of completing objectives
 - Percent security policies refreshed
 - No. of policies reviewed, created, implemented
 - No. of security processes defined, matured (and level)
- **Project Status (Major, per Project)**
 - Percent completion
 - Percent project timeline elapsed
 - Percent project budget expended
 - Percent confidence of completion
- **Audit and Regulatory Compliance**
 - No. of compliance deficiencies, last audit
 - No. of remaining open compliance deficiencies
 - Y/N compliance audit up-to-date
 - No. of policy deficiencies, last audit
 - No. of remaining open policy deficiencies
 - Y/N policy audit up-to-date

Security and Risk Management

Target State — Service Level: Sample Security Metrics (continued)

■ Event/Incident Management

- No. of privacy violations
- No. of events (total, reportable, ability to be investigated, actionable)
- No. of hours induced downtime by system criticality
- No. of incidents by type (configuration error, zero-day vulnerability, unpatched vulnerability, user error, hacker)

■ Security Systems Status/Health

- Percent desktops with fresh AV
- Percent of FW/IDS/VPN/etc. with fresh firmware
- Percent availability

■ Communications/Awareness

- Percent users “made aware” during period
- Percent IT personnel trained during period of security infrastructure

■ Risk Assessment Status

- No. of risk assessments conducted
- No. of risk assessments in progress
- No. of risk assessments pending or backlogged
- No. of critical systems with expired RA

■ Vulnerability Management (Includes Patch)

- No. of security alerts processed
- No. of vulnerability scans in period
- No. of open vulnerability by criticality
- No. of vulnerability reduction during period (area, volume)

Security and Risk Management

Target State — Service Level: Sample Security Metrics (continued)

■ Service Requests

- Change requests for security review (approved/rejected/appealed)
- Application development/acquisition security reviews requested/completed
- New user requests (staff addition)
- User move/add/change (normal/exception)
- New role definition requests
- Role definition change requests
- Delete user requests (normal/urgent)

Security and Risk Management

Gap Analysis — Service Levels



- Build metrics and service levels for internal as well as management-level activities that provide operational as well as management-level insight into security operations and outcomes.
 - Examples of security categories and metrics are provided in the following slides.

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