

March 10, 2012

Hon. Eduard Moreno Ed.D.
Secretary
Department of Education
Central Office
Tres Monjitas Industrial Urb.
Hato Rey, Puerto Rico

Dear Mr. Secretary:

Puerto Rico Telephone is pleased to present its proposal in response, to the RFP SF-(OC) 2011-017 for the Internal Connections.

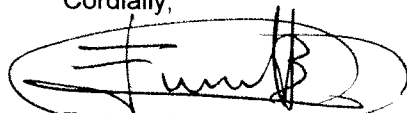
We presented an excellent cost effective proposal to deliver Internal Connection Equipment and fully comply for all E-Rate Eligible service to the public schools in Puerto Rico and the Central Site of The Department of Education. Our configuration presented by PRT is the most cost effective for the customer premises equipment (CPE).

All CPE presented in this proposal meets all the recurrent of the RFP and ANSI/TIA Standard and meet the expectation of a three (3) year warranty. All the documentation of the DoE en the web page was verified and analyzed by us. PRT confirm that the proposed services and costs will remain valid for one hundred and eighty (180) days following the proposal date.

PRT is committed to the well being of our community and to the Department of Education to make E-Rate Program a model for the Americas. We have responded to all facets of the Form RFP as well offered Internal Communication Equipment to the Department of Education. We are available at any time to respond to answer and clarify doubts.

Our dedicated employees, advanced technology and commitment to education make PRT the strongest partner for the Department of Education. We are grateful for the opportunity to submit this proposal, and look forward to our continued partnership to the education in Puerto Rico.

Cordially,



Enrique Ortiz de Montellano
President

A Total Support Solution for the E-RATE Telecommunications Network

*Proposal submitted by the Puerto Rico Telephone Company in response to the Puerto Rico Department of Education's Request for Bid
(SF-OC #2011-017) E-RATE Internal Connections*

Date Submitted: March 9, 2012



Table of Contents

0. EXECUTIVE SUMMARY	4
1. SOLUTION OVERVIEW	5
2. VENDOR QUALIFICATIONS	6
3. INTERNAL CONNECTIONS	14
3.1. STRUCTURE CABLING.....	14
3.2. SCHOOLS NETWORK DATA SWITCHES.....	18
3.3. SCHOOL NETWORK UPS BATTERY BACKUP	24
3.4. PRDE CENTRAL OFFICE NETWORK SWITCHES.....	26
3.5. TERMINAL SERVERS.....	31
4. WARRANTY	33
5. GENERAL SPECIFICATIONS	34
6. COST SUMMARY TABLES	42
7. CONCLUSIONS	47

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APPENDIX A CORPORATE PROFILES & FINANCIAL INFORMATION

APPENDIX B TERMINAL SERVER SPECIFICATIONS

APPENDIX C TRIPPLITE UPS SPECIFICATIONS

APPENDIX D CISCO SWITCHING SPECIFICATIONS

APPENDIX E AVAYA SWITCHING SPECIFICATIONS

APPENDIX F ORIGINAL BID DOCUMENTS

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Form

0. EXECUTIVE SUMMARY

This document presents the Puerto Rico Telephone (PRT) company's response to the Puerto Rico Department of Education's (PRDE) *amended* "E-RATE FY2012 Internal Connections" request for bid number SF(OC)-2011-017. PRT's response is framed upon its understanding that the work to be performed will create the infrastructure required to effectively integrate technology into our K-12 educational system – a crucial step towards achieving the long-term economic development goals.

PRT has built on expertise and experience far beyond what any other company could obtain. Because of its network complexity, the company is structured in skilled operational units and along with its partners has all the needed personnel, properly trained and experienced technicians, to comply with PRDE Requirements. All the technicians are fully trained in the essentials of excellence in client service.

PRT has enlisted the participation of key strategic partners in order to provide a compelling turn-key solution to the PRDE – a solution that is not only cost-effective and technologically advanced, but well focused on the educational aspect of the project. In this respect, PRT has partnered with the Babilon Technologies for the Terminal Servers and Cabling aspects of the proposal and with Intech for the UPS and Data Switching aspects. PRT will agree after PRDE evaluation to a partial award for any specifically alternative or individual items of this proposal.

As a contributing member to the Schools and Libraries Division (SLD) fund, PRT is well aware of the impact technology can have in the educational process and the difference having a committed technology partner can make in leading the technology adoption process among teachers, parents, and students

PRT primary contact will be:

Mr. Arnaldo Diaz

Sales Account Executive

Telephone Number: 787-273-4391

Fax Telephone Number: 787-774-0037

E-mail: adiaz@claropr.net

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1. SOLUTION OVERVIEW

The solutions proposed by PRT are the most proven, reliable and cost-effective solution that can be offered in Puerto Rico. With over one million of customer the capacity of Puerto Rico Telephone to offer a competitive solution had been establish.

These are the current technologies and manufacturers of choice because of their resiliency, flexibility, and price. **It is important to state that PRT will serve as the PRIME CONTRACTOR and sole point-of-contact with the PRDE and that it will be solely responsible for compliance with PRDE's requirements.**

A brief overview of how PRT's proposal addresses the PRDE's bid request document is presented below:

- **Structure Cabling Infrastructure for 1,483 schools:** PRT, in partnership with Babilon Technologies, will install all the components required to transport information to classrooms and publicly accessible rooms. Each school will have a the concentrator boxes required with the alternatives between fiber optic or cooper cable for backbone.
- **Network Data Switches for 1,483 schools:** The proposal provide two(2) Data Switching alternatives based on Cisco or Avaya switching equipment to the PRDE. Both alternatives comply and exceed all PRDE RFP requirements.
- **UPS Battery BackUp for 1,483 schools:** PRT UPS Battery BackUp solution is based on PowerComm Network Extreme Series. The proposed UPS comply and exceed all PRDE RFP requirements.
- **Terminal Servers for 750 schools:** PRT solution include a different approach, The Education Appliance, a multi-feature equipment / server for schools and Classrooms. While the Education Appliance has not been designed as a "specialized Terminal server" it encompasses an array of services that in essence accomplish the same goal of connecting multiple terminals or computers into a network.

In addition to the technical capabilities mentioned above, PRT is committed to offer a turnkey project with maximum value in cost and quality. Social and financial commitment to Puerto Rico makes PRT the most reliable and competitive partner for the PRDE.

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2.VENDOR QUALIFICATION

Puerto Rico Telephone has experience in:
1- Telecommunications
2-Installation and configuration phone lines
3-Telecommunication Maintenance

As the leading telecommunications services provider in Puerto Rico, PRT owns the most complete and extensive island wide telephone network, not like other providers which only offer limited coverage. In addition, PRT's network reliability offers service redundancy and accountability to ensure continued operation. PRT networks redundancy includes a microwave networks that PRT owns, install and maintain. PRT have the more complex and wide coverage area microwave networks used as part of our network.

PRT is widely recognized for developing, engineering and deploying state-of-the-art network technologies, including the first island wide all-digital, fiber-optic network and a back-up microwave network. Our portfolio of advanced data communications services includes Sonet, DSL, ISDN, Remote Access Service (RAS), International Dedicated Access, IP VPN, MNS, MPLS, Frame Relay and Metropolitan Area Network. PRT's high-capacity, high-speed network gives customers fast, dependable, non-stop access to the vast majority of the world's Internet content.

ERATE Telecommunication services must be provided by a telecommunication carrier.

Established since 1914, Puerto Rico Telephone (PRT) has a solid and proud history of service and corporate citizenship heritage that spans almost a century. As PRT kept pace with the latest advancements in communications around the world, it has become the largest and most technologically advanced full-service telecommunications provider in Puerto Rico and the Caribbean, and the ninth largest exchange carrier in the United States.

As the leading telecommunications services provider in Puerto Rico, PRT is the island nation's incumbent local-exchange carrier with 1.2 million residential and business access lines. The company also offers wireless communications services under the CLARO Wireless brand, as well as long-distance, Internet access, and directory services.

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Why PRT?

When evaluating a proposed solution for a specific project it helps to list the important factors concerning the solutions provider. The following list shows some important reasons for doing business with PRT.

- Understanding of Technology, Trends and Standards
- Stability – Over 84 years in Puerto Rico
- “Best of Breed” Product Selection
- Best project team
- Full Service Organization
- Consulting Services
- System and Network Integration
- Application Development
- Reliable Network
- Multi-vendor Maintenance and Support
- Integrated Solutions Provider

Moreover, the fact that PRT is a subsidiary of CLARO affords the island a foothold in one of the largest communications companies in the world. CLARO/ PRT are the number one local service provider and one of the largest wireless operators in the Americas with presence over 40 countries.

Its proven technology in switching, transport, access, wireline & wireless networks and solid island wide presence positions the company as the most advanced and stable telecommunications service provider. PRT also provides network access and billing services to wireline and wireless operators. PRT inside his staff have people with all kinds of certifications in telecommunications areas that include the equipment proposed by PRT solution. This reassures will be available for the implementation of the solution proposed for the PRDE.

PRT's vast experience managing a telecom operation will be an asset to the Puerto Rico Department of Education. As part of its daily operations, PRT constantly manages and monitors wireline and wireless networks, telecommunications facilities, interconnection agreements with other providers and Service Level Agreements to meet client expectations. As the Incumbent Local Exchange Company, PRT provides telecommunications infrastructure to all Competitive Exchange Local Companies, as well as PRT customers.

