Juniper
PADD15200182
VPoint SP14001

WSCA-NASPO Cooperative Purchasing Program

DATA COMMUNICATIONS PRODUCTS & SERVICES 2014-2019 (UT)

3/10/15 10:31

Category definitions are included in the PowerPoint Presentation document - DATA COMMUNCATIONS CATEGORY DEFINITIONS

Summary by Category	5.2.1 Data Center Applications 5	5.2.2 Networking Software 12	5.2.3 Network Optimization & Acceleration 6	5.2.4 Optical Networking 8	5.2.5 Routers 9	5.2.6 Security 13	5.2.7 Storage Networking 5	5.2.8 Switches 12	5.2.9 Wireless 11	5.3.0 Unified Communications 7	Total Categories Awarded	Home State
ADTRAN (AR607)				ADTRAN	ADTRAN			ADTRAN	ADTRAN	ADTRAN	5	Alabama
Aruba Networks (AR608)		Aruba				Aruba		Aruba	Aruba		4	California
Avaya (AR603)		Avaya		Avaya	Avaya	Avaya		Avaya	Avaya	Avaya	7	California
Barracuda (AR609)	Barracuda		Barracuda			Barracuda					3	California
Brocade (AR214)	Brocade	Brocade	Brocade		Brocade	Brocade	Brocade	Brocade	Brocade		8	California
Ciena (AR612)				Ciena				Ciena			2	Colorado
Cisco Systems (AR233)	Cisco	Cisco	Cisco	Cisco	Cisco	Cisco	Cisco	Cisco	Cisco	Cisco	10	California
Dell (AR602)		Dell	Dell		Dell	Dell	Dell	Dell	Dell		7	Texas
D-Link Systems (AR613)		D-Link				D-Link		D-Link	D-Link		4	California
EMC (AR620)		EMC				EMC	EMC				3	Massachuetts
Extreme Networks (AR1470)		Extreme			Extreme	Extreme		Extreme	Extreme		5	New Hampshire
F5 Networks (AR615)	F5	F5	F5			F5					4	New Jersey
Fujitsu Network (AR616)				Fujitsu							1	Texas
Hewlett Packard (AR1464)	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	10	Arkansas
Huawei Enterprise (AR617)				Huawei	Huawei			Huawei	Huawei	Huawei	5	California
Infoblox (AR619)		Infoblox									1	California
Juniper Networks (AR229)		Juniper		Juniper	Juniper	Juniper		Juniper	Juniper		6	California
Mitel Business Systems (AR623)										Mitel	1	Arizona
Palo Alto Networks (AR626)						Palo Alto					1	California
ShoreTel Inc. (AR627)										ShoreTel	1	California

Awards were made by category ONLY, so awardees can only provide goods for the awarded categories.
Services for the specific category are included in each category.

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Ciena (AR612)				Ciena				Ciena			2	Colorado
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ValuePoint Contract
JP14001

Data Communications Products
&
Services 14-19
Category Definitions

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Table of Contents

Category Definitions

These are definitions of the categories from the Request for Proposal that were used to create the award decisions.

While not perfect, they represent the boundaries of the products and services included in each category.

5.2.1

Data Center Application Services

Application networking solutions and technologies that enable the successful and secure delivery of applications within data centers to local, remote, and branch-office users using technology to accelerate, secure, and increase availability of both application traffic and computing resources.

Contains two subcategories.

5.2.1.x

Data Center Applications Subcategories

- ✓ **5.2.1.1 – Virtualized Load Balancers** - Virtual devices that act like a reverse proxy to distribute network and/or application traffic across multiple services to improve the concurrent user capability and overall reliability of applications. Capabilities should include:
  - ✓ SSL (Secure Sockets Layer) Off-loading
  - ✓ Caching capabilities
  - ✓ Layer 4 Load Balancing
  - ✓ Layer 7 Load Balancing
  - ✓ Detailed Reporting
  - ✓ Supports multiple load balancers in the same system for multiple groups
  - ✓ Supports TLS 1.2

