Request for Proposal

Van Buren Intermediate School District

IP Phone System

Project 2220

December 21, 2007

Prepared by

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1 Schedule of Events

RFP Released 12/21/2007

Project Specifications are available from:
Secant Technologies
6395 Technology Ave
Kalamazoo, MI 49007
269-375-8996

Deadline for questions 1/03/2008 @ 5:00 pm

Bid Due Date 1/07/2008 @ 3:00 pm

Van Buren Intermediate School District
ATTN: Sam Accorso
250 South Street
Lawrence, MI 49064

Provide three (3) sealed copies of your response
Late bids will not be accepted

Bid Opening 1/07/2008 @ 3:05 pm

Van Buren Intermediate School District
250 South Street
Lawrence, MI 49064

BID BOND
5% bid bond is required

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2 Project Background

2.1 Introduction

Van Buren ISD is soliciting bids from qualified bidders for:

IP Telephone System
Network Electronics
UPS Power Supplies
Installation and Training Services

2.2 Work Sites

Van Buren Intermediate School District
Technology Center
250 South Street
Lawrence, MI 49064
Related building:
Construction Trades

Shipping & Receiving
633 Blackman
Lawrence, MI 49064

Transportation
635 Blackman
Lawrence, MI 49064

Van Buren Intermediate School District
Special Services
701 S. Paw Paw Street
Lawrence, MI 49064
Related building:
Learning Center

Van Buren Intermediate School District
Conference Center
490 S. Paw Paw Street
Lawrence, MI 49064

2.3 Project Schedule

All work is to be completed by 3/15/2008.

2.4 Subcontractors

Bidders may use subcontractors to provide a total solution. All subcontractors are required to complete a separate technology vendor profile and technology reference forms. Failure to do so may disqualify bid.

2.5 Proposal Format

2.5.1 Bid Forms

All bidders submitting a response to this RFP must complete all bid forms provided. At least three references must be provided on the Technology Reference form.

Note: The Familiar Disclosure Affidavit form must be attached to bid and notarized for your bid to be considered.

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2.5.2 Bid Security

Bids shall be accompanied by a bid security in the amount equal to five (5) percent of the amount of the total of the base bid and all additive alternates. The bid security shall secure the Owner from loss or damage caused by the withdrawal of the bid by the bidder within 90 days of the bid due date or by the failure of the bidder to enter into a contract with the owner if their bid is accepted by the Owner, or by the failure of the bidder to supply required bonds.

2.5.3 Performance Bond

Not required.

2.5.4 Executive Summary

Bidders should include an executive summary that gives an overview of their response. Please include any pertinent information not specifically asked for on the bid forms.

2.5.5 Project Timeline

Bidders should include a projected project timeline in their bid response including time required for permits, make-ready, fiber installation, fiber testing and documentation.

2.5.6 Material Lists

Include a detailed Materials List for each section of your response. It is important that all items are listed. It will not be assumed that items are included unless they are specifically listed.

2.5.7 Cut Sheets

Include manufacturer cut sheets for key components used in your design. Cut sheets are not required for items that exactly match the specified models in this RFP.

2.5.8 Voluntary Alternates

Owner may accept Voluntary Alternates or Value Engineering Suggestions consistent with the intent of the bidding documents. For each alternate provide a Materials List, Cut Sheets and Executive Summary explaining your alternate design and its benefits.

2.5.9 Sealed Copies

Three sealed copies of your bid response (marked “DO NOT OPEN”) must be received no later than the deadline listed in the Schedule of Events section. **Late bids will not be considered.** Bids will be publicly opened and read at the time and location specified in the Schedule of Events section.

2.6 Inquiries

All inquiries related to this RFP should be in writing and can be faxed or e-mailed to:

Alex Ellingsen
Secant Technologies
E-Mail: aellingsen@secantcorp.com
Fax: (425) 732-8859

All requests for information and clarifications must be received by the deadline stated in the Schedule of Events section.

2.7 Bid Evaluation

It is the intent of the Owner to select the bid response that provides the greatest long-term value to the Owner. This may not be the response with the lowest initial purchase price. The following factors will be used to evaluate and award this project:

Completeness of response
Provides lower long-term cost of ownership
Vendor’s experience with similar projects
Expertise and certification of vendor’s staff
Vendor’s references
Flexibility to expand and change with changing Owner requirements

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Initial purchase price

2.8 Bid Response Validity

Vendor shall honor bid response for not less than 90 days from the date upon which bid responses are due.

2.9 Bid Award

Owner will, at its sole discretion, award the RFP to a vendor or vendors of its choice. Owner may elect to not award any or all sections of the RFP. Owner reserves the right to increase or decrease all quantities by 25 percent in the final award.

Bidder, by submitting bid, agrees to honor line item individual component pricing submitted on bid forms for the final quantity determined by Owner. Owner may elect to eliminate any individual line item or combination of line items contained on bid forms prior to contract award.

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3 Performance of Work Requirements

This section specifies the terms and conditions upon which the performance of the work shall be judged.

3.1 SALES TAX

Owner is exempt from all taxes. The Contractor shall be responsible for the payment of any tax obligation it may incur in connection with the Work of this project, including but not limited to State sales and use taxes. The cost of these shall be included in the bid price.

3.2 PERFORMANCE AND PAYMENT BOND

A. Not required.

3.3 BID SECURITY

B. Each Proposal shall be accompanied by Bid Security pledging that the Bidder will enter into a contract with the Owner on the terms stated in the Proposal, and will furnish Bonds as described in Section 00600. Should the Bidder refuse to enter into such contract or fail to furnish satisfactory Bonds and insurances as required after Notice to Proceed, the amount of the Bid Security shall be forfeited to the Owner as liquidated damages, not as a penalty.

C. Bid Security shall be in the amount of five percent (5%) of the Base Bid(s).

D. Bid Security may take the form of a Bid Bond, Certified Check, Cashier's Check, or a Money Order. When submitting a Certified Check, Cashier's Check or Money Order for multiple Bids, it is recommended that a separate check or money order accompany each bid. <u>AN UNCERTIFIED PERSONAL OR COMPANY CHECK DOES NOT CONSTITUTE A BID SECURITY.</u>

E. The Owner will have the right to retain the Bid Security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all bids have been rejected.

3.4 INSURANCE

A. Limitation of Liability – By signing the bid, the bidder acknowledges that he/she is skilled and experienced in the use and interpretation of the Specifications. He/she has reviewed the Specifications for this project and has found them to be free of ambiguities and sufficient for Bid purposes. Further, he/she has examined the site(s) of the Work and from his/her own observations, has satisfied himself/herself as to the nature and location of the Work; the character and quantity of work; the difficulties likely to be encountered; and other items that may affect the performance of the work. He/she has based his/her Bid solely on these documents and observations and has not relied in any way on any explanation or interpretation, oral or written, from any other source.

B. Insurance Required – Prior to commencement of the Work, the Contractor shall provide to the Owner satisfactory proof of insurance and maintain during the term of the project such insurance as will protect him/her and the Owner from claims arising out of the Work described in this Contract and performed by the Contractor or Subcontractors consisting of:

1. Worker's Compensation Insurance including Employer's liability to cover employee injuries or disease compensable under the Worker's Compensation Statutes of the State of Michigan, disability benefit laws, if any or Federal compensation acts such as U.S. Longshoremen or Harbor Workers', Maritime employment, or Railroad Compensation Acts, if applicable. Self-insurance plans approved by the regulatory authorities in the State of Michigan are acceptable.
2. A Comprehensive General Liability policy to cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof, including the following exposures:

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a. All premises and operations.
b. Explosion, collapse, and building damage.
c. Contractor's Protective coverage for independent contractors or subcontractors employed by him/her.
d. Contractual Liability for the obligation assumed in the Indemnification or Hold Harmless agreement found in the Supplemental Conditions section of this Contract.
e. The usual Personal Injury Liability endorsement with no exclusions pertaining to employment.
f. Products and Completed Operations coverage. This coverage shall extend through the Contract guarantee period.

3. A Comprehensive Automobile Liability policy to cover bodily injury and property damage arising out of the ownership, maintenance or use of any motor vehicle, including owned, non-owned and hired vehicles. In light of standard policy provisions concerning (1) loading and unloading and (2) definitions pertaining to motor vehicles licensed for road use vs. unlicensed or self-propelled equipment, it is strongly recommended that the Comprehensive General Liability and the Comprehensive Auto Liability be written by the same insurance carrier, though not necessarily in one policy.
4. Umbrella or Excess Liability: The Owner, for this project may waive the umbrella or excess liability coverage under the "Limits of Liability" below. This coverage may be considered when awarding this contract, however, it is not a requirement of this contract. The Contractor is granted the option of arranging coverage under a single policy for the full limit required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy equal to the total limit(s) requested. Umbrella or Excess policy wording shall be at least as broad as the primary or underlying policy(ies) and shall apply both to the Contractor's general liability and to his automobile liability insurance. **The Owner, Van Buren Intermediate School District, shall be listed as Additional insured.**
5. Property Insurance: The Contractor shall be solely and exclusively responsible for all of its equipment and materials used or located at the Project. The Owner is hereby released and shall not have any liability of any kind whatsoever for any damage, destruction, vandalism, theft or any other loss of any kind to Contractor's equipment and materials used or located at the Project.
   a. The Contractor shall effect and maintain similar property insurance on portions of the Work stored off site or in transit when such portions of the Work are included in an application for payment.

