STATE OF HAWAII
STATE PROCUREMENT OFFICE
P.O. Box 119
Honolulu, Hawaii 96810-0119
Telephone: (808) 587-4700
e-mail: state.procurement.office@hawaii.gov
http://spo.hawaii.gov

March 6, 2015

TO: Executive Departments/Agencies   City and County of Honolulu
        Department of Education (DOE)   (C&C of Honolulu)
            (Excludes Charter Schools)   Honolulu City Council
         Hawaii Health Systems Corporation   Honolulu Board of Water Supply
            (HHSC)   Honolulu Authority For Rapid Transportation
        Office of Hawaiian Affairs (OHA)   (HART)
        University of Hawaii (UH)   County of Hawaii
        House of Representatives (House)   Hawaii County Council
         Senate   County of Hawaii-Department of Water Supply
        Judiciary   County of Maui
                                                   Maui County Council
                                                   County of Maui-Department of Water Supply
                                                   County of Kauai
                                                   Kauai County Council
                                                   County of Kauai-Department of Water

FROM: Sarah Allen
        Administrator

SUBJECT: **Change No. 5**
        SPO Price List Contract No. 15-04
        WSCA-NASPO DATA COMMUNICATIONS PRODUCTS & SERVICES
        Expires: May 31, 2019
        WSCA-NASPO Solicitation JP14001

The following changes are made to the subject price list contract:

- Add Infoblox Inc. as an authorized vendor.
- Tritia Cruz is the new point of contact for the Judiciary.

The current contract incorporating Change No. 5 is available on the SPO website: http://spo.hawaii.gov.
Click on *Price & Vendor List Contracts* at the home page.

If you have any questions, please contact Stanton Mato at (808) 586-0566 or email
stanton.d.mato@hawaii.gov.

STATE OF HAWAII
STATE PROCUREMENT OFFICE

WSCA-NASPO
DATA COMMUNICATION PRODUCTS & SERVICES
(WSCA-NASPO_RFP-JP14001)
August 27, 2014 to May 31, 2019

INFORMATION ON WSCA-NASPO

The State of Hawaii is a member of the Western States Contracting Alliance (WSCA) – National Association of State Procurement Officials (NASPO). WSCA-NASPO is a cooperative group-contracting consortium for state government departments, institutions of higher education, agencies and political subdivisions (e.g. colleges, school districts, counties, cities, etc.,) for the 50 states, the District of Columbia and the organized US territories. WSCA-NASPO seeks to achieve price discounts by combining the requirements of multi-state governmental agencies, and cost-effective and efficient acquisition of quality products and services.

The State of Utah is the current lead agency and contract administrator for the WSCA-NASPO Data Communications Product & Services contract. A request for competitive sealed proposals was issued on behalf of WSCA-NASPO Cooperative Purchasing Organization, LLC and contracts were awarded to twenty-one (21) qualified Contractors. The State of Hawaii signed a Participating Addendum with ten Contractors.

This contract offers data communication products and services in ten categories. They are Data Center Application Services, Networking Software, Network Optimization and Acceleration, Optical Networking, Routers, Security, Storage Networking, Switches, Wireless, and Unified Communications.

For additional information on this contract, visit the WSCA-NASPO website at www.aboutwsca.org.

PARTICIPATING JURISDICTIONS listed below have signed a memorandum of agreement with the SPO and are authorized to utilize this vendor list contract:

Executive Departments/Agencies	C&C of Honolulu
DOE	Honolulu City Council
(Excludes Charter Schools)	Honolulu Board of Water Supply
HHSC	HART
OHA	County of Hawaii
UH	Hawaii County Council
House	County of Hawaii-Department of Water Supply
Senate	County of Maui
Judiciary	Maui County Council
	County of Maui-Department of Water Supply
	County of Kauai
	Kauai County Council
	County of Kauai-Department of Water

The participating jurisdictions are not required but may purchase from this vendor list contract, and requests for exception from the contract are not required. Participating jurisdictions are allowed to purchase from other contractors; however, HRS chapter 103D and the procurement rules apply to purchases by using the applicable method of procurement and its procedures, such as small purchases or competitive sealed bidding. The decision to use this contract or to solicit pricing from other sources is at the discretion of the participating jurisdiction.

POINT OF CONTACT. Questions regarding the products listed, ordering, pricing, and status should be directed to the contractor(s).