Puerto Rico Telephone extensive experience with E-RATE funds and USAC procedures provide the assurance to PRDE that funds request and billing procedures will comply with all USAC requirements with our staff of trained people and help the PRDE in all steps of the process where the providers are allowed to help. PRT today provide Telephone Services to 400 private schools in Puerto Rico under the E-RATE program. No other company in Puerto Rico can offer this benefit to the Department of Education

PRT SLD SPIN number is 143012431. For additional information please refer to **Appendix A**

Cont

a. *Vendor must demonstrate solid financial capability. Provide certified financial statements. Vendor must be capable of assuming the risk of operational costs for a minimum of one year. Vendor must provide evidence of financial credit limits to that effect.*

PRT is a 2.7 billion dollar asset company with over 4,500 employees, a 29 ring fiber network, solid TDMA and CDMA wireless networks with best in market footprint and performance; the largest IP platform in the Caribbean and a state of the art ATM island wide infrastructure that is the backbone of our growth strategies for advanced data and broadband services. PRT's highly advanced MPLS network not only rivals but also even exceeds in quality many similar networks in the USA. It allows for faster, more efficient and effective transmission of data, voice, video and connection to the Internet from all points on the island. For the financial statements please refer to **Appendix A**. PRT will comply with this requirement.

b. *Vendor must have an SLD SPIN (Service Provider Identification Number).*

PRT SLD SPIN number is 143012431. For additional information please refer to **Appendix A**.

j. *Due to the size and geographically dispersed nature of the network PRDE the supplier must demonstrate evidence of prior networking projects which he has implemented. For each project identified in the submitted evidence the supplier shall indicate:*

1. *Vendor role (i.e. primary contractor, subcontractor, etc.),*
2. *The number of installations (customers) carried out.*
- 3- *Number of Sites*
3. *Reference accounts with contact names and telephone numbers*

PRT believe that our advanced and ubiquitous infrastructure, technical capabilities, employees, and commitment with Puerto Rico and to the community enable us to share the vision of the Puerto Rico Government. It is important to state that PRT will serve as the PRIME CONTRACTOR and sole point-of-contact with the PRDE and that it will be solely responsible for compliance with PRDE requirements.

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For the PRDE Request for Competitive E-Rate Internal Connections Proposals, PRT is in partnership with Intech Corp. and Babilon Technologies. The technical resources of PRT and Intech combined will ensure PRDE the most strong technical knowledge and experience available in Puerto Rico.

PRT / Intech have extensive experience in telecommunication services, telecommunications infrastructure, and educational activities. A small sample list of recent customer where the vendors have implemented similar projects in size, complexity and/or network availability is presented below:

PRT Projects

Customer Reference: Comision Estatal de Elecciones

Project Information

Offeror's Company/Division Name:	Puerto Rico Telephone
Type of Work:	MPLS Network
Contracting Agency/Private Company:	Comision Estatal Elecciones
Description of Contract:	MPLS Ethernet Solution for 90 sites PRT provide all the transport circuits and CPE Router equipment for the network
Type of Contract and dollar amount:	ID/IQ with time and materials – \$800,000
Period of performance:	August 2011
Name:	Mr. Luis R. Aviles
Address:	CEE building Hato Rey
Telephone:	787-777-8682 ex.2103

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Customer Reference: EVERTEC

Project Information

Offeror's Company/Division Name: Puerto Rico Telephone
Type of Work: Voice over IP, MPLS, Ethernet link
Contracting Agency/Private Company: EVERTEC

Description of Contract: MPLS Ethernet Solution VoIP services for 379 sites.
PRT provide all the MPLS transport services.
Type of Contract and dollar amount: ID/IQ with time and materials – \$4 M
Period of performance: October 2010
Name: Mrs. Gretchen Ortiz
Address: 179 Road, Cupey Bajo, San Juan, PR 00919
Telephone: 787-759-9999, Ext. 3020

Customer Reference: FIRSTBANK

Project Information

Offeror's Company/Division Name: Puerto Rico Telephone
Type of Work: Voice over IP, MPLS, Ethernet link
Contracting Agency/Private Company: Firstbank

Description of Contract: Ethernet Solution VoIP services and MPLS transport services for 130 remote sites including VI and BVI. PRT provide all transport services and all CISCO CPE equipment
Type of Contract and dollar amount: ID/IQ with time and materials – \$8.4 M
Period of performance: October 2011
Name: Mr. Erie Perez
Address: 1130 Ave. Munoz Rivera, San Juan, PR 00919
Telephone: 787-765-8200

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Intech Projects

Customer Reference: MUNICIPIO DE GUAYNABO

Project Information

Offeror's Company/Division Name: Puerto Rico Telephone
Type of Work: MPLS, Ethernet link, T1 Infrastructure
Contracting Agency/Private Company: Municipio de Guaynabo

Description of Contract: Intech provide the Maintenance services for Municipio de Guaynabo Central and Remote sites. At Central site a Cluster for Cisco Unified Communication Manager 8.X., Local Gateways and Survivability on over 20 remote locations using cisco routers with SRST, More than 500 Cisco IP phones distributed throughout different remote sites of the municipality including emergency management, Integration of SIP trunking using Session Border Controller (Cisco CUBE) functionality. Intech also is responsible for response diagnostics, Corrective Services, and software Patch updates. PRT provides all the T1, MPLS transport services.

Type of Contract and dollar amount: ID/IQ with time and materials – \$3M
Period of performance: June 2010
Name: Mrs. Wendy Colon
Address: Calle Jose Julián Acosta Departamento de Informática Edif. Anexo 2 Guaynabo PR 00960
Telephone: 787-316-3851

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Customer Reference: DG II Republica Dominicana

Offeror's Company/Division Name: DGII Republica Dominicana
Type of Work: Cisco VoIP infrastructure
Contracting Agency/Private Company: DGII Republica Dominicana

Description of Contract: Intech provide services for Cluster for Cisco Unified Communication Manager 8.X. Local Gateways and Survivability in remote locations using cisco routers with SRST. More than 1,500 Cisco IP phones, distributed throughout the country, Integration of SIP trunking using Session Border Controller (Cisco CUBE) functionality.

Type of Contract and dollar amount: ID/IQ with time and materials – \$400K
Period of performance: June 2010
Name: Mr. Miguel A. Quesada, Gerente Administración de Redes y Comunicaciones
Address: Av. México #48, Santo Domingo, Rep. Dom.

Cont

Customer Reference: DEPARTAMENTO DE EDUCACION

Project Information

Offeror's Company/Division Name: Department of Education
Type of Work: Voice over IP, T1, DSL infrastructure
Contracting Agency/Private Company: PRDE

Description of Contract: Intech provide the Maintenance services for Department of Education Content Filtering solution for all public schools as well as the VoIP infrastructure at the following sites; Central Site (Nueva Sede), San Juan Region, Bayamon Region, Ponce Region, Mayaguez Region, Arecibo Region, 28 sites Districts project, 9 sites Special Education project. Intech also was contracted by PRT to cover the maintenance service for DE Cisco Switches and Nortel Switches at all 1540 Schools. Intech is responsible to response diagnostics, Corrective Services, and software Patch updates.

PRT provide all the T1, or DSL transport services.

Type of Contract and dollar amount: ID/IQ with time and materials – \$400K
Period of performance: June 2009
Name: Miss. Marily Zayas
Address: Nueva Sede, Calle Federico Costa
San Juan 00919
Telephone: 87-773-6127

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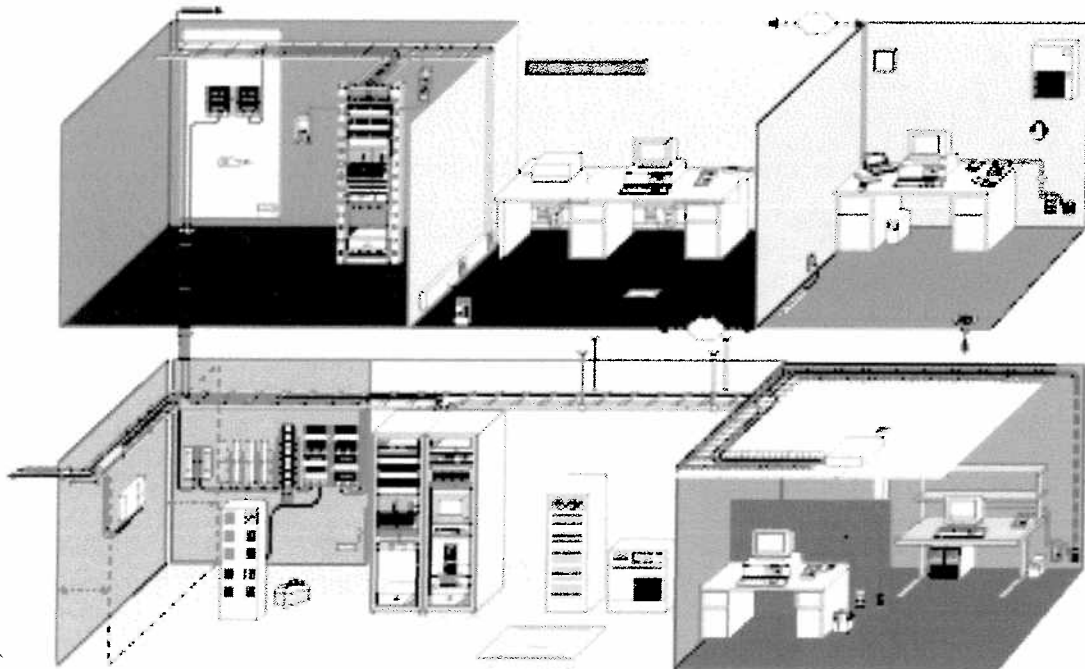
3. INTERNAL CONNECTIONS

3.1 Structure Cabling

PRT proposal provides PRDE with the assurance that they are buying a quality service that complies with quality and certification requirements. The standards and parameters set forth by this document cover mainly all areas of structured cabling systems, namely Category 5e and Cat 6.