C. Limits of Liability – The required limits of liability for insurance coverage required under "Insurance Required" above shall be not less than the following:

1.	Workers Compensation	
	Coverage A – Compensation	Statutory
	Coverage B – Employer's Liability	$300,000.00
2.	Comprehensive General Liability	
	Bodily Injury – Each Occurrence	$500,000.00
	Bodily Injury – Aggregate	
	(Completed Operation)	$500,000.00
	Property Damage – Each Occurrence	$500,000.00
	Property Damage – Aggregate	$500,000.00
	or combined single limit	$500,000.00
3.	Comprehensive Automobile Liability	
	Bodily Injury – Each Person	$250,000.00

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	Bodily Injury – Each Occurrence	$500,000.00
	Property Damage – Each Occurrence	$500,000.00
	or combined single limit	$500,000.00
4.	Umbrella or Excess Liability	$1,000,000.00

D. Insurance – Other Requirements

1. Notice of Cancellation or Intent Not to Renew – Policies will be endorsed to provide that at least thirty (30) days written notice shall be given to the Owner of cancellation or of intent not to renew.
2. Evidence of Coverage – Prior to commencement of the Work, the Contractor shall furnish to the Owner, Certificates of Insurance in force. The Owner reserves the right to request complete copies of policies if deemed necessary to ascertain detail of coverage not provided by the certificates. Such policy copies shall be "Originally Signed Copies," and so designated.
3. Qualification on Insurers – In order to determine financial strength and reputation of insurance carriers, all companies providing the coverage required shall have a financial rating not lower than XII and a policyholder's service rating no lower than A+ as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than A+: XII will be acceptable only upon written consent of the Owner.
4. Subrogation Clause – The following subrogation clause shall appear in all policies of insurance, "Subrogation Clause – It is hereby stipulated that this insurance shall not be invalidated should the insured waive in writing prior to a loss any or all right of recovery against any part for loss occurring to the property described herein."
5. Additional Insured Provision on Policy(ies) is to read as follows:
   "Van Buren Intermediate School District, its elected or appointed officers, officials, employees and volunteers are included as insured with regard to damages and defense of claims arising from:

   a. activities performed by or on behalf of the Named Insured,
   b. products and completed operations of the Named Insured,
   c. premises owned, leased or used by the Named Insured, or
   d. the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured."

3.5 ENVIRONMENTAL STATEMENT AND RESPONSIBILITY OF CONTRACTORS AND SUBCONTRACTORS

A. It shall be the responsibility of the Contractor to pay any and all costs incurred from the clean up related to any environmental hazard created by means of release, spill, leak or any other means of contamination caused by accident or negligence.

B. It shall be the responsibility of the Contractor to dispose of any product(s) and/or material following EPA, DNR, and local applicable laws and regulations.

C. It shall be the responsibility of the Contractor, if required, to purchase the proper permits and notify the proper authorities prior to commencing said project or, should a "release" take place, to notify proper authorities of any such release.

D. It shall be the responsibility of the Contractor to maintain on site a blood borne pathogen plan and all necessary safety supplies associated with any spill or clean up that may occur.

E. The Contractor shall not use the Owner's dumpsters for any materials of any kind.

F. Please be aware that Van Buren Intermediate School District's buildings contain various types of asbestos containing material (ACBM). Each building has been previously inspected with locations of ACBM being identified within the Asbestos Management Plan book located in each building's administration office. This binder will identify known locations of asbestos materials within that particular building.

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Asbestos containing materials include, but are not limited to: floor tile, linoleum, plaster, pipe insulation, spray on material to walls and ceilings/support structures, wallboard, and gaskets. If any building materials that are known or suspected of containing asbestos are encountered, stop work in that area immediately. It is Van Buren Intermediate School District's policy that no outside contractor may touch ACBM without explicit permission from Facilities Management. Owner's representative will take samples and analyze and provide further instruction. Contractor is responsible for any fiber release that results in fiber concentration above the Permissible Exposure Limit (P.E.L.).

G. The Contractor shall submit verification and confirmation of the above.

3.6 Contract Documents

This document along with the completed Bid Form and Proposal Documents shall constitute the Contract Documents by which performance of work shall be judged. The Owner shall be the judge of performance regarding all work. Contracts that the bidder wishes the owner to approve must be submitted with the bidder's response.

3.7 Prevailing Wage

Prevailing wage information has been included with this document. Contractor responses must incorporate prevailing wage rates.

3.8 Quality Assurance

3.8.1 Quality Standard

The Contract Documents establish a standard of quality that the Owner has determined to be necessary for the Project. It is mandatory that items of material and equipment conform to the Contract Documents and meet the quality standards in every respect.

3.8.2 Conformance

The Contractor warrants that all workmanship, materials, and equipment incorporated in this work will be of good quality and in conformance with the Contract Documents.

3.8.3 Conformity of Work

Execute all work in conformity with best practice to accommodate work to environment and surroundings. Perform all work in accordance with drawings, manufacturer's instructions, shop drawings, this specification, and other Contractors and Vendors.

3.8.4 Materials

Furnish only new, first-class quality materials and equipment to be delivered, erected, connected and finished in every detail, selected and arranged to fit properly into spaces. Where no specific kind or quality of material is specified, furnish first-class quality standard article, approved by Owner.

3.8.5 Current Versions

Supply most current version of all products being provided. Prior and/or old versions of products, unless specifically identified as an exception to this requirement, in this document or its subsequent addenda and/or bulletins, shall not be acceptable. In cases where a newer version of a product is available at the time of installation, request a clarification from the Owner, in writing, via fax, electronic mail, or letter, on which product is to be used.

3.9 Standards Compliance

Comply with latest edition or revision of each standard of code mentioned in these specifications for use in the intended environment as follows:

American Insurance Association (AIA)
American Insurance Service Group (AISG)
American National Standard Institute (ANSI)
American Society for Testing and Materials (ASTM)
Alliance for Telecommunications Industry Solutions (ATIS) Bellcore

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Building Officials and Code Administrators International, Inc. (BOCA)
Ceilings and Interior Systems Construction Association (CISCA)
Electronics Industries Association (EIA)
Federal Communications Commission (FCC)
Federal Information Processing Standards (FIPS)
General Services Administration (GSA)
International Conference of Building Officials (ICBO)
Institute of Electrical and Electronics Engineers, Inc. (IEEE)
International Organization for Standardization (ISO)
International Telecommunication Union (ITU) (Formerly CCITT)
National Electrical Manufacturers Association (NEMA)
National Fire Protection Association (NFPA)
National Electrical Code (NEC) – NFPA 70-1993
Telecommunications Industries Association (TIA)
Underwriters' Laboratories (UL)
National Institute of Standards and Technology (NIST)
National Technical Information Service (NTIS)
Occupational Safety and Health Administration (OSHA)
Rural Utilities Services USDA/RUS (RUS Formerly REA)
State and Local Municipality Codes and Ordinances
Building Industry Consulting Service International (BICSI)

Where conflicts occur between codes and standards, or between codes and standards and Specifications and Plans, the one establishing the more stringent requirements shall be followed.

3.10 Coordinate Locations

Coordinate locations and arrangements of equipment with requirements of all other Contractors, Vendors, and Owner. In cases of technical configuration or implementation difficulties, or if simplified installation is made possible by slight variance, bring such conditions to attention of Owner, in writing, via fax, electronic mail, or letter. Changes in arrangements may be made only if authorized by Owner.

Drawings are diagrammatic and indicate the general arrangement of systems and work included in these documents. Final placement and arrangement are the responsibility of the Installing Contractor.

3.11 Work Definition

Below is an outline of specific work the Contractor shall be responsible for performing:

Project Management
Systems Engineering
Construction Scheduling
Installation
Configuration
Testing
Documentation

3.12 General Duties

The Contractor shall perform the following duties:

3.12.1 Supervision

The Contractor shall plan, direct, supervise, coordinate, and perform the work.

3.12.2 Qualified Personnel

Only certified, skilled, dependable persons who meet with the Owner's approval at all times in every capacity shall be utilized.

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3.12.3 Product Delivery and Liability

The Contractor shall take responsibility for the delivery and installation of all equipment specified in the Bid Proposal. This shall include loss or damage during shipment or installation. The Contractor warrants that all materials and equipment incorporated in the work shall be new, unless otherwise specified in the Bidding Documents. The Contractor warrants that all materials and equipment incorporated in the work shall be free from faults and defects. The Contract shall inspect all product shipments for damages and promptly replace damaged product. No damaged product shall be stored on site.

3.12.4 Structural Damage

The Contractor shall replace or repair any damage to structure, finishes, or resulting from work performed by the Contractor. The contractor shall REPLACE any damaged ceiling tiles.

3.12.5 Incidentals

The Contractor shall provide any incidental material, labor, or detail omitted from the Bid Proposal, yet required by governing codes and standards, local regulations, trade practices, operational functions, or good workmanship, as part of the contract work without extra charge.

3.12.6 Deviations

Deviations from Plans or Specifications shall not be permitted except upon written permission from Owner.

3.12.7 Asbestos

Under no circumstance is the Contractor to disturb asbestos containing materials or other hazardous materials without appropriate engineering controls as approved by the Owner.

3.13 Project Management

The Contractor shall provide complete project management for all aspects and phases of the project, including the following:

3.13.1 Project Manager

The Project Manager shall be experienced. He/She shall have managed at least three (3) similar projects of similar scope. The project manager shall be authorized to make decisions on behalf of the company. The project manager shall inspect work and direct the crew on an on-going basis.

3.13.2 Planning and Management

Building work shall be coordinated with the Owner’s technology coordinator and/or the project consultant.

3.14 Time and Scheduling

3.14.1 Owner Possession

It is the intention of the Owner to take possession of the Work by the established completion date or earlier, within the shortest time possible consistent with good construction practices.

3.14.2 Schedule of Work

Upon award of the contract, the Contractor shall meet with the Owner to prepare an agreed upon schedule of work. This schedule shall provide the Owner with dates upon which stages of the work may be reviewed or inspected. The Contractor shall keep the Owner informed at all times of any modifications to the agreed upon schedule.

3.14.3 Delay of Work

If the work is delayed through the fault of the Owner (or of any separate contractor employed by the Owner or of any condition by the Owner beyond the Contractor's control) the schedule may be extended within a period agreed upon by the Owner and the Contractor. The Contractor shall notify the Owner, in writing, of any condition or situation that in the Contractor's opinion warrants an extension of Contract Time.

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3.14.4 Time Extension

The Contractor shall not be entitled to additional compensation or damages due to delays, interferences or interruptions to the Work or the Project, but shall be entitled only to an appropriate extension of time in accord with the General Conditions of the Contract for Construction.

3.15 Contractor Inspection of Work

The Contractor shall promptly facilitate inspection and testing of the Work regardless of expense as necessary or as requested by the Owner, regardless of whether or not the Work in question is his own or that of a subcontractor. The costs for such tests or inspections shall be born as follows:

3.15.1 Contractor Deficiencies

If such tests or inspections reveal deficiencies as measured by Construction documents or an independent consultant/testing agency, the Contractor shall bear all costs incurred to correct such deficiencies, including the cost of testing and inspection, and the cost to reconstruct any work by testing or inspection or by the correction of any deficiency.

3.15.2 Other Deficiencies

If such test and inspections do not reveal deficiencies attributable to the Contractor, the Owner shall bear all costs incurred including the cost of testing and inspection, and the cost of reconstruction. Contracts shall be modified by Change Order to reimburse the Contractor for costs.