Procurement questions or concerns may be directed as follows:

Jurisdiction	Name	Telephone	Fax	E-mail
Executive	Stanton Mato	586-0566	586-0570	stanton.d.mato@hawaii.gov
DOE (Excludes Charter Schools)	Procurement Staff	675-0130	675-0133	doeprocure@notes.k12.hi.us
HHSC	Joe Evanoff	733-4168	733-4460	jevanoff@hhsc.org
OHA	Phyllis Ono-Evangelista	594-1833	594-1865	phylliso@oha.org
UH	Matthew Chow (Primary)	956-2765	956-2096	chowmatt@hawaii.edu
	Karlee Hisashima	956-8687	956-2093	karlee@hawaii.edu
House	Brian Takeshita	586-6423	586-6401	takeshita@capitol.hawaii.gov
Senate	Carol Taniguchi	586-6720	586-6719	c.taniguchi@capitol.hawaii.gov
Judiciary	Tritia Cruz	538-5805	538-5802	tritia.l.cruz@courts.state.hi.us
C&C of Honolulu	Procurement Specialist	768-5535	768-3299	bfspurchasing@honolulu.gov
Honolulu City Council	Clayton Wong	568-5084	568-5011	cwong@honolulu.gov
Honolulu Board of Water Supply	Vicki Kitajima	748-5151	550-9193	vkitajima@hbws.org

Jurisdiction	Name	Telephone	Fax	E-mail
HART	Nicole Chapman	768-6135	768-5110	nchapman@honolulu.gov
County of Hawaii	Jeffrey Dansdill	961-8440	961-8248	jdansdill@co.hawaii.hi.us
Hawaii County Council	Jeffrey Dansdill	961-8440	961-8248	jdansdill@co.hawaii.hi.us
County of Hawaii-Department of Water Supply	Ka'iulani L. Matsumoto	961-8050 x224	961-8657	kmatsumoto@hawaiidws.org
County of Maui	Greg King	249-2403 x30	249-0839	greg.king@co.maui.hi.us
Maui County Council	Ross Izumigawa	270-7661	270-7686	ross.izumigawa@mauicounty.us
County of Maui-Department of Water Supply	Kenneth L. Bissen Holly Perdido	270-7684 270-7684	270-7136 270-7136	ken.bissen@co.maui.hi.us holly.perdido@co.maui.hi.us
County of Kauai	Florence Kakuda	241-4294	241-6297	fkakuda@kauai.gov
Kauai County Council	Lisa Ishibashi Scott Sato	241-4820 241-4810	241-6349 241-6349	lishibashi@kauai.gov ssato@kauai.gov
County of Kauai-Department of Water	Faye Tateishi	245-5426	245-5813	ftateishi@kauaiwater.org

USE OF PRICE & VENDOR LIST CONTRACT BY NONPROFIT ORGANIZATIONS.
Pursuant to HRS §103D-804, nonprofit organizations with current purchase of service contracts (HRS chapter 103F) have been invited to participate in the SPO price & vendor lists contracts.

A listing of these nonprofit organizations is available at the SPO website: http://spo.hawaii.gov. Click on *For Vendors > Non Profits > Cooperative Purchasing Program > View the list of qualifying nonprofits eligible to participate in cooperative purchasing.*

If a nonprofit wishes to purchase from a SPO price or vendor list contract, the nonprofit must obtain approval from each Contractor, i.e., participation must be mutually agreed upon. A Contractor may choose to deny participation by a nonprofit. Provided, however, if a nonprofit and Contractor mutually agree to this arrangement, it is understood that the nonprofit will retain its right to purchase from other than a SPO price or vendor list Contract(s).

VENDORS.   The vendors shown below are authorized to provide Data Communications Products & Services. They have signed a Master Agreement with the State of Utah and a Participating Addendum with the Hawaii State Procurement Office.

Vendors	Contract Number
Brocade	AR-214
Cisco Systems, Inc.	AR-233
Dell Marketing LP	AR-602
EMC Corporation	AR-620
Fujitsu Network Communications	AR-616
Hewlett-Packard Company	AR-1464
Infoblox Inc.	AR-619
Juniper Networks (US), Inc.	AR-229
Palo Alto Networks, Inc.	AR-626
ShoreTel, Inc.	AR-627

VENDOR CODES for annotation on purchase orders are obtainable from the *Alphabetical Vendor Edit Table* available at your department's fiscal office. Agencies are cautioned that the remittance address on an invoice may be different from the address of the vendor code annotated on the purchase order.