The information set forth in this document complies and exceed the minimum requirements provided by PRDE for structured cabling system installation and construction. PRT is the largest telecommunications company in PR and its personnel has vast experience in the design, installation, construction and testing of structured cabling systems, including:

- Customer Premises
- Pathways and Spaces
- Customer Owned Plant
- Residential Systems
- System Administration
- Grounding System



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PRT/Babilon, in accordance with ANSI/TIA/EIA Standards and the National Electric Code, will provide Telecommunication Outlets and Patch Panels Telecommunication Outlets (TO) to all classrooms and specified areas covered under this proposal. A T568A Wiring Scheme will be used in all cases, unless modifications to the standard have to be made. The wiring scheme could be changed to T568B (if the schools have an existent T568B wiring scheme installation). All cable installations will have a 25- year warranty for manufacturer defects.

This proposal complies with:

ANSI/TIA/EIA 568-B.1 (New Revision, including New Bulletins to ANSI/TIA/EIA 568-B) “Commercial Building Telecommunication Cabling Standard”

ANSI/TIA/EIA 569-A (New Revision) “Commercial Building Standard for Telecommunication Pathways and Spaces

ANSI/TIA/EIA-606A (New Revision) “Administrations Standards for Telecommunications Infrastructure of Commercial Buildings”

ANSI/TIA/EIA 607 “Commercial Building Grounding and Bonding Requirements”, and the **National Electric Code (NEC)**

Test, certify and label all terminations at both ends.

Babilon Technology will test, certify, and label all terminations at both ends. All cable runs will be tested according to ANSI/TIA/EIA 568-B.1 in a Permanent Link (formerly basic link). A Permanent Link is used by installers to verify the performance of the permanently installed cabling. The permanent link consists of up to 90m (295') of Horizontal Cabling and one connection at each end and may include a transition/consolidation point. It excludes both the cable portion of the field test instrument cord and the connection to the field test instrument. The parameters that are defined by the ANSI/TIA/EIA 568-B.1 and the ones that will be used are Wire map, Length, Near-end-crosstalk loss, Power sum near-end crosstalk (PSNEXT) loss, Equal-level far-end crosstalk (ELFEXT), Power sum equal level far-end crosstalk (PSELFEXT) loss, Return loss, Propagation delay and Delay skew. Cable certifications will be included signed in Hard Copy and in Electronic Media (CD).

90m

Cabling shall be organized and labeled so as to facilitate locating and handling individual sheaths for maintenance functions. Each bundle shall be neatly tied without over arching or stressing. Bundles shall be clearly marked identifying the area to which they are routed, the station numbers served by the bundle, and any other information that may assist in administration.

Babilon Technology will ensure that cabling is organized and labeled to facilitate locating and handling individual sheaths for maintenance functions. Labeling will be carried out at both ends of the cables according to the ANSI/TIA/EIA 606-A standard (or the most recently approved Labeling Standard at the time the project begins). In areas where cable bundles are required, each bundle will be neatly tied without cinching or stressing. All cables will be labeled identifying the area to which they are routed and the station numbers served by the bundle.

Cost Table For Schools Cabling

ITEM	DESCRIPTION	Unit Price	Concentrator Box QTY	Total Per School
1	School Size – Small 8-10 Drops Include:	\$2,500.00	2 per school	\$ 5,000.00 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
2	School Size – Medium 11-14 Drops Include:	\$ 3,150.00	5 per school	\$ 15,750.00 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
3	School Size – Large 15-20 Drops Include:	\$ 4,450.00	20 per school	\$ 89,000 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
4	Cooper Backbone Up to 295ft	\$ 175.00		
5	Fiber Optic Cable Backbone	\$ 2.30 ft		
6	Fiber Optic Trays For Fiber Optic Cable Backbone	\$ 173.00		
7	Fiber Optics Patch Cord MM 2m	\$ 34.00ea		
8	Telecommunications Open Rack 7ft x 19	\$ 225.00ea		
9	Fiber Trays SC Adapter For Open Rack 7ft x 19 (optional)	\$ 205.00ea		
10	Two(2) Vertical Front Management 4x5 (optional)	\$ 405.00ea		
11	TGB Ground Bar 5/8 Rod cable #6 awg (optional)	\$ 335.00ea		

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Cost Summary For Schools Cabling

ITEM	DESCRIPTION	Unit Price	School QTY	Total Cost
1	School Size – Small 8-10 Drops Include:	\$5,000.00	250 schools	\$ 1,250,000
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
2	School Size – Medium 11-14 Drops Include:	\$ 15,750.00	750 schools	\$ 11,812,500
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
3	School Size – Large 15-20 Drops Include:	\$ 89,000.00	500 schools	\$ 44,500,000
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
4	Plus Any BackBone Connections			Backbone Additional Cost
	Cooper Backbone Up to 295ft	\$ 175.00		
	Fiber Optic Cable Backbone	\$ 2.30 ft		
5	Fiber Optics Patch Cord MM 2m	\$ 34.00ea		
6	Telecommunications Open Rack 7ft x 19	\$ 225.00ea		
7	Fiber Trays SC Adapter For Open Rack 7ft x 19 (optional)	\$ 205.00ea		
8	Two(2) Vertical Front Management 4x5 (optional)	\$ 405.00ea		
9	TGB Ground Bar 5/8 Rod cable #6 awg (optional)	\$ 335.00ea		

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3.2 School Network Data Switches

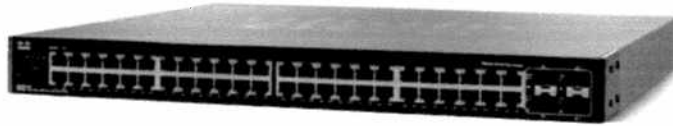
Under this proposal, PRT states its commitment to design, configure, install and integrate all the data switching equipment required to be part of the E-Rate network. There many cheap 48 ports 10/100/1000 switches in the market that can no provide PoE (IEEE 802.3af) in all 48 ports simultaneously (models like Cisco SG 200-50P 50, Avaya 2550-PWR) and will not comply with PRDE bid requirements.

PRT include two(2) alternatives as data switching solution. A solution based on Cisco equipment and an alternative with Avaya switching solution. PRT data switching solution with both Cisco and Avaya alternatives comply with PRDE bid requirements to provide PoE (IEEE 802.3af) in all 48 ports 10/100/1000.

Cisco Data Switching Alternative

PRT propose the Cisco SGE2010P 48-Port Gigabit Switch to comply with all PRDE bid requirements. The Cisco SGE2010P 48-Port Gigabit Switch allows PRDE to expand the network securely. Web-based configuration of the switch is secured using SSL. The Cisco SGE2010P is optimized for maximum system availability, with fully redundant stacking and dual images for resilient firmware upgrades. The equipment include a five(5) years limited warranty directly with the manufacturer Cisco.

The switch helps secure the network through IEEE 802.1Q VLANs, IEEE 802.1X port authentication, access control lists (ACLs), denial-of-service (DoS) prevention, and MAC-based filtering. The enhanced quality of service (QoS) and traffic-management features help ensure clear and reliable voice and video communications.



The Cisco SGE2010P supports the IEEE 802.3af standard for Power over Ethernet (PoE). Automatic load sensing enables the circuitry to detect PoE on the end device before providing power. For safety, each port has independent overload and short-circuit protection, along with LED indicators to show power status. It provides 15W of available PoE power on up to 24 of the Gigabit Ethernet ports for powering PoE-enabled wireless access points or VoIP handsets. The maximum PoE available per device for all ports is 360W.

For additional information please refer to **Appendix D**

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The Cisco SGE2010P provides resilient stacking for up to four units, or 192 ports. A stack of units is managed as a single switch with one web management interface. The stacking capability includes master/backup unit behavior, ring and chain architecture, and hot insertion and removal of units.

Software running on the Cisco SGE2010P interacts with provisioning, management, and security software on both the site's services router and the service provider's equipment. This interaction provides a simple, one-step installation and access to web-administered features for the administrator and users. Simple, affordable network operations throughout the network's lifetime are the result.

Features

- Forty-eight 10/100/1000 Ethernet ports
- 4 mini Gigabit Interface Converter (mini-GBIC) slots (shared with 4 Ethernet ports)
- IEEE 802.3af PoE delivered over any of the forty-eight 10/100/1000 ports
- 15.4W available power to a Gigabit Ethernet port for PoE-enabled wireless access point or VoIP handsets (maximum per-device PoE delivery of 360W available for all ports)
- 96 Gbps nonblocking, store-and-forward switching capacity
- Power redundancy with the Optional Cisco RPS1000 380W Redundant Power Supply Unit
- Configuration and monitoring from a standard web browser
- 802.1Q-based VLANs enable segmentation of networks for improved performance

Cost Summary For Cisco Schools Switches

ITEM	DESCRIPTION	Unit Price	Switch Per School	School QTY	Total Switch Cost
1	School Size – Small Include: Cisco® SGE2010P 48-Port Gigabit Switch	\$1,207.00 ea	2	250 schools	\$ 603,500
2	School Size – Medium Include: Cisco® SGE2010P 48-Port Gigabit Switch	\$1,207.00 ea	5	750 schools	\$ 64,526.250
3	School Size – Large Include: Cisco® SGE2010P 48-Port Gigabit Switch	\$1,207.00 ea	20	500 schools	\$ 12,070,000
4	Switch Configuration & Installation	\$ 90.00ea	14,250		\$1,282,500

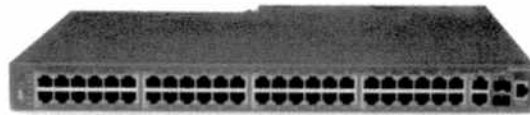
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Avaya Data Switching Alternative

PRT propose the Avaya ERS 4548GT-PWR with 48 10/100/1000 802.3af PoE Switch to comply with all PRDE bid requirements. The Avaya Ethernet Routing Switch 4500 Series is a Stackable Chassis system providing high-performance, convergence-ready, secure and resilient Ethernet switching connectivity.