3.16 Inspection of Work

The Owner's Consultant will inspect and "punch" the project. The Contractor is responsible to correct any issues brought forth at no additional expense to the Owner.

Payment of retainage, as presented in this document, will be dependent upon complying with the final "punch out".

3.16.1 Deficiencies

The Contractor shall replace, repair or otherwise correct all deficiencies in the Work during the construction of the Project, within two years after the date of substantial completion, within the time period prescribed in any special warranties and guarantees, and any longer period prescribed by law.

3.16.2 Owner Option

The Contractor shall expediently correct all deficiencies brought to his attention in writing by the Owner. If, in the opinion of the Owner and the independent agency, the Contractor fails to correct deficiencies, or fails to act expeditiously to correct deficiencies, the Owner may:

3.16.2.1 Accept Deficiencies

Accept the deficiencies in the Work, and reduce the Contract Sum of the Contractor at fault by a unilateral Change Order issued and signed by the Owner in an amount to be determined by the Owner.

3.16.2.2 Deficiencies Removed

Have the deficiencies removed in any reasonable manner available to the Owner, and charge the Contractor at fault for the costs incurred, or reduce that Contractor's Contract Sum by a unilateral Change Order issued by the Owner for the costs incurred.

3.17 Cost of the Work

The Contractor shall pay all costs of the Work including, but not limited to, labor, materials, equipment, tools, transportation, freight, taxes, royalties, patent fees, support facilities, construction equipment, water, heat, utilities, supervision, overhead, and all other items necessary for the proper execution and completion of the Work.

3.18 Legal Compliance

The Contractor shall comply fully with all laws, statutes, ordinances, rules, regulations, codes, and lawful orders applicable to their work, including employment regulations, unless specifically exempted from compliance by the Contract Documents. Where local codes differ from codes of broader

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jurisdictions, the more stringent code shall apply. The Contractor shall promptly notify the Owner in writing, of items in the plans or specifications for this project that violate any applicable codes.

3.19 Permits

Unless otherwise specifically stated in the Contract Documents, the Contractor shall apply for, secure, and pay for all permits, licenses, and fees. The Contractor shall schedule, conduct or perform all tests, and give all notices required by governmental units for the Work of his/her Contract.

3.20 Site Housekeeping

The Contractor shall be responsible for his/her own site housekeeping and clean up of any waste generated in the execution of his/her Work. Unless otherwise specified, the Contractor is responsible for suitable off-site disposal of their waste and debris.

3.21 Cleanup

Clean all equipment at time of substantial completion. Clean interiors and exteriors of all cabinets, furniture, and equipment enclosures. Clean out all debris and rubbish related to the installation of the Telecommunications system for all MDF, IDF, and Demarcation locations. All equipment shall appear in first class new condition.

3.22 Cutting and Patching

Do all cutting and patching necessary for installation of work with approval of the Consultant. Do not impair strength or function of work being cut or patched, e.g., do not weaken structural members and maintain watertight integrity where necessary. Use rotary type drilling tools and concrete cutting saws to cut concrete and masonry walls. Use rotary type drilling tools to cut cabinets where knockouts are not available and cable access is required. Do not use torches for cutting metal.

3.23 Firestopping

Provide firestop as required at all penetrations through fire rated or smoke rated walls, floors, or other surfaces. Replace or reinstall firestop material on all existing penetrations where others have installed firestop.

3.24 As-Built Drawings

Drawings shall indicate location of the following with their associated identifying label:

Telecommunications rooms.
Equipment rooms.
Any other information required for proper maintenance of the system.

3.25 Coordinate Schedule

The Contractor shall conduct all work in coordination with the schedule of classes within each school. No work activity shall disrupt the regular school day schedule or in anyway intrude upon the teaching and administration of students.

The Contractor shall adhere to any and all conduct requirements of the construction manager. It is the Contractor's responsibility to familiarize staff with any conduct requirements and adhere to the requirements.

3.26 Attendance at Meetings

The Contractor shall be responsible for attending all meetings as required by the Owner, the Construction Manager, or the Consultant.

3.27 Installation

The Contractor shall adhere to manufacturer's specifications during installation of all hardware.

3.28 Review of Documentation

Upon completion of work, the Contractor shall meet with the Owner to deliver and review system documentation, including test results. The work shall not be considered complete until the Review of Documentation has been completed.

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3.29 Acceptance

All construction and installation work shall be done in a thorough and workman-like manner in accordance with the Plans, Specifications, and Construction Drawings and shall be subject to acceptance by the Owner.

3.30 Payment

3.30.1 Submission of Invoice

Requests for payment will be processed and paid within three weeks of Owner approval. This assumes there are no disputes with the application for payment.

The contractor must provide an insurance certificate of materials allocated specifically for this project along with the initial AIA G702/G703 application.

3.30.2 Payment of Invoice

Invoices in question shall be communicated to the Contractor within eight (8) business days of reception.

3.30.3 Retainer

Ten percent (10%) of all invoices will be retained. Retained amount will be paid within 60 days of final acceptance.

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4 Common Specifications

4.1 General Specifications

4.1.1 Approved Manufacturers

VBISD has a large installed base of Cisco Systems network equipment and has standardized on Cisco equipment. All VoIP equipment for this project shall be from Cisco systems.

4.1.2 New Equipment

All equipment provided shall be new and of the latest model available.

4.1.3 Authorizations Required

Contractor shall have, at a minimum, a Cisco Premier Partner authorization. Contractor shall have a current Cisco IP Communications Authorization.

The lead engineers working on this project must have Cisco CCNP or CCDP certifications and must have three or more years of field experience.

Provide proof of your authorization level and copies of all engineer certification certificates in your bid response.

4.1.4 Experience

Contractor shall have a minimum of two (2) years of experience installing Cisco VoIP phone systems. Provide a minimum of three (3) customer references for sites currently running Cisco VoIP phone systems.

4.1.5 General Installation

The Vendor will be responsible to furnish, set in place, and install all equipment, unless otherwise noted. The installation process includes, but is not limited to the following:

- Receive equipment on behalf of the District.
- Provide inventory receipt of all equipment to Owner.
- Store all equipment until the equipment is installed according to specifications.
- Transport devices and all components to designated locations.
- Cable and configure all components as needed.
- Demonstrate successful installation.
- Maintain inventory and status documents and discard all trash packaging at locations designated by the district.

4.1.6 Network Downtime

This project involves the reconfiguring of VBISD's existing phone systems. All work will have to be carefully planned to minimize downtime to time periods acceptable to the Owner.

4.1.7 Diagrams

Provided drawings are considered part of this specification document.

4.1.8 IP Addressing

Refer to provided logical network diagram for IP addresses to be assigned to equipment.

4.1.9 VLANs

The Network Electronics Contractor shall configure VLANS to support specific functions. This shall include:

- VLAN 1 for switch management interfaces
- VLAN 6 for core server applications
- VLAN 9 for all existing equipment
- VLAN 19, 29, 39, 49 to support VoIP equipment

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4.1.10 Materials List

Provide with your bid response a detailed materials list. The list must show all equipment provided including quantity, manufacturers part number, description and unit pricing. Failure to provide a materials list may disqualify your bid.

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5 VoIP Telephone System

5.1 General Specifications

5.1.1 Work Summary

Work covered by this section includes:

VoIP Based Phone System
VoIP Based Voice Mail and Auto Attendant System
PoE Network Switches
Installation, Configuration and Training

5.1.2 Existing Phone System

The existing phone system is from Mitel. Once the Owner has accepted the new VoIP system as 100% operational, the contractor shall remove all old phone system components including chassis units, power supplies, and telephones, and dispose of same.

5.2 Call Managers

5.2.1 Primary Call Manager

The primary Call Manager shall be based upon the Cisco Unified Communications Manager version 6.x. It shall be configured as the publisher and installed in the Technology Center Building.

5.2.2 Secondary Call Manager

The secondary Call Manager shall be based upon the Cisco Unified Communications Manager and shall match the version installed as primary. It shall be configured as a subscriber and installed in the Special Services Building.

5.2.3 Server Hardware Vendor

Call Manager and Voice Mail servers shall be Cisco MCS H series hardware utilizing OEM equipment manufactured by Hewlett Packard.

5.2.4 Rack Mounting

All server equipment shall be rack mounted in Owner provided racks.

5.2.5 IP Addressing

Call Managers shall be connected to switch ports assigned to the proper VLAN required to support the equipment and assigned IP address as indicated on diagram TD.01.

5.2.6 SNMP Configuration

Configure SNMP read community string to be SECA-SNMP. Enable SNMP support.

Disable SNMP write community string.

5.2.7 ILO Configuration

Configure all servers' network management interfaces (ILO) with IP address as indicated on sheet TD.01 and configure to allow remote access and reboot of server hardware. Coordinate assignment of user names and password with Owner.

5.2.8 UPS Connection

Connect Call Managers to VoIP designated UPS units.

5.3 Voice Gateways

5.3.1 DSP Modules

Each voice gateway shall include sufficient DSP modules installed to support 100% of the installed ports to be simultaneously active.

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5.3.2 Primary Voice Gateway

The Primary Voice Gateways shall be installed in the Technology Center and Special Services Building. Provide all interface modules required to support the voice circuits connected to the gateway. Refer to diagram TD.02 for circuit details.

5.3.3 SRST Voice Gateways

Voice gateways shall be installed in the Learning Center and Conference Center to provide SRST features and to support 911 calling. Provide all interface modules required to support the voice circuits connected to the gateway. Refer to diagram TD.02 for required circuits.

These gateways shall support Survivable Remote Site Telephony (SRST) for the maximum anticipated number of telephones installed at the site as indicated on diagram TD.02.

5.4 Circuit Usage

5.4.1 PRI or T1 Circuits

Digital circuits shall be preferred for all inbound and outbound calling. These circuits shall be configured to support Direct Inward Dialing (DID) and if available caller ID (CLID). Circuits shall be PRI or DCS T1 circuits.

5.4.2 POTS Lines

Analog lines are intended primarily for outbound 911 calling. At sites with more than one analog line these lines shall be available for general outbound dialing if the primary digital circuits are unavailable. At sites with a single POTS line this line shall be reserved for 911 outbound calling. Inbound calls on analog lines shall be routed to the primary answer point for the Owner.

5.5 Voice Mail

5.5.1 Software

The Voice Mail Server shall be based upon the Cisco Unity Connections version 2.x.

5.5.2 Server Hardware Vendor

Call Manager and Voice Mail servers shall be Cisco MCS H series hardware utilizing OEM equipment manufactured by Hewlett Packard.