5.2.1.x

Data Center Applications Subcategories

- ✓ **5.2.1.2 – WAN Optimization** - An appliance utilizing a collection of technologies for increasing data-transfer efficiencies across wide-area networks (WAN). Capabilities include:
- ✓ CIFS (Common Internet File System) acceleration
- ✓ Data Compression
- ✓ SSL encryption/decryption for acceleration (Optional)
- ✓ Layer 4-7 visibility
- ✓ Operating Specific optimization

5.2.2

Networking Software

Software that runs on a server and enables the server to manage data, users, groups, security, applications, and other networking functions. The network operating system is designed to allow shared file and printer access among multiple computers in a network, typically a local area network (LAN), a private network or to other networks. Networking software capabilities include:

- ✓ Restartable Process
- ✓ High availability options
- ✓ Targeted operating systems, i.e. data center, campus, core, wan, etc.
- ✓ Operating System efficiencies

Contains four subcategories.

5.2.2.x
Networking Software Subcategories

- ✓ 5.2.2.1 **Network Management and Automation** – software products and solutions for data center automation, cloud computing, and IT systems management.
- ✓ 5.2.2.2 **Data Center Management and Automation** – Software products and solutions that capture and automate manual tasks across servers, network applications, and virtualized infrastructure.
- ✓ 5.2.2.3 **Cloud Portal and Automation** – software products and solutions for cloud management with policy-based controls for provisioning virtual and physical resources.
- ✓ 5.2.2.4 **Branch Office Management and Automation** – software products and solutions for management of branch offices. Capabilities include remote troubleshooting, device management, WAN performance monitoring.

5.2.3

Network Optimization and Acceleration

Devices and tools for increasing data-transfer efficiencies across wide-area networks.

Includes three subcategories.

- ✓ 5.2.3.1 **Dynamic Load Balancing** – an appliance that performs a series of checks and calculations to determine which server can best service each client request in order to select the server that can successfully fulfill the client request and do so in the shortest amount of time without overloading either the server or the server farm as a whole.

5.2.3.x

Additional Networking Optimization & Acceleration Subcategories

5.2.3.2 **WAN Acceleration** - appliance that optimizes bandwidth to improve the end user's experience on a wide area network (WAN). Capabilities should include:

- ✓ CIFS acceleration
- ✓ Data Compression
- ✓ SSL encryption/decryption for acceleration (Optional)
- ✓ Layer 4-7 visibility
- ✓ Application Specific optimization

5.2.3.3 **High Availability and Redundancy** – Limits any disruption to network uptime should an appliance face unforeseen performance issues. Transparently redistributes workloads to surviving cluster appliances without impacting communication throughout the cluster.

5.2.4

Optical Networking

High capacity networks based on optical technology and components that provide routing, grooming, and restoration at the wavelength level as well as wavelength based services.

Has two subcategories

5.2.4.x Optical Networking Subcategories

- ✓ 5.2.4.1 **Core DWDM (Dense Wavelength Division Multiplexing) Switches** – switches used in systems designed for long haul and ultra long-haul optical networking applications.
- ✓ 5.2.4.2 **Edge Optical Switches** – provide entry points into the enterprise or service provider core networks.
- ✓ 5.2.4.3 **Optical Network Management** – provides capabilities to manage the optical network and allows operators to execute end-to-end circuit creation.
- ✓ 5.2.4.4 **IP over DWDM (IPoDWDM) -** a device utilized to integrate IP Routers and Switches in the OTN (Optical Transport Network).

5.2.5

Routers

A device that forwards data packets along networks. A router is connected to at least two networks, commonly two LANs or WANs or a LAN and its ISP's network. Routers are located at gateways, the places where two or more networks connect, and are the critical device that keeps the data flowing between networks and keep the networks connected to the Internet.

Has five subcategories.

5.2.5.x
Router Subcategories

- ✓ 5.2.5.1 **Branch Routers** – a multiservice router typically used in branch offices or locations with limited numbers of users and supports flexible configurations/features. For example: security, VOIP, wan acceleration, etc.
- ✓ 5.2.5.2 **Network Edge Routers** – a specialized router residing at the edge or boundary of a network. This router ensures the connectivity of its network with external networks, a wide area network or the Internet. An edge router uses and External Border Gateway Protocol, which is used extensively over the Internet to provide connectivity with remote networks.