The Ethernet Routing Switch 4500 Series provide resilient Stackable Chassis capabilities, high performance Layer 2 switching and Layer 3 routing, advanced convergence features and a full suite of security, QoS and management capabilities.

The proposed Avaya equipment include a three(3) years replacement warranty directly with the manufacturer Avaya.



Highlights Of The Ethernet Routing Switch 4500 Series

- **Always-on** – Best in class end-to-end resiliency solution, hot-swappable unit replacement within a Stack Chassis and integrated power redundancy.
- **Convergence-ready** – Support for PoE, true plug and play capabilities for IP phone deployments, advanced QoS capabilities.
- **Energy efficient** – On average 36% more energy efficient than competitive solutions,* energy saver functionality further reduces power consumption for both switch and IP phone without losing telephony connectivity.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stack Chassis capabilities, delivering up to 400 ports and 384 Gbps of virtual backplane throughput.
- **Secure** – Standards-based 802.1x with integration to Avaya's Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match best-in-class stacking capabilities; Fast Ethernet and Gigabit Ethernet In the same Stackable Chassis, with or without PoE.

Good

Further complementing the Stackable Chassis architecture, the Avaya ERS 4000 Series supports standards-based 802.3ad Link Aggregation as well as its own Multi-Link Trunking technology that allows grouping of ports to form high-speed trunks/aggregations. These bundles or groups of ports can be distributed across different units in the same Stackable Chassis, delivering higher levels of resilience in case of link or Switch failure to help ensure that traffic gets to its destination. Distributed real-time monitoring of the Stackable Chassis provides an at-a-glance view of operational status and health which further enhances operational and management simplicity.

Centralized management

From a management perspective, our Stackable Chassis appears as a single networking entity – utilizing only a single IP Address. This can significantly reduce the number of switches to be managed within the network as a stack of up to 8 switches can be managed just as easily as a single switch. All Ethernet Routing Switch 4000 models use the same software image, irrespective of model type. The image needs to be loaded only to the base unit of the Stackable Chassis which automatically loads it to other switches.

The ERS 4000 Series delivers unsurpassed control for networks supporting a wide range of different application types. The ERS 4000 classifies, prioritizes and marks LAN IP traffic using up to eight hardware queues (2 strict priority and 6 weighted round robin) on every port – including our Stackable Chassis ports. Classification can be done based on MAC address, IP ToS/DSCP marking, IP source /destination address or subnets, TCP/UDP source/destination port/port range, IEEE 802.1p user priority bits, ingress source port, IP Protocol ID (e.g., TCP, UDP, IGMP).

The ERS 4000 Series supports 802.3ad Link Aggregation Groups as well as its own Multi-Link and Distributed Multi-Link Trunking implementations. Groups of links between the ERS 4000 and another device can be aggregated to enhance bandwidth and resiliency through active redundant links. Additionally, trunked ports can span multiple units of a Stack Chassis enabling fail-safe connectivity to mission-critical servers and the network core.

Distributed Multi-Link Trunking

802.3ad Link Aggregation Groups can be combined with Switch Clustering (leveraging Avaya's Split Multi-Link Trunking technology) on our core products (VSP 9000, ERS 8800/8600/8300 and ERS 5000). This creates a self-healing network that maximizes reliability and availability. Because all ports remain active, multiple connections to the network core enable customers to double their network bandwidth without incurring additional cost.

90 ml

The Ethernet Routing Switch 4000 offers the highest level of security with authenticated network access that leverages IEEE 802.1x (Extensible Authentication Protocol (EAP) with extensions or devices MAC Address. Integration into Avaya's Identity Engines portfolio for centralized, policy-based access control is included along with secure management enabled through features such as Secure Shell (SSH), Secure Sockets Layer (SSL), Simple Network Management Protocol (SNMPv3), IP Manager List, Remote Authentication Dial-In User Service (RADIUS), and TACACS+ authentication. The ERS 4000 Series also offers numerous features that help prevent direct Denial of Service Attacks.

Authenticated Network Access

The ERS 4000 offers a wide range of flexible security options to help ensure that only authorized personnel can access the LAN. Through IEEE 802.1x-based EAP client or device MAC Address, network administrators control authentication and authorization for access to network resources. Ethernet Routing Switch 4000 can support authentication of multiple devices/users on a single port.

Secure Shell (SSHv2) for strong authentication and encrypted communication and SSL, which is supported on our web-based Enterprise Device Manager. SNMPv3 provides user authentication and data encryption for secure configuration and monitoring while IP Manager List limits access to ERS 4000 management features via a list of IP Addresses or IP ranges/subnets, providing greater security and manageability.

Preventing Directed Attacks

Through advanced security services, the ERS 4000 Series actively protects against malicious network attacks including protection from snooping of DHCP services, verification and filtering of ARP traffic via in-hardware processing (Dynamic ARP inspection), restriction of IP traffic to registered end devices (IP Source Guard), and control of Spanning Tree BPDU flow within the network (BPDU Filtering). Also supported, MAC Security and Static MAC address assignment have the ability to disable MAC learning if required.

The ERS 4000 supports advanced packet classification and deep packet filtering of up to 128 bytes, helping block unwanted network traffic while forwarding mission-critical traffic efficiently.

Avaya Energy Saver can be embedded within the Avaya Enterprise Policy Manager² to provide centralized management of power consumption across all devices and endpoints. Network operators can perform energy analysis that not only shows peak energy usage and trending but also calculates real energy savings in terms of dollars and cents. A dashboard through which IT managers can drill down to specific ports and adjust ERS 4000 port speeds, as required, is also available.

Securing access at the edge

The Ethernet Routing Switch 4000 offers the highest level of security with authenticated network access that leverages IEEE 802.1x (Extensible Authentication Protocol (EAP) with extensions or devices MAC Address. Integration into Avaya's Identity Engines portfolio for centralized, policy-based access control is included along with secure management enabled through features such as Secure Shell (SSH), Secure Sockets Layer (SSL), Simple Network Management Protocol (SNMPv3), IP Manager List, Remote Authentication Dial-In User Service (RADIUS), and TACACS+ authentication. The ERS 4000 Series also offers numerous features that help prevent direct Denial of Service Attacks.

For additional information please refer to **Appendix E**

Cost Summary For Avaya Schools Switches

ITEM	DESCRIPTION	Unit Price	Switch Per School	School QTY	Total Switch Cost
1	School Size – Small Include:	\$1,290.00 ea	2	250 schools	\$ 645,000
	Avaya ERS 4548GT-PWR 48 Port Gigabit Switch				
2	School Size – Medium Include:	\$1,290.00 ea	5	750 schools	\$ 4,837,500
	Avaya ERS 4548GT-PWR 48 Port Gigabit Switch				
3	School Size – Large Include:	\$1,290.00 ea	20	500 schools	\$ 12,900,000
	Avaya ERS 4548GT-PWR 48-Port Gigabit Switch				
4	Switch Configuration & Installation	\$ 90.00ea	14,250		\$1,282,500

Comf

3.3 School Network UPS Battery BackUp

One UPS 2700 Watts / 3000VA per concentrator box

a. Input 120V / Output 120V interface

b. Six outlets

c. Rack height 2U

PRT propose the TrippLite SMART3000RMXL2U UPS to comply with all PRDE bid requirements. The TrippLite 3000VA 120V line interactive 2U rack / tower UPS offers complete network-grade power protection with full support for hot-replacement of separate internal battery and electronics modules. High .96 power factor supports loads up to 2880 watts. High efficiency rating of 96% reduces electrical operating cost and BTU emissions.

The proposed TrippLite SMART3000RMXL2U include a 3 year replacement warranty directly with the manufacturer as required.

Supports 120V 60Hz operation. Maintains battery derived sine wave AC output during power failures. Line-interactive dual-boost, single cut automatic voltage regulation (AVR) provides regulated 120V nominal output during brownouts and overvoltages.

Includes NEMA L5-30P input plug and 9 UPS-supported output receptacles (8 x 5-15/20R, 1 x L5-30R). Includes two individually controllable switched outlets for advanced remote-reboot and load-shedding applications. Network-grade AC surge and noise suppression. Network management interfaces support simultaneous communications via USB, DB9 serial and card slot for optional SNMPWEBCARD and other card accessories. HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X. Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via all three network interfaces at once.

Advanced LED indicators offer 3-stage metering of UPS load and battery charge levels, plus single-LED status indicators for utility power, voltage regulation, on-battery and replace battery. Audible alarms provide notification of on-battery, low-battery and overload conditions. Includes PowerAlert auto-shutdown and management software for complete monitoring, reporting and logging of all site and UPS operational conditions, plus support for advanced configurations involving load-shedding, remote-reboot and redundant dual-UPS applications

Includes:

- UPS power module with internal batteries
- PowerAlert Software with USB, DB9 and EPO cabling
- 4 post rackmount installation accessories
- SNMP Network Card

Emk

Tripp Lite 3000va Features:

- 3000VA / 3kVA 120V line interactive 2U rack / tower UPS for networks
- High power factor of .96 offers support for loads to 2880 watts
- Sine wave AC output in AC and battery modes
- Line interactive UPS with Automatic Voltage Regulation (AVR)
- Includes 9 UPS supported outlets (8 5-15/20R and 1 L5-30R)
- Network-grade 570 joule AC surge suppression
- USB, DB9 serial and card-slot accessory are all available for simultaneous use in advanced network configurations
- HID compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X
- Advanced LED indicators offer 3-stage metering

Cost Summary For UPS UPS 3000va

Description	Unit Cost	Total Cost (14,250 units)
TrippLite SMART3000RMXL2U w/SNMP card	\$833.00ea	\$11,870,250
On-Site Installation Cost	\$50.00ea	\$ 712,500

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3.4 PRDE Central Office Network Switches

PRDE at this time at the Central Office Buildings have in service a state-of-the-art switching infrastructure and wireless LAN on a current lease sales agreement with PRT.