5.5.3 Port Count

The system shall be configured to support sixteen (16) simultaneous calls to voice mail.

5.5.4 Mail Box Capacity

The system shall be licensed to initially support 400 voice mailboxes.

5.5.5 Integrated Messaging

Provide all licensing required to support up to 80 users utilizing integrated messaging with Novell GroupWise mail server.

5.5.6 Rack Mounting

All server equipment shall be rack mounted in Owner provided racks.

5.5.7 IP Addressing

Voice Mail server shall be connected to switch ports assigned to the proper VLAN required to support the equipment and assigned IP address as indicated on diagram TD.01.

5.5.8 SNMP Configuration

Configure SNMP read community string to be SECA-SNMP. Enable SNMP support.

Disable SNMP write community string.

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5.5.9 ILO Configuration

Configure all server network management interfaces (ILO) with IP address as indicated on sheet TD.01 and configure to allow remote access and reboot of server hardware. Coordinate assignment of user names and password with Owner.

5.5.10 UPS Connection

Connect Voice Mail server to VoIP designated UPS units.

5.6 Telephones

5.6.1 Advanced Telephone

Shall be Cisco model 7961, part number CP-7961G=. Provide a total of 80 advanced telephones.

5.6.2 Basic Telephones

Shall be Cisco model 7941, part number CP-7941G=. Provide a total of 160 basic telephones.

5.6.3 Alternate #1 - Basic Telephone

Provide pricing for an alternate basic telephone based on the Cisco model 7911, part number CP-7911G=. Provide the deduct amount to replace 110 of the CP-7941G= phones with 110 CP-7911G= phones.

5.6.4 Wall Mounting Bracket

Provide wall-mounting brackets compatible with Cisco 7941 or 7962 telephones. Provide a total of eight wall mount brackets.

5.6.5 Conference Telephones

Shall be Cisco 7936 conference telephone part number CP-7936=. Provide a total of five conference telephones.

5.6.6 Softphone

Software based telephone client shall be Cisco IP communicator. Provide licensing for a total of 100 users.

5.6.7 USB Headset

Provide USB headsets for use by softphone users. Headsets shall be Plantronics model DSP-400. Provide a total of 50 UDB headsets.

5.6.8 Attendant Console Software

Provide and install attendant console software on up to six Owner provided computers. Create an Attendant Console user account for each user of the software. Assist the user in customization of their display and the creation of group lists.

Where possible, this software shall be configured to operate on a second monitor connected to the user's computer.

5.6.9 Receptionist Headsets

Provide Bluetooth headsets for use by receptionists. Headsets shall be Plantronics CS55™ Wireless Office Headset System with Lifter. Provide a total of four Bluetooth headsets.

5.7 Analog Phone Support

5.7.1 Analog Phone Gateway

Provide one Cisco VG-244 analog phone gateway.

5.7.2 Analog Telephony Adaptor

Shall be Cisco ATA-186-I1. Provide a total of six analog telephony adaptors.

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5.7.3 Line Seizure Units

Analog phone lines intended for 911 outbound calling will typically be the existing fax line for the building.

All 911 lines shall be connected to a line seizure unit such as the Viking LSR-1 or equivalent at the point of demarcation. This unit shall be configured to insure 911 calls placed by the phone system have exclusive use of the analog line. In the event of a power failure the line seizure unit shall automatically connect the analog line to the 911 voice gateway.

Contractor shall be responsible for any new cable runs required to route 911 lines from the point of demarcation to the line seizure unit and to the 911 voice gateway.

5.7.4 Device License Units

Provide sufficient DLU licenses for all telephones, softphones and analog phone adaptors provided. Provide an additional 50 DLU licenses to allow for future expansion of the system.

5.8 Optional Software Packages

Provide pricing on the following optional software packages including installation and training labor.

5.8.1 Alternate #2 - Call Accounting Application

Provide a call accounting software package compatible with CDR information provided by the Cisco Call Manager. Software shall allow detailed reporting by building, department, call type, extension and authorization code.

If call accounting application requires dedicated server hardware, provide specifications for the required server hardware and operating system.

5.8.2 Alternate #3 - Text Messaging Application

Provide pricing for an emergency text messaging application capable of sending emergency and non-emergency text messages to the displays of the systems IP phones. System shall be licensed to support all phones installed plus 10% additional for future growth.

If messaging application requires dedicated server hardware, provide specifications for the required server hardware and operating system.

5.9 Installation Planning

The Phone Systems Contractor will be required to perform all design, installation, configuration and training to provide a fully functional phone, voice mail and auto attendant system.

Telephone Systems Contractor shall provide labor to work with VBISD representatives and phone service providers to create a detailed implementation plan for the system.

Planning is to include design and written documentation for:

- Determination of published numbers
- Extension numbering plan
- DID support plan
- Analog phone support plan
- Call answer/coverage groups
- Voice mail operation
- Auto attendant flow charts
- Auto attendant scripts
- Day/night operation
- Holiday operation
- Forced authorization codes
- Local calling restrictions
- Toll calling restrictions
- International calling restrictions
- 900 Number call restrictions
- Paging restrictions

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911 call processing
SRST operation
Server backups
Default advanced phone button assignments
Default basic phone button assignments
Attendant console configuration
Detailed call accounting and reporting
New circuit provisioning
Porting of existing phone numbers
Cancellation of existing circuits

5.10 Circuits Installation

5.10.1 Phone Lines

Contractor shall agree to work with and coordinate activities with Owner, Consultant and the local carrier and long distance carriers.

The Contractor shall coordinate and supervise the provisioning of all new circuits for VoIP phone system.

5.10.2 Number Porting

The Contractor shall coordinate the porting of existing published numbers to the new PRI or T1 circuits on the go live date.

5.10.3 Line Cancellation

Contractor shall assist Owner in canceling any phone lines or services that will no longer be needed once the new system is fully operational.

5.10.4 Cable Connections

Contractor shall be responsible for all jumpering, cross connecting and patching to make phone equipment active. This includes trunk lines, analog and digital stations; fax lines and emergency phones including any elevator phone.

Contractor shall install any cables and punch down blocks required to extend circuits from the telephone demarcation point to the location of voice gateways.

5.10.5 Patch Cord Color Code

VBISD has adopted the following color code for category 6 patch cords:

Standard data connections	Blue
Crossover cables	Red
PoE Connections	Yellow

Follow this color code when patching equipment.

5.10.6 Analog Line Connections

Install VG-224 gateway in the Technology Center telephone demarc and cross connect to existing phone cabling to support existing analog phones and two Motorola radio interface units. Coordinate with Owner on which existing analog phones are to be connected.

Install ATA-186 analog telephone adaptors in locations as designated by owner and connect existing analog devices.

5.10.7 911 Support

Analog lines designated for 911 calling shall be restricted for this purpose.

All 911 calls shall be placed through lines connected to the voice gateway in the physical building in which the 911 call originates from. The lines used for 911 must be configured to report the building's street address to the 911 PSAP.

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5.10.8 DID Support

The Owner expects to have a block of 400 Direct Inward Dial numbers associated with their digital phone circuits. These DID numbers shall be used to assign phone extensions that are directly callable.

5.10.9 Fax Support

Existing fax lines will not make use of the VoIP phone systems and will remain on analog POTS lines.

5.11 Extension Programming

VBISD has approximately 300 phone system users on the Lawrence campus and up to 100 remote users.

5.11.1 Appendix A

Appendix A provides a list of the existing phone extensions and the anticipated phone model for users at the Lawrence campus.

5.11.2 User Configuration

Contractor shall create a call manager and voice mail account for each identified phone user including the assignment of an extension and associated DID number. All accounts shall be enabled for web access to call manager and voice mail.

5.11.3 Shared Phones

On the existing phone system users often share a single telephone and a single extension. It is anticipated that with the new system each user will have a unique extension, DID and voice mail account. Users will continue to share physical phones and any shared phones are to include a line appearance for each user's extension.

Users shall be provided training on the use of distinctive ring tones for shared telephones.

5.11.4 Department Phones

Several departments will be assigned a main department extension and DID that is not associated with a specific user. A department line appearance shall be the first line appearance on shared telephones.

5.11.5 Analog Wireless Phones

The Technology Center has provided approximately 20 users with analog wireless telephones. These telephones shall be maintained and connected to the new phone system using a VG-224 analog gateway. A user's wireless phone shall share the same extension as their assigned VoIP telephone.

5.12 System Features

5.12.1 Intercom

Phones shall be configured to support station-to-station calling with hands-free pickup or intercom. Internal intercom calling shall be possible when phones are forwarded to voice mail.

5.12.2 Group Paging

Telephone based group-paging will not required.

5.12.3 Paging System

The phone system will not be interfaced with an overhead paging system.

5.12.4 Call Coverage Groups

Each published outside line will have a separate call coverage group defined. There are expected to be six to eight published numbers.

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5.12.5 Teacher Phone Ring Programming

Designated classroom phones shall be configured to transfer external calls directly to voice mail during predefined classroom instruction hours. External calls shall ring to classroom phones during non-instruction hours. Internal calls shall ring to classroom phones at all times.

5.12.6 Attendant Console Software

Install and configure Cisco Attendant Console software on up to six Owner provided computers. Configure up to six separate Attendant Console users.

5.12.7 Forced Authorization

The system shall require the use of an authorization code to make external calls from all telephones. This code shall be user specific and will be used to track call detail records back to the specific user. Note: 911 calls shall not require the use of an authorization code.

5.12.8 Toll Restrictions

User specific toll access codes will be required to make long distance calls. The call accounting system will provide reporting based on extension and access code. This feature shall be configurable on a per extension basis.

5.13 Voice Mail Features

5.13.1 Auto Attendant

Each call coverage group will have an associated auto attendant tree specific to the published number. Up to four auto attendants will be required.

Callers shall be able to zero out to an attendant from any place in the auto attendant or voice mail system.

5.13.2 Night Greeting

Each call coverage group shall have the ability to select a night greeting via a manual process or via an automated time of day setting.

5.13.3 Holiday Greeting

Each call coverage group shall have the ability to select a holiday greeting via a manual process or via holiday schedule.

5.13.4 Message Indicator

All telephones will be configured to provide a visual message waiting indicator and one button forwarding to voice mail.

5.13.5 GroupWise Integration

Voicemail shall be integrated with Owner's existing GroupWise e-mail system using IMAP support in the Voice Mail System. Contractor shall configure a minimum of two GroupWise accounts to function with voice mail integration as a proof of operation.