5.2.5.x Router Subcategories

- ✓ 5.2.5.3 **Core Routers** – High performance, high speed, low latency routers that enable Enterprises to deliver a suite of data, voice, and video services to enable next-generation applications such as IPTV and Video on Demand (VoD), and Software as a Services (SaaS).
- ✓ 5.2.5.4 **Service Aggregation Routers** – Provides multiservice adaption, aggregation and routing for Ethernet and IP/MPLS networks to enable service providers and enterprise edge networks simultaneously host resource-intensive integrated data, voice and video business and consumer services.

5.2.5.x
Router Subcategories

- ✓ 5.2.5.5 **Carrier Ethernet Routers** – High performance routers that enable service providers to deliver a suite of data, voice and video services to enable next-generation applications such as IPTV, Video on Demand (VoD), and Software as a Service.

5.2.6
Security

- ✓ 5.2.6.1 **Data Center and Virtualization Security Products & Appliances** – Products designed to protect high-value data and data center resources with threat defenses and policy control.
- ✓ 5.2.6.2 **Intrusion Detection/Protection and Firewall Appliances** – Provide comprehensive inline network firewall security from worms, Trojans, spyware, and Firewall Appliances should provide:
  - ✓ Non-disruptive in-line bump-in-the-wire configuration
  - ✓ Standard first-generation firewall capabilities, e.g., network-address translation (NAT), stateful protocol inspection (SPA) and virtual private networking (VPN), etc.
  - ✓ Application awareness, full stack visibility and granular control
  - ✓ Capability to incorporate information from outside the firewall, e.g., directory-based policy, blacklists, white lists, etc.
  - ✓ Upgrade path to include future information feeds and security threats.
  - ✓ SSL decryption to enable identifying undesirable encrypted applications (Optional).

5.2.6.x Security Subcategories

- ✓ 5.2.6.3 **Logging Appliances & Analysis Tools** – Solutions utilized to collect, classify, analyze, and securely store log messages.
- ✓ 5.2.6.4 **Secure Edge and Branch Integrated Security Products** – Network security, VPN, and intrusion prevention for branches and the network edge. Products typically consist of appliances or routers.
- ✓ 5.2.6.5 **Secure Mobility Products** – Delivers secure, scalable access to corporate applications across multiple mobile devices.
- ✓ 5.2.6.6 **Encryption Appliances** – A network security device that applies crypto services at the network transfer layer – above the data link level, but below the application level.

5.2.6.x
Security Subcategories

- ✓ 5.2.6.7 **On-premise and Cloud-based services for Web and/or Email Security** – solutions that provide threat protection, data loss prevention, message level encryption, acceptable use and application control capabilities to secure Web and email communications.
- ✓ 5.2.6.8 **Secure Access** – Products that provide secure access to the network for any device, including personally owned mobile devices (laptops, tablets and smart phones). Capabilities should include:
  - ✓ Management visibility for device access
  - ✓ Self-service on-boarding
  - ✓ Centralized policy enforcement
  - ✓ Differentiated access and services
  - ✓ Device Management

5.2.7

Storage Networking

High-speed network of shared storage devices connecting different types of storage devices with data servers.

Has 4 subcategories.

5.2.7.x
Storage Networking Subcategories

- ✓ 5.2.7.1 **Director Class SAN (Storage Area Network) Switches and Modules** – A scalable, high-performance, and protocol-independent designed primarily to fulfill the role of core switch in a core-edge Fibre Channel (FC), FCOE or similar SAN topology. A Fibre Channel director is, by current convention, a switch with at least 128 ports. It does not differ from a switch in core FC protocol functionality. Fibre Channel directors provide the most reliable, scalable, high-performance foundation for private cloud storage and highly virtualized environments.
- ✓ 5.2.7.2 **Fabric and Blade Server Switches** – A Fibre Channel switch is a network switch compatible with Fibre Channel (FC) protocol. It allows the creation of a Fibre Channel fabric, which is currently the core component of most SANs. The fabric is a network of Fibre Channel devices, which allows many-to-many communication, device name lookup, security, and redundancy. FC switches implement zoning; a mechanism that disables unwanted traffic between certain fabric nodes.

