Comcast Business Communications, LLC a Delaware limited liability company, on behalf of itself and its applicable operating affiliates and subsidiaries offering services throughout this Network Service Proposal identified as "Comcast".

## **NETWORK SERVICE PROPOSAL**

Township of Union Public Schools Request for Proposal

Data Services November 14th, 2013 Dan Zino
Strategic Enterprise Account Executive
50 Randolph Road
Somerset, NJ 08873
908-258-8249
dan\_zino@cable.comcast.com



### Transmittal Letter

November 14th, 2013

Ms. Donna Restivo Township of Union Public Schools 2369 Morris Ave Avenue Union, NJ 7083

Dear Ms. Restivo,

Comcast looks forward to a mutually rewarding business relationship with Township of Union Public Schools and its representatives. Comcast Business Communications, LLC ("Comcast") is pleased to provide this proposal (the "proposal") to Township of Union Public Schools ("Township of Union Public Schools") for managed network services in response to the request for proposal; form 470 application number 628170001157611 dated October 30th, 2013 with an allowable contract date of November 27th, 2013 for Township of Union Public Schools.

Township of Union Public Schools is responsible for compliance with applicable state and local procurement laws. It is our understanding that Township of Union Public Schools, based on this request for proposal, is not seeking services pursuant to the State Procurement code or under a current cooperative purchasing agreement between Comcast and the State under which Township of Union Public Schools is a qualified buyer.

As you proceed in the selection process, please feel free to contact your Strategic Enterprise Account Executive, Dan Zino, at 908-258-8249, with any questions, comments, or concerns.

The Network Service Agreement included in the Appendix represents the sole terms and conditions upon which the above mentioned services are being offered except to the extent prohibited by State and local procurement law. No statement made in the proposal shall be considered a contractual term unless expressly included in the aforementioned Network Service Agreement or as agreed upon by the parties as a result of contract negotiations. Comcast, as part of the post bid submission process, would be amenable to negotiating limited modifications to the Network Services Agreement appended to the attached proposal, to address additional items (if any) that your organization feels are critical to its consideration and use of the Comcast solution.

Sincerely,

**Comcast Business Communications, LLC** 

Terrence J. Connell

Senior Vice President

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### **Executive Summary**

In the ever-changing world of communications, Comcast redefines how high bandwidth products and services are delivered. Comcast brings unsurpassed scalability, reliability, resiliency, and leading edge solutions directly to your organization. Comcast can meet your organization's communications needs quickly, efficiently, and professionally with business-class service and support. Comcast is well positioned to offer long-term value to support future technology strategies. Our integrated Internet and data products are delivered over an extensive and deep enhanced fiber optic network that is physically diverse from the phone companies.

Comcast proposes, specifically, to provide a managed and scalable Wide Area Network and scalable Internet Access that will seamlessly link each individual site listed in the RFP. Your organization will be able to exchange data at speeds up to 1,000 Mbps from each site.

Comcast feels this proposal offers a flexible solution that is capable of meeting current and future demands. Other Comcast advantages include:

### Performance

 Major performance improvements and cost reductions over legacy WAN technologies like T1, Frame Relay, ATM, and private lines

### Resilient, robust enhanced fiber network for ongoing operations and business continuity.

- · High network availability, minimal latency and low packet loss
- Self-healing, redundant core network architecture
- A network covering 141,000 fiber route miles

### Highly reliable and scalable Ethernet data and Internet services tailored to meet your needs.

- Manageable services that grow with your business
- Bandwidth in flexible increments from 1Mbps to 10Gbps

### **Our Comcast Business Promise**

- Dedicated Project Managers
- Proactive Monitoring to the Customer Premise
- Service Level Agreement
- 24x7 Dedicated Enterprise Support

Comcast is pleased to submit this proposal for state-of-the-art, efficient and affordable high-bandwidth digital communications services and looks forward to developing a solid business relationship with you and to assisting your organization in addressing its communication needs. Comcast is confident that the solutions presented in this proposal will provide a cost-effective solution that supports business objectives and quality requirements and will enhance your overall communication services portfolio.

This proposal is valid for 60 days.

### **Solution Overview**

Comcast is uniquely positioned to offer long-term value to support current and future technology requirements. Based on the requirements specified Comcast would specifically propose provisioning the following as a solution.

### Comcast Ethernet Network Service

- Metro Ethernet Forum (MEF) compliant
- > Multi-point UNIs for Any-to-any connections
- Supports a single EVC per UNI
- Three Classes of Service (CoS) Basic, Priority, and Premium
- VLAN Transparency

### Comcast Ethernet Dedicated Internet Service

- Metro Ethernet Forum (MEF) compliant Ethernet Private Line (EPL) from the CPE to Comcast Internet POP
- > Dedicated symmetrical Internet access
- Multiple IP address Allocation
- Domain Name Services
- Optional Border Gateway Protocol (BGP4) Routing

### **Additional Services Offered**

### Comcast Business Trunks

- Switched Voice Trunk Service
- > ISDN / PRI Connectivity From Customer PBX
- > QoS; Traffic Prioritization and Bandwidth Allocation

### Comcast Business VoiceEdge

- Unlimited inbound, local and long distance calling
- > Web Portal for features management
- > 3-way calling, call waiting, call transfer
- > Local number porting
- > Telephony Toolbar

The proposed solution was designed to enable demanding IP based applications. The network easily meets the infrastructure demands

### Comcast Business ETHERNET

### RELIABLE, RESILIENT DESIGN

High network availability, minimal latency and low packet loss

### **FULLY SCALABLE SOLUTIONS**

Symmetrical dedicated bandwidth configurable from 1Mbps to 10Gbps

### **BROAD & DIVERSE NETWORK**

Your information travels across our own enhanced fiber network with 141,000+ national route miles of fiber

## REDUNDANT CORE ARCHITECTURE

Rapid recovery time from network incidences

### OUR COMCAST BUSINESS PROMISE

Dedicated project managers, proactive monitoring to the customer premise, service level Agreement, and 24x7 Dedicated Enterprise Support

### TOP APPLICATIONS

- Remote LAN connectivity
- High-Speed Internet access
- Server consolidation
- Data storage, backup and recovery
- Transport for VolP



Metro Ethernet Forum metroethernetforum.org

of bandwidth-intensive applications and limits the need to purchase or configure additional WAN technology. This service has very high availability so that interruptions are minimized.

This is a scalable and flexible service. With Comcast, your organization gets true any-to-any connectivity which allows traffic to move from any site to any other site within the network through a single Ethernet interface.

You will also have the ability to have a network solution that meets today's requirements but is capable of scaling to other locations or to meet future bandwidth demands. If, or when, you need additional network capacity, an upgrade agreement would be negotiated with Comcast and the billing terms would be specified in that agreement.

Finally, Comcast will supply dedicated access to the Internet using Comcast's Ethernet Dedicated Internet Service (EDI). EDI is a symmetrical, dedicated Internet access service provisioned on an Ethernet platform that is easy and fast to upgrade. Comcast will provision Internet connectivity for the sites to jointly access the Internet. Your organization will have the ability to scale that connection in 1 Mbps increments up to 10 Mbps or 10 Mbps increments up to 100 Mbps or 100 Mbps increments up to 10 Gbps depending on configuration.

Comcast service can easily scale to accommodate new bandwidth requirements. Comcast has uniquely diverse routing, commonly physically disparate from most other Telco provider's networks. Bandwidth can be added very quickly, often within hours.

With Comcast, your organization will leverage our extensive fiber network for a reliable and scalable network and connection to the Tier 1 Internet backbone using a simple Ethernet interface that allows for true plug and play compatibility. Additionally, with Comcast there are no local loop charges, typical with other service providers.

### Summary

At each of the locations specified in this response, Comcast will install network edge equipment that will facilitate the connection between your network and ours. As part of the service, Comcast will provide, monitor and maintain the edge devices. Comcast also provides web-based monitoring and reporting tools available 24x7 upon request.

With Comcast you will receive a trusted data transport solution from the largest broadband provider offering unparalleled flexibility in configurations and pricing. Combine our years of commercial experience with leading edge innovative technology and service capabilities and differentiation among networking service providers becomes much clearer.

### **Ethernet Network Service Description**

### **Technical Specifications**

Service Description

Comcast Ethernet Network Service (ENS) enables customers to connect physically distributed locations across a Metropolitan Area Network (MAN) as if they are on the same Local Area Network (LAN). The service provides



VLAN transparency enabling customers to implement their own VLANs without any coordination with Comcast. ENS is a reliable, more flexible, scalable, and cost-effective alternative to traditional hub and spoke network topologies using Frame Relay, TDM private lines or IP VPNs.

ENS offers three Classes of Service (CoS): Basic, Priority, and Premium. CoS options enable customers to select the CoS that best meets their applications' performance requirements. The service is offered with 10Mbps, 100Mbps, 1Gbps or 10Gbps Ethernet User-to-Network Interfaces (UNI) and is available in increments from 1Mbps to 10Gbps. The ENS Service is not available over the Comcast Hybrid Fiber Coax (HFC) Network.

Comcast's Ethernet Network Service is Certified MEF Compliant,

### Section 1. Technical Specifications

1.1 Ethernet User-to-Network Interface. The service provides bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface. Figure 1 lists the available UNI physical interfaces, their associated Committed Information Rate (CIR) bandwidth increments and the Committed Burst Sizes (CBS). CIR increments of less than 10Mbps are not available with Off-Net Services.

LIM Speed	UNI Physical Interface	CR increments	
10Mbps	10BaseT	1Mbps	25,000
100Mbps	100BaseT	10Mbps	250,000
1Gbps	1000BaseT or	100Mbps	2,500,000
, cupo	1000BaseSX	1000Mbps	25,000,000
10Gbps	10GBASE-SR or 10GBASE-LR		

Figure 1: Available UNI interface types and CBS values for different CIR Increments

- 1.2 Maximum number of UNIs. The service supports up to 100 UNIs per network. Additional UNIs are considered on an Individual Case Basis (ICB).
- 1.3 Class of Service Options. The service offers three CoS options. The CoS options allow for differentiated service performance levels for different types of network traffic. It is used to prioritize customer mission-critical traffic from lesser priority traffic in the network. The customer must specify a CIR for each CoS to indicate how much bandwidth should be assigned to it. Figure 2 lists the service performance objectives associated with On-Net (for distances within 250 miles) and Off-Net Services. Only Basic CoS is permissible for Off-Net Services.

	Clas	s of Service ((	loS1
Performance Objective	Premium	Prigrity	Basic
On-Net Services (≤ 250 miles)			
Latency (one way)	< 12ms	< 23ms	< 45ms
Jitter (one way)	< 2ms	< 23ms	< 45ms
Packet Loss (one way)	< 0.001%	< 0.01%	< 1%
Availability (On-Net Services delivered via Fiber)	> 99.99%	> 99.99%	> 99.99%
Off-Rei Services			
Avaliability	Not Applicable	Not Applicable	> 99.95%

Figure 2: CoS Performance Objectives

1.4 CoS Identification and Marking. The customer must mark all packets using 802.1p CoS values as specified in Figure 3 to ensure the service will provide the intended CoS performance objectives specified in Figure 2. Locations delivered via Off-Net Services will not honor any CoS value other than Basic. All other values will be treated as Basic.

Cos Called Cost Cost Cost Cost Cost Cost Cost Cost	892.10
Premium	5
Priority	2-3
Basic	0-1

Figure 3: CoS Marking

- 1.5 Traffic Management. Comcast's network traffic-policing policies restrict traffic flows to the subscribed CIR for each service class. If the customer-transmitted bandwidth rate for any CoS exceeds the subscription rate (CIR) and burst size (CBS), Comcast will discard this traffic. For packets marked with a non-conformant CoS marking, the service will transmit them using the Basic service class without altering the customer's CoS markings.
- 1.6 MAC Addresses. Comcast supports up to 250 MAC addresses per UNI and up to 2500 MAC addresses per ENS Domain.
- 1.7 Maximum Frame Size. The service supports a Maximum Transmission Unit (MTU) packet size of 1600 bytes to support untagged or 802.10 tagged packet sizes. Jumbo Frame sizes can be supported on an individual Case Basis (ICB).
- 1.8 VLAN Tag Preservation. The service supports IEEE 802.10 VLAN-tagged customer packets. All customer VLAN IDs and priority code points (IEEE 802.1p) for CoS are transmitted and received unaltered by the service. Untagged packets are mapped to the native VLAN specified by customer. Customers may configure their own VLANs on their customer owned Customer Premise Equipment (CPE) without coordination with Comcast. Comcast may reserve one VLAN for network management purposes.
- 1.9 Ethernet Service Frame Disposition. Different types of Ethernet frames are processed differently by the service. Frames may pass unconditionally through the network or may be limited as in the case of broadcast, unknown unicast and multicast frames to ensure acceptable service performance. Refer to Figure 4 for Comcast's service frame disposition for each service frame type.