Owner shall be trained in the configuration process so they may complete configuration of the remaining GroupWise accounts.

5.14 Server Details

5.14.1 DHCP

Coordinate with Owner on the configuration of any custom DHCP values required to support telephones. Verify that DHCP is configured for each VLAN and subnet that will support VoIP devices.

5.14.2 Backup

Provide and install a Windows based SFTP software client to assist in backup of the call manager and voice mail servers. Configure each call manager and voice mail server to perform an unattended backup of all configuration data once per day. Backups shall be to an Owner designated file server.

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5.15 Phone Installation

5.15.1 Device Preparation

Contractor shall perform all call manager configuration required to make 100% of the purchased telephones and analog adaptors ready to use. All devices will be entered into call manager, appropriate templates associated and user extensions assigned, etc.

Phones shall be physically separated by building and boxes marked with the assigned primary extension of the phone.

5.15.2 Base VoIP Phone Installation

Contractor shall install one VoIP telephone in each physical building and demonstrate that this phone functions correctly. This includes operating on the correct building Voice VLAN, assignment of correct extension and calling search space.

5.15.3 Wall Phones

Contractor shall install all wall-mounted phones using Cisco wall phone brackets.

5.15.4 Conference Phones

Contractor shall install all conference phones at owner designated locations.

5.15.5 Analog Phones

Contractor shall install all equipment and make all connections required to make analog phones active.

5.15.6 Alternate #4 – Phone Deployment

Owner anticipates performing the physical installation of the balance of the VoIP telephones once Contractor has completed programming of all devices. Provide alternate pricing to perform 100% of physical telephone installation.

VoIP telephones will use existing data drops in offices that are currently connected to computer workstations. Workstations shall be reconnected to switch port provides by telephone.

Contractor shall unbox, configure and install all telephone instruments. Provide category 6 patch cables of the appropriate length for phones which will sit on desks. Patch cable shall provide enough slack to allow relocation to any location on the desk. Neatly route the patch cord under desk using cable managers and raceways to wall jack.

Connect any existing computer workstation to phone switch port. Provide category 6 patch cable of appropriate length to complete connection.

5.15.7 Softphone Installation

Contractor shall install three copies of the softphone software on three different Owner provided laptop models. Each laptop shall be configured with a USB headset. Contractor shall train Owner in the installation and configuration process of the softphone package.

Contractor shall demonstrate that softphone operates correctly on each laptop model from inside the Owner's network.

5.16 Training

The Contractor shall provide training for all staff members in the use of the new system, including telephone and voice mail features.

5.16.1 Basic User Training

Basic training on the use of the telephone and voice mail system shall be offered for all staff members. Training shall include usage of web based features of call manager and voice mail. Provide a minimum 90-minute session to allow time for Q&A. Session sizes shall be no larger than 30 attendees.

Provide six (6) separate sessions to offer flexibility for staff members to attend. The time and location of these sessions is to be coordinated with Owner.

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5.16.2 Receptionist/Advanced User Training

Provide two (2) four-hour advance-training sessions for up to ten (10) people each. These sessions must be hands-on and are intended for heavy phone users such as receptionists, secretaries, administrators, principals and guidance counselors.

Training must cover call transfer, call forwarding, forward to voice mail, conference calling, meet-me, e-mail integration, web based functions and other advanced features.

Contractor shall create a training lab equipped with 15 operational telephones using classroom space provided by Owner for this training.

5.16.3 Receptionist Training

Provide two (2) two-hour advance-training sessions for up to four (4) people. This session must be hands-on and intended for VBISD staff members that fill the roll of primary receptionist. It will include usage of the attendant console software, blind and supervised call transfer, direct transfer to voice mail, night and holiday setup and other advanced features.

5.16.4 System Administration Training

Provide one (1) six-hour administration session for up to two (2) people. This session must be hands-on and intended for VBISD IT staff. It will include extension setup and feature programming, voice mail account creation, updating and deletion.

5.17 Service Contracts

5.17.1 Hardware

Provide pricing for an annual service contract on the phone system and voice mail system hardware. Contract shall provide 8x6 Next Business Day coverage.

5.17.2 Software

Provide pricing for an annual support and upgrade contract on the phone system and voice mail system software.

5.18 Project Close Out

5.18.1 System Demonstration

Upon completion of installation and prior to final acceptance, the Contractor will be required to demonstrate operation of the network to Owner's representative.

Any equipment found to be non-functional is to be repaired or replaced at the Contractor's expense.

Demonstration shall include extensive testing of system redundancy including:

Fail Primary Call Manager
Fail Primary Voice Gateway
Fail PRI connection
911 call routing
DID call routing
Call coverage groups
Auto attendant routing
Internal call between old and new phone system
Transfer between old and new phone system
Extension mobility
Wireless phone access
Forward to VM
VM notification
VM access via web browser

5.18.2 Documentation

Provide two (2) documentation binders with the following information:

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- Copies of all Cisco supplied manuals
- Copies of all Cisco CD-ROMs
- Telnet and enable secrets
- SNMP community strings
- Administration username and password
- Backup of Configuration files
- List the following information for all phones installed:
    - Model number
    - Serial number
    - MAC Address

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6 Network Electronics

6.1 General Specification

6.1.1 Work Summary

Work coved by this section includes:

Network switch installation and configuration

6.1.2 Logical Network Diagram

Sheet TD0.2 provides a logical diagram of the network and shows all switch quantities and models required. Switches and SFP modules indicated in gray are existing equipment. Existing equipment may have to be relocated from other closets to the location shown and reconfigured for that location.

6.1.3 VLAN Structure

Owner will be implementing VLANs to reduce the size of broadcast domains. VLANs shall include the following:

VLAN 1 for switch management interfaces
VLAN 6 for core server applications
VLAN 9 for all existing equipment
VLAN 19, 29, 39, 49 to support VoIP equipment

6.1.3.1 Management VLAN

All switch equipment shall have management IP addresses assigned in VLAN 1. Refer to network diagram for assigned management IP address.

6.1.3.2 Access Ports

Typical switch access ports shall be configured for VLAN 9.

6.1.3.3 Voice VLAN

Configure all switch access ports to support Cisco Voice VLAN for VoIP equipment. Refer to sheet TD.01 for the Voice VLAN number for each physical site.

6.1.3.4 Switch-to-Switch Trunks

All switch-to-switch backbones shall be configured as 802.1q trunks and shall carry tagged VLAN traffic.

6.1.3.5 VLAN Routing

The core Layer 3 switch stack located in the Bridge Room shall be configured to perform VLAN-to-VLAN routing. Refer to provided diagram for IP address assignments for the Layer 3 switch interfaces and for the default gateway to be used by this switch.

6.1.4 Quality of Service

Network is intended to support real time data streams including VoIP and streaming video traffic. Work with Owner to design an implementation and test plan for QoS.

6.1.5 Multicast Routing

Network shall support multicast applications. Design an implementation and test plan for multicast routing. Designate the IGMP-Querier for each VLAN.

6.1.6 DCHP

Assist Owner in the design, documentation, and implementation of a multi-scope DHCP server, and in the DCHP relay configuration for any Layer 3 switches that route a VLAN.

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6.2 Patch Cords

6.2.1 Fiber Patch Cords

Network Electronics Contractor is responsible for providing all fiber optic patch cords required for the network. This includes switch to backbone connections and fiber to fiber connections.

All patch cords mush patch the side (50 or 62.5 micron) of the backbone fiber they are connected to.

All 62.5/125 micron fiber is terminated on ST connectors.

All 50/125 micron fiber is terminated on SC connectors.

All fiber patch cables shall be 2 meters long.

6.2.2 Crossover Cables

Network Electronics Contractor is responsible for providing all UTP crossover cables required to complete any switch-to-switch connections.

Crossover cables shall be meet category 6 specifications and shall have all four pairs present to support Gigabit Ethernet. Crossover cables shall be marked at each end as crossovers. Crossover cable shall be red in color and from 3 to 7 feet in length.

Provide all required crossover cables cable for your design plus 5% extra as spares.

6.3 Switch Installation

6.3.1 Upgrade IOS

Upgrade switch IOS to current version.

6.3.2 Management IP Address

Assign Management IP address in VLAN 1.

6.3.3 Assign Switch Hostname

Assign a unique hostname to the switch in the format:

(BUILDING)-(CLOSET ID) – (SWITCH MODEL) – (SEQUENCE NUMBER)

(BUILDING) is an abbreviation of the building name.

(CLOSET ID) is the Closet and Rack the switch is installed in.

(SWITCH MODEL) is a shortened form of the Cisco model number.

(SEQUENCE NUMBER) starting at 01 for the first switch installed in the rack and increments for each additional switch installed in the rack.

For example hostnames for switches in the are:

Switch	**Hostname**
Catalyst 3750G-12S-E in Tech Center	TC-BR-C3750-12S-01
Catalyst 3560-48PS-24 in Service Center	SC-SR-C3560PS-24-02

6.3.4 Management Credentials

Assign management credential and document settings.

Encrypt all local passwords.

6.3.5 SNMP

Remove default SNMP community strings and set read-only string to “SECA-SNMP”. Remove any wire community string.

6.3.6 NTP

Configure core switch as a Network Time Protocol server for the network.

Configure all other switches to poll NTP server for time.

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6.3.7 VLAN Routing

Configure core switch to provide inter-VLAN routing of IP traffic. Configure ACLs to restrict traffic between VLANS to meet Owner's security design.

6.3.8 Multicast Routing

Configure core switch as IGMP-Querier for each VLAN on the network and to provide multicast routing between VLANs.

Configure all other switches to support IGMP-snooping, dense mode PIM and enable CGMP.

Test multicast operation within and between VLANs and across multiple VLANs. Test shall include Novell ZENworks imaging in multicast mode and Genesis Language Lab system.

6.3.9 Quality of Service

Configure all switches to support QoS for support of real time data streams including VoIP traffic. Highest priority will be given to voice traffic.

Test QoS implementation with VoIP traffic while generating sustained high bandwidth loads to network file servers.

6.3.10 DCHP Relay

Configure core switch as a DCHP relay agent for all VLANs terminated on the switch.

6.3.11 Configure Spanning tree

Enable PORTFAST on all non-backbone ports.

6.3.12 Set Port Names

Name all switch ports connected to other switches or to system devices such as servers and UPS units. Set port name to the hostname of the connected switch or server.

6.3.13 Other Setup

Disable auto-configuration of trunks, increase logging buffer to 16K and add a security banner to discourage unauthorized access.