5.2.7.x
Storage Networking Subcategories

- ✓ 5.2.7.3 **Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management** – Management tools to provision, monitor, troubleshoot, and administer SANs and VSANs.
- ✓ 5.2.7.4 **SAN Optimization** – Tools to help optimize and secure SAN performance (ie., Encryption of data-at-rest, data migration, capacity optimization, data reduction, etc.).

5.2.8
Switches

- Layer 2/3 devices that are used to connect segments of a LAN (local area network) or multiple LANs and to filter and forward packets among them.

Has 8 categories.

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.1 – Campus LAN – Access Switches** – Provides initial connectivity for devices to the network and controls users and workgroup access to internetwork resources. The following are some of the features of a campus LAN access switches should support:
  - ✓ Security
    - ✓ SSHv2 (Secure Shell Version 2)
    - ✓ Port Security
    - √ 802.1X (Port Based Network Access Control)
    - √ DHCP (Dynamic Host Configuration Protocol) Snooping
  - ✓ VLANs
  - ✓ Fast Ethernet/Gigabit Ethernet
  - ✓ PoE (Power over Ethernet)
  - ✓ Link aggregation
  - ✓ 10 Gb support
  - ✓ Port Mirroring
  - ✓ Span Taps
  - ✓ Support of IPv6 and IPv4
  - ✓ Standards-based rapid spanning time
  - ✓ Netflow Support (Optional)

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.2 – Campus LAN – Core Switches** – Campus core switches are generally used for the campus backbone and are responsible for transporting large amounts of traffic both reliably and quickly. Core switches should provide:
  - ✓ High bandwidth
  - ✓ Low latency
  - ✓ Hot swappable power supplies and fans
  - ✓ Security
    - ✓ SSHv2 √ MacSec encryption √ Role-Based Access Control Lists (ACL)
  - ✓ Support of IPv6 and IPv4
  - ✓ 1/10/40/100 Gbps support
  - ✓ IGP (Interior Gateway Protocol) routing
  - ✓ EGP (Exterior Gateway Protocol) routing
  - ✓ VPLS (Virtual Private LAN Service) support
  - ✓ VRRP (Virtual Router Redundancy Protocol) support
  - ✓ Netflow support

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.3 – Campus Distribution Switches** – Collect the data from all the access layer switches and forward it to the core layer switches. Traffic that is generated at Layer 2 on a switched network needs to be managed, or segmented into Virtual Local Area Networks (VLANs). Distribution layer switches provides the inter-VLAN routing functions so that one VLAN can communicate with another on the network. Distribution layer switches provides advanced security policies that can be applied to network traffic using Access Control Lists (ACLs).
  - ✓ High bandwidth
  - ✓ Low latency
  - ✓ Hot swappable power supplies and fans
  - ✓ Security (SSHv2 and/or 802.1x)
  - ✓ Support of IPv6 and IPv4
  - ✓ Jumbo Frames support
  - ✓ Dynamic Trunking Protocol (DTP)
  - ✓ Per-VLAN Rapid Spanning Tree (PVRST+)
  - ✓ Switch-port auto recovery
  - ✓ Netflow support or equlivant

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.4 - Data Center Switches** – Data center switches, or Layer 2/3 switches, switch all packets in the data center by switching or routing good ones to their final destinations, and discard unwanted traffic using Access Control Lists (ACLs), all at Gigabit and 10 Gigabit speeds. High availability and modularity differentiates a typical Layer 2/3 switch from a data center switch. Capabilities should include:
  - ✓ High bandwidth
  - ✓ Low latency
  - ✓ Hot swappable power supplies and fans
  - ✓ Ultra-low latency through wire-speed ports with nanosecond port-to-port latency and hardware-based Inter-Switch Link (ISL) trunking.
  - ✓ Plug and Play Fabric formation that allows a new switch that joins the fabric to automatically become a member
  - ✓ Ability to remotely disable and enable individual ports
  - ✓ Load Balancing across Trunk group able to use packet based load balancing schen
  - ✓ Bridging of Fiber Channel SNAs and Ethernet fabrics
  - ✓ Jumbo Frame Support
  - ✓ Support Netflow or equivalent

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.5 – Software Defined Networks (SDN) – Virtualized Switches and Routers** – Technology utilized to support software manipulation of hardware for specific use cases.