COMPLIANCE. Prior to awarding a contract, the SPO verified compliance of the Contractor with all laws governing entities doing business in the State pursuant to HRS §103D-310(c), and SPO will monitor compliance throughout the term of the contract via *Hawaii Compliance Express (HCE).* Therefore, purchasing agencies are not required to verify vendor compliance prior to utilizing a SPO Price or Vendor List Contract.

PURCHASING CARD (pCard). The State of Hawaii Purchasing Card (pCard) is required to be used by the Executive departments/agencies, excluding DOE, UH, OHA and HHSC for orders totaling less than $2,500. For purchases $2,500 or more, agencies may use the pCard, subject to its credit limit, or issue a purchase order.

PURCHASE ORDERS may be issued for purchases $2,500 or more; and for Contractors who either do not accept the pCard, set minimum order requirements before accepting the pCard for payment, or charge its customers a transaction fee for the usage.

SPO PL CONTRACT NO. 15-04 & **VENDOR CONTRACT NO.** listed on page 3 shall be typed on purchase orders issued against this price list contract**.** For pCard purchases, the SPO PL Contract No. 15-04 and the VENDORS CONTRACT NO. shall be notated on the appropriate transaction document.

GENERAL EXCISE TAX. The Hawaii General Excise Tax (GET) shall not exceed 4.712% for the island of Oahu and 4.166% for Maui, Kauai and Hawaii. The GET is not applied to shipping or delivery charges.

PAYMENTS. HRS §103-10 provides that the State shall have thirty (30) calendar days after receipt of invoice or satisfactory completion of contract to make payment. Payments may also be made via pCard.

VENDOR AND PRODUCT EVALUATION form SPO-012, for the purpose of addressing concerns on this price list contract, is available to agencies at the SPO website: http://spo.hawaii.gov. Click on *Forms* on the home page.

PRICE OR VENDOR LIST CONTRACT AVAILABLE ON THE INTERNET at the SPO website: http://spo.hawaii.gov. Click on *Price & Vendor List Contracts* on the home page.

DATA COMMUNICATIONS PRODUCTS & SERVICES CATEGORIES
GO TO PAGE 15 FOR CATEGORIES COVERED BY AUTHORIZED VENDORS

5.2 Data Communications Services – Requirements
Products may be used by the states in branch offices, main government offices and data centers, and by overall government data communications providers offering carrier class services.

The scope and context **does not include endpoints such as cell/smart phones, other mobile devices designed exclusively for use by individual users**. It is focused on the equipment and software infrastructure required to support provisioning of a variety of network services within a modern digital network. The user context will vary from branch offices through enterprise and statewide data communication network installations.

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.

5.2.1.1 **Virtualized Load Balancers** – Virtual devices that act like a reverse proxy to distribute network and/or application traffic across multiple servers to improve the concurrent user capacity 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 TLS1.2

5.2.1.2 **WAN Optimization** – An appliance utilizing a collection of techniques for increasing data-transfer efficiencies across wide-area networks (WAN). Capabilities should include:
- CIFS (Common Internet File System) acceleration
- Data Compression
- SSL encryption/decryption for acceleration (Optional)
- Layer 4-7 visibility
- Application 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 should include:
- Restartable Process
- High availability options
- Targeted operating systems, i.e. DC, campus, core, wan, etc.
- Operating System Efficiencies

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 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.

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.

5.2.3.2 **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 andcomponents that provide routing, grooming, and restoration at the wavelength level as well as wavelength based services.

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 ISP's network. Routers are located at gateways, the places where two or more networks connect, and

are the critical device that keeps data flowing between networks and keep the networks connected to the Internet.

5.2.5.1 **Branch Routers** – A multiservice router typically used in branch offices or locations with limited number of users and supports flexible configurations/feature. 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 an External Border Gateway Protocol, which is used extensively over the Internet to provide connectivity with remote networks.

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 Service (SaaS).

5.2.5.4 **Service Aggregation Routers** – Provides multiservice adaptation, 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.

5.2.5.5 **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 (SAAS).

5.2.6 **SECURITY**

5.2.6.1 **Data Center and Virtualization Security Products and Appliances** – Products designed to protect high-value data and data center resources with threat defense 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), stated protocol inspection (SPI) 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)

5.2.6.3 **Logging Appliances and 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.

5.2.6.7 **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
- Differential 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.

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 the Fibre Channel (FC) protocol. It allows the creation of a Fibre Channel fabric, which is currently the core component of most SAN's. 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.