6.3.14 Label Switch

Label switch with its HOSTNAME and management IP Address using a machine printed label on the upper right corner of the front. Take care to not cover link and status LEDs. Provide labeling for any ports with special VLAN assignments.

6.3.15 Install in rack

Install switch in rack and neatly dress power cables and attach to UPS. Patch switches to each other, to backbones, to servers and to premise cable drops.

6.3.16 Testing

Clear all counters and test switch by passing ping traffic from an external device to a core router. Monitor port statistics for errors such as FCS caused by duplex mismatches.

6.3.17 Archive Configuration

Ensure the final configuration is written to NVRAM. Archive the final configuration of each switch in a text file. Name the configuration file with the hostname of the switch and date.

6.3.18 Patch Cord Installation

The Network Electronics Contractor shall install all category 6 patch cords between switches and patch panels in Technology Closets to make premise drops active. Where patch panels are not used directly, connect premise cable to switch ports.

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Install patch cords required to activate all backbone links, premise drops and any equipment located within the wiring closet. Coordinate with Owner to select which cable drops are to be activated and which locations require powered ports.

6.3.19 Patching Methods

Neatly dress patch cords using wire managers where present. Route patch cables to closest wire manager and avoid crossing over the front of other equipment with patch cords. Store excess cable length in the vertical cable managers between racks. Velcro wraps may be utilized to dress cables. Take care to maintain minimum cable bend radius for category 6 conformance.

Patch cords of the proper length shall be utilized to minimize excess cable. Excess cable shall be no more than 18 inches for any patch cord.

6.3.20 Patch Cord Color Code

Standard data connections	Blue
Crossover cables	Red
PoE Connections	Yellow

6.3.21 Patch Cords Labeling

Special patch cables are to be labeled at each end to indicate their function. Labels shall be Brady self-laminating cable wrap labels or equivalent. Machine printed labels are preferred.

6.3.21.1 Switch Port ID

The SWITCH PORT ID is a shorthand method of identifying which port a patch cable must be plugged into. The SWITCH PORT ID takes the form of (SWITCH NUMBER)-(MODULE)/(PORT NUMBER)

Each switch is assigned a unique host name and this name is included on a label on the front of the switch. The last part of the host name is a unique one or two digit switch number.

The PORT NUMBER is the standard Cisco IOS shorthand name for the port in the form MODULE/PORT. The first gigabit port in a Catalyst 2950T switch is G1/1; the third 10/100 port is F0/3, etc.

The SWITCH PORT ID for the fifth gigabit port in the third module slot in a Catalyst 4506 switch that is the first physical switch from the top of a rack would be 1-G3/5.

6.3.21.2 Switch-to-Switch Cable

These cables connect one switch to another switch and are typically crossover cables. Label each end with the SWITCH PORT ID of the port it is to be plugged into. This will aid in reconnecting the cord to the properly configured port should it be removed.

6.3.21.3 Switch-to-Backbone Cable

These cables connect one switch to another remote closet using an installed backbone UTP cable. Label the cable end connected to a switch port with the SWITCH PORT ID of the port it is to be plugged into. Label the end connected to the backbone cable with the CABLE ID of the cable it is patched to. This will aid in reconnecting the cord to the properly configured port should it be removed.

6.3.21.4 Fiber Patch Cords

Fiber patch cables are to be labeled in the same fashion as Switch-to-Backbone Cables.

6.3.21.5 System Cables

These cables connect system devices such as a UPS or server to a switch. Label the equipment end with the name of the equipment. Label the switch end with the SWITCH PORT ID of the port it is to be plugged into. This will aid in reconnecting the cord to the properly configured port should it be removed.

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6.4 Project Closeout

6.4.1 Demonstration

Upon completion of installation and prior to final acceptance, the Contractor will be required to demonstrate operation of the network to Owner's representative.

Demonstration shall include DHCP relay for each VLAN segment, multicast operation with ZENworks, VoIP QoS performance under load and Voice VLAN assignment.

Any equipment found to be non-functional is to be repaired or replaced at the Contractor's expense.

6.4.2 Documentation

Provide a documentation binder with the following information for all network electronics.

Provide one copy of all Cisco supplied manuals and CD-ROMs.

Provide the following information for each install switch:

- Switch name
- Model number
- IP address
- Serial number
- Installation location
- Installation date
- IOS version

Record for all devices the following information:

- Administrative credentials
- SNMP community strings for all equipment
- Configuration files for all switches in electronics format
- Final as-built network map created in a CAD system with IP addressing and WAN circuit information
- Documentation of IP addressing and VLAN plan

Provide a final as-built LAN map created in a CAD system showing:

- Location of all switch equipment
- Switch model and installed port counts
- Device name
- IP address
- Backbone connection port
- Backbone type and speed

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7 Uninterruptible Power Supplies

7.1 General Specification

7.1.1 Work Summary

Work coved by this section includes:

Uninterruptible Power Supplies
Expansion Batteries
Web-based Management Cards

7.1.2 Logical Network Diagram

Sheet TD0.2 provides a logical diagram of the network and shows the wiring closet locations that require UPS hardware.

7.1.3 Approved UPS

All UPS units shall be Liebert GXT2 series equipped with external batteries, as required, to provide specified run times.

7.1.4 SNMP Management Card

Selected UPS's that support file servers shall be provided with a Liebert Intellislot OCWEBCARD Management Card with 10/100 Ethernet interface for each UPS as indicated in table below.

7.1.5 UPS Sizing

For each location, select UPS and number of external batteries required to provide 30 minutes of run time on battery. Load is to be based on the base load of all switches, server and voice gateways connected to the UPS plus a projected PoE load. PoE load shall be calculated based on 1/2 of installed ports operating at 12 watts each. For example a 24-port switch will have a projected PoE load of 1/2 x 24 = 12 * 12 = 144 watts. A 48-port switch will have a projected PoE load of 288 watts.

7.1.6 UPS Line Power

UPS units shall be selected to require no greater than a 120 volt/20 amp power outlet. Should additional UPS capacity be needed, provide additional separate UPS units and batteries to service load.

7.1.7 Rack Mounting

Provide rack mounting rails or brackets for all UPS units and external batteries. Provide proper type bracket for relay rack or enclosed rack receiving UPS.

7.1.8 UPS Installation

Install UPS and associated batteries in rack and connect to power outlets in each wiring closet.

Provide 20-amp rated appliance grade extension cords as required to connect UPS to isolated ground power outlets in each wiring closet.

Connect all network electronics in wiring closet to UPS. Ensure that only VoIP loads are connected to UPS units designated to support VoIP infrastructure.

Label UPS on both the front and next to any rear outlets with "FOR VoIP RELATED EQUIPMENT ONLY".

7.1.9 Management Card IP Address

Refer to sheet TD.02 for IP address to assign to UPS management card.

7.1.10 Management Card Installation

Install SNMP management cards and configure IP address, passwords and SNMP community string for each card. Coordinate UPS management credentials and password with Owner.

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Label UPS with assigned IP address of management card.

7.1.11 Switch Connection

UPS management card shall be connected to the last port of the last switch installed in the wiring closet. Configure this switch port for the building's assigned Voice VLAN.

7.1.12 Testing

Perform testing of UPS to verify proper cutover to battery and return to line power. Verify that UPS units are not overloaded and that required battery runtime margins are achieved.

7.2 Project Closeout

7.2.1 Documentation

Provide documentation of all UPS settings including IP Address, user names and passwords assigned.

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8 Premise Cable Upgrades

8.1 General Specification

8.1.1 Work Summary

Work coved by this section includes:

Installation of server rack in Bridget Room
Installation of enclosed wall racks
Relocation of existing cable drops into new racks
Relocation of existing fiber into new racks

8.1.2 Cabling Allowance

Provide an allowance in your bid response of $15,000 to cover upgrades to the existing IDF locations at the Technology Center Building. All cable upgrade work shall be quoted and approved prior to use of the allowance.

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Van Buren ISD - VoIP Design
Project 2220 - Appendix A
Phone Extension Detail
Version 12-21-2007

Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Bus Garage	Bus Garage		393		Y		
Conference Center	Boyer, Kaye	Receptionist	0				Y
Conference Center	Mills, Jeff		200				Y
Conference Center	Richardson, Renee	Secretary	203				Y
Conference Center	Coombs, Barb		206			Y	
Conference Center	Ahmed, Consuelo		210			Y	
Conference Center	Beeching, Joyce		213			Y	
Conference Center	Matthews, Barbara		214				Y
Conference Center	Brewer, Bonnie		215			Y	
Conference Center	Blum, Dawn	Secretary	216				Y
Conference Center	Zantello, Julie	Secretary	217			Y	
Conference Center	Fitzgerald, Shaun		220			Y	
Conference Center	Phillips, Sue		277				Y
Conference Center	Reynnells, Sue		330			Y	
Conference Center	Colgren, Larry		334			Y	
Conference Center	Smith, Denise		336			Y	
Conference Center	server room		346			Y	
Conference Center	Hallgren, Jill		373			Y	
Conference Center	Murphy, Margie (336)	Administrator	385				Y
Conference Center	Arndt, R	Custodian	386			Y	
Conference Center	Olendorf, Don		405			Y	
Conference Center	Reynnells, Russ		589			Y	
Conference Center	Papermaking		598		Y		
Conference Center	Miller, Denise		599			Y	
Conference Center	Server room		696			Y	
Conference Center	Black, Lise (336)		772			Y	
Conference Center	Touchtone, Jim		776				Y
Greenhouse	Greenhouse		395		Y		
Learning Center	Custodians (Mel, Ken,Brenda)	Custodian	334	Y			
Learning Center	Hood, Randy	Bus Mechanic	393		Y		
Learning Center	Hover, Phil	Bus Mechanic	393	Y			
Learning Center	Boothby, Sally		395		Y		
Learning Center	Taylor, Robin		395	Y			
Learning Center	Yanna, Jim	Administrator	403			Y	
Learning Center	Getty, Laura		404		Y		
Learning Center	Martens, Penny	Secretary	409				Y
Learning Center	Miller, Sherry		417				Y
Learning Center	Transportation		417	Y			
Learning Center	Hagens, Barb		421		Y		
Learning Center	Huff, Julie		421	Y			
Learning Center	Watson, Teresa		421	Y			
Learning Center	Martinez, Alicia		422	Y			
Learning Center	Nyce, Emma		422	Y			
Learning Center	Teske, Lorna		422		Y		
Learning Center	Wagner, Heather		422	Y			
Learning Center	Butler, Kristin		425		Y		
Learning Center	Williams, Bruce		426		Y		
Learning Center	Niewoonder, Mark (417)	Administrator	427			Y	
Learning Center	Henderson, Karen		430	Y			
Learning Center	Lacy, Sue		430		Y		
Learning Center	Taylor, Richard		430	Y			
Learning Center	Bermudez, Ann		436		Y		
Learning Center	Johnson, Paula		436	Y			
Learning Center	Mel	Custodian	440		Y		
Learning Center	Abernathy, Kathy		451	Y			
Learning Center	Benedict, Phil		451	Y			
Learning Center	Herron, Rhonda		451		Y		