Service Frame Type	Service Frame Delivery
Unicast	All frames delivered unconditionally
Mutticast	Frames delivered conditionally
Broadcast	Frames delivered conditionally

Figure 4: Service Frame Delivery Disposition

1.10 Layer 2 Control Protocol (L2CP) Processing. The service will discard, turnel across the Comcast network, or peer (process) L2CP service frames at each UNI. Refer to Figure 5 for Comcast's L2CP disposition. For L2CPs with multiple disposition possibilities, the customer must specify to Comcast which disposition should be taken. The default disposition is to discard these L2CP service frames.

Destination MAC Address		12CP Frame Disposition
01-80-C2-00-00-00	STP, RSTP, MSTP	Tunnel (All UNIs)
01-80-C2-00-00-01	PAUSE	Discard (Ali UNIs)
01-80-C2-00-00-02	LACP, LAMP	Peer or Discard (disposition specified per UNI)
01-80-C2-00-00-02	Link OAM	Peer or Discard (disposition specified per UNI)
01-80-C2-00-00-03	802.1X	Discard (All UNIs)
01-80-C2-00-00-07	,E-LMI	Discard (All UNIs)
01-80-C2-00-00-0E	LLDP	Discard (All UNIs)
01-80-C2-00-00-20 through 01-80-C2-00-00-2F	GARP, MRP	Tunnel (All UNIs)

Figure 5: L2CP Frame Disposition

1.11 Online Reporting. Comcast provides the customer with password-protected access to online reports containing historical network traffic information. Reports may vary based on the customer solution.

### Section 2. Monitoring, Technical Support and Maintenance

- 2.1 Network Monitoring. Comcast monitors all Comcast Services purchased by a customer on a 24x7x365 basis.
- 2.2 Technical Support. Comcast provides customers a toll-free trouble reporting telephone number to the customer Enterprise Technical Support (ETS) that operates on a 24x7x365 basis. Comcast provides technical support for service-related inquiries. Technical support will not offer consulting or advice on issues relating to CPE not provided by Comcast.
- 2.3 Escalation. Reported troubles are escalated within the Comcast ETS to meet the standard restoration interval described in the Service Level Objectives. Troubles are escalated within the Comcast ETS as follows: Supervisor at the end of the standard interval plus one hour; to the Manager at the end of the standard interval plus two hours, and to the Director at the end of the standard interval plus four hours.
- 2.4 Maintenance. Comcast's standard maintenance window is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the customer. Comcast provides a minimum of forty-eight (48) hour notice for non-service impacting scheduled maintenance. Comcast provides a minimum of seven (7) days notice for service impacting planned maintenance. Emergency maintenance is performed as needed.

### Section 3. Service Level Objectives

Comcast provides Service Level Objectives for the service, including network availability, mean time to respond, and mean time to restore. The service objectives are measured monthly from the Comcast point of demarcation.

- 3.1 Availability. Availability is a measurement of the percentage of total time that the service is operational when measured over a 30 day period. Service is considered "inoperative" when either of the following occurs: (i) there is a total loss of signal for the service, (ii) output signal presented to the customer by Comcast does not conform to the technical specifications in Section 1.
- 3.2 Mean Time to Respond. Mean Time to Respond is the average time required for the ETS to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes upon receipt of a fault notification or from the time a trouble ticket is opened with the ETS.

3.3 Mean Time to Restore. Mean Time to Restore is the average time required to restore service to an operational condition as defined by the technical specifications in Section 1 of this document. The Mean Time to Restore objective is four (4) hours for electronic equipment failure or six (6) hours for fiber optic facilities failure from the time a trouble ticket is opened with the ETS.

### Section 4. Customer Responsibilities

Comcast provides CPE for provisioning its services and the delivery of the UNI. Comcast will retain ownership and management responsibility for this CPE. As a result, the CPE must only be used for delivering Comcast services. Customers are required to shape their egress traffic to the contracted CIR.

Customers have the following responsibilities related to the installation, support, and maintenance of the Service.

- 4.1 Provide an operating environment with temperatures not below fifty-five (55) or above eighty-five (85) degrees Fahrenheit. Humidity shall not exceed ninety (90) percent at eighty-five (85) degrees Fahrenheit.
- 4.2 Provide secure space sufficient for access to one (f) standard, freestanding, equipment cabinet at each of the customer facilities, no further than fifty feet from the customer router or switch interface.
- 4.3 Provide outside cable entry conduit(s), entry cable ground point, and internal building conduit to allow Comcast the ability to rod/rope a fiber optic cable to the point of demarcation.
- 4.4 Locate and mark all private underground utilities (Water, Electric, etc.) along path of new underground placement not covered by utility companies.
- 4.5 Provide a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.
- 4.6 Obtain 'right-of-way' entry easement for Comcast facilities and equipment from property owners at each customer location.
- 4.7 The customer is responsible for coring of the building's outside wall and internal walls. Upon request, Comcast can perform this activity on an 'as needed' basis for an additional one-time fee.
- 4.8 Provide UPS AC power equipment, circuit sizing to be determined, if applicable.
- 4.9 Emergency local generator backup service, if applicable.
- 4.10 Provide access to the buildings and point of demarcation at each customer location to allow Comcast and its approved Contractors to install fiber for service installation. Provide access to each location for regular (8am 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- 4.11 Provide, Install and maintain a device that is capable of routing network traffic between the Service and the customer's Local Area Network (LAN),
- 4.12 Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities.

### Section 5. Definitions

- 5.1 Latency, Latency, also known as Frame Delay, is defined as the maximum delay measured for a portion of successfully delivered service frames over a time interval.
- 5.2 Jitter. Jitter, also known as Frame Delay Variation, is defined as the short-term variations measured for a portion of successfully delivered service frames over a time interval.
- 5.3 Packet Loss. Packet Loss, also known as Frame Loss, is the difference between the number of service frames transmitted at the ingress UNI and the total number of service frames received at the egress UNI.

### **Ethernet Dedicated Internet Description**

### Service Description

Comcast's Ethernet Dedicated Internet (EDI) Service provides a reliable, simpler, more flexible, and higher bandwidth options than T1 or SONET-based dedicated internet access services. The service is offered with a



10Mbps, 100Mbps, 1Gbps or 10Gbps Ethernet User-to-Network Interface (UNI) in speed increments from 1Mbps to 10Gbps subject to available capacity. The service provides an Ethernet Virtual Connection (EVC) from the customer premises location to a Comcast internet Point of Presence (POP) router.

### Section 1. Technical Specifications

1.1 Ethernet User-to-Network Interface. The service provides bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface. Figure 1 lists the available UNI physical interfaces, their associated Committed Information Rate (CIR) bandwidth Increments and the Committed Burst Sizes (CBS).

UNI Speed	UNI Physical Interface	CIR intrements	SIS (bytes)
10Mbps	10BaseT	1 Mbps	25,000
100Mbps	100BaseT	10Mbps	250,000
1Gbps	1000BaseT or	100Mbps	2,500,000
. cope	1000BaseSX	1000Mbps	25,000,000
10Gbps	10GBASE-SR or 10GBASE-LR		<u> </u>

Figure 1: Available UNI interface types and CBS values for different CIR increments

- 1.2 Traffic Management. Comcast's network traffic-policing policies restrict traffic flows to the subscribed, Committed Information Rate (CIR). If the customer-transmitted bandwidth rate exceeds the subscription rate (CIR) and burst size (CBS), Comcast will discard the non-conformant packets. The customer's router must shape their traffic to their contracted CIR.
- 1.3 Maximum Frame Size. The service supports a maximum transmission unit (MTU) frame size of 1518 bytes including Layer 2 Ethernet header and FCS.
- 1.4 Layer 2 Control Protocol (L2CP) Processing. All L2CP frames are discarded at the UNI.
- 1.5 IP Address Allocation. IP address space is an essential requirement for all Internet access services. Comcast assigns eight (8) routable IPv4 addresses to each customer circuit. Customers can obtain additional IPv4 addresses if required. Customers may also request a /48 of IPv6 addresses if they would like to enable a native dual stack solution.
- 1.6 Domain Name Service. Comcast provides primary and secondary Domain Name Service (DNS). DNS is the basic network service that translates host and domain names into corresponding IP addresses, and vice-versa.
- 1.7 Border Gateway Protocol (BGP) Routing. Comcast supports BGP-4 routing as an optional service feature. BGP-4 allows customers to efficiently multi-home across multiple ISP networks. The service requires an Autonomous System Number (ASN) be assigned to a customer by the American Registry for Internet Numbers (ARIN). Customers should also be proficient in BGP routing protocol to provision and maintain the service on their router. Section 5 "Comcast BGP Policy" provides further details. Comcast supports private peering if the customer is multi-homed to Comcast's network only.

Section 2. Monitoring, Technical Support and Maintenance

- 2.1 Network Monitoring. Comcast monitors all Comcast Services purchased by a customer on a 24x7x365 basis.
- 2.2 Technical Support. Comcast provides customers a toll-free trouble reporting telephone number to the customer Enterprise Technical Support (ETS) that operates on a 24x7x365 basis. Comcast provides technical support for service-related inquiries. Technical support will not offer consulting or advice on issues relating Customer Premise Equipment (CPE) not provided by Comcast.
- 2.3 Escalation. Reported troubles are escalated within the Comcast ETS to meet the standard restoration interval described in the Service Level Objectives. Troubles are escalated within the ETS as follows: Supervisor at the end of the standard interval plus one (1) hour; to the Manager at the end of the standard interval plus two (2) hours, and to the Director at the end of the standard interval plus four (4) hours.
- 2.4 Maintenance. Comcast's standard maintenance window is Sunday to Saturday from 12:00am to 6:00am tocal time. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and customer. Comcast provides a minimum of forty-eight (48) hour notice for non-service impacting scheduled maintenance. Comcast provides a minimum of seven (7) days notice for service impacting planned maintenance. Emergency maintenance is performed as needed.

#### Section 3. Service Level Objectives

Comcast provides Service Level Objectives for the service, including network availability, mean time to respond, and mean time to restore. The service objectives are measured monthly from the Comcast point of demarcation.

3.1 Availability. Availability is a measurement of the percentage of total filme that the service is operational when measured over a 30 day period. Service is considered "inoperative" when either of the following occurs: (i) there is a total loss of signal for the service, (ii) output signal presented to the customer by Comcast does not conform to the technical specifications in Section 1. Figure 2 lists the availability objectives for each access Ethernet access type.

On-Net Services (≤ 250 miles)	
Availability (On-Net Services delivered via Fiber)	> 99.99%
Availability (On-Net Services delivered via HFC Network)	> 99.9%
Off-Net Services	
Availability (Off-Net)	> 99.95%

Figure 2: Availability

- 3.2 Mean Time to Respond. Mean Time to Respond is the average time required for the ETS to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes upon receipt of a fault notification or from the time a trouble ticket is opened with the ETS.
- 3.3 Mean Time to Restore. Mean Time to Restore is the average time required to restore service to an operational condition as defined by the technical specifications in Section 1 of this document. The Mean Time to Restore objective is four (4) hours for electronic equipment failure or six (6) hours for fiber optic facilities failure from the time a trouble ticket is opened with the ETS.

### Section 4. Customer Responsibilities

Comcast provides CPE for provisioning its services and the delivery of the UNI. Comcast will retain ownership and management responsibility for this CPE. As a result, the CPE must only be used for delivering Comcast services. Customers are required to shape their egress traffic to the contracted CIR.