5.2.7.3 **Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management – Management tools to provisions, monitors, 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.

5.2.8.1 **Campus LAN – Access Switches** – Provides initial connectivity for devices to the network and controls user and workgroup access to internetwork resources. The following are some of the features a campus LAN access switch should support:

- Security
  SSHv2 (Secure Shell Version 2)
  802.1X (Port Based Network Access Control)
  Port Security
  DHCP (Dynamic Host Configuration Protocol) Snooping
- VLANs
- Fast Ehternet/Gigabit Ethernet
- PoE (Power over Ethernet)
- link aggregation
- 10 Gb support
- Port mirroring
- Span Taps
- Support of IPv6 and IPv4
- Standards-based rapid spanning tree
- Netflow Support (Optional)

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
  i. SSHv2
  ii. MacSec encryption
  iii. 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 Reduncancy Protocol) Support
- Netflow Support

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 Network (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
- 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 equivalent

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 (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 Fibre Channel SANs and Ethernet fabrics
- Jumbo Frame Support

5.2.8.5 **Software Defined Networks (SDN) – Virualized Switches and Routers** – Technology utilized to support software manipulate 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 controller. The controller uses multiple routing protocols including OpenFlow to configure network devices and choose the optimal path for application traffic.

5.2.8.7 Carrier Aggregation Switches – Central aggregation switches route traffic in addition to bridging (transmitted) Layer 2/Ethernet traffic. Carrier aggregation switches major characteristics are:

- Designed for video and other high bandwidth applications
- Supports a variety of interface types, especially those commonly used by Service Providers
- Capabilities include:
  - o Redundant Processors
  - o Redundant Power
  - o IPv4 and IPv6 unicast and multicast
  - o High bandwidth
  - o Low latency
  - o Layer 2 functionality
    - i. Per VLAN Spanning Tree
    - ii. Rapid Spanning Tree
    - iii. VLAN IDs up to 4096
    - iv. Layer 2 Class of Service (IEEE 802.1p)
    - v. Link Aggregation Control Protocol (LACP)
    - vi. QinQ (IEEE 802.1ad)
  - o Hot swappable power supplies and fans
  - o MPLS (Multiprotocol Label Switching)

        o BGP (Border Gateway Protocol)
        o Software router virtualization and/or multiple routing tables
        o Policy based routing

5.2.8.8 Carrier Ethernet Access Switches – A carrier Ethernet access switch can connect directly to the customer directly to the customer to 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 32 VDC and 36V to 72 VDC
- 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-two convergence

5.2.9 **WIRELESS** – Provides connectivity to wireless devices within a limited geographic area. System capabilities should include:
- Redundancy and automatic failover
- IPv6 compatibility
- NTP Support

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

5.2.9.2 **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 include:
- Flexible Deployment Options
- Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)

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 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 user, nor disrupting other AP traffic

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 include:

- Provide for redundancy and automatic failover
- Historical trend and real time performance reporting is supported
- Management access to wireless network components is secured
- SNMPv3 enabled
- RFC 1213 compliant
- Automatically discovered wireless network components
- Capability to alert for outages and utilization threshold exceptions
- Capability to support Apple's Bonjour Protocol/mDNS
- QoS/Application identification capability

5.2.9.5 **Cloud based service 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 updates

5.2.9.6 **Bring Your Own Device (BYOD)** – Mobile Data Management (MDM) technology utilized to allow employees to bring personally mobile devices (laptops, tablets, and smart phones) to their workplace, and use those devices to access priviledged government information and applications in a secure manner, Capabilities should include:

- Ability to apply corporate policy to new devices accessing the networking resources, whether wired or wireless
- Provide user and devices 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 capabilities 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 solutions capabilities should include:

- High Availability for Call Processing
- Hardware Platform High Availability
- Network Connectivity Availbility
- Call Processing Redundancy

5.3.0.1 **IP Telephony** – Solutions utilized to provide the delivery of the telephone include:

- Support for analog, digitals, 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 queuing capabilities
- E911 Support

5.3.0.2 **Instant messaging/Presence** – Solutions that allow communication over the Internet that offers a 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 inbox, Web browser, desktop client, VoIP phone, or mobile phone
- Visual Voicemail Support (Optional)

5.3.0.4 **Contact Center** – A computer-based system that provides call and contact routing for high-volume telephony transactions, with specialist answering "agent" stations and a sophisticated real-time contact management system. The definition includes all contact center systems that provide inbound contact 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

5.3.0.6 **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 of 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 code 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.