Van Buren ISD - VoIP Design
Project 2220 - Appendix A
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Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Learning Center	Queen, Judy		451	Y			
Learning Center	Hall, Kim		452	Y			
Learning Center	Rice, Leann		452	Y			
Learning Center	Shaw, Rainelle		452		Y		
Learning Center	Shugars, Brittany		452	Y			
Learning Center	Weaver, Amy		452	Y			
Learning Center	Parsons, Jennifer		461		Y		
Learning Center	Brunke, Penny		470	Y			
Learning Center	Healy, Diane		470		Y		
Learning Center	Aguilera, Tina		473	Y			
Learning Center	Colgren, Teri		473	Y			
Learning Center	Hover, Linda		473	Y			
Learning Center	Lewandowski, Maureen		473		Y		
Learning Center	Bucher, L		474	Y			
Learning Center	Mortenson, Jody		474	Y			
Learning Center	Myers, Shelly		474	Y			
Learning Center	Nyce, Susan		474		Y		
Learning Center	Howe, Linda		475	Y			
Learning Center	Keleman, Stacy		475	Y			
Learning Center	Stacy, Sharon		475		Y		
Learning Center	Wagner, Martha		475	Y			
Learning Center	McDaniel, Tim		476		Y		
Learning Center	Mott, Paula		476	Y			
Learning Center	Gargus,Debbie		477		Y		
Learning Center	Hall,Barb		477	Y			
Learning Center	Kurzman, Liz		477	Y			
Learning Center	Guritz-Houser, Barb		478	Y			
Learning Center	Henry-Lull, Julie		478	Y			
Learning Center	Katt, Erin		478		Y		
Learning Center	Rosales, Carol		478	Y			
Learning Center	Montague, Carol		479	Y			
Learning Center	Norg, Sally		479	Y			
Learning Center	Waldo, Venita		479	Y			
Learning Center	Wippel, Ginny		479		Y		
Learning Center	Meachum, Bonnie		482		Y		
Learning Center	Hensley, Sue		484	Y			
Learning Center	Knapp, Connie		484		Y		
Learning Center	Buchler, Robin		498		Y		
Learning Center	Delacruz, Megan		555	Y			
Learning Center	Homeliving		555	Y			
Learning Center	Lima, Frank		555				Y
Learning Center	Rolph, Lisa		555	Y			
Learning Center	Terry, Vicki		555	Y			
Learning Center	DeVries, Brian		557		Y		
Learning Center	Martin, Judy		557	Y			
Learning Center	Parmelee, Bonnie		557	Y			
Learning Center	Brainerd, Amy		560				Y
Learning Center	Flanders, Brook		560	Y			
Learning Center	Juberg, Sara		560	Y			
Learning Center	McArthur, Marianne		560	Y			
Learning Center	Rumsey, Jill (301)		560	Y			
Learning Center	Uribe, Erica		777				Y
Shipping/Receiving	Hagger, John	Administrator	392				Y
Special Service Migrant Ed	Helms, Mike		299			Y	
Special Service Migrant Ed	Boothby, Tonda		444				Y
Special Service Migrant Ed	Martinez, Pedro (506)		501				Y
Special Service Migrant Ed	Knowlton, Bonnie		506		Y		

Van Buren ISD - VoIP Design
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Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Special Service Migrant Ed	Dominguez, Willie		507		Y		
Special Service Migrant Ed	Chavez, Enedina		515				Y
Special Service Migrant Ed	Colegio, Laura		518			Y	
Special Service Migrant Ed	Rodriquez, Diana		518			Y	
Special Service Migrant Ed	Duenas, Theresa		778			Y	
Special Service Migrant Ed	Field, Kathy		778			Y	
Special Service Migrant Ed	Meyer, Sherry		778			Y	
Special Services Center	Vincent, Sandy (456)		229			Y	
Special Services Center	Butkovich, MaryLou		295			Y	
Special Services Center	Szyperski, Margarita		295	Y			
Special Services Center	Hoke, Marcia	Secretary	301			Y	
Special Services Center	Longcore, Rebecca (301)		301	Y			
Special Services Center	Giddings, Melody (431)		320				Y
Special Services Center	King, Nancy (431)		320	Y			
Special Services Center	Samelstad, Kim (431)		320	Y			
Special Services Center	Stacy, Graig (431)		320	Y			
Special Services Center	Conference Room		325		Y		
Special Services Center	Manson, Dave (406)	Administrator	401				
Special Services Center	Rohl, Jeri	Secretary	406				Y
Special Services Center	Rohl, Judi	Secretary	407				Y
Special Services Center	Cooper, Terry		413		Y		
Special Services Center	Taylor, Linda (456)		414		Y		
Special Services Center	Delsi, Daris (456)	Administrator	418		Y		
Special Services Center	Barker, Jeff (301)	Administrator	423		Y		
Special Services Center	Manning, Pam		431			Y	
Special Services Center	Elder, Mary (456)		434		Y		
Special Services Center	Lorion, Len (456)		445			Y	
Special Services Center	Pott, Lauren (456)		445	Y			
Special Services Center	Ouzts, Theresa (456)		446		Y		
Special Services Center	Graham, Joanne (456)		448		Y		
Special Services Center	Lape, Brian		454		Y		
Special Services Center	Lowe, Shellie		456			Y	
Special Services Center	Stoll, John (431)		458		Y		
Special Services Center	McCulfor, Susan		492			Y	
Special Services Center	Banner, Sue(301)		504				Y
Special Services Center	Leveque, Mary (301)		504	Y			
Special Services Center	Padgett, Jennifer (431)		504	Y			
Special Services Center	Schuman, Gretchen (431)		504				Y
Special Services Center	Williard, Amber (301)		504	Y			
Special Services Center	Asiala, Jill (456)		505				Y
Special Services Center	Olbrot, Teri (456)		505	Y			
Special Services Center	McCray, Pat (301)		520		Y		
Special Services Center	O'Toole, Pat (301)		521		Y		
Special Services Center	Hartwig, Holly (301)		522		Y		
Special Services Center	Ankenbruck, Anna (301)		523		Y		
Special Services Center	Van Dam Laura (301)		523		Y		
Special Services Center	Brown, Logan (301)		524		Y		
Special Services Center	Coates, Roger (301)		524		Y		
Special Services Center	Pyke, Arlene (301)		524		Y		
Special Services Center	Bennett, Kathy (301)		526		Y		
Special Services Center	Bruton, Tangerine (301)		527	Y			
Special Services Center	Widenhofer, Amy (301)		527			Y	
Special Services Center	Applewhaite,Carlise(301)		528			Y	
Special Services Center	Jack, Cleveton (301)		528	Y			
Special Services Center	Annabel, Lisa (456)		529	Y			
Special Services Center	Norcross, Cecilia (456)		529			Y	
Special Services Center	Suter, Bonita (456)		529	Y			

Van Buren ISD - VoIP Design
Project 2220 - Appendix A
Phone Extension Detail
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Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Special Services Center	Vandenberg, Karla (301)		530	Y			
Special Services Center	Zalar, Gene (301)		530			Y	
Special Services Center	Delsi, Sue (431)		541		Y		
Special Services Center	Chaplin, Robin (301)		562			Y	
Special Services Center	Lee, Lenora (301)		562	Y			
Special Services Center	Booko, Kim (301)		564			Y	
Special Services Center	Ellegood, Georgette (301)		564	Y			
Special Services Center	Koenes, Ruth (301)		564				Y
Special Services Center	Prochaska, Pam (301)		564	Y			
Special Services Center	Derengowski, Eileen (301)		568				Y
Special Services Center	Jarvie, Catherine (301)		568	Y			
Special Services Center	Layne, Jessica (301)		568	Y			
Special Services Center	Van Ark, Elizabeth (301)		568	Y			
Special Services Center	Balk, Liz (456)		569		Y		
Special Services Center	Kuehnle, Lisa (301)		570			Y	
Special Services Center	Hoffman, Kelly (301)		571	Y			
Special Services Center	Morence, Pam (301)		571			Y	
Special Services Center	Novak, Cathy (301)		571	Y			
Special Services Center	Ripple, Jim (301)		572		Y		
Special Services Center	Winter, Ellen (431)		577		Y		
Special Services Center	Holverstott, Katie (431)		771		Y		
Special Services Center	Bennett, Joe		775				Y
Special Services Center	Hosner, Reg (301)		n/p				Y
Special Services Center	Jogerst, Judy (301)		n/p	Y			
Special Services Center	Uhley, Joan (301)		n/p	Y			
Tech Center	Blacker, Jim	Instructor	212		Y		
Tech Center	Robertson, J.C.	Instructor	212		Y		
Tech Center	Johnson, Richard	Lan manager	227			Y	
Tech Center	Kooyers, Gabe	Instructor	293		Y		
Tech Center	Vernon, Su	Administrator	302				Y
Tech Center	Lanting, Celine	Secretary	304				Y
Tech Center	Martin, Jan	Secretary	306				Y
Tech Center	Haselberger, Lisa	Secretary	307				Y
Tech Center	Yerrick, Don	Counselor	308			Y	
Tech Center	Woodruff, Susan	Secretary	309				Y
Tech Center	Wagar, Katie	Instructor	310		Y		
Tech Center	Candelaria, Robbyn	Counselor	311			Y	
Tech Center	Nelson, Phyllis	Counselor	313			Y	
Tech Center	Owsiany, Tina	Secretary	314				Y
Tech Center	Coggins, Kerry	Instructor	315		Y		
Tech Center	Sampsell, Gary	Instructor Aide	315		Y		
Tech Center	Budden, Karen	Instructor	316		Y		
Tech Center	Dent-Rhodes, Sue	Instructor	317		Y		
Tech Center	Sturgis, Jennifer	Instructor	317		Y		
Tech Center	Britton, Sue Ann	Instructor	318		Y		
Tech Center	Ogden-Stinchcomb, Joyce	Secretary	319				Y
Tech Center	Conklin, Fern	Instuctor Aide	321		Y		
Tech Center	Verdries, Tim	Instructor	326		Y		
Tech Center	Huffman, Denis	Instructor	329		Y		
Tech Center	Obreiter, Karen	Instructor	331		Y		
Tech Center	Lab B		332		Y		
Tech Center	Roberts, Chris	Instructor	332		Y		
Tech Center	Hayes, Charmaine	Secretary	333		Y		
Tech Center	Smith, Robert	Counselor	335			Y	
Tech Center	Hinckley, Carolyn	Instructor	337		Y		
Tech Center	Weber, Nancy	Instructor	338		Y		
Tech Center	Wydick, Deb	Instuctor Aide	339		Y		