Customers have the following responsibilities related to the installation, support, and maintenance of the Service.

- 4.1 Provide an operating environment with temperatures not below fifty-five (55) or above eighty-five (85) degrees Fahrenheit. Humidity shall not exceed ninety (90) percent at eighty-five (85) degrees Fahrenheit.
- 4.2 Provide secure space sufficient for access to one (1) standard, freestanding, equipment cabinet at each of the customer facilities, no further than fifty feet from the customer router or switch interface.
- 4.3 Provide outside cable entry conduit(s), entry cable ground point, and internal building conduit to allow Comcast the ability to rod/rope a fiber optic cable to the point of demarcation.
- 4.4 Locate and mark all private underground utilities (Water, Electric, etc.) along path of new underground placement not covered by utility companies.
- 4.5 Provide a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.
- 4.6 Obtain 'right-of-way' entry easement for Comcast facilities and equipment from property owners at each customer location.
- 4.7 The customer is responsible for coring of the building's outside wall and internal walls. Upon request, Comcast can perform this activity on an 'as needed' basis for an additional one-time fee.
- 4.8 Provide UPS AC power equipment, circuit sizing to be determined, if applicable.
- 4.9 Emergency local generator backup service, if applicable.
- 4.10 Provide access to the buildings and point of demarcation at each customer location to allow Comcast and its approved Contractors to install fiber for service installation. Provide access to each location for regular (8am 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.
- 4.11 Provide, install and maintain a device that is capable of routing network traffic between the Service and the customer's Local Area Network (LAN).
- 4.12 Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities.

### Section 5. Comcast BGP Policy

The following provides the routing requirements to interconnect with the Comcast network. Additional details of Comcast's BGP inbound/outbound network policy and traffic engineering is available upon request.

- 5.1 Customers must be multi-homed to run BGP, either:
  - a. multi-horned within Comcast's network
  - b. multi-homed with Comcast and another service provider

- 5.2 Customers must use an Autonomous System (AS) number assigned by a regional registrar American Registry for Internet Numbers (ARIN), Réseaux IP Européens (RIPE), or Asia Pacific Network Information Centre (APNIC) etc. that is registered to their organization.
  - All customer route announcements must be registered with a regional registrar. A route object must exist for each route prefix in one of the well known global routing registries such as RADB.
  - b. The customer ASN needs to be verifiable in WHOIS database.
  - Comcast will only accept private peering when the customer is multi-homed to Comcast only.
  - d. Comeast will support a 4-byte ASN starting 01/01/2010 in accordance with ARIN policy.
  - Comcast will assign a private ASN in the range of 64512-65534 for private peering and not accept any customer provided private ASN.
  - f. Comcast will strip off the private ASN when advertising to peers.
- 5.3 Customers must use a router that supports BGPv4.
- Comcast will not run BGP4 with customers connected on a link with less than 2Mbps bandwidth.
- b. Customers are responsible to ensure their peering routers have adequate CPE processing power and memory space if a full Internet table is requested.
- c. Comeast will employ all best-known practices to establish, maintain, and troubleshoot BGP4 sessions with all BGP4 compliant router vendors. However, Comeast makes no warranty that it can establish and maintain a BGP4 session with any CPE due to vendor interoperability.
- 5.4 Customers can specify one of the following received-prefixes options:
  - a. Default-route only
  - b. Comcast customer routes
  - c. Comcast customer routes + default-route
  - d. Full routes
  - e. Full routes + default-route
- 5.5. Customer must be capable of configuring their BGP session with Comcast. This includes all setup of neighbor statements and all sanity checks on customer cpc.
- 5.6 Comcast requests the use of an MD5 authentication key for all EBGP sessions. The customer should specify the MD5 password.
- 5.7 Customers must prevent redistribution from their Interior Routing Protocol (IGP) into BGP. Customers should also apply restrictive filters on outbound announcements so that only the customer's intended outbound prefixes are announced to Comcast.
- 5.8 Comcast will assign a /30 IP address for the interfaces that connect to Comcast's network. This will be assigned from a Comcast address block publicly registered with ARIN and already advertised as part of a larger aggregate to the Internet.
- 5.9 Comcast will announce any portable or non-portable net block so long as this space is larger than /24, and the space is assigned to the customer via WHOIS or RWHOIS databases. If the net block does not belong to the customer and the net block is not already being announced from the customer's AS then Comcast will need to have an LOA (Letter of Agreement) from the true owner of the block stating that they are aware of, and are accepting of the fact that our customer wants to make the announcement through Comcast.
- 5.10 Comcast does not after any of its BGP4 configurations, including route-maps, filter-policies, and communities, for any individual customer, but rather will dynamically after BGP policy dependent on the customers' employment of predefined Comcast BGP communities. This ensures the Comcast network is built and maintained in a strategic, organized, and efficient fashion and reduces mean-time-to-repair for BGP related trouble.

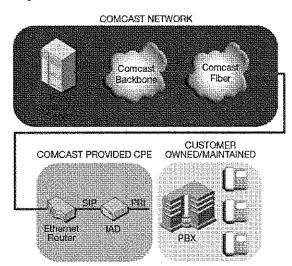
### Business Class Trunks - PRI over Fiber

### Service Overview

Business Trunks are offered by Comcast as a flexible and intelligent way to provide next generation voice services based on Comcast's state of the art IP Network. The Business Trunks-PRI option is a switched voice trunk service with ISDN / PRI connectivity from a customer's Private Branch Exchange (PBX) to the Comcast network.

### Section 1. Physical Network Description

Comcast's Business Trunks are delivered to the customer's service location with Ethernet Dedicated Internet Service to enable connection with the Comcast Ethernet Network Service and provide an Ethernet interface to the Integrated Access Device (iAD) — the Ethernet port may not be used for any other service. The IAD supports SIPConnect 1.1 signaling/call control, provides an ISDN/PRI interface to the customer's PBX and acts as a back to back user agent with the Comcast network. The Comcast Ethernet Network Service is certified Metro Ethernet Forum Compliant, Standard CPE deployed by Corncast for each trunk service location will consist of an Ethernet Network Service switch and an IAD. Comcast will retain ownership and management responsibility for the CPE. Comcast conducts extensive testing in its labs and certifies equipment to work property on its network, therefore only a Comcast approved switch and IAD will be used. Specific vendors and models for switch and IAD will be determined by and may be changed at the sole discretion of Comcast.



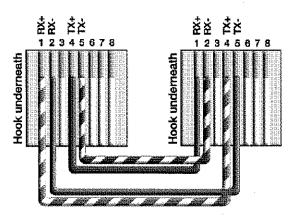
### 1. IAD (Adtran® 900e-series)

### a. Physical Specifications

- i. Operating Temperature, 32°F to 122°F
- ii. Operating Relative Humidity, up to 95% (Non-Condensing)
- III. Dimensions, inches, 1.72H x 17.2W x 10.5D
- lv. Weight, 6.5 lbs

#### b. Interfaces

- i. Input Voltage, auto ranging from 90-120 VAC, 60 Hz
- ii. Power Consumption, 53 W (Max),
- III. Heat Dissipation, 180 BTU (Max)
- iv. Input Current, 1.5A (max draw)
- v. Digital Voice Interface, RJ-48C PRI The RJ-48 connector looks very similar to a RJ-45 connector but is different. RJ-48 connections are made with a STP (Shielded Twisted Pair) cable (not UTP Unshielded Twisted Pair). RJ-48 uses a pin out arrangement, voltage level, and line capacitance different from a typical RJ-45. There are 2 versions of RJ-48, and the one necessary to connect with Comcast is RJ-48C.



PRI (T1/E1) CrossOver/Loopback Cable

vi. Call Attempts - Per IAD Chassis, up to 10000 per hour.

#### c. Standards

- i. FCC Part 15, Class A, FCC Part 68
- ii. Industry Canada CS03
- iii, ETL and Canadian ETL
- iv. Codec: G.711 (µ-Law), 64 kbps

### Section 2. Service/Features Details

- a) Comeast default service is to set up trunks as 1 trunk group with 2-way trunks
- b) On each PRI port, the 24th channel is the D-Channel.
- c) Comcast supports calls to e911. ALI information is provided (by default) as the location information associated with the BTN of the trunk group. Customer may opt to send dialed digits to Comcast in which case Comcast supports 10D for up to 10 Telephone Numbers (TNs).
- d) Comeast supports the following variants of ISDN PRI: NI-2, ATT 4ESS, ATT 5ESS, NT DMS-100, NT DMS-250.
- e) Comcast supports the following Clock Options: (I). Recover From PBX (Customer provided), or (II). Provide To PBX (Comcast Provided).
- Comcast supports 2-way trunks, 1-way inbound or 1-way outbound settings for directionality.
- g) Customers may opt in for DID signaling. DID supports 3, 4, 7, and 10 digits, based on the assigned 10D TN (the specific digits sent by Comcast are the right most digits of the TN).
- h) Comcast currently supports only Calling Party Number (CPN) for inbound
- Comcast DNIS service is provisioned as a toll free number assigned to an underlying DID number, and DID signaling is used to provide DNIS level information.
- j) For outbound Calling Party Name, up to 15 characters are supported.
- k) Calling Limitations: Customer should refer to the Terms and Conditions to know which calls are not supported by Comcast.

### Section 3. Monitoring, Technical Support and Maintenance

- a) Network Monitoring. Comcast monitors services on a 24x7x365 basis.
- b) Standard business hours are 8:00 am to 5:00 pm (local time), Monday to Friday. Other times, such as evening hours, weekends, and holidays are considered after-hours.
- c) Device Se
- d) Quality of high quali

- e) Billing/Care Support. Comcast provides customers a toll-free trouble reporting telephone number, 877-742-5092, during standard business hours for Comcast service related inquiries. Please ensure you have your account number or a recent bill handy for reference.
- f) Technical Support. Comcast provides customers a toll-free trouble reporting telephone number, 877-742-5092, on a 7x24 basis for Comcast service related inquiries. Technical support will not offer consulting services or advice on issues relating to CPE not provided by Comcast. Please ensure you have your account number or a recent bill handy for reference. Reported troubles are escalated within Comcast to meet standard service level objectives.
- g) Maintenance, Comcast's standard maintenance window is Sunday to Saturday from 12:00 am to 6:00 am local time. Emergency maintenance is performed as needed.
- h) Tech Visit. It is Corncast policy to dispatch Comcast technicians (or approved Comcast contractors) in support of activities to deliver and maintain its service. Comcast technicians are not permitted to access or maintain equipment or wiring not provided by Comcast. For Installation (and scheduled maintenance) related activities, Comcast will dispatch technicians as scheduled/confirmed with the customer. For trouble ticket related items, technicians may be dispatched on 7x24 for Out Of Service conditions. All other severities will be dispatched at soonest available time.
- i) On Site Technician Assistance. Customers may request Comcast professional assistance on site to support other customer activities such as moves or upgrades. Comcast will do its best to honor such requests but does not guarantee such appointments. On Site assistance is considered billable activity.
- Moving Service. The CPE may only be used for delivering Comcast services, and the CPE may not be moved without prior notification and prior approval from Comcast.

### iection 4. Customer Responsibilities

Lustomer, at its own expense, has the following responsibilities related to the stallation, support, and maintenance of the Comcast Business Trunks service and Comcast provided CPE.

- a) Provide an operating environment with temperatures between 55°F and 85°F. Humidity shall not exceed 85% at 85°F.
- b) Provide secure space sufficient for install the Ethernet Switch and IAD with sufficient access to allow installation and maintenance of such equipment.
- c) The customer shall provide sufficient AC Power and outlets, UPS Power and/ or battery backup (as applicable) to support the CPE installed by Comcast.
- d) A permanent ground required for Comcast provided CPE.
- e) It is required that the IAD and Ethernet Switch be installed in the same room.
- f) The customer is responsible for providing a standard cable from the PBX to the IAD with a RJ-48C interface (male) to the IAD. The customer is responsible for the connection to their phone system.
- g) Comcast provided CPE may only be installed/serviced by trained Comcast employees (or Comcast approved contractors).
- ii) In case of a service related issue, the customer's appointed POC must ensure that the problem is not on the customer side (including the PBX) before calling Comcast support lines, as provided above.
- Obtain "right of way" entry easement for Comcast facilities and equipment from property owners at each customer location.
- j) Provide access to the buildings and point of demarcation at each customer location to allow Corncast and its approved contractors to install Corncast services. Provide access to each location for regular business hours (8 am-5 pm, M-F or as scheduled) and emergency (24 hour) service and maintenance of Corncast equipment and facilities.
- k) Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities. The POC must be available for design capture and review meetings, day of install and activation events, and maintenance/licket activities. Lack of speedy access may affect completion of work on committed dates.