5.3.0.8.1 **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 web objects (text, graphics, URLs, and scripts), downloadable objects (media, files, software, documents), applications (e-commerce, portals), live 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.
a. Access control systems
b. Detection/identification systems, such as surveillance systems, closed circuit television cameras, or IP camera networks and the associated monitoring systems.
c. Response systems such as alert systems, desktop monitoring systems, radios, mobile phones, IP phones, and digital signage
d. 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.

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

5.3.1.2 **Professional Services**
- Deployment Services
  o Survey/Design Services – Includes, but not limited to discovery, design, architecture review/validation, and readiness assessment.
  o Implementation Services – Includes, but not limited to basic installation and configuration or-end-to-end integration and deployment.
  o 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 Customer's existing solutions.
- Data Communications Architecture 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.

5.3.1.3 **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 still ultimately responsible for the performance of its Partners/Resellers. Customer can have the option to purchase 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.

CATEGORIES COVERED BY THE AUTHORIZED VENDORS

VENDOR NAME	CATEGORIES
BROCADE	5.2.1 TO 5.2.3, 5.2.5 TO 5.2.9
CISCO SYSTEMS	5.2.1 TO 5.3.1.4
DELL MARKETING	5.2.2, 5.2.3, 5.2.5 TO 5.2.9
EMC CORPORATION	5.2.2, 5.2.6, 5.2.7
FUJITSU NETWORK	5.2.4
HEWLETT PACKARD	5.2.1 TO 5.3.1.4
INFOBLOX	5.2.2
JUNIPER NETWORKS	5.2.2, 5.2.4 TO 5.2.6, 5.2.8, 5.2.9
PALO ALTO NETWORKS	5.2.6
SHORETEL	5.3.0 TO 5.3.1.4

AGENCY INSTRUCTIONS – FOR PRICE QUOTES UNDER $5,000

Agency shall obtain a minimum of one (1) written price quote from an authorized vendor or authorized reseller for expenditures under $5,000.

Agencies shall inform the authorized vendor or authorized reseller for price quotes in reference to the ***WSCA-NASPO Data Communications Products & Services.***

AGENCY INSTRUCTIONS – FOR PRICE QUOTES $5,000 OR MORE, SELECT OPTION 1 OR OPTION 2

Agencies shall inform the authorized vendor or authorized reseller for price quotes in reference to the ***WSCA-NASPO Data Communications Products & Services.***

OPTION 1: Agency requests two price quotes from two manufacturer's authorized resellers (Brocade, Cisco, EMC, Corporation, Fujitsu, HP, Infoblox, or Juniper). Award is based on *Consideration of Quotes.*

OPTION 2: Agency requests price quotes from a minimum of two (2) authorized vendors (Brocade, Cisco, Dell Marketing LP, EMC Corporation, Fujitsu, HP, infoblox, Juniper, Palo Alto Networks, ShoreTel). Award is based on *Consideration of Quotes.*

Personnel conducting or participating in utilizing this Price/Vendor List Contract is responsible to complete form SPO-010, *Record of Procurement* when an award is for $5,000 or greater. All non-responsive vendor(s) and related pertinent information to this procurement shall be notated in Part C. The completed and properly signed (personnel with delegated authority) copy of the SPO-010 shall be kept in the procurement/contract file.

CONSIDERATION OF QUOTES: Agencies shall consider all responsive and responsible quotes received. An award shall be made to the vendor(s) offering the lowest price. If the lowest price does not meet the agencies specification requirement, the award may be made to the vendor(s) whose offer represents the best value to the agency. Best value means the most advantageous offer determined by evaluating and comparing all relevant criteria in addition to price so that the offer meeting the overall combination that best services the agency is selected. These criteria may include, in addition to others, the total cost of ownership, performance, history of the vendor, quality of goods, services, delivery and proposed technical performance.

FORM SPO-010, *Record of Procurement* is available on the SPO website: http://spo.hawaii.gov; click on *Forms* on the SPO homepage.

CONTRACTORS

AND

AUTHORIZED

RESELLERS

CONTACT

INFORMATION

BROCADE

CONTRACT NO. AR-214

For price quotes, contact Brocade's Authorized Resellers. Payments are made to Brocade's Authorized Resellers.