The switching infrastructure and Wireless LAN in service at the PRDE Central Office Buildings complex and Data Center is based on Avaya/Nortel Passport equipment. A simplified architecture that offer the advantage of interoperability for all components and parts between chassis that addresses the needs of "Departamento de Educacion" by offering greater port scalability.

The existing switching Passport platform include at Aggregation/Core Layer two (2) Nortel Networks Passport 8606 6 slot chassis routing switch providing dedicated dual homming 10/100/1000 Mbps UTP connections and 10G Uplinks connection to all the distributed communications rooms in the Central Office Building complex.

Nortel Networks Passport 8600 Series Ethernet Switches deliver to PRDE a fail-safe networking solution that eliminates downtime, ensuring guaranteed performance for key applications. The Passport 8600 Ethernet Switches bring business-critical networking in a simplified, cost-effective, and scalable solution, including:

- 10-Gigabit Ethernet, Fast Ethernet, Packet-over-SONET, ATM, and CWDM connectivity
- L2-L7 traffic classification
- Wire speed IP/IPX routing
- Advanced policy-enabled networking with Quality of Service support
- Comprehensive security, with wire speed filtering
- Application-optimized performance

To comply with the Bid requirements PRT proposal include two(2) alternatives as data switching solution. A solution based on Cisco equipment and an alternative with Avaya switching solution. PRT data switching solution with both Cisco and Avaya alternatives comply with PRDE bid requirements to provide PoE (IEEE 802.3af) in all 48 ports 10/100/1000.

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Cisco Data Switching For PRDE Central Office Alternative

PRT propose the Cisco C2960S-48LPS-L 48-Port Gigabit Switch to comply with all PRDE bid requirements. The Cisco Catalyst 2960 Series Switches are standalone fixed-configuration switches offering Fast Ethernet and Gigabit Ethernet connectivity with LAN services for midmarket and branch office networks.

Cisco Catalyst 2960 Series Switches with LAN Base software deliver intelligent services for commercial and midsize enterprise wiring closets and branch offices. The LAN Base software supports enhanced integrated security, including Network Admission Control (NAC), advanced quality of service (QoS), availability, and scalable management to enable new converged applications.

Primary Benefits

- *Connectivity:* Fast Ethernet and Gigabit Ethernet connectivity in 8-port, 24-port, and 48-port configurations
- *Power over Ethernet (PoE):* 24 full PoE port and 24-port (PoE supported on 8 ports) configurations Advanced Services: Layer 2 switching with intelligent Layer 2 through 4 services for the network edge
- *Security:* Network security enabled through a wide range of authentication methods, data encryption technologies, and NAC based on users, ports, and MAC addresses
- *Advanced availability:* 802.1S/W enables standardsbased fault tolerance, load balancing, and rapid recovery; FlexLinks provides sub-100-millisecond convergence; Per VLAN Spanning Tree Plus (PVST+) increases available bandwidth by allowing traffic on redundant links
- *QoS:* Industry-leading mechanisms for marking, classification, and scheduling to deliver superior network performance and multicast services Hardware-based multicast for efficient voice, video, and data traffic
- AC power supply failure protection with external power supply using Cisco Redundant Power System 2300
- *Management:* Cisco Network Assistant simplifies configuration, upgrades, and troubleshooting; Smartports enable fast and easy configuration of Cisco Catalyst intelligent capabilities; Express Setup is quick and easy using the webpage interface
- Single IP address, SYSLOG, SNMP management for a stack of up to 16 switches

Good

Centralized management

From a management perspective, our Stackable Chassis appears as a single networking entity – utilizing only a single IP Address. This can significantly reduce the number of switches to be managed within the network as a stack of up to 8 switches can be managed just as easily as a single switch. All Ethernet Routing Switch 4000 models use the same software image, irrespective of model type. The image needs to be loaded only to the base unit of the Stackable Chassis which automatically loads it to other switches.

The ERS 4000 Series delivers unsurpassed control for networks supporting a wide range of different application types. The ERS 4000 classifies, prioritizes and marks LAN IP traffic using up to eight hardware queues (2 strict priority and 6 weighted round robin) on every port – including our Stackable Chassis ports. Classification can be done based on MAC address, IP ToS/DSCP marking, IP source /destination address or subnets, TCP/UDP source/destination port/port range, IEEE 802.1p user priority bits, ingress source port, IP Protocol ID (e.g., TCP, UDP, IGMP).

The ERS 4000 Series supports 802.3ad Link Aggregation Groups as well as its own Multi-Link and Distributed Multi-Link Trunking implementations. Groups of links between the ERS 4000 and another device can be aggregated to enhance bandwidth and resiliency through active redundant links. Additionally, trunked ports can span multiple units of a Stack Chassis enabling fail-safe connectivity to mission-critical servers and the network core.

Cost Summary For PRDE Central Office Avaya Switches

ITEM	DESCRIPTION	Unit Price	QTY	Total Switch Cost
	PRDE Central Office Include:			
1	Avaya ERS 4548GT-PWR 48 Ports Switch	\$ 1,290.00 ea	150	\$ 193,500.00
	Include Warranty Replacement for 3 years			
3	Avaya GE SFP LC connector SX transceiver	\$ 210.00ea	300	\$ 63,000.00
4	Avaya Controller w/10 Access Points	\$ 7,500.00ea	1	\$ 7,500.00
5	Xtreme Rack Mount P90-3000 w/SNMP card	\$ 945.00ea	20	\$ 18,900.00
6	Fiber Optics Patch Cord MM 2m	\$ 34.00ea	300	\$ 10,200.00
7	Installation and Configuration	\$ 150.00ea	150	\$ 22,500.00

NOTE: The pricing offer for the avaya switching equipment is valid only for the total quantity for 14,250 switches.

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3.5 Terminal Servers

PRT proposed solution is based on Babilon Technologies server brand. Babylon Technologies is a company from Puerto Rico dedicated to manufacturing, distribution and servicing of all types of computers for commercial, industrial and government built since 2003. Babylon has distinguished itself by providing quality services, sometimes exceeding the standards of multinational corporations. This is demonstrated by being the first company in the Caribbean to be certified by Microsoft to use Windows Vista operating system and has won the support of companies like Intel to incorporate this technology into their products.

With Babilon Servers, you don't have to choose memory over disk capacity. You get both so you can get results faster. Babilon designed servers to maximize space, power and cost efficiency in data centers where memory and storage density are critical: MapReduce, Web analytics, database and cloud computing.

- **High Memory Density** — Get up to 18 double data rate 3 (DDR3) memory slots in a 2U form factor for a maximum of 144 GB.
- **The Right Mix of Disks** — Choose between two backplane options for ultimate performance or ultimate flexibility with 12x3.5-inch or 24x2.5-inch front-loaded hard-drive slots, as well as two internal 2.5-inch cabled hard drives.
- **Focused Feature Set** — Purpose-built design, optimized to provide only the features you need.

Babilon Servers gives you a purpose-built, cost-efficient solution for managing the volume and frequency of data generated in scale-out environments.

- Choose from high-capacity 3.5-inch or 2.5-inch Serial ATA (SATA), or high-performance serial attached SCSI (SAS) or solid-state drives (SSDs) on the front loaded drives, and 2.5-inch SATA or enterprise-class single-level cell (SLC) on the internal drives for the **optimal storage solution** (up to 25 TB) to support your applications.
- **Drive-configuration options** include 12 hot-plug 3.5-inch front-loaded hard drive slots, plus two internal 2.5-inch hard disk drives (HDDs) for added storage.
- Support for 6 Gb/S SAS gives you the future-ready **scalability and performance** needed in high-performance file operations.

Emil

For the wireless LAN requirement PRT propose a centralized solution based on Cisco Wireless LAN Controllers work in conjunction with Cisco Aironet access points and the Cisco Wireless Control System (WCS) to provide system wide wireless LAN functions. As a component of the Cisco Unified Wireless Network, the Cisco 2100 Series enables administrators to securely manage WLANs and mobility services, such as enhanced security, voice, guest access, and location services.

The Cisco controller will work with The Cisco Aironet 1130AG Access Point Series may also be configured to support Enterprise Wireless Mesh, providing wireless connectivity for indoor areas that are difficult or impossible to wire. Mesh access points do not require wired connections; they use the 2.4-GHz frequency to deliver network access to users in hard-to-reach areas and the 5-GHz band to backhaul traffic to traditional access points connected to Ethernet ports.

The Aironet 1130AG Series is available in:

- A lightweight version
- An autonomous version that can be field-upgraded to lightweight operation
- A single-band 802.11g version for use in regulatory domains that do not allow 802.11a/5 GHz operation

Cost Summary For PRDE Central Office Cisco Switches

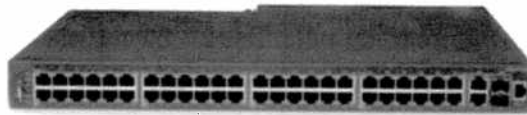
ITEM	DESCRIPTION	Unit Price	QTY	Total Switch Cost
	PRDE Central Office Include:			
1	Cisco C2960S-48LPS-L Switch	\$ 2,645.00 ea	150	\$ 396,750.00
3	Cisco GE SFP LC connector SX transceiver	\$ 210.00ea	300	\$ 63,000.00
4	Cisco 2106 Controller w/10 Aironet Antennas 1131	\$ 7,500.00ea	1	\$ 7,500.00
5	Xtreme Rack Mount P90-3000 w/SNMP card	\$ 945.00ea	20	\$ 18,900.00
6	Fiber Optics Patch Cord MM 2m	\$ 34.00ea	300	\$ 10,200.00
7	Installation and Configuration	\$ 150.00ea	150	\$ 22,500.00

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Avaya Switching For PRDE Central Office Alternative

PRT propose the Avaya ERS 4548GT-PWR with 48 10/100/1000 802.3af PoE Switch to comply with all PRDE bid requirements. The Avaya Ethernet Routing Switch 4500 Series is a Stackable Chassis system providing high-performance, convergence-ready, secure and resilient Ethernet switching connectivity. The Avaya wireless LAN solution is already installed and working at the PRDE Central Office included the District Offices.