- k) Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities. The POC must be available for design capture and review meetings, day of install and activation events, and maintenance/ticket activities. Lack of speedy access may affect completion of work on committed dates.
- The customer is fully responsible (operationally and financially) for securing customer provided phone system and customer provided equipment from potential abuse or fraudulent use.
- m) The customer shall be responsible for the coordination of install or maintenance work with 3rd Parties that the customer uses.

### **Section 5. Definitions**

- · ALI Automatic Location Information
- BTN Billing Telephone Number
- CPE Customer Premise Equipment denotes equipment located at the customer's premises in order to make a service work. Some equipment may be owned/operated by the customer and other equipment may be owned/ operated by the service provider.
- CPN Calling Party Number
- DID Direct inward Dialing
- DNIS Dialed Number Information Service
- DTO Direct Termination Overflow
- ENS Ethernet Network Service
- G.711 International Telecommunications Union (ITU) standard codec for Puise Code Modulation encoding scheme with a sample rate of 8000 samples per second, 8 bits per sample, delivering a high bit rate (64 Kbps) International Telecommunications Union (ITU) standard codec. μ-Law refers to the variant of G.711 that is prevalent in North America.
- IAD Integrated Access Device, provides the ISDN PRI connection to the PBX
- IP Internet Protocol
- · ISDN Integrated Services Digital Network
- MEF Metro Ethernet Forum
- NPA Number Plan Area (Area code portion of TN)
- PBX Private Branch Exchange
- POC Point of Contact
- PRI Primary Rate Interface
- · QoS Quality of Service
- REN Ring Equivalent Number
- SIP Session Initiated Protocol
- TN Telephone Number
- . UPS Uninterruptible Power Source / Supply
- . VolP Voice over IP

### **Business VoiceEdge**

# COMCAST BUSINESS

### RELIABLE

Automatic re-route of incoming calls in the case of a power outage or natural disaster to ensure your business voice continuity.



### *Affordable*

Phones included for 3 yr terms. Business VoiceEdge™ offers a complete managed voice solution allowing you to focus on your business instead of your business communications.

With Business VoiceEdge your capital expenditures are minimized and you no longer need, to manage and maintain a premise-based PBX or Key System, or worry about outdated technology since Comcast ensures the latest upgrades.

Moves/adds/changes and management of multiple locations are simple with Business VoiceEdge in contrast to a premise-based system. Business VoiceEdge allows you to choose a package that's right for each user type, catering your communication system to each individual in your organization.

Replace your current service with Business VoiceEdge and you could save money. Take advantage of the multiple productivity-enhancing features of Business VoiceEdge.

### **ENJOY PREDICTABLE COMMUNICATION BILLS**

The service is priced based on the number of telephone lines, and then on the number of phones/users you have. For each user you may select from one of two feature packages, Standard or Unified Communications. Each VoiceEdge Line includes:

- Local Number Porting for keeping existing telephone numbers
- Unlimited inbound, local and domestic long distance calling
- 911/411/711 calling support
- Simple Directory Listing
- Caller ID

### Standard Seat

All of the offerings of the line plus the following User offerings...

- Extension number assigned
- Free On-Net Calling
- 3-way calling
- Web Portal for feature management
- Call Park and Pick-up
- 1 Hunt Group

- Call Waiting
- Call Transfer
- Business Voice Continuity
- Do Not Disturb
- Speed Dial
- Last Number Redial
- 1 HD Voice Phone included\*
   "With 3 year contract term."

### **Unified Communications Seat**

All the offerings of the Line and Standard Seat plus...

- Local Telephone Number
- Voicemail
- Outlook Integration
- Softphone
- Multiple Call Forwarding Options
- Group Directory
- Music on Hold

- Telephony Toolbar for clickto-dial capabilities and pointclick feature customization
- \*Be Anywhere" feature to ensure calls are not missed
- Remote Office to utilize your phone number and profile of features from anywhere that you work
- 1 HD Voice Phone included\*
   \*With 3 year contract term.

### **EFFICIENT**

Business VoiceEdge service offers unified communications for increased efficiencies to help keep you at the pace of today's business.

### PREDICTABLE

Business VoiceEdge is simple and easy to manage with predictable expenses from a single communications provider.

### ADDITIONAL OPTIONS AVAILABLE

With Business VoiceEdge you can choose from a variety of additional options to add to either Standard or Unified Communications User:

- Toll-Free Numbers
- Additional Telephone Numbers
- International Calling Activation (usage based)
- Auto Attendants
- · Reception Capabilities across multiple offices
- Additional Hunt Groups
- Multiple IP Phone models to choose from

VoiceEdge is a powerful productivity enhancing solution whether your business has teleworkers, is small, multi-site or a large employee campus.

...AND to compliment VoiceEdge, Comcast offers a full suite of Business services including Comcast Business Internet or Ethernet, Hosted Microsoft® Exchange, Norton™ Internet Security Online and Comcast Business TV.

#### Notes:

Standard and Premium Packages include one Polycom HD 335 phone with a Syr term Quality Assurance Device required with the service for sites over 4-seats (1 per location) for all terms

### **ENSURING OPTIMAL QUALITY**

Comcast provides a fully redundant, state-of-the-art network to ensure you receive world class service and reliability.

To ensure high quality and satisfaction, Comcast provides:

- A comprehensive station review and network assessment that optimizes your network before your first call is placed
- Quality, certified equipment installed with tested configurations known to deliver end-to-end results
- · Proactive, real-time monitoring to continuously track quality and performance

### Telephony Toolbar



Increase productivity with click-to-dial capabilities and point and click feature and call control.

### **Solution Provisioning and Project Plan**

Typical site installations may take anywhere from 60 to 90 days for completion. Throughout the duration of the project a dedicated Comcast account team will be in contact providing status and answering any questions you may have.

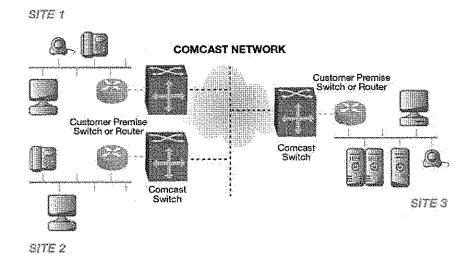
### Overall Project Milestones

- 1. Detailed Design review
  - 1.1. Field Surveys Performed
  - 1.2. Detailed Network Design
  - 1.3. Detailed Network Equipment
  - 1.4. Detailed Construction Costs
  - 1.5. Proposal Pricing
- 2. Contract Signature
  - 2.1. Final Proposal Presented
  - 2.2. Contract Signature
  - 2.3. Order Executed
- 3. Network Implementation
  - 3.1. Fiber Construction
  - 3.2. Equipment Testing
  - 3.3. Equipment Installation
  - 3.4. Circuit Testing
  - 3.5. As-Built Maps / Diagrams Created
- 4. Network Testing and Customer Acceptance
  - 4.1. Network Tests
  - 4.2. Customer Acceptance
  - 4.3. Network Activation
- 5. Billing
  - 5.1. First invoice receipt

### **Network Diagram**

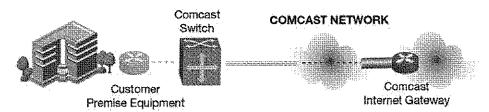
Logical drawing





### **EDI Services**

SITE 1



"Illustrative Diagram – Actual installation may differ.

### Serviceable Sites

- 1. Union Township High School-2350 N. 3rd Street Union, NJ 07083
- Burnet School-1000 Caldwell Avenue Union, NJ 07083
- 3. Kawameeh School-490 David Union, NJ 07083
- 4. Jefferson School-155 Hilton Avenue Vauxhall, NJ 07088
- 5. Battle Hill School-26 Killian Place Union, NJ 07083
- 6. Connecticut School-875 Stuyvesant Union, NJ 07083
- 7. Hanna School-1120 Commerce Union, NJ 07083
- 8. Franklin School-1550 Lindy Terrace Union, NJ 07083
- 9. Livingston School-960 Midland Union, NJ 07083
- 10. Washington School-301 Washington Avenue Union, NJ 07083

### **Company Background**

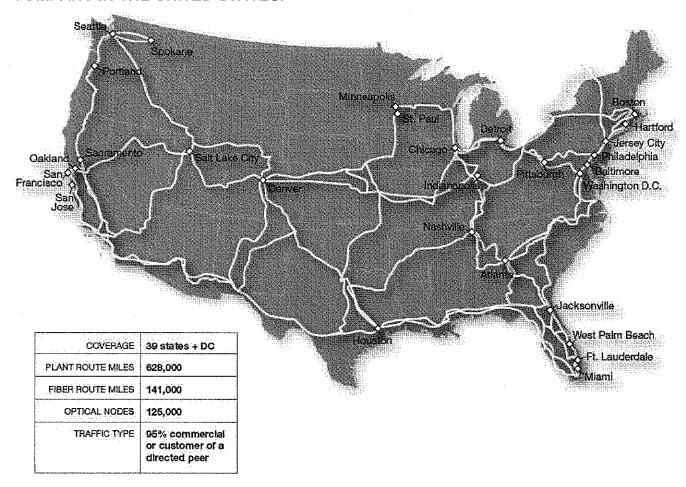
Comcast was founded in 1963 as a single-system cable operator and now is the nation's largest with over \$62 billion in revenue in 2012. We are one of the nation's leading providers of information, communications and entertainment products and services with over 19 million Internet customers, 10 million digital voice customers, 22 million video customers and hundreds of thousands of business customers.

With over 135,000 employees, we currently serve 20 of the top Metropolitan Statistical Areas (MSAs) in the U.S. and provide service to customers in 39 states and the District of Columbia.

Our high-speed, high-capacity broadband and Ethernet services operate across our private, diverse enhanced fiber network. With over 141,000 national route miles of fiber, our network is the largest facilities-based last mile alternative to the phone company.

With the first and largest fully 40G backbone, and the deployment of the first 100G router interface, Comcast's advanced network delivers reliable and scalable services for businesses of any size.

# COMCAST EXTENSIVE NATIONWIDE FIBER OPTIC NETWORK THE LARGEST FACILITIES-BASED, LAST MILE ALTERNATIVE TO THE PHONE COMPANY IN THE UNITED STATES.





Comcast Business Communications, LLC is a unit of Comcast Corporation, owner of the largest cable communications company in the United States and headquartered in Philadelphia. Building upon Comcast's and its subsidiaries' reputation as pioneers in developing innovative communications products and services for consumers, Comcast is bringing innovative technology and service capabilities to businesses, government and educational organizations within Comcast Cable markets.

Comcast Business Communications leverages and augments Comcast's network with next-generation optical and access technologies to offer Internet and other data services directly to customers. An extensive fiber network, delivering unmatched broadband capacity, and a commitment to customer service, enables Comcast to deliver superior broadband services to range of all businesses and organizations — small, medium, and large.

Consistent with Comcast's business strategy to deliver unprecedented bandwidth, network reach, and a superior customer experience, Comcast has invested in state-of-the-art network technologies, business and operating support systems, as well as network professionals. These investments have resulted in scalable services, an all-fiber backbone network, and superior service levels for those businesses and organizations served in the Comcast markets. In addition, the extensive footprint of the network allows Comcast to deliver coaxial and fiber capacity to many business locations that have been historically underserved by other network providers.

Among the services that Comcast and its affiliates provide are several that they have helped pioneer, including high-speed commercial cable-modem-based Internet services.

For more information on Comcast visit <a href="http://www.business.comcast.com">http://www.business.comcast.com</a>.