- ✓ **5.2.8.6 – Software Defined Networks (SDN) – Controllers** - Is an application in software-defined networking (SDN) that manages flow control to enable intelligent networking. SDN controllers are based on protocols, such as OpenFlow, that allow servers to tell switches where to send packets. The SDN controller lies between network devices at one end and applications at the other end. Any communications between applications and devices have to go through the controlleer. The controller uses multiple routing protocols including OpenFlow to configure network devices and choose the optimal network path for application traffic.

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.7 – Carrier Aggregation Switches** – Carrier aggregation switches route traffic in addition to bridging (transmitted) Layer 2/Ethernet traffic. Carrier aggregation switches' major characteristics are:
  - ✓ Designed for Metro Ethernet networks
  - ✓ Designed for video and other high bandwidth applications
  - ✓ Supports a variety of interface types, especially those commonly sued by Service Providers
  - ✓ Redundant processors
  - ✓ Redundant power
  - ✓ IPv4 and IPv6 unicast and multicast
  - ✓ High bandwidth
  - ✓ Low latency
  - ✓ Layer 2 functionally
    - ✓ Per VLAN Spanning Tree √ Rapid Spanning Tree √ VLAN IDs up to 4096
    - ✓ Layer 2 Class of Service (IEEE 802.1p) √ QinQ (IEEE 802.1ad)
  - ✓ Hot swappable power supplies and fans
  - ✓ MPLS (Multiprotocol Label Switching)
  - ✓ BGP (Border Gateway Protocol)
  - ✓ Software router virtualization and/or multiple routing tables
  - ✓ Policy based routing

5.2.8.x
Switches Subcategories

- ✓ **5.2.8.8 - Carrier Ethernet Access Switches** - A carrier Ethernet access switch can connect directly to the customer or be utilized as a network interface on the service side to provide layer 2 services.
  - ✓ Hot-swappable and field-replaceable integrated power supply and fan tray
  - ✓ AC or DC power supply with DC input ranging from 18V to 32VDC and 36V to 72VDC
  - ✓ Support for dying gasp on loss of power
  - ✓ Line-rate performance with a minimum of 62-million packets per second (MPPS) forwarding rate
  - ✓ Support for a variety of small form factor pluggable transceiver (SFP and SFP+) with support for Device Object Model (DOM)
  - ✓ Timing services for a converged access network to support mobile solutions, including Radio Access Network (RAN) applications
  - ✓ Support for Synchronous Ethernet (SyncE) services
  - ✓ Supports Hierarchical Quality of Service (H-QoS) to provide granular traffic-shaping policies
  - ✓ Ethernet and console port for manageability
  - ✓ SD flash card slot for additional external storage
  - ✓ Stratum 3 network clock
  - ✓ Supports Resilient Ethernet Protocol REP/G.8032 for rapid layer-2 convergence

5.2.9
Wireless

- Provides connectivity to wireless devices within a limited geographic area. System capabilities should include:
  - Redundancy and automatic fallover
  - IPv6 capability
  - NTP support

Has 6 subcategories

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.1 – Access Points** – A wireless Access Point (AP) is a device that allows wireless devices to connect to a wired network using Wi-Fi, or related standards. Capabilities should include:
  - ✓ 802.11a/b/g/n
  - ✓ 802.11n
  - ✓ 802.11ac
  - ✓ Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)
  - ✓ UL2043 plenum rated for safe mounting in a variety of indoor environments
  - ✓ Support AES-CCMP (128-bit)
  - ✓ Provides real-time wireless intrusion monitoring and detection

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.2 – Outdoor Wireless Access Points** – Outdoor Aps are rugged, with a metal cover and a DIN rail or other type of mount. During operations they can tolerate a wide temperature range, high humidity and exposure to water, dust, and oil. Capabilities should include:
  - ✓ Flexible deployment options
  - ✓ Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)
  - ✓ Provides real-time wireless intrusion monitoring and detection