The Ethernet Routing Switch 4500 Series provide resilient Stackable Chassis capabilities, high performance Layer 2 switching and Layer 3 routing, advanced convergence features and a full suite of security, QoS and management capabilities.



Highlights Of The Ethernet Routing Switch 4500 Series

- **Always-on** – Best in class end-to-end resiliency solution, hot-swappable unit replacement within a Stack Chassis and integrated power redundancy.
- **Convergence-ready** – Support for PoE, true plug and play capabilities for IP phone deployments, advanced QoS capabilities.
- **Energy efficient** – On average 36% more energy efficient than competitive solutions,* energy saver functionality further reduces power consumption for both switch and IP phone without losing telephony connectivity.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stack Chassis capabilities, delivering up to 400 ports and 384 Gbps of virtual backplane throughput.
- **Secure** – Standards-based 802.1x with integration to Avaya’s Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match best-in-class stacking capabilities; Fast Ethernet and Gigabit Ethernet In the same Stackable Chassis, with or without PoE.

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Babilon Technologies also have an optional solution available called The Education Appliance. The world's first purpose-built education server. All-in-One Education Platform vital school applications integrated in a single solution learning , networking, administration reduced and unified user interface, browser only, Single-sign-on, integrated applications.

Specification for Proposed Schools Terminal Server

1 SERVER FOR CLASSROOM, 75 UNIT DOCKING		
Marca: Babilon Server to support up to 25 simultaneous devices	Motherboard Motherboard Chipset Processor Advanced Technologies Memory Size ECC Memory Hard Disk RAID 1 Storages Chassis Power Supply Slots PCI/PCIE Peripheral Interfaces LAN CD/DVD	Intel DQ67 Intel DQ67 Intel® Q67 Express chipset Intel® Core i7-2600, 3.4Ghz, 8MB Cache Intel VT 8GB DDR3 1333MHz DIMMs Support 2 x 500 GB serial ATA, 7200 RPM 500GB Micro ATX Certified 300 Watt ATX12V power supply or higher 1 PCI, 1 PCIE x 1 PCIE x 16 y PCIE x1 1 DVI and / VGA; 8 USB2.0 1x10/100/1000 NIC (Intel chipset preferred) DVD RW24X

For additional information please refer to **Appendix B**

Cost Summary For Schools Terminal Server

QTY	DESCRIPTION	Class/Type	Unit Cost	Units per School	School QTY	Total Cost
750	Babilon Technologies 2U Chassis Intel X8SIA or equivalent	Multi-Use Server	\$ 1,093.00ea	1 per School	750	\$ 819,750
750	Babilon Technologies	Shipping	\$ 52.00ea	1 per School	750	\$39,000.00
750	Installation and Configuration	SVC	\$ 220.00ea	1 per School	750	\$ 165,000

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4. WARRANTY

All products proposed by PRT/Babilon Technologies includes at least 3 year warranty support directly with the manufacturer.. The horizontal cabling will have 25 Years manufacturer's warranty provided by contractor with the full support of manufacturers. This warranty includes parts and labor and an Application Assurance Warranty. Proper forms and project registration will be provided, filled and submitted at the end of the project.

To minimize warranty service needs, PRT/Babilon Technologies are basing this proposal in a Full Standards Compliance Solution with State of the Art Equipment and Components. To make service more suitable paper forms (also in electronic format) will be provided with detailed explanation in how to make a service call where PRDE could make a service request and a dedicated email address for the PRDE E-Rate Project for Year 3 will be setup for said purposes. Special transfer knowledge training to PRDE personnel (Project Managers and MIS Directors) in charge will be provided to teach them how to use all the proposed Service and Support initiatives.

Further supporting information is presented in the proposal Appendix showing evidence that the parts and products used will support the requested warranty period and specifying the proposed approach to minimize warranty service needs and to make warranty service more responsive.

- Standard warranty terms
- Technical support services
- Sample warranty and maintenance contract

Warranty and service calls for all products will be placed by PRDE directly to the equipment manufacturer as required. PRT will be the single-point of contact for the PRDE for any follow-up action. PRT may, at its discretion, forward some of the warranty and service calls to other specific subcontractors who will comply with PRT's service commitments.

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5. GENERAL TERMS AND CONDITIONS

Government Obligation.

The Government will not be considered to be obligated with regard to any award until a contract is signed.

Registry of Bidders.

The Department reserves the right to exclude from consideration any vendor that is not in the Single Bidder Registry.

Performance Guaranty.

The vendors that are awarded contracts pursuant to this RFP shall be required to submit a performance bond by a surety company authorized to do business in the Commonwealth of Puerto in an amount up to 60% of the maximum total proposal. The performance bond may also be in the form of an irrevocable letter of credit issued by a financial institution authorized to do business in the Commonwealth of Puerto Rico, or a money order or certified check issued. Money orders and certified checks must be issued to the Commonwealth of Puerto Secretary of Treasury.

PRT will comply with these requirements.

Provide a file with the Inventory of all eligible equipment installed per school. The file must include at least the following: Model No. Description and Serial Number

A detailed inventory of all the eligible components installed will be available (According to the Eligible Service list USAC).

All security related information must be supplied to PRDE (example: passwords)

PRT will provide all security related information to the PRDE also agree to not disseminate any information obtained in the performance or delivery of services for the Department to a third party without the prior written consent of the Department

Installation of equipment in new locations should be done without interruption to the current school operations

By pre-establishing programmed installation services provided during weekdays with the proper consent from the PRDE and the school administrators in order to provide uninterrupted services. PRDE will be responsible of providing the proper clearance and access to the schools facilities. PRTC will perform all installations and certifications without the interruptions of current operations at the schools.

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Work Quality Assurance.

The vendor is responsible for the quality of the work and activities of each of its staff and subcontractors, including without limitation, compliance with the terms of the contract and E-Rate requirements. The vendor shall retain and utilize sufficient resources to assure the most effective and efficient performance of services and shall utilize professionals licensed to practice the applicable profession, as required by law or by the contract. The vendor shall use efficient business administration methods and perform the services in the best way and in the most expeditious and economical manner consistent with the best interests of the Department, so as to ensure, among other things, that the services are performed at a reasonable cost to the Department and that the services performed by other entities or persons in connection with the contract are also efficiently and cost-effectively delivered.

PRTC along with its partner has all the needed personnel, properly trained and experienced technicians, to comply with PRDE Bid Document Requirements for Service and Support. All the technicians are fully trained in the essentials of excellence in client service. PRT will commit to providing the daily housekeeping for the working areas and the adjacent areas. Any equipment to be removed will remain in the school for its final disposal.

Force Majeure.

Neither the vendor nor the Department shall be responsible for any failure to perform due to causes beyond either's respective reasonable control (each a "Force Majeure"), including but not limited to, acts of God, riots, embargoes, terrorist acts, acts of civil or military authorities, disruptions in the flow of data to or from networks, denial of or delays in processing of export license applications, accidents, strikes, fuel crises or power outages

PRT agree that Neither the vendor nor the Department shall be responsible for any failure to perform due to causes beyond either's respective reasonable control (each a "Force Majeure"), including but not limited to, acts of God, riots, embargoes, terrorist acts, acts of civil or military authorities, disruptions in the flow of data to or from networks, denial of or delays in processing of export license applications, accidents, strikes, fuel crises or power outages.

No Department Waiver.

No delay or omission, or series of delays or omissions, by the Department to exercise any right under the contract shall be construed as any type of waiver of any right of the Department to declare an Event of Default in the future. The remedies under the terms of the contract are not intended to be exclusive of any other remedies provided, and each and every such remedy shall be cumulative and shall be in addition to any other remedies, existing now or hereafter, at law, in equity or by statute. The parties acknowledge that this right is solely for the benefit of the Department and if the Department permits the vendor or any of its subcontractors to continue to provide services despite one or more Events of Default, the vendor is not relieved of any responsibilities, duties or obligations under the contract.

PRT reserve his rights to submit any remedies o legal resource in accordance with the laws of the Commonwealth of Puerto Rico. The General Court of Justice of the Commonwealth of Puerto Rico shall have exclusive jurisdiction to resolve any dispute or controversy regarding the application or interpretation of any future contract and the PRDE Procurement Procedures for bidding process as establish in the bid document item 3.33 Governing Law.

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Contract Requirement.

Each vendor agrees that if approved as a provider for the services, the vendor will enter into written contract(s) with the Department pertaining thereto prior to the deadline for the PRDE to file its FY2012 E-Rate applications. The contract will contain, among other terms, the general and specific terms and conditions contained in this Section 3 and in Section 4 of this RFP. All general and specific terms and conditions are subject to change by the Department's legal counsel. In the event the Department and any vendor fail to enter into a contract, the vendor's approval for award will be revoked by the Department.

PRT agrees that if approved as a provider for the services, will enter into written contract(s) with the Department of Education. PRT reserve his right to seek legal counsel to review or negotiate any contract terms.

c. Department Remedies.