For questions regarding Brocade contact:

BROCADE
Tania Craythorne
Phone: (408) 333-6226
Email: SLEDTeam@Brocade.com

AUTHORIZED RESELLERS

CDW Government LLC
230 N. Milwaukee Ave.
Vernon Hills, IL 60061
Phone: (877) 898-2997
Pat O'Brien, Sales Manager
patobri@cdwg.com

Hana Industries, Inc.
841 Bishop Street, Suite 1160
Honolulu, HI 96825
Phone: (808) 522-7278 x29
Cell: (808) 265-0171
Fax: (808) 522-7282
Mike Rawlins, Pacific Region Mgr
mrawlins@hanaindustries.com

Sirius Computer Solutions
613 NW Loop
San Antonio Loop, TX 78216
Phone: (210) 369-0617
Phyllis Byrd, Public Sector Mgr
phyllis.byrd@siriuscom.com

System Optimization & Support
1188 Bishop Street, Suite 3002
Honolulu, HI 96814
Phone: (808) 523-3072
Thomas Matthews
thomas@sos-hawaii.com

CISCO SYSTEMS, INC.
CONTRACT NO. AR233

For price quotes, contact Cisco Systems, Inc. authorized resellers.
Payments are made to Cisco's Authorized Resellers.

CISCO SYSTEMS, INC.
Contact: Dean Motoyama (Contact Mr. Motoyama for Cisco's questions)
Phone: (808) 540-1715
Address: 500 Ala Moana Blvd.,Tower #4, Suite 400
            Honolulu, HI. 96813
Email: dmotoyam@cisco.com

AUTHORIZED RESELLERS

CDW Government LLC
Contact: Pat O'Brien
Phone: (847) 371-5584
Email: patobri@cdwg.com

Hawaiian Telcom, Inc.
Contact: Leslee Ellenson
Phone: (808) 546-3113
Email: leslee.ellenson@hawaiiantel.com

En Pointe Technologies Sales, Inc.
Contact: Imran Yunus
Phone: (310) 337-5908
Email: iyunus@enpointe.com

Sirius Computer Solutions, Inc.
Contact: Phyllis Byrd
Phone: (210) 369-0617
Email: phyllis.byrd@siriuscom.com

Science Applications International Corporation
Contact: Nancy Fejer
Phone: (858) 204-8937
Email: fejern@saic.com

Iron Bow Technologies, LLC
Contact: Jason Halsey
Phone: (808) 478-2019
Email: jason.halsey@ironbow.com

International Business Machines Corporation
Contact: Sally Beyer-Woodcox
Phone: (214) 697-4094
Email: sbeyerw@us.ibm.com

Pacxa Holding
Contact: Roanne Abe
Phone: (808) 791-5932
Email: roanne.abe@pacxa.com

Referentia Systems Incorporated
Contact: Faith W. Ka'upu
Phone: (808) 840-8525
Email: fkaupu@referentia.com

Prosis Hawaii, LLC
Contact: Joni Akasaki
Phone: (808) 695-3881
Email: joni.akasaki@prosishawaii.com

World Wide Technology, Inc.
Contact: Dante Smith
Phone: (808) 550-2487
Email: dante.smith@wwt.com

Communication Consulting Services, Inc.
Contact: Ted Salmon
Phone: (808) 842-7800
Email: tsalmon@ccsi-solutions.com

Pacific Technology Solutions, LLC
Contact: Michael M. Hirai
Phone: (808) 848-000
Email: mhirai@network2000-hi.com

Presidio Networked Solutions, Inc.
Contact: Rick Howard
Phone: (503) 594-0364
Email: rhoward@presidio.com

DELL MARKETING LP
Master Price Agreement Number AR602

http://www.dell.com/learn/us/en/84/slg/slg-wsca-naspo-contracts/

Payment Address:

Dell Marketing L.P.
c/o Dell USA L.P.
P.O. Box 910916
Pasadena, CA. 91110-0916
Vendor Code: 231746-11

To place an order online – go to www.dell.com/quote.

For questions regarding purchase order receipt, please call 1-800-981-3355 ext. 724-4109 or email PO_Inquiry@dell.com.

