Brocade Proposal for WSCA-NASPO Data Communications Products and Services Solicitation # JP14001

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August 30, 2013

Brocade Communications Systems, Inc.
Corporate Headquarters, 130 Holger Way, San Jose, CA 95134

All or some of the products detailed in this document may still be under development and certain specifications, including but not limited to, release dates, prices, and product features, may change at Brocade's sole discretion. The products may not function as intended and a production version of the products may never be released. Even if a production version is released, it may be materially different from the pre-release version discussed in this