The occurrence of any Event of Default which vendor fails to cure, or cause to be cured, within thirty (30) calendar days after receipt of written notice given in accordance with the terms of the contract and specifying the Event of Default or which, if such Event of Default cannot be reasonably cured within thirty (30) calendar days after notice, vendor fails to commence, or cause to be commenced, and continue diligent efforts to cure or cause said Event of Default to be cured, in the sole opinion of the Department, the Department may declare the vendor in default, and the vendor written notice of the Department's intent to terminate the contract, effective as of the date specified in the notice. After giving written notice to the vendor, the Department may invoke any or all of the following remedies:

a. Take over and complete the services or any part thereof, either directly or through others. Vendor shall be liable to the Department for any excess costs incurred by the Department. Any amount due the vendor under the contract or any other agreement vendor may have with the Department may be offset against amounts claimed due by the Department in exercising this remedy;

b. Terminate the contract, effective at a time specified by the Department, in whole or in part, as to any or all of the services yet to be performed and/ or if required, select a new vendor and request a SPIN change with the SLD/USAC;

PRT will not agree to be liable to the PRDE for any excess cost incurred by the Department as a result of an arbitrary contract cancelation (without a valid reason establish). All terms are available to further negotiations.

No Other Rights Limited.

Nothing in the foregoing warranties will be construed to limit any other rights or remedies available to the Department under the law and the contract.

Gifts and Gratuities Prohibited.

No gift, gratuity, offer of employment or other item of value was offered or made by the vendor or to the best of vendor's knowledge, by or to any subcontractors, or any of its employees, agents or subcontractors as an inducement for the award of 16 services under the contract. The vendor and each of its subcontractors, is and shall remain in compliance with the FCC's rules governing the conduct of service providers participating in the E-Rate program.

Employment Restrictions.

During the Term of the contract, and during one (1) full year following the termination or expiration of the same, neither of the contracting parties shall hire as an employee or full time contractor or subcontractor, any employee of the other party.

Manufacturer Warranty.

Vendor shall assign to the Department the benefits of any manufacturer warranty of the products and shall cooperate with the Department in securing any and all remedies of such warranty for the benefit of the Department.

PRT will comply with these requirements.

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E-Rate Funding.

It is anticipated that a portion of the compensation authorized under the contract will be funded by the E-Rate program. Vendor shall institute a two-tiered billing system and shall be required to recover up to ninety percent (90%) of its compensation for such eligible E-Rate services directly from the SLD/USAC in accordance with the rules and procedures established by the FCC and the SLD/USAC.

The PRDE shall only be responsible for the Non-Discounted Portion of E-Rate eligible services and the cost of Ineligible E-Rate services, the total of which shall not exceed the PRDE's Total Cost. The PRDE shall have no liability for the payment of certain invoices, costs, charges or fees billed by vendor or its subcontractor(s) as described in this Section. If the SLD/USAC denies funding for all or any portion of the invoices, costs, charges and/or fees of Eligible E-Rate services, the PRDE has the option of discontinuing the receipt of any services for which funding was denied by the SLD/USAC any time following ten (10) days' written notice to the vendor. In the event of suspension or discontinuation of services or termination or expiration of the contract, the PRDE shall only be responsible for the Non-Discounted Portion of E-Rate Eligible services and any expenses incurred which (i) do not exceed the PRDE's Total Cost; (ii) have the prior written approval of the PRDE; and (iii) are for orders placed prior to the date of such suspension or discontinuation of services, termination or expiration of the contract.

PRT will comply with the requirement to receive payment for eligible e-rate services directly from the SLD/USAC in accordance with the rules and procedures established by the FCC and the SLD/USAC.

PRT agree that in the event that the funds are not appropriated or are otherwise unavailable, the PRDE reserves the right to terminate the Contract upon a 60 days written notice to the Contractor (PRT). Upon receipt of the written notice, PRT shall cease all work associated with the Contract. In such event, PRT position is that shall be entitled to compensation for all services performed in accordance with the Contract as of the termination date.

In the event such funds are denied, in whole or in part, due to the PRDE's act, error, or omission, PRT position is that shall be entitled to payment in accordance with applicable law for all services performed in accordance with the Contract as of the termination date.

The PRDE shall have no liability for the payment of invoices, costs, charges or fees billed by vendor or its subcontractor(s) for:

- a. The Discounted Portion of E-Rate Eligible services;*
- b. Costs of E-Rate Eligible services not authorized in writing by the PRDE;*
- c. Costs related to delays by the SLD/USAC in reimbursing vendor for the Discounted Portion of E-Rate Eligible services;*
- d. Costs of services declared ineligible by the SLD/USAC, unless otherwise specifically authorized in writing by the PRDE;*
- e. Costs related to upgrading, maintaining or programming billing systems to meet the PRDE's E-Rate reporting requirements;*
- f. Costs related to reimbursement of legal expenses in order to provide E-Rate services to the PRDE;*
- g. Costs related to the vendor failing to meet certain deadlines as provided in the contract or by the SLD/USAC including, but not limited to, costs relating to (i) missed Service Delivery Deadlines for the installation and delivery of E-Rate Eligible services and (ii) submission of invoices past the allowable E-Rate deadlines as determined by the SLD/USAC;*
- h. Costs for the Discounted Portion of E-Rate Eligible service which were initially paid to vendor by the SLD/USAC, but which were subsequently rescinded by the SLD/USAC under a COMAD. Vendor shall be solely responsible for meeting a COMAD demand payment made by SLD/USAC*

PRT agree that in the event that the funds are not appropriated or are otherwise unavailable, the PRDE reserves the right to terminate the Contract upon a 60 days written notice to the Contractor (PRT). Upon receipt of the written notice, PRT shall cease all work associated with the Contract. In such event, PRT position is that shall be entitled to compensation for all services performed in accordance with the Contract as of the termination date.

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In the event such funds are denied, in whole or in part, due to the PRDE's act, error, or omission, PRT position is that shall be entitled to payment in accordance with applicable law for all services performed in accordance with the Contract as of the termination date.

SLD/USAC Procedure.

The SLD/USAC will specify in the FCDL the approved discount level and the approved funding amount of any services. Once the FCDL has been issued and the service has begun, the PRDE will then submit FCC Form 486 to the SLD/USAC. The SLD/USAC will subsequently issue a Form 486 Receipt Notification Letter to both the PRDE and the vendor. The PRDE will separately notify vendor when to begin to provide the eligible E-Rate service, if the services are not already being provided at the time the FCDL is issued. Form 486 cannot be filed before receipt of the FCDL from the SLD/USAC. The PRDE will notify vendor of its intent to order all or a portion of the services covered by one or more of the approved funding commitments included in the FCDL.

PRT will comply with the requirement.

E-Rate Representations and Warranties by Vendor.

Vendor represents and warrants that it shall provide the SLD/USAC with truthful and accurate information about its invoices promptly upon request by the SLD/USAC. Vendor also represents and warrants that it has carefully identified components of the services that are Eligible E-Rate services. Further, through internal audit and review of the services rendered during the Term of the contract, Vendor represents and warrants that it will ensure that the services being provided through the E-Rate Program are limited to Eligible E-Rate services. Notwithstanding the foregoing, the vendor is solely responsible and liable for compliance with all SLD\USAC procedures and requirements by its sub-contractors, including but not limited to SLD\USAC requirements for submitting Form 474. Vendor is also solely liable for repayment to the SLD\USAC of E-Rate discount funding paid improperly as a result of vendor's failure to follow SLD\USAC procedures and requirements and/or improper billing by the vendor. The PRDE is not liable for any delays in payment by the SLD\USAC to vendor.

PRT will agree to work with PRDE to ensure e-rate procedures and program compliance. As part of this RFP PRDE is asking services for ineligible e-rate locations and services under SLD/USAC like regional PRDE administrative offices among others, because of this fact PRT will not agree to be responsible and liable for the compliance with all SLD\USAC procedures and requirements.

E-Rate Resource.

Vendor must retain the services of an E-Rate consultant or have a designated employee familiar with E-Rate program rules, forms and processes, who will conduct periodic reviews of the vendor's processes and forms and assist the Department with Beneficiary Audits and ensuring the vendor is full compliance with SLD/USAC and FCC requirements.

Puerto Rico Telephone extensive experience with E-RATE funds and USAC procedures provide the assurance to PRDE that funds request and billing procedures will comply with all USAC requirements with our staff of trained people and help the PRDE in all steps of the process where the providers are allowed to help. PRT and our staff had contribute in all e-rate funding receive by PRDE during the past 8 years. No other company in Puerto Rico can offer this benefit to the Department of Education. PRT main resource for e-rate program with the PRDE has been and will be Mr. Arnaldo Diaz.

For additional information on personnel qualifications please refer to **Appendix A.**

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Account Management.

Vendor shall provide an account manager as a single point of contact for all issues and reporting under the contract. Vendor shall also provide reporting tools related to the PRDE's purchasing of services from the vendor.

<u>Contact Information:</u>	
Account Executive:	Arnaldo Diaz
Email Address	adiaz@claropr.com
Telephone Number	(787) 273-4503
Fax Number	(787) 792-8466
Technical Support:	Carlos M. Torres
Email Address	Ctorre10@claropr.com
Telephone Number	(787) 273-4841
Sales Manager:	Lydia Toledo
Email Address	ltoledo@claropr.com
Telephone Number	(787) 273-4696

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Key Personnel and Subcontractors.