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.3 – Wireless LAN Controllers** – An onsite or offsite solution utilized to manage light-weight access points in large quantities by the network administrator or configuration of wireless access-points. Capabilities should include:
  - ✓ Ability to monitor and mitigate RF interference/self-heal
  - ✓ Support seamless roaming from AP to AP without requiring re-authentication
  - ✓ Support of configurable access control lists to filter traffic and denying wireless peer to peer traffic
  - ✓ Policy management of users and devices provides ability to de-authorize or deny devices without denying the credentials of the users, nor disrupting other AP traffic
  - ✓ System encrypts all management layer traffic and passes I through a secure tunnel

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.4 – Wireless LAN Network Services and Management** – Enables network administrators to quickly plan, configure and deploy a wireless network, as well as provide additional WLAN services. Some examples include wireless security, asset tracking, and location services. Capabilities should include:
  - ✓ Provide for redundancy and automatic fallover
  - ✓ Historical trend and real time performance reporting is supported
  - ✓ Management access to wireless network components is secured
  - ✓ SNMPv3 enabled
  - ✓ RFC 1213 compliant
  - ✓ Automatically discover wireless network components
  - ✓ Capability to alert for outages and utilization threshold exceptions
  - ✓ Capability to support Apple's Bonjour Protocol/mDNS
  - ✓ QoS/Application identification capability

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.5 – Cloud-based services for Access Points** – Cloud-based management of campus-wide WiFi deployments and distribution
  - ✓ Zero-touch access point provisioning
  - ✓ Network-wide visibility and control
  - ✓ RF optimization
  - ✓ Firmware udpates

5.2.9.x
Wireless Subcategories

- ✓ **5.2.9.6 - Bring Your Own Device (BYOD)** – Mobile Data Management (MDM) technology utilized to allow employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace, and use those devices to access privileged government information and applications in a secure manner. Capabilities should include:
  - ✓ Ability to apply corporate policy to new devices accessing the network resources, whether wired or wireless
  - ✓ Provide user and device authentication to the network
  - ✓ Provide secure remote access capability
  - ✓ Support 802.1x
  - ✓ Network optimization for performance, scalability, and user experience

5.3.0
Unified Communications (UC)

- A set of products that provides a consistent unified user interface and user experience across multiple devices and media types. Unified Communications that is able to provide services such as session management, voice, video, messaging, mobility, and web conferencing. It can provide the foundation for advanced unified communications capability of IM and presence-based services and extends telephony features and capabilities to packet telephony network devices such as IP phones, media processing devices, Voice over IP (VoIP) gateways, and multimedia applications. Additional services, such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems, are made possible through open telephony APIs. General UC solution capabilities should include:
  - High Availability for Call Processing
  - Hardware Platform High Availability
  - Network Connectivity High Availability
  - Call Processing Redunancy

Has 8 subcategories

5.3.0.x
Unified Communications Subcategories

- ✓ **5.3.0.1 – IP Telephony** – Solutions utilized to provide the delivery of the telephony include:
  - ✓ Support for analog, digital, and IP endpoints
  - ✓ Centralized Management
  - ✓ Flexibility to configure queue depth and hold time, play unique announcements and Music on Hold (MoH), log in and log out users from a queue and basic queue statistics (from the phone)
  - ✓ Provide basic hunt group and call queing capabilities
  - ✓ E911 support

5.3.0.x

Unified Communications Subcategories

- ✓ **5.3.0.2 – Instant Messaging/Presence** – Solutions that allow communication over the Internet that offers quick transmission of text-based messages from sender to receiver. In push mode between two or more people using personal computers or other devices.

- ✓ **5.3.0.3 – Unified messaging** – Integration of different electronic messaging and communications media (e-mail, SMS, Fax, voicemail, video messaging, etc.) technologies into a single interface, accessible from a variety of different devices
  - ✓ Ability to access and manage voice messages in a variety of ways, using email box, Web browser, desktop client, VoIP phone, or mobile phone
  - ✓ Visual Voicemail Support (Optional)

5.3.0.x

Unified Communications Subcategories

- ✓ **5.3.0.4 – Contact Center** – A computer-based system that provides call and contact routing for high-volume telephony transactions, with specialists answering "agent" stations and a sophisticated real-time contact management system. The definition includes all contact center systems that provide inbound contract handling capabilities and automatic contact distribution, combined with a high degree of sophistication in terms of dynamic contact traffic management.