### **Financial Qualifications**

Comcast is a wholly owned, indirect subsidiary of Comcast Corporation, from which Comcast receives its funding. As such, Comcast is not publicly held and does not release stand-alone financial results or associated financial information, except in limited circumstances to the extent required by law, and then, only under seal or a proprietary protective order. Please refer to the publicly filed external consolidated Comcast financial statements and earnings press releases posted at the Comcast Corporate web page: <a href="http://www.cmcsk.com.">http://www.cmcsk.com.</a>



### E-Rate

### Working Knowledge of Federal Universal Service Programs for Schools and Libraries

Comcast has a successful record of working with schools and libraries that receive funding under the federal Universal Service Support Mechanism for Schools and Libraries ("E-rate Program"). Comcast provides e-rate eligible services through its applicable operating affiliates and subsidiaries identified throughout this Network Services Proposal as "Comcast". We hereby certify that we are listed as a Telecommunications Service Provider (as the Federal Communications Commission defines that term), eligible to provide Universal Service – supported services under the (E-rate Program). Comcast certifies that it (a) provides the telecommunication services described herein on a common carriage basis, and (b) is fully authorized to participate in the E-rate Program as a Telecommunications Services Provider.

### Service Provider Identification Number (SPIN)

SPIN	499. Service Provider Name Filer
143003990	Comcast Business Communications, LLC Y
143035551	Comcast IP Phone, LLC Y
143034516	Comcast Phone, LLC Y
143013564	Comcast Cable Communications Management, LLC N

### Agreement of Participation

Comcast agrees to comply with the written request of the Applicant (as defined by USAC), its agency, organization and or consultant administering, E-rate on the Entity's behalf. Comcast reserves the right to request a LOA, (Letter of Agency) that such party is authorized to receive information on behalf of the Entity (as defined by USAC).

### Information and Documentation

Comcast agrees to provide requested information and or documentation to the Applicant, its agency, organization and or consultant administering, E-rate on the Applicants behalf within a commercially reasonable period of time.

### Reimbursement Process

At the written request of the Applicant, or the completion of the Comcast E-rate Reimbursement Form, Comcast shall, (a) invoice the Entity only for the non-discounted amounts due on E-rate-approved transactions and simultaneously invoice the Universal Services Administration Company ("USAC") for the balance [Discounted Invoice Process] or (b) remit to the Applicant reimbursement monies received from USAC for the discounted portions of E-Rate-approved transactions. Applicant reserves the right to select either option (a) or (b) per funding year.

### Working Knowledge of USF and CTF Programs

Comcast has working knowledge and a successful record of working with school districts that receive funding under the Federal Universal Service Support Mechanism for Schools and Libraries ("E-rate Program") and the California Teleconnect Fund, (CTF).

### **Operations**

Comcast provides high-quality service and effective maintenance of our network and customer base in several key business areas. These include: Network Operations and Field Operations. Comcast strongly suggests that all personnel involved in the decision process visit the network operations facilities of each of the bidders as part of the evaluation process.

### **Network Operations**

The Network Operations organization provides World Class Enterprise Customer Care, which includes surveillance, trouble-shooting, and resolution through its state-of-the-art 24 x 7 x 365 Network Operations Center (NOC) with two redundant Customer Care Centers in Naperville, IL and Denver, CO. Each staffed to answer any questions, perform changes to existing services and assist with technical troubles. Both Customer Care Centers are collocated with Enterprise Tier II and Tier III repair groups, easily facilitating higher level technical support. The NOC continuously monitors the network equipment, service health, and performance of the Comcast network, responds to network events and service degradations, dispatches local field technicians, and informs customers of service issues, in many cases before the customer has noticed the problem. The Network Operations group also provides technical support and responds to trouble calls from network service customers including carriers, TLS and Native ATM customers, and voice product customers, through a staff of Technical Support Representatives (TSRs). The Comcast NOC also operates a 24 x 7 x 365 Technical Customer Support helpdesk that responds to calls for all of Comcast services.

The NOC maintains a staff of engineers and technicians with an average of 12 years tenure, ensuring business continuity are trained in an array of networks, elements, and technologies in the Comcast network (Ethernet, ATM, Frame Relay, SONET, T-1/T-3, local and long distance telephony, Internet Access, and LAN/WAN based services). Comcast engineers and technicians have earned many industry certifications, including: CCIE (Cisco Certified Internetwork Expert), Cisco Certified Network Associate (CCNA), Cisco Certified Network Professional (CCNP), Microsoft Certified Systems Engineer (MCSE), A+, Network+, and other certifications in specific vendor equipment.

One-Stop-Shop – Care for all levels of Business products.

**Planned Maintenance** – Seven day advanced notice to Metro Ethernet and Advanced Voice Customers which include Trunking and Hosted PBC products.

**Dedicated Project Managers** to ensure accurate and timely delivery of all Comcast products. Project Managers are your single Point of Contact.

**Proactive Monitoring** at the customer premise level allows quick resolution to network issues with the fastest response time in the industry. 50% of all tickets are generated by our Customer Monitoring Center – we see the problem before our customers do!

**World Class Enterprise Monitoring -** Comcast has a robust set of tools to detect and isolate faults from network infrastructure to CPE issues.

### NOC End user support and Escalation Procedures

The NOC is organized with a standard 3-tier escalation configuration with automatic escalation intervals. Tier 4 support is escalated to Comcast's Network Engineering Department. The NOC is staffed 24  $\times$  7  $\times$  365. Technicians remain on call 7  $\times$  24 to assist with major problems. The NOC may also dispatch technicians 7  $\times$  24. Customers are welcome to request to speak with a supervisor or manager at any time.



### **Comcast Escalation Procedures**

### **Business Hours**

Priority	Shift Lead	Manager	Director	Vice-President
1	15 Mins	30 Mins	1 Hour	3 Hours
2	1 Hour	2 Hours	4 Hours	12 hours
3	2 Hours	4 hours	12 Hours	-

### Non-Business Hours

Priority	Shift Lead	Manager	Director	Vice-President
1	1 Hour	2 Hours	6 hours	8 hours
2	2 hours	4 Hours	12 Hours	-
3	6 hours	12 Hours	-	<b>-</b> ,

### **Priority Definition**

- 1) Total outage; multiple customers or multiple locations.
- 2) Total outage, single customer/single location, or partial outage of multiple customers or multiple locations
- 3) Partial outage, single customer or location

### Service Level Objectives

In the event of a service interruption, Comcast shall use commercially reasonable efforts to respond to the service interruption and to clear the service interruption within the time frames set forth below. Comcast shall notify customer that Comcast has dispatched its personnel to effect restoration and repair and shall inform customer when service has been restored.

Category	Objective
Network Availability	99.99%
Mean Time to respond telephonically to call	30 minutes
Mean time to restore equipment	4 hours
Mean time to restore fiber	6 hours

### **Network Management Reporting**

Customer will be given a secure web login to review the external reporting data at their convenience. Network management reports will include the following reporting elements:

- Service Availability (Uptime) in percentage of day per connection
- > Packet discard percentage, per connection
- > Average Throughput, per connection, per Hour for the past day, 7 day and 30 day intervals.

### **Field Operations**

The role of Field Operations in Comcast is two-fold. First, Field Operations provides an effective field presence for technical support of our core (ATM, IP, Optical) network. They perform on-site repairs and trouble-shooting on a daily, ongoing basis and dispatch field technicians to support our voice switches and other hardware. These field crews are the "on-site" presence to remedying any network trouble.

Second, Field Operations provides leadership for customer installations. Field Operations Project Coordinators are assigned to each new account to singularly manage the local work required for each install. The Project Coordinator manages the dispatch of local technicians to install switches, routers, servers, and other equipment on the company side of the company/customer demarcation point.

### Certificate of Insurance

ACORD CEPT		ATE OF LIA	DII ITV	INCLIDA	ANCE		(MMCDAYYY)
THIS CERTIFICATE IS ISSUED AS A II CERTIFICATE DOES NOT AFFIRMATI BELOW. THIS CERTIFICATE OF INS	MATTER VELY O	OF INFORMATION ONL R NEGATIVELY AMEND	Y AND CONFE	RS NO RIGHTS ALTER THE CO	UPON THE CERTIFICA OVERAGE AFFORDED	TE HO	E POLICIES
REPRESENTATIVE OR PRODUCER, AN IMPORTANT: If the certificate holder is the terms and conditions of the policy, certificate holder in lieu of such endors	e an AD certain	OITIONAL INSURED, the policies may require an a	policy(les) mu adorsement. A	st be endorsed. statement on t	If SUBROGATION IS his certificate does not	WAIVEC confer	), subject to rights to the
PRODUCER MARCH USA INC. 1717 Arch Street			CONTACT NAME PHONE IAC. No. Exc.		TAK No	: 	
Philipsolphia, PA 19103-2797 Alth: Concast Certs@mersh.com  Fax: 212-948-0300			ACC. IN EXT. ADORESS:	NAICE			
05194-ALL-GAWIL-12-13 COMCA PHILA PA NO INSURED TO JEK BOULEVARD - COMCAST CENTER PHILADELPHIA, PA 19103			INSURER B : ACE	American insurance ( Property And Cassualt	y ins Co		22667 20699
			INSURER C : Indemnity Ins Co Of North America INSURER D : INSURER E :				43575
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THIS IS TO CERTIFY THAT THE POLICIES INDICATED. NOTWITHSTANDING ANY RECEIPTICATE MAY BE ISSUED OR MAY FEXCLUSIONS AND CONDITIONS OF SUCH F	OF INSU QUIREME PERTAIN, POLICIES	ENT. TERM OR CONDITION THE INSURANCE AFFORE LIMITS SHOWN MAY HAVE	OF ANY CONTR DED BY THE POL BEEN REDUCES	D TO THE INSUR LACT OR OTHER LICIES DESCRIBE D BY PAID CLAIMS	DOCUMENT WITH RESP D HEREIN IS SUBJECT	ECT TO	WHICH THIS
augo .	inn siei Nir mt		PARCEY	POLICY EXP	Lin	1936	***************************************
GENERAL LIABILITY A X COMMERCIAL GENERAL LIABILITY		XSL G27014596	1201/201	2 1201/2013	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ex ocustorice)	1	4,900,900 4,900,900
CLAIMS-MADE X OCCUR		· · ·	NA ASSESSMENT		MED EXP (Any one person) PERSONAL & ADV INJURY	\$ \$	10,90 4,901,90
X \$100,000 SIR				ļ	GENERAL AGGREGATE	*	25,000,000
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X UMBRELLALIAB X OCCUR B EXCESS LIAB CLAIMS MADE		XOO G27049175	12/01/2013	1201/2013	EACH OCCUPRENCE	3	5,000,000 5,000,000
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A AND EMPLOYERS LIABRITY	C WORKERS COMPENSATION A MO EMPLOYERS LIABALITY A ANY SHOPHIETORINATIVE WINCH N N / A POFFICERAMENAGER EXCLUDED?  A (Mandatory in MH)		12/01/2012 12/01/2012	a - \$ tin harring	X WC STATU (2TH TORY LIMITS ER ELL BACK ACCIDENT	*	2,000,000
A (Mandatory in MH)			12/01/2013	12/01/2013	EL DISEASE - EA EMPLOYE	<del>uğuaros</del> elmonu	2,000,000
A If yes, describe under DESCRIPTION OF OPERATIONS below		SCFC47127108 (VII)	12016016	1201/2013	E.L. DISEASE - POLICY LIMIT	*	2,000,000
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLE RE-11939 S. CENTRAL AVENUE; 1030 N ROSELLE RD.					ST., DOWNERS GROVE, IL 805	6; 700 N I	WILWALKEE
AVE., VERNON HILLS, IL 50061; 2221 S ROUTE 59, PLAN 50185. CRAWFORDSVILLE RETAIL, LLC, GLENORA WAY, LLC, AUTOMOBILE LIABILITY POLICY WHERE REQUIRED BY GENERAL LIABILITY POLICY.	Lamair ha	NAGER, INC. AND BURGER KING	ARE INCLUDED AS	aoditional insure	O WITH RESPECT TO GENERA	LUABILIT	Y POLICY AND
CERTIFICATE HOLDER			CANCELLATI	ON			
SBKFC HOLDINGS, LLC AS LANDLORD AND SB MANAGEMENT CORPORATION, AS MANAGEMENT COMPANY CIO SB MANAGEMENT CORPORATION			SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.				
433 N CAMPEN DRIVE, SUITE 800 BEVERLY HILLS, CA 50210			AUTHORIZED REPRESENTATIVE of Marsh USA foc.				
experience and the second seco		<u></u>	Menashi Mukher	- <del>-                                   </del>	ORD CORPORATION.		