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Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Tech Center	Pierce, Wendy	Student Assistant	340		Y		
Tech Center	Bontekoe, Dave	Computer Tech	341			Y	
Tech Center	Parmelee, John	Inst. Tech Coordinator	342		Y		
Tech Center	Brown, Gary	Administrator	344				Y
Tech Center	Conklin, Sue	Administrator	345				Y
Tech Center	Holmes, David	Instructor	347		Y		
Tech Center	Whitman, Matt	Instructor	348		Y		
Tech Center	Bishop, Ron	Instructor	349		Y		
Tech Center	Distance Learning Lab		350		Y		
Tech Center	Reda, Deb	DLL Coordinator	350			Y	
Tech Center	Linderman, Pat	Instructor	351		Y		
Tech Center	Kooyers, Gabe	Instructor	352		Y		
Tech Center	Forler, Jason	Instructor	354		Y		
Tech Center	Brandel, Bob	Instructor	355		Y		
Tech Center	Boze, Rick	Instuctor Aide	356		Y		
Tech Center	Manning, Kathy	Instuctor Aide	356		Y		
Tech Center	Garzella, Chris	Instructor	358		Y		
Tech Center	Nickels, Paul	Integrated Staff	359		Y		
Tech Center	Blum, Tom	Parts Coordinator	361			Y	
Tech Center	Cosmetology Appointments		362		Y		
Tech Center	Anderson, Dave	Instructor	364		Y		
Tech Center	Dining Room		365		Y		
Tech Center	Knaak, Liz	Instuctor Aide	365		Y		
Tech Center	Kenworthy, Patti	Instructor	366		Y		
Tech Center	Reyna, Norma	Instuctor Aide	366		Y		
Tech Center	Stump, Diana	Instuctor Aide	366		Y		
Tech Center	Nichols, Bruce	Instructor	367		Y		
Tech Center	Smith, Debra	Instructor	367		Y		
Tech Center	Richardson, Jill	Instructor	368		Y		
Tech Center	Carroll, Rebecca	Instuctor Aide	369		Y		
Tech Center	Hansen, Jan	Instructor	369		Y		
Tech Center	Knox, Kathy	Instructor	369		Y		
Tech Center	Parmelee, Elin	Instuctor Aide	369		Y		
Tech Center	O'Bryant, Marilyn	Instructor	371		Y		
Tech Center	VanHoeven, Nancy	Instructor	371		Y		
Tech Center	Ambs, Steven	Integrated Staff	372		Y		
Tech Center	Lab C		372		Y		
Tech Center	Svihra, Martin	Integrated Staff	374		Y		
Tech Center	Mroczek, Ken	Integrated Staff	376		Y		
Tech Center	McLeese, Mike	Counselor	381		Y		
Tech Center	Semrau, Bill	Integrated Staff	383		Y		
Tech Center	Kent, Cindy	Instructor	387		Y		
Tech Center	Accorso, Sam	Administrator	388				Y
Tech Center	Starkweather, Scott	Administrator	389			Y	
Tech Center	Richardson, Tom	Counselor	390			Y	
Tech Center	Truer, Chris	Secretary	391				Y
Tech Center	Lab A		396		Y		
Tech Center	Woodruff, Michelle	Secretary	396		Y		
Tech Center	Yerrick, Susan	Instructor	397		Y		
Tech Center	Visser, Sue	Counselor	398			Y	
Tech Center	Conference Room A		399			Y	
Tech Center	Willbur, Laura	Counselor	402			Y	
Tech Center	Knight, Fred	Student Assistant	540			Y	
Tech Center	Buzalski,, Dan	Instructor	542		Y		
Tech Center	Warren, William	Instructor	543		Y		
Tech Center	Blacker, Jim	Instuctor Aide	544		Y		
Tech Center	Mayuiers, Paul	Instructor	544		Y		

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Location	Name	Title	Existing Extension	Share Phone	Optional 7911	7941	7961
Tech Center	Math Classroom		545		Y		
Tech Center	Morrison, David	Custodian	546			Y	
Tech Center	Ruthruff, Becky	Custodian	546		Y		
Tech Center	Zapalowski, Megan	Instructor	547		Y		
Tech Center	Conference Room B		549				Y
	290			74	121	55	39

10 Vendor Profile

Company Name: _____

Address: _____

_____

_____

Contact Name: _____

E-Mail Address: _____

Phone: _____

Fax: _____

Date Founded: _____ Number of employees: _____

Total revenue last fiscal year: _____

Type of Organization (Corporation, Partnership, LLC, etc.): _____

Has organization ever had a contract terminated prior to completion: _____

Has organization ever failed to complete a project: _____

Has organization ever filed for bankruptcy, reorganization or receivership: _____

Number of full-time technicians qualified to perform work on this project: _____

Has organization ever been involved in a lawsuit with Owners, Engineers or other contractors within the last five years: _____

List staff with BICSI RCDD certification: _____

List other applicable certifications: _____

List make and model of fiber power meter: _____

List make and model of OTDR: _____

The undersigned certifies to the accuracy of the information provided on this form and attachments.

Signature: _____ Date: _____

Title: _____

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11 Technology Vendor References

Include at least three references for similar projects. Each subcontractor must also provide references.

Customer Name: _____

Address: _____

Contact Name: _____

Contact Title: _____

Phone: _____

E-Mail Address: _____

Date Started & Completed: _____

Dollar Amount of Project: _____

Comments: _____

_____

_____

Customer Name: _____

Address: _____

Contact Name: _____

Contact Title: _____

Phone: _____

E-Mail Address: _____

Date Started & Completed: _____

Dollar Amount of Project: _____

Comments: _____

_____

_____

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References Continued

Customer Name: _____

Address: _____

Contact Name: _____

Contact Title: _____

Phone: _____

E-Mail Address: _____

Date Started & Completed: _____

Dollar Amount of Project: _____

Comments: _____

_____

_____

Customer Name: _____

Address: _____

Contact Name: _____

Contact Title: _____

Phone: _____

E-Mail Address: _____

Date Started & Completed: _____

Dollar Amount of Project: _____

Comments: _____

_____

_____

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12 Familial Disclosure Affidavit

The undersigned hereby swears and affirms that there is no familial relationship between the Owners or employees of the firm originating this bid with any School Board Member or the Superintendent of the Van Buren Intermediate School District receiving this bid. If such a relationship does exist, it has been clearly described and disclosed on a separate sworn and notarized attachment to this bid form.

STATE OF MICHIGAN }
} SS.
COUNTY OF _____}

Subscribed and sworn to me this _____ day of _____, 2007

_____ Notary Public

_____ County, Michigan.

My commission expires: _____

FIRM NAME_____

BY (Signature)_____

NAME (Type or Print)_____

TITLE_____ DATE_____

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13 Proposal Forms

FOR: Van Buren Intermediate School District
IP Phone System

TO: Van Buren Intermediate School District
250 South Street
Lawrence, MI 49064

PROPOSAL BY: _____
(Name & address of firm)

_____

_____

BASE BID: We, the undersigned, having familiarized ourselves with local conditions affecting the cost of work and with the bidding documents on file at the office of the Consultant, hereby propose to perform the work required by said bidding documents in a workman-like manner for the Bid Categories as shown on this bid form for the above-named project in accordance with contract documents as prepared by the Consultant for the amounts hereinafter stated, such amounts constituting the base bid, including Addendum No.(s):

_____

BID CATEGORY	**SINGLE BASE BID**
IP TELEPHONE SYSTEM	$_____
NETWORK ELECTRONICS	$_____
UPS UNITS	$_____
CABLING UPGRADES	$____15,000.00
TOTAL OF ALL ABOVE	$_____

The base bid must <u>include</u> applicable sales taxes.

Included with this proposal is a bid bond, certified or cashier's check in the amount of:

($_____) _____DOLLARS

payable to the Owner which it is agreed may be retained as liquidated damages by the Owner if the undersigned fails to execute the contract within fifteen (15) days after notification of the award of contract to the undersigned.

<u>VOLUNTARY ALTERNATES</u>: Attach a separate sheet if proposing Voluntary Alternates. Prices shall <u>include</u> all applicable costs for taxes, insurance, bonds and fees.

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13.1 Exceptions

State any exceptions taken to project specifications:

_____

_____

_____

13.2 Alternates

BID CATEGORY	AMOUNT
Alternate #1 – DEDUCT to replace 110 CP-7941G= with 110 CP-7911G=	$_____
Alternate #2 - Call Accounting Application	$_____
Alternate #3 - Text Messaging Application	$_____
Alternate #4 – Phone Deployment	$_____

13.3 Unit Prices Details

ITEM	AMOUNT
Cisco CP-7961G= Phone	$_____
Cisco CP-7941G= Phone	$_____
Cisco CP-7911G= Phone	$_____
Cisco CP-7936G= Phone	$_____
Cisco VG-224 Gateway	$_____
Cisco ATA-186-I1 Analog Telephone Adaptor	$_____

13.4 Materials List

Provide a detailed materials schedule showing quantity, manufacturer name, manufacturer's part number, part description and unit price for all parts specified. **Failure to provide this schedule may disqualify your bid.**

13.5 Cut Sheets

Include manufacturer cut sheets for key components used in your design. Cut sheets are **not** required for items that exactly match the specified models in this RFP.

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13.6 Signature

In submitting this bid, we understand the right is reserved by the Owner to reject any or all bids. It is further agreed that this bid is binding for the period of forty-five (45) days.

DATE _____ ,2008

FIRM NAME _____

BY _____ _____

(Authorized Signature) (Typed or Printed Signature)

TITLE _____

OFFICIAL ADDRESS _____

_____

PHONE NO._____ FAX NO. _____

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