- ✓ **5.3.0.5 – Communications End Points and Applications**
  - ✓ Attendant Consoles
  - ✓ IP Phones

5.3.0.x

Unified Communications Subcategories

- ✓ **5.3.0.6 – UC Network Management** – Provides end-to-end service management for Unified Communications. Capabilities include testing, performance monitoring, configuration management, and business intelligence reporting.

- ✓ **5.3.0.7 – Collaboration** – Voice, video, and web conferencing; messaging; mobile applications; and enterprise social software.

- ✓ **5.3.0.8 – Collaborative Video** – A set immersive video technologies that enable people to feel or appear as if they were present in a location that they are not physically in. Immersive video consists of a multiple codec video system, where each meeting attendee uses an immersive video room to "dial in" and can see/talk to every other member on a screen (or screens) as if they were in the same room and provides call control that enables intelligent video bandwidth management.

5.3.0.8

Unified Communications Sub-Subcategories

- ✓ **5.3.8.1 – Content Delivery Systems (CDS)** – A large distributed system of servers deployed in multiple data centers connected by the Internet. The purpose of the content delivery system is to serve content to end-users with high availability and high performance. CDSs serve content over the Internet, including we objects (text, graphics, URLs, and scripts), downloadable objects (media files, software, documents), applications (e-commerce, portals), living streaming media, on-demand streaming media, and social networks.
- ✓ **5.3.0.8.2 – Physical Security** – Technology utilized to restricting physical access by unauthorized people to controlled facilities. Technologies:
  - ✓ Access control systems
  - ✓ Detection/identification systems, such as surveillance systems, closed circuit television cameras, or IP camera networks and the associated monitoring systems
  - ✓ Response systems such an alert systems, desktop monitoring systems, radios, mobile phones, IP phones, and digital signage
  - ✓ Building and energy controls

5.3.1
Services

- For each Category above (5.2.1 – 5.3.0), the following services should be available for procurement as well at the time of product purchase or anytime afterwards.

Has 4 subcategories

5.3.1.x
Services Subcategories

- ✓**5.3.1.1 – Maintenance Services** – Capability to provide technical support, hardware coverage, and smart, proactive device diagnostics for hardware.

5.3.1.x
Services Subcategories

- ✓ **5.3.1.2 – Professional Services**
  - ✓ Deployment Services
    - ✓ Survey/Design Services – Includes, but not limited to, discovery, design, architecture review/validation, and readiness assessment
    - ✓ Implementation Services – Includes, but not limited to, basic installation and configuration or end-to-end integration and deployment
    - ✓ Optimization – Includes, but not limited to, assessing operational environment readiness, identify ways to increase efficiencies throughout the network, and optimize Customer's infrastructure, applications and service management
  - ✓ Remote Management Services – Includes, but not limited to, continuous monitoring, incident management, problem management, change management, and utilization and performance reporting that may be on a subscription basis
  - ✓ Consulting/Advisory Services – Includes, but not limited to, assessing the availability, reliability, security and performance of a Customer's existing solutions
  - ✓ Data Communications Architectural Design Services – Developing architectural strategies and roadmaps for transforming Customer's existing network architecture and operations management.
  - ✓ Statement of Work (SOW) Services – Customer-specific tasks to be accomplished and/or services to be delivered based on Customer's business and technical requirements

5.3.1.x
Services Subcategories

- ✓ **5.3.1.3 - Partner Services** – Provided by Contractor's Authorized Partners/Resellers
  - ✓ Subject to Contractor's approval and the certifications held by its Partners/Resellers, many Partners/Resellers can also offer and provide some or all of the Services as listed above at competitive pricing, along with local presence and support. As the prime, Contractor is sill ultimately responsible for the performance of its Partners/Resellers. Customers can have the option to purchase the Services to be directly delivered by Contractor (OEM) or its certified Partners/Resellers.

- ✓ **5.3.1.4 – Training** – Learning offerings for IT professionals on networking technologies, including but not limited to, designing, implementing, operating, configuring, and troubleshooting network systems pertaining to items provided under the master agreement.

Questions?

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