ACORD 25 (2010/05)

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Township of Union Public Schools Data Services November 14<sup>th</sup>, 2013

### **General Reference Information**

Legal Name of Business: Comcast Business Communications LLC, "CBC"

Ownership: Corporation - Wholly-owned subsidiary of Comcast Corporation.

CBC has been in business in its present form for over nine (9) years.

### Corporate Officers

Terrence J. Connell Senior Vice President Daniel J. Carr Vice President Steve Flaks Vice President

Michael Maloney Vice President

### **Accounting & Disbursements**

Kelly Jennings Director; Business Operations

Employer ID # 23-1709202 for Comcast Cable Communications Management LLC

### **Bank Contact**

Wells Fargo 101 N Independence Mall East Philadelphia PA 19106 JP Morgan Chase Bank, N.A 14800 Frye Rd. Fort Worth, TX 76155-2732

### **Supplier References**

Cisco 9850 Double R Boulevard, Park Center East Reno, NV 89521 Attn: Rajshi Sidher – Credit

Manager <u>rsidher@cisco.com</u> General Instrument Corporation dba Motorola Mobility, Inc.
Broadband Communications Sector Communications Enterprise
101 Tournament Drive
Horsham, PA 19044

Attn: Susan Bernard, Mgr. Accounts Receivable *Phone:* (215) 323-1288

### **Dunn and Bradstreet**

Comcast Business Corporation 05-715-6663 Comcast Cable Communication Division 78-767-2310 Comcast Business Communications, LLC 96-818-5491



### **Proposal Pricing**

Comcast is pleased to provide the following pricing in response to this proposal.

### Option One: Ethernet Network Services (ENS), and Ethernet Dedicated Internet Services (EDI):

Upgrade from 900 Mbps to 1,800 Mbps of basic bandwidth ENS delivered to the following site:

1) Union Township High School-2350 N. 3rd Street Union, NJ 07083

Upgrade from 100 Mbps to 200 Mbps of basic bandwidth ENS delivered to the following sites:

- 2) Burnet School-1000 Caldwell Avenue Union, NJ 07083
- 3) Kawameeh School-490 David Union, NJ 07083
- 4) Jefferson School-155 Hilton Avenue Vauxhall, NJ 07088
- 5) Battle Hill School-26 Killian Place Union, NJ 07083
- 6) Connecticut School-875 Stuyvesant Union, NJ 07083
- 7) Hanna School-1120 Commerce Union, NJ 07083
- 8) Franklin School-1550 Lindy Terrace Union, NJ 07083
- 9) Livingston School-960 Midland Union, NJ 07083
- 10) Washington School-301 Washington Avenue Union, NJ 07083

Also includes Upgrade from **50 Mbps** to **200 Mbps** of internet bandwidth (EDI) services delivered to the following site.

1) Union Township High School-2350 N. 3rd Street Union, NJ 07083

Contract Term	Monthly Recurring Charge	Non Recurring Charge
24 Months Coterminous	\$3,565.03	\$0

## <u>Pricing reflects incremental bandwidth increase in addition to existing services and current costs.</u>

<u>Comcast Note:</u> Pricing as proposed above requires purchase of all sites and does not include any local, state or federal taxes, fees or other charges. Individual sites may be purchased separately but will require a new pricing proposal. Tax exemption certificates must be on file prior to the initial billing period for exemptions to be considered.

Taxes, Surcharges, and Other Similar Charges (Miscellaneous)

### Restivo, Donna

From:

Kealy, Eileen [Eileen\_Kealy@cable.comcast.com]

Sent:

Friday, May 03, 2013 3:15 PM

To:

Restivo, Donna

Subject:

RE: Comcast Services for the upgrade to the Internet

Donna, We can do the upgrade for the internet to 200MB for \$2,000 additional MRC. So currently today you are paying \$3460 for the 50MB. The 200MB would be \$5,670.00 for the remaining two year term on the agreement.

Regards, Eileen Kealy

From: Restivo, Donna [mailto:drestivo@twpunionschools.org]

Sent: Wednesday, May 01, 2013 6:13 PM

To: Kealy, Eileen

Subject: Re: Comcast Services for the upgrade to the Internet

Eileen, the quotes are not for board meeting. It is based on just getting estimated costs to do such an upgrade. The sooner the better. It may be discussed at board meeting but it in no way is for approval at this time.

Sent from my Verizon Wireless 4G LTE DROID Donna Restivo Township of Union Board of Education

"Kealy, Eileen" < <u>Eileen\_Kealy@cable.comcast.com</u>> wrote:

Donna,

I am sorry to hear about the degradation on the bandwidth. Please let me if there is anything I can do. When is the board meeting? I want to make sure that my quote is ready for your meeting.

Regards, Eileen

From: Restivo, Donna [mailto:drestivo@twpunionschools.org]

Sent: Wednesday, May 01, 2013 5:29 PM

To: Kealy, Eileen

Subject: Re: Comcast Services for the upgrade to the Internet

Need a second quote for going to 200 as well.

Also...I am opening a ticket with comcast. Seems our bandwidth at UHS is only 100Mbps...we have everything die off at that bandwidth when we are suppose to have 900Mbps with 18 Mbps dedicated.

Sent from my Verizon Wireless 4G LTE DROID Donna Restivo Township of Union Board of Education

**Description:** Taxes, surcharges, and other similar charges refer generally to additional fees that are a necessary component of the cost of a product or service.

**Eligibility:** Federal taxes, state taxes, and other similar, reasonable charges incurred in obtaining eligible Telecommunications Services, Internet Access, and Internal Connections are eligible. Such eligible charges include reasonable administrative recovery by a service provider for participation in the Universal Service Support mechanism. Administrative cost added by parties other than the service provider, are not eligible.



### **Network Service Agreement**

### Services Agreement (E-Rate)

This Agreement	("Agreement") is	made on the	day of	200	("Effective	Date") by	and be	tween C	omcast 1	Business
Communications,	LLC ("Company"	or "Comcast"), a	Delaware limited	liability	company, v	with offices	located	at One	Comcast	Center,
Philadelphia, PA 1	(9103 and	("Customer"), with	offices located at	:		. Here	ein, the	above sh	nall be co	lectively
referred to as the "	Parties" and indivi	dually as "Party".								

Description of Services to be provided by Company to Customer: , as set forth in the Sales Order Form(s) (referred to herein singularly as "Sales Order Form" and collectively as "Sales Order Form(s)") attached hereto.						
Term of Agreement (months): ( )	Agreement Number:					
Non-Recurring Charges ("NRC"): \$	Monthly Recurring Charges ("MRC"): \$					
Any Additional Charges/Explanation:	FOOD DESCRIPTION OF THE PROPERTY OF THE PROPER					
Number of Sites: ( ) Es mat & Se vice Date Ninety 90) to one-hundred twenty (120) days a te mattral escarion of Agrees ent.						
Notes / Comments:						
E-Rate funding to be sought solely by Customer						
2. Comcast Business Communications, LLC SPIN No. is 143003990						
Sales Person:	Telephone Number: ( )					
General Manager:	Telephone Number: ( )					
Customer Contact:	Telephone Number: ( )					

This Network Services Agreement sets forth the terms and conditions under which Comcast Business Communications, LLC and its operating affiliates ("Comcast) will provide the Services identified above to Customer. This Comcast Network Services Agreement consists of this document ("Cover Page"), the standard Comcast Business Communications, LLC General Terms and Conditions ("General Terms and Conditions"), and Sales Order Form(s), and any jointly executed amendments ("Amendments"), collectively referred to as the "Agreement". In the event of any inconsistency among these documents, precedence will be as follows: (1) Amendments, (2) General Terms and Conditions, (3) this Cover Page, and (4) Sales Order Form(s). This Agreement shall commence and become a legally binding agreement upon the mutual execution of this Cover Page by both Parties. The Agreement shall terminate as set forth in the General Terms and Conditions. All capitalized terms not defined on this Cover Page shall have the definitions given to them in the General Terms and Conditions.

All modifications to the Agreement, if any, must be captured in a written Amendment, executed by an authorized Comcast Vice President and the Customer. All other attempts to modify the Agreement shall be void and non-binding on Comcast.

Customer, by signing below, agrees and accepts the terms and conditions of this Agreement.

### Comcast Business Communications, LLC

Signature:	100-100 to 100 t	Signature:	
Printed Name:		Printed Name:	
Title:	:	Title:	
Date:		Date:	7.7.4

## COMCAST BUSINESS COMMUNICATIONS, LLC GENERAL TERMS AND CONDITIONS

### **SECTION 1 - SCOPE OF SERVICE**

- 1.1 Company will provide to Customer the Service at the prices and to the location(s) set forth in the Sales Order Form(s) attached hereto ("Buildings"). The Service is provisioned by utilizing fiber optic cable, associated with electronics and other equipment ("Network"), which transports and distributes digital signals in a standards based Internet Protocol (IP) format for standards based IP applications to Customer's Buildings identified and at the transmission level designated in the Sales Order Form(s) attached hereto. The Network is provisioned into Customer's Building at the point of interconnection between the Network and Customer's provided equipment located at Customer's Building ("Demarcation Point").
- 1.2 The Service does not include connection to the public switched network, building wire, any Local Area Networks ("LANs"), Customer Premise Equipment ("CPE"), IP addressing capability, firewalls or any other equipment, electronics, or wiring required on the Customer's side of the Demarcation Point.
- 1.3 Upon the request of Customer, Company will consider providing other services to Customer at terms, conditions, and prices to be mutually agreed upon in writing between the Parties.

### **SECTION 2 - INSTALLATION OF NETWORK**

- 2.1 Customer, at no cost to Company, shall secure throughout the term of Service any easements, leases or other agreements necessary to allow Company to use existing pathways into and in each Building to the Demarcation Point for the Service.
- 2.2 Subject to the terms of this Agreement, and at no cost to Company, Customer shall provide adequate environmentally controlled space and electricity required for installation, operation, and maintenance of the Network used to provision the Service within each Building.
- 2.3 Company and its employees, agents, lessees, officers and its authorized vendors will require free ingress and egress into and out of the Buildings in connection with the provision of Services. Upon reasonable notice from Company, Customer shall assist Company in accessing each Building.
- 2.4 If the presence of asbestos or other hazardous materials exists or is detected, Customer must have such hazardous materials removed immediately at Customer's expense or notify Company to install the applicable portion of the Network in areas of any such Building not containing such hazardous material. Any additional expense incurred as a result of encountering hazardous materials, including

but not limited to, any additional equipment shall be borne by Customer.

- 2.5 Company shall have no obligation to install, operate, or maintain Customer-provided facilities or equipment.
- 2.6 Customer shall be responsible for providing maintenance, repair, operation and replacement of all wire, cable facilities on the Customer's side of the Demarcation Point. Any CPE and wiring that Customer uses in connection with the Service shall be compatible with the Network.
- 2.7 Customer shall use reasonable efforts to maintain its property and Buildings in a manner that preserves the integrity of the Service and shall promptly notify Company of any event that affects such integrity including but not limited to damage to the Network.
- 2.8 At such time as Company completes installation and connection of the necessary facilities and equipment to provide the Service, Company shall then notify Customer in writing that the Service is available for use and the date of such notice shall be the "Service Date". The current notice form is called the "Customer Site Service Acceptance Document" ("Acceptance Form"). Company may update, modify or replace the service notification form from time to time without notice to Customer.
- 2.9 Any other failure on the part of Customer to be ready to receive Service, or any refusal on the part of Customer to receive Service, shall not relieve Customer of its obligation to pay charges for any Service that would otherwise be available for use.
- 2.10 <u>Customer-Provided Equipment (CPE)</u>. Company shall have no obligation to install, operate, or maintain CPE. Customer alone shall be responsible for providing maintenance, repair, operation and replacement of all inside telephone wiring and equipment and facilities on the Customer's side of the Demarcation Point. All CPE and wiring that Customer uses in connection with the Services must be fully compatible with the Services. Customer shall be responsible for the payment of all charges for troubleshooting, maintenance or repairs attempted or performed by Company's employees or authorized contractors when the difficulty or trouble report results from CPE.