For Price Quotes, Sales and Support questions, please contact your appropriate team below:

State Departments & C&C of Honolulu

Jeff Cochran, Account Executive	Jessica Johnson, Inside Account Mgr.
Phone: (949) 363-2983	Phone: (800) 274-7799 x 5139375
Email:jeff_cochran@dell.com	PO Fax#: (866) 501-8291
	Email: jessica_johnson@dell.com

DOE & Neighbor Island Counties

Kaity Jackson, Account Executive	Nicholas Lauck, Inside Account Mgr.
Phone: (619) 564-1951	Phone: (512) 513-9099
Email: kaity_jackson@dell.com	Email: Nicholas_Lauck@Dell.com

WSCA Program Contract Manager
Diane Wigington, Contracts Manager
(512) 728-4805
Email: Diane_Wigington@Dell.com

State of Hawaii – Post Sales Contract Manager
Amy Ivy
(512) 723-6201
Amy_Ivy@Dell.com

Customer Service & Support	**Warranty Support**
Customer Service	Phone: (800) 274-7799 x3
Phone: (800) 274-7799 x4	Website: www.dell.com/support
Website: www.dell.com/support	

EMC CORPORATION

CONTRACT NO. AR-620

For price quotes, contact Mr. Chuck Lott at EMC or Authorized Resellers

Chuck Lott
(916) 797-6500
Chuck.lott@emc.com

Purchase Order and Payments are made to:

EMC Corporation
50 Constitution Blvd.
Franklin, MA 02038

AUTHORIZED RESELLERS

CDW Government, LLC – State & Local Government		**Onx USA, LLC**	
Contact:	Pat O'Brien	Contact:	Jennifer Alban
Phone:	(887) 898-2997	Phone:	(678) 557-4714
Email:	patobri@cdwg.com	Email:	jennifer.albanese@onx.com

CDW Government, LLC – Higher Education		**Sirius Computer Solutions, Inc.**	
Contact:	Eric Goff	Contact:	Phyllis Byrd
Phone:	(312) 705-9101	Phone:	(210) 369-0617
Email:	ericgof@cdwg.com	Email:	Phyllis.byrd@sirius.com

CDW Government, LLC – K-12		**3 Trace DBA Trace 3**	
Contact:	Russell Keene	Contact:	Juan Guevara
Phone:	(312) 405-9019	Phone:	(949) 398-7145
Email:	russkee@cdwg.com	Email:	juan@trace3.com

Iron Bow Technologies, LLC		**World Wide Technology, Inc.**	
Contact:	Jason Halsey	Contact:	Eric Selter
Phone:	(808) 478-2019	Phone:	(808) 599-7021
Email:	jason.halsey@ironbow.com	Email:	eric.selter@wwt.com

FUJITSU NETWORK COMMUNICATIONS

CONTRACT NO. AR-616

For price quotes, contact Fujitsu Network Communications Authorized Reseller. Payments are made to Fujitsu's Authorized Reseller.

AUTHORIZED RESELLERS

HAWAIIAN TELCOM SERVICES COMPANY INC.
P.O. Box 30770
Honolulu, HI 96820-0770
Contact: Alison Shimabukuro
Phone: (808) 546-3034
Fax: (808) 546-8288
Email: alison.shimabukuro@hawaiiantel.com

COMMUNICATIONS CONSULTING SERVICES, INC.
1605 Colburn Street
Honolulu, HI 96817
Contact: Gerald Noda
Phone: (808) 842-7800
Fax: (808) 842-0811
Email: gnoda@ccsi-solutions.com

HEWLETT PACKARD COMPANY (HP)

CONTRACT NO. AR-1464

www.hp.com/buy/wscadata

For price quotes, contact HP's Authorized Resellers.
Payments are made to HP's Authorized Resellers.

HEWLETT PACKARD COMPANY INFORMATION
Lauren Aloway: (501) 205-7728
State, Local and Education Contract Management
Email: laurena@hp.com

AUTHORIZED RESELLERS

CDW Government LLC
200 N. Milwaukee Ave
Vernon Hills, IL. 60061
Contact: Jumana Dihu
Phone: (312) 547-2495
Fax:
Email: jumdihu@cdw.com

Envision Networked Solutions
1000 Bishop Street, 2nd Floor
Honolulu, HI 96813
Contact: Warren Asada
Phone: (808) 547-2516
Fax: (808) 540-1116
Email: warren.asada@envisionns.com

World Wide Technology, Inc.
55 Merchant St. Suite 2810
Honolulu, HI 96813
Contact: Les Daijo
Phone: (808) 838-9328
Email: les.daijo@wwt.com

Lilien Systems
17 E. Sir Francis Drake Blvd. Suite 110
Larkspur, CA 94939
Contact: Maria Rey
Phone: (808) 628-7201
Email: maria.rey@lillien.com