Any key personnel of the vendor or any of its subcontractors assigned to provide services to the Department and who are listed in the contract ("Key Personnel") will continue to provide services to the Department for the Term of the contract, unless the Department requests that the Key Personnel be removed or if the Key Personnel resigns or is dismissed, or upon loss/removal of a Key Personnel due to illness, disability or death. Vendor shall notify the Department promptly after any Key Personnel resigns or is dismissed, or upon loss or removal of any Key Personnel due to illness, disability or death. Before the assignment of any Key Personnel or the replacement of any Key Personnel, vendor will provide the Department, upon the Department's written request, with the resume of the prospective Key Personnel, an opportunity to interview such individual or individuals, and will obtain the written consent of the Department's authorized representative to the assignment of such individual as a Key Personnel.

Key Personnel assigned to perform vendor's obligations under the contract shall have experience, training, and expertise equal to personnel with similar responsibilities in the business in which vendor is engaged and shall have sufficient knowledge of the Department's practices and areas of expertise, to enable them to perform their duties and responsibilities under the contract. If the Department requests that vendor remove any Key Personnel

As part of the offer PRT will assign one project manager with a project coordinator. The project manager will be responsible to PRDE for the coordination and completion of all tasks on this proposal. PRT will comply with all requirements of the bid document.

PRT project management methodology will be as follows:

- Kickoff
- Planification
- Execution
- Control and Observation
- Closing or Termination

As part of this proposal the project manager will coordinate the successful implementation of this project. Part of the PM responsibilities include:

- Identifying the Customer personnel who will become part of the project team.
- Reviewing the project tasks and assign responsibility
- Developing and maintaining an updated Project Plan; reviewing the project tasks and assigning responsibilities.
- Establishing controls to maintain the quality of project deliverables as established and minimizing variances in the project plan through change control.
- Organizing Customer meetings.
- Monitoring the project's progress according to the project plan; provide status reports

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The PRT project team will include the Avaya manufacturer representative. This is possible because the PRT strong relationship with Avaya, this will assure PRDE that all standards and product installation guidelines are followed. All the personal involve are highly experience and certified to install and maintain Avaya solutions. PRT project manager will assure that:

- That the design documentation are complete
- Progress reports are discussed with PRDE
- Technical reassures administration
- Coordination of installation tasks

PRT key personnel assign to PRDE network and account management are:

Account Management	Mr. Arnaldo Diaz <i>Sales Account Executive</i> <i>E-mail : adiaz@claropr.com</i>
Technical Support	Mr. Carlos Torres <i>Data Integrator Officer</i> <i>E-mail : ctorre10@claropr.com</i>
Project Management	Mr. Alexis Hernandez <i>Manager Project Management Office</i> <i>E-mail : alexis.hernandez@claropr.com</i>
Network Operations	Mr. Carlos Escobar <i>Corporative Operation Services Director</i> <i>E-mail : carlos.escobar@claropr.com</i>

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6. COST TABLE

6.1 Schools Cabling

Cost Table For Schools Cabling

ITEM	DESCRIPTION	Unit Price	Concentrator Box QTY	Total Per School
1	School Size – Small 8-10 Drops Include:	\$2,500.00	2 per school	\$ 5,000.00 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
1	School Size – Medium 11-14 Drops Include:	\$ 3,150.00	5 per school	\$ 15,750.00 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
1	School Size – Large 15-20 Drops Include:	\$ 4,450.00	20 per school	\$ 89,000 per school
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
1	Cooper Backbone Up to 295ft	\$ 175.00		
1	Fiber Optic Cable Backbone	\$ 2.30 ft		
1	Fiber Optic Trays Fro Fiber Optic Cable Backbone	\$ 173.00		
8	Telecommunications Open Rack 7ft x 19	\$ 225.00ea		
9	Fiber Trays SC Adapter For Open Rack 7ft x 19 (optional)	\$ 205.00ea		
10	Two(2) Vertical Front Management 4x5 (optional)	\$ 405.00ea		
11	TGB Ground Bar 5/8 Rod cable #6 awg (optional)	\$ 335.00ea		

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Summary For Schools Cabling

ITEM	DESCRIPTION	Unit Price	School QTY	Total Cost
1	School Size – Small 8-10 Drops Include:	\$5,000.00	250 schools	\$ 1,250,000
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
2	School Size – Medium 11-14 Drops Include:	\$ 15,750.00	750 schools	\$ 11,812,500
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
3	School Size – Large 15-20 Drops Include:	\$ 89,000.00	500 schools	\$ 44,500,000
	One(1) Wall Cabinet, Jacks, Patch Panel, CMR Cable			
	Patch Cords, Raceways (LD#), Surface Box			
4	Plus Any BackBone Connections			Backbone Additional Cost
	Cooper Backbone Up to 295ft	\$ 175.00		
	Fiber Optic Cable Backbone	\$ 2.30 ft		
5	Telecommunications Open Rack 7ft x 19	\$ 225.00ea		
6	Fiber Trays SC Adapter For Open Rack 7ft x 19 (optional)	\$ 205.00ea		
7	Two(2) Vertical Front Management 4x5 (optional)	\$ 405.00ea		
8	TGB Ground Bar 5/8 Rod cable #6 awg (optional)	\$ 335.00ea		

Cont

6.2 Schools Data Switching

Cisco Switching Alternative

Cost Summary For Cisco Schools Switches Alternative

ITEM	DESCRIPTION	Unit Price	Switch Per School	School QTY	Total Switch Cost
1	School Size – Small Include:	\$1,207.00 ea	2	250 schools	\$ 603,500
	Cisco® SGE2010P 48-Port Gigabit Switch				
2	School Size – Medium Include:	\$1,207.00 ea	5	750 schools	\$ 64,526.250
	Cisco® SGE2010P 48-Port Gigabit Switch				
3	School Size – Large Include:	\$1,207.00 ea	20	500 schools	\$ 12,070,000
	Cisco® SGE2010P 48-Port Gigabit Switch				
4	Switch Configuration & Installation	\$ 90.00ea	14,250		\$1,282,500

Avaya Switching Alternative

Cost Summary For Avaya Schools Switches Alternative

ITEM	DESCRIPTION	Unit Price	Switch Per School	School QTY	Total Switch Cost
1	School Size – Small Include:	\$1,290.00 ea	2	250 schools	\$ 645,000
	Avaya ERS 4548GT-PWR 48 Port Gigabit Switch				
2	School Size – Medium Include:	\$1,290.00 ea	5	750 schools	\$ 4,837,500
	Avaya ERS 4548GT-PWR 48 Port Gigabit Switch				
3	School Size – Large Include:	\$1,290.00 ea	20	500 schools	\$ 12,900,000
	Avaya ERS 4548GT-PWR 48-Port Gigabit Switch				
4	Switch Configuration & Installation	\$ 90.00ea	14,250		\$1,282,500

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6.3 Schools UPS Battery Backup

Cost Summary For UPS UPS 3000va

Description	Unit Cost	Total Cost (14,250 units)
TrippLite SMART3000RMXL2U w/SNMP card	\$833.00ea	\$11,870,250
On-Site Installation Cost	\$50.00ea	\$ 712,500

6.4 PRDE Central Office Data Switching

Cisco Switching Alternative

Cost Summary For PRDE Central Office Cisco Switches Alternative

ITEM	DESCRIPTION	Unit Price	QTY	Total Switch Cost
	PRDE Central Office Include:			
1	Cisco C2960S-48LPS-L Switch	\$ 2,645.00 ea	150	\$ 396,750.00
3	Cisco GE SFP LC connector SX transceiver	\$ 210.00ea	300	\$ 63,000.00
4	Cisco 2106 Controller w/10 Aironet Antennas 1131	\$ 7,500.00ea	1	\$ 7,500.00
5	Xtreme Rack Mount P90-3000 w/SNMP card	\$ 945.00ea	20	\$ 18,900.00
6	Fiber Optics Patch Cord MM 2m	\$ 34.00ea	300	\$ 10,200.00
7	Installation and Configuration	\$ 150.00ea	150	\$ 22,500.00

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Avaya Switching Alternative

Cost Summary For PRDE Central Office Avaya Switches Alternative

ITEM	DESCRIPTION	Unit Price	QTY	Total Switch Cost
	PRDE Central Office Include:			
1	Avaya ERS 4548GT-PWR 48 Ports Switch Include Warranty Replacement for 3 years	\$ 1,290.00 ea	150	\$ 193,500.00
3	Avaya GE SFP LC connector SX transceiver	\$ 210.00ea	300	\$ 63,000.00
4	Avaya Controller w/10 Access Points	\$ 7,500.00ea	1	\$ 7,500.00
5	Xtreme Rack Mount P90-3000 w/SNMP card	\$ 945.00ea	20	\$ 18,900.00
6	Fiber Optics Patch Cord MM 2m	\$ 34.00ea	300	\$ 10,200.00
7	Installation and Configuration	\$ 150.00ea	150	\$ 22,500.00

6.5 Schools Terminal Servers

Cost Summary For Schools Terminal Server

QTY	DESCRIPTION	Class/Type	Unit Cost	Units per School	School QTY	Total Cost
750	Babilon Technologies 2U Chassis Intel X8SIA or equivalent	Multi-Use Server	\$ 1,093.00ea	1 per School	750	\$ 819,750
750	Babilon Technologies	Shipping	\$ 52.00ea	1 per School	750	\$39,000.00
750	Installation and Configuration	SVC	\$ 220.00ea	1 per School	750	\$ 165,000

Done

7. CONCLUSIONS

This proposal has presented a cost-competitive, flexible, leading-edge technology Internet bundle solution that meets the current and projected future needs of the PRDE, as set forth in the bid request document. Furthermore, the proposal presents an approach based on the economic realities of introducing change into education, the government's plans, and best practices in other educational jurisdictions. PRT is looking forward to being awarded this bid as it will enable the company to exercise its commitment of "building the foundation of the new Puerto Rico".

E. O. M. P.