## SECTION 3 - OWNERSHIP, IMPAIRMENT, AND REMOVAL OF THE NETWORK

**3.1** The Network is and shall remain the property of Company regardless of whether installed between, within or upon the Buildings and whether installed overhead, above, or underground and shall not be considered a fixture or an

addition to the land or the Buildings located thereon. Customer agrees that it shall take no action that directly or indirectly impairs Company's title to the Network, or exposes Company to any claim, lien, encumbrance, or legal process, except as otherwise agreed in writing by the Parties. Nothing in this Agreement shall preclude the Company from using the Network for services provided to other Company customers.

3.2 For a period of twelve (12) months following Company's discontinuance of Service to the Buildings, Company retains the right to remove the Network including, but not limited to, that portion of the Network that is located in the Buildings. To the extent Company removes such portion of the Network, it shall be responsible for returning the Buildings to their prior condition, reasonable wear and tear excepted.

### SECTION 4 - COMPENSATION; PAYMENT

- Non-Recurring Charges ("Non-Recurring Charges" or "NRC") and Monthly Recurring Charges ("Monthly Recurring Charges" or "MRC") for the Service is set forth in the attached Sales Order Form(s) and on the Cover Page of the Agreement. Upon installation of Services, Company shall immediately invoice Customer for the NRC and Customer shall pay Company one hundred percent (100%) of the NRC. Unless otherwise stated in this Agreement, Company will invoice Customer in advance on a monthly basis for all Monthly Recurring Charges arising under the Agreement. Payment will be considered timely made to Company if received within thirty (30) days after the invoice date set forth in the invoice. Any charges not paid to Company within such period will be considered past due. In the event the Service Date is not the first day of the billing period, the first Recurring Charge shall also include the pro rated in arrears charges for Services from date of installation to the date of first billing.
- 4.2 Any payment not made when due will be subject to a late charge of 1.5% per month or the highest rate allowed by law on the unpaid invoice, whichever is lower.
- Company makes no representations or warranties with respect to the eligibility or ineligibility of the Services or any Service component for federal e-rate support or for other governmental and quasi-governmental telecommunications/internet discounts or entitlements (collectively, "E-Rate Funding"). Customer expressly understands and agrees that it shall pay Company one hundred percent (100%) of all Non-Recurring Charges, Recurring Charges and other amounts required under this Agreement in accordance with the payment intervals specified therein. Customer may not withhold or off set any such amounts on the basis of its actual or anticipated receipt of E-Rate Funding, except as otherwise set forth below. In the event that the Customer has received, or has been

designated as a recipient of, E-Rate Funding for the Services, Customer will utilize the applicable customerinitiated reimbursement process relative to such E-Rate Funding, Company shall have no obligation to discount or pro-rate its invoices or to take other action to process such E-Rate Funding, except to the extent specifically required by law and regulation, or except as otherwise set forth above or below. Notwithstanding this, Company will reasonably assist Customer in the completion of those portions of the FCC Form 472 which, as a matter of law or regulation, are required to be completed by the service provider. In the event that the Parties have expressly amended this Agreement in writing to permit E-Rate Funding to be applied in the form of discounts to, or a pro-ration of, Customer's invoices, Company shall have no obligations under this Agreement until Customer provides Company the copy of the Notification and Acceptance of Form(s) 486 from the Universal Services Administrative Company, Schools and Libraries Division ("SLD"), approving Customer's eligibility for E-Rate Funding. If during the term of this Agreement Customer fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of the Agreement succeeding the first fiscal period, Customer may elect to (i) continue to receive Services under this Agreement, in which Customer shall remain bound by the terms and conditions set forth hereunder and remain responsible for all NRC and MRC, as set forth in the Sales Order Form(s) attached hereto, for the remaining term of the Agreement, irrespective of E-Rate Funding status, or, (ii) terminate this Agreement upon written notice as of the beginning of the fiscal year for which funds are not appropriated or otherwise made available. The effect of termination of the Agreement hereunder will be to discharge both Company and the Customer from future performance of the Agreement. However, Company shall be reimbursed for any and all unpaid non-recurring charges, any unpaid past due balance(s), and any additional costs already incurred by Company in conjunction with this Agreement, Customer shall notify Company in writing within 30 days of fiscal budget denial indicating funds may not be available for the continuation of the Agreement for each succeeding fiscal period beyond the first year. In no event shall Company initiate construction of the Network until proof of funding has been received, in whole or in part, based on 100% Customer-furnished funds or partially reimbursed funds by the SLD.

4.4 Except for taxes based on Company's net income, and except to the extent Customer provides a valid tax exemption certificate prior to the delivery of Service, Customer shall be responsible for the payment of any and all applicable local, state, and federal taxes (however designated) levied upon the sale, installation, use or

provision of Service. Further, Company reserves the right to invoice Customer for the costs of any fees or payment obligations stemming from an order, rule, or regulation of the FCC, a public service commission or a court of competent jurisdiction with respect to the Services, including, without limitation, universal service fund charges, or as otherwise needed to recover amounts that Company is required by government or quasi-governmental authorities to collect from or to pay to others in support of statutory or regulatory programs, including, without limitation, franchise fees and right-of-way fees. It will be the responsibility of Customer to pay any such taxes and fees that subsequently become applicable retroactively.

4.5 In the event that any newly adopted law, rule, regulation, or judgment increases Company's costs of providing Services, Customer shall pay Company's additional costs of providing Services under the new law, rule, regulation or judgment.

### **SECTION 5 - TERM**

Unless sooner terminated as provided herein, the term of this Agreement shall be for ) months from the Service Date ("Term"). In the case of multiple Service Dates, the Term shall be ( ) months from the last Service Date. Upon the expiration of the Term, this Agreement shall automatically renew for successive periods of one (1) year each ("Renewal Term(s)"), unless prior notice of non-renewal is delivered by either Party to the other at least thirty (30) days before the expiration of the Service Term or the then current Renewal Term. Effective at any time after the end of the initial Service Term and from time to time therein, Company may modify the charges for the Services to reflect then-current prevailing pricing subject to thirty (30) days prior notice to Customer. Customer will have thirty (30) days from receipt of such notice to cancel the applicable Service without further liability. Should Customer fail to cancel within this timeframe, Customer will be deemed to have accepted the modified Service pricing for the remainder of the Renewal Term.

### **SECTION 6 - TERMINATION WITHOUT FAULT; DEFAULT**

- 6.1 Notwithstanding any other term or provision in this Agreement, Customer shall have the right, in its sole discretion, to terminate this Agreement at any time during the Term, or any Renewal Term, upon (i) sixty (60) days prior written notice to Company and (ii) the payment of 100% of the remaining Monthly Recurring Charges ('Termination Charges") payable to Company within ten (10) days following termination of the Agreement ('Termination Charges").
- **6.2** (a) Company may, in its sole discretion, immediately terminate this Agreement in the event that it is

unable to provide Service due to any law, rule, regulation, Force Majeure event, or judgment of any court or government agency. If Company terminates the agreement under this subsection 6.2(a), Customer shall have no obligation to pay any remaining Monthly Recurring Charges as a result of Termination by the Company, with the exception of any past due amounts.

- (b) Any breach of Article 9A shall be deemed a material breach of this Agreement. In the event of such material breach, Company shall have the right to restrict, suspend, or terminate immediately any or all Service, without liability on the part of Company, and then to notify Customer of the action that Company has taken and the reason for such action, in addition to any and all other rights and remedies under this Agreement. In the event Company terminates service under this subsection 6.2(b), Customer shall be responsible for the payment of all past due amounts and Termination Charges in addition to any other remedies as identified in section 6.4.
- 6.3 In the event of default, either Party may terminate this Agreement. A "default" exists under this Agreement upon the following events:
- (i) either Party's failure to meet or perform any material term, provision, covenant, agreement, or obligation contained in this Agreement; provided that the non-defaulting Party so advises the defaulting Party in writing of the event of default and the defaulting Party does not remedy the default within thirty (30) days after written notice thereof; or
- (ii) either Party's insolvency or initiation of bankruptcy or receivership proceedings by or against the Party.
- (iii) Customer is in breach of a payment obligation and fails to make payment in full within ten (10) days after receipt of written notice of default.
- 6.4 The non-defaulting Party shall be entitled to all available legal and equitable remedies for such breach.6.5
  In addition to the remedies set forth in Section 6.4 above; Company shall be entitled to Termination Charges for any Customer Default.

### **SECTION 7 - SERVICE RESPONSE TIMES**

- 7.1 Maintenance Service consists of the repair or replacement, at Company's option, of any portion of the Network that is malfunctioning. Company will maintain the Network twenty-four (24) hours a day, seven (7) days per week, every day of the year.
- 7.2 In the event that Company, in responding to a Customer-initiated service call, determines that the reason for such service call is due to Customer-provided equipment

or Customer's actions or omissions, acts or omissions of third parties with whom Customer has any type of relationship, Customer shall compensate Company for Company's costs of such service call at the rate of \$50.00 per half hour and \$150.00 per truck roll charge.

## SECTION 8 - LIMITATIONS ON WARRANTIES AND LIABILITY

- 8.1 COMPANY WILL NOT BE LIABLE TO INCIDENTAL, INDIRECT, CUSTOMER FOR ANY SPECIAL, COVER, PUNITIVE OR CONSEQUENTIAL DAMAGES, WHETHER OR NOT FORESEEABLE, OF ANY KIND INCLUDING BUT NOT LIMITED TO ANY LOSS REVENUE, LOSS OF USE, LOSS OF BUSINESS, OR LOSS OF PROFIT WHETHER SUCH ALLEGED LIABILITY ARISES IN CONTRACT OR TORT. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN AGREEMENT, COMPANY'S AGGREGATE LIABILITY TO CUSTOMER FOR ANY DAMAGES OF ANY KIND UNDER THIS AGREEMENT WILL NOT EXCEED, IN AMOUNT, A SUM EQUIVALENT TO THE APPLICABLE OUT-OF-SERVICE CREDIT.
- 8.2 THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- **8.3** Company's liability for mistakes, errors, omissions, interruptions, delays, outages, or defects in transmission or switching of any Service (individually or collectively, "Liability"), excluding any Liability caused by force majeure events or Customer actions, omission or equipment, shall be limited solely to 1/30<sup>th</sup> of the Monthly Recurring Charge, for the affected portion of the Service, for one or more Liabilities of at least two (2) hours in duration in any 24-hour period that is not coincident with any other Liability, ("Credit"), provided that the Liability is reported by Customer during the duration of the Liability.
- Company shall not be liable for any act or omission of any other company or companies furnishing a portion of the Service including, but not limited to, the inability of a supplier to provide equipment in a timely manner for Network, or for damages associated with services, facilities, or equipment which it does not furnish, including, but not limited to, damages which result from the operation of Customer's system, equipment or facilities. In no event shall Company, its affiliates, its/their employees agents. contractors, merchants, or licensors be liable for any loss, damage or claim arising out of or related to: (1) stored, transmitted, or recorded data, files, or software. (i.e., Customer is advised to back up all data, files and software prior to the installation of service and at regular intervals thereafter); (2) interoperability, interaction or interconnection of the Service provided under this Agreement with applications, equipment, services or networks provided by Customer or third parties.

- **8.5** Neither Customer nor its agents or independent contractors shall offer third parties warranties or representations for the Service which would obligate or otherwise bind Company beyond any warranty or representation expressly set forth in this Agreement.
- **8.6** Customer is prohibited from reselling Company-provided Services in any way. Customer, its employees, agents and independent contractors shall not use the Network to provide any product or Service that directly or indirectly competes with any product or Services provided by the Company (Non-Compete).