Pacxa
1000 Bishop St. Suite 701
Honolulu, HI. 96813
Contact: Bret Peavy
Phone: (808) 791-5957
Fax:
Email: bret.peavy@pacxa.com

PC Specialists, dba Technology Integration Group (TIG)
7810 Trade Street
San Diego, CA. 92121
Contact: Todd Federman
Phone: (808) 524-6652 x2027
Fax: (808) 536-2845
Email: todd.federman@tig.com

Hawaiian Telcom Services Company, Inc.
1177 Bishop St. 16th Floor, Honolulu, HI 96813
Contact: Leslee Ellenson
Phone: (808) 546-3133   Fax: (808) 546-8288
Email: leslee.ellenson@hawaiiantel.com

NxTech Systems, LLC
1050 Bishop Street, #274
Honolulu, HI 96813
Contact: Lester Morikawa
Phone: (808) 457-1358
Fax: (808) 548-0202
Email: lmorikawa@nxtechsystems.com

INFOBLOX, INC.

CONTRACT NO. AR-619

**For price quotes, contact Infoblox Inc. authorized resellers.
Payments are made to Infoblox's authorized resellers**

For questions regarding Infoblox, contact Fernando Gaudy

Infoblox Inc.
Fernando Gaudy
SLED Manager
Phone: (916) 294-9874
Email: fgaudy@infoblox.com

Infoblox Authorized Resellers

World Wide Technology, Inc.
Bart Beavers
55 Merchant St.
Honolulu, HI 96813
Phone: (808) 599-7012
Email: bart.beavers@wwt.com

Hawaiian Telcom
Alison Shimabukuro
1177 Bishop Street
Honolulu, Hawaii 96813
Phone: (808) 546 3034
Email: alison.shimabukuro@hawaiiantel.com

JUNIPER NETWORKS (US), INC.

CONTRACT NO. AR-229

For price quotes, contact Juniper Networks (US), Inc. Authorized Resellers. Payments are made to Juniper's Authorized Resellers.

For questions regarding Juniper Networks (US), Inc. contact Roxanne Bieniek.

JUNIPER NETWORKS (US), INC.
ROXANNE BIENIEK
Phone: (978) 589-0636
Cell: (603) 312-8350
Manager – Government & Education
Email: rbieniek@juniper.net
Website: www.juniper.net

AUTHORIZED RESELLERS

International Business Machines Corporation
1240 Ala Moana Blvd. Suite 400
Honolulu, HI. 96814
Attention: Steven Sakata, Territory Manager Hawaii & Guam
Phone: (808) 597-9374
Fax: (845) 491-7222
Email: ssakata@us.ibm.com

TECHNOLOGY INTEGRATION GROUP (TIG)
1221 Kapiolani Blvd. Suite 410
Honolulu, HI. 96814
Attention: Roland Yee, Account Executive
Phone: (808) 524-6652 x1562
Fax: (808) 536-2845
Email: roland.yee@tig.com

PALO ALTO NETWORKS, INC.

CONTRACT NO. AR-626

https://www.paloaltonetworks.com/company/how-to-buy/wsca.html

For price quotes, contact Palo Alto Networks Authorized Reseller.
Payments are made to Palo Alto Networks Authorized Reseller.

PALO ALTO NETWORKS, INC
Address: 4401 Great America Parkway
　　　　　Santa Clara, CA 95054
Contact: Vince Massey
Phone:　(408) 638-3307
Email:　sled@paloaltonetworks.com

AUTHORIZED RESELLER

Company Name:　　　　　　**Sirius Computer Solutions**
Company Address:　　　　　900 Fort Street Mall, Suite 32, Honolulu, HI 96813
Contact Name:　　　　　　 Steve Sakata & Jason Yoshioka
Contacts Phone Number:　 808-489-5806 / 808-220-5557
Fax:　　　　　　　　　　　808-235-3428
Contacts Email Address:　 steve.sakata@siriuscom.com　/
　　　　　　　　　　　　　　Jason.yoshioka@siriuscom.com

SHORTEL, INC.

CONTRACT NO. AR-627

**For price quotes, contact ShoreTel's Authorized Reseller.
Payments are made to ShoreTel's Authorized Reseller.**

AUTHORIZED RESELLERS

WAKELIGHT TECHNOLOGIES, INC.
155 Kapalulu Place, Suite 109
Honolulu, HI 96819-2000
Attention: Don Hess
Phone: (808) 836-9253
Fax: (808) 836-9250
Email: drhess@wakelight.com