### **SECTION 9 - INDEMNIFICATION**

- 9.1 Subject to Section 8, each Party ("Indemnifying Party") will indemnify and hold harmless the other Party ("Indemnified Party"), its affiliates, officers, directors, employees, stockholders, partners, independent contractors and agents from and against any and all joint or several costs, damages, losses, liabilities, expenses, judgments, fines, settlements and any other amount of any nature, including reasonable fees and disbursements of attorneys, accountants, and experts (collectively, "Damages"), arising from any and all claims, demands, actions, suits, or proceedings whether civil, criminal, administrative, or investigative (collectively, "Claims") relating to:
- (i) Any Claim of any third party resulting from the gross negligence or willful act or omission of Indemnifying Party arising out of or related to this Agreement, the obligations hereunder, and uses of Services; and
- (ii) Any violation of this Agreement by the Indemnifying Party or any violation of any law, rule, regulation, or order of any governmental authority having jurisdiction over any aspect hereof, or in violation of any patent, right, license, agreement, or certificate relating to the subject matter hereof.
- 9.2 The Indemnifying Party agrees to defend the Indemnified Party for any loss, injury, liability, claim or demand ("Actions") that is the subject of this Section 9. The Indemnified Party agrees to notify the Indemnifying Party promptly, in writing, of any Actions, threatened or actual, and to cooperate in every reasonable way to facilitate the defense or settlement of such Actions. The Indemnifying Party shall assume the defense of any Action with counsel reasonably satisfactory to the Indemnified Party. Indemnified Party may employ its own counsel in any such case, and shall pay such counsel's fees and expenses. The Indemnifying Party shall have the right to settle any claim for which indemnification is available; provided, however, that to the extent that such settlement requires the Indemnified Party to take or refrain from taking any action or purports to obligate the Indemnified Party, then the Indemnifying Party shall not settle such claim without the prior written consent of

the Indemnified Party, which consent shall not be unreasonably withheld, conditioned or delayed.

### **SECTION 9A - USE POLICIES**

9A.1 Customer agrees to ensure that all uses of the Services installed at its premises ("use") are legal and appropriate. Specifically, Customer agrees to ensure that all uses by Customer or by any other person ("user"), whether authorized by Customer or not, comply with all applicable laws, regulations, and written and electronic instructions for use. Company reserves the right to act immediately and without notice to terminate or suspend the Services and/or to remove from the Services any information transmitted by or to Customer or users, if Company (i) determines that such use or information does not conform with the requirements set forth in this Agreement, (ii) determines that such use or information interferes with Company's ability to provide the Services to Customer or others, or (iii) reasonably believes that such use or information may violate any laws, regulations, or written and electronic instructions for use. Furthermore, to the extent Customer purchases Internet bandwidth services, such Services shall be subject to Company's Acceptable Use Policies ("AUP") that may limit use. The AUP and other policies concerning Services posted the are http://www.comcast.com/business or on another web site about which Customer has been notified, and are incorporated to this Agreement by reference. Company may update the use policies from time to time, and such updates shall be deemed effective seven (7) days after the update is posted online, with or without actual notice to Customer. Accordingly, Customer should check the above web addresses (or the applicable successor URLs) on a regular basis to ensure that its activities conform to the most current version of the use policies. Company's action or inaction in enforcing acceptable use shall not constitute review or approval of Customer's or any other users' use or information.

9A.2 <u>Violation</u>. Any breach of this Article 9A shall be deemed a material breach of this Agreement. In the event of such material breach, Company shall have the right to restrict, suspend, or terminate immediately any or all Service, without liability on the part of Company, and then to notify Customer of the action that Company has taken and the reason for such action, in addition to any and all other rights and remedies under this Agreement.

### **SECTION 10 - INSURANCE**

- 10.1 Company shall maintain during the Initial Term or any Renewal Term commercial general liability insurance that covers its liability and obligations hereunder including premises operations, broad-form property damage, personal injury hazards and contractual liability.
- 10.2 Customer shall maintain during the Initial Term or any Renewal Term commercial general liability insurance that covers its liability and obligations hereunder including premises operations, broad-form property damage (including, if appropriate, flood damage), personal injury hazards and contractual liability.

10.3 The liability limits under these policies shall be one million (\$1,000,000) dollars per occurrence, with a combined single limit for bodily injury and property damage liability.

### **SECTION 11 - ASSIGNMENT**

11.1 Neither Party shall assign any right, obligation or duty, in whole or in part, or of any other interest hereunder, without the prior written consent of the other Party, which shall not be unreasonably withheld. The foregoing notwithstanding, Company may assign this Agreement to any affiliate, related entity, or successor in interest without Customer's consent. In addition, Company may partially assign its rights and obligations hereunder to any party which acquires from Company all or substantially all of the assets of cable franchise(s) in which the Service is deployed to Customer.

11.2 All obligations and duties of either Party under this Agreement shall be binding on all successors in interest and assigns of such Party.

#### **SECTION 12 - FORCE MAJEURE**

Neither Party shall be held liable for any delay or failure in performance of any part of this Agreement from any cause beyond its control and without its fault or negligence, such as acts of God, acts of civil or military authority, act of terrorism, government regulations, embargoes, epidemics, war, terrorist acts, riots, insurrections, fires, explosions, earthquakes, nuclear accidents, floods, power blackouts, unusually severe weather conditions, inability to secure products or services of other persons or transportation facilities, or acts or omissions of transportation common carriers.

### **SECTION 13 - SEVERABILITY**

In the event that any one or more of the provisions in this Agreement shall for any reason be held invalid, unenforceable, or void in any respect under the laws of the jurisdiction governing the entire Agreement, such provision(s) shall be construed so as to render it enforceable and effective to the maximum extent possible in order to effectuate the intention of this Agreement; and the validity, legality, and enforceability of the remaining provisions hereof shall not be affected or impaired.

### SECTION 14 - THIRD-PARTY BENEFICIARIES

No provision in this Agreement is intended, nor shall any be interpreted, to provide any person not a Party to this Agreement with any remedy, claim, liability, reimbursement, cause of action or create any other third party beneficiary rights against Company.

### **SECTION 15 - INDEPENDENT CONTRACTORS**

15.1 The Parties to this Agreement are independent contractors. Neither Party is an agent, representative, or partner of the other Party. Neither Party shall have any right, power, or authority to enter into any agreement for, or on behalf of, or incur any obligation or liability of, or to otherwise bind, the other Party. This Agreement shall not be interpreted or construed to create an association, agency, joint venture, or partnership between the Parties or to impose any liability attributable to such a relationship upon either Party.

15.2 The requirements of this Article shall survive the expiration, termination, or cancellation of this Agreement to the greatest extent permitted by law.

#### **SECTION 16 - NONDISCLOSURE**

16.1 Unless prior written consent is obtained from a Party hereto, the other Party will keep in strictest confidence all information identified by the first Party as confidential, or which, from the circumstances, in good faith and in good conscience, should be treated as confidential; provided that (a) the owner thereof has taken reasonable measures to keep such information secret; and (b) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by the public. Such information includes but is not limited to all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or not stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing. A Party shall be excused from these nondisclosure provisions if the information has been, or is subsequently, made public by the disclosing Party, is independently developed by the other Party, if the disclosing Party gives its express, prior written consent to the public disclosure of the information, or if the disclosure is required by any law or governmental or quasi-governmental rule or regulation.

**16.2** Customer shall not disclose to third parties the rates, terms, or conditions of this Agreement or any proprietary or confidential information of the Company, except as necessary for the operation of Customer's business and under non-disclosure agreement between Customer and third parties, or as required by law.

### **SECTION 16A - CUSTOMER PRIVACY POLICIES**

16A.1 In addition to the provisions of Article 16, the privacy policy below applies to Company's handling of

Customer confidential information. In the event of a conflict between the provisions of Article 16 and any provision of the privacy policy below, the applicable provision of the privacy policy shall prevail in the resolution of the conflict. A copy of Company's privacy policy is available at <a href="http://www.comcast.com/customerprivacy/">http://www.comcast.com/customerprivacy/</a>. Company may update this policy from time to time, and such updates shall be deemed effective upon posting.

16A.2 Privacy Note Regarding Information Provided to Third Parties: Company is not responsible for any information provided by Customer to third parties, and this information is not subject to the privacy provisions of this Agreement or the privacy policies. Customer assumes all privacy and other risks associated with providing personally identifiable information to third parties via the Services.

### **SECTION 17 - NOTICES**

17.1 Any notices or other communications contemplated or required under this Agreement, in order to be valid, shall be in writing and shall be given via personal delivery, or overnight courier, or via U.S. Certified Mail, Return Receipt Requested, at the following addresses:

To Customer:

Attn:

### To Company:

Attn.: VP – Business Services Comcast Business Communications, LLC. One Comcast Center Philadelphia, PA 19103

### With a copy to:

Attn.: Cable Law Department Comcast Cable Communications, LLC. One Comcast Center Philadelphia, PA 19103

### **SECTION 18 - HEADINGS AND TITLES**

The headings or titles of any provisions of this Agreement are for convenience or reference only and are not to be considered in construing this Agreement.

### SECTION 19 - CHOICE OF LAW

The domestic law of the state in which the Services are provided shall govern the construction, interpretation, and performance of this Agreement, except to the extent superseded by federal law.

### SECTION 20 - COMPLIANCE WITH LAWS

Each of the Parties agrees to comply with all applicable local, state and federal laws and regulations and ordinances in the performance of its respective obligations under this Agreement.

### **SECTION 21 - AMENDMENTS: NO WAIVER**

- 21.1 This Agreement may be amended only by written agreement signed by authorized representatives of both Parties.
- 21.2 No waiver of any provisions of this Agreement or to any default under this Agreement shall be effective unless the same shall be in writing and signed by or on behalf of the Party against whom such waiver is claimed.
- 21.3 No course of dealing or failure of any Party to strictly enforce any term, right, or condition of this Agreement shall be construed as a waiver of such term, right or condition.
- **21.4** Waiver by either Party of any default by the other Party shall not be deemed a waiver of any other default.

### **SECTION 22 - SURVIVAL**

Provisions contained in this Agreement that by their sense and context are intended to survive the performance, termination or cancellation of this Agreement hereof by any Party hereto shall so survive.

#### **SECTION 23 - FULLY INTEGRATED**

This writing constitutes the entire agreement between the Parties as to the subject matter hereof and supersedes and merges all prior oral or written agreements, representations, statements, negotiations, understandings, proposals, and undertakings with respect to the Agreement.

### **SECTION 24 -INTERPRETATION OF AGREEMENT**

This Agreement is a negotiated document. In the event that this Agreement requires interpretation, such interpretation shall not use any rule of construction that a document is to be construed more strictly against the Party who prepared the document.

### SECTION 25 - RIGHT TO ENTER INTO CONTRACTS

Nothing herein shall be construed as preventing either Party hereto from entering into similar contractual arrangements with other parties, unless such contracts would conflict with the performance of this Agreement.

### **SECTION 26 - REMEDIES CUMULATIVE**

All rights of termination, or other remedies set forth in this Agreement are cumulative and are not intended to be exclusive of other remedies to which the injured Party may be entitled at law or equity in case of any breach or threatened breach by the other Party of any provision of this Agreement. Use of one or more remedies shall not bar use of any other remedy for the purpose of enforcing any provision of this Agreement; provided, however, that Party shall not be entitled to retain the benefit of inconsistent remedies.

### **SECTION 27 - COUNTERPARTS**

This Agreement may be executed simultaneously in two or more counterparts, each counterpart shall be deemed an original, and all counterparts individually or together shall constitute one and the same instrument.

### References

Atlantic Cape Community College 5100 Black Horse Pike Mays Landing, New Jersey, 08330 Douglas Hedges 609-343-4911

**Upper Perkiomen School District** 2 Walt Road Pennsburg, PA 18703 Chris Pell 215 679-4021

Pittsburgh Public School District Food Services, 8 South 12th Street Pittsburgh, PA 15205 Steve Mandarino 412 488-2451

**Tribune-Review Publishing Company** 503 Martindale Street 3<sup>rd</sup> Floor Pittsburgh, PA 15212 Scott McKibbin 724 779-6968

### **Comcast Account Team**

### **Commercial Matters**

Dan Zino Strategic Enterprise Account Executive 908-258-8249 dan\_zino@cable.comcast.com

### **Technical Matters**

Dean Romaniello Sales Engineer 215-749-2316 dean\_romaniello@cable.comcast.com

### Manager

Roger Williams
Director
908-624-6088
roger\_williams2@cable.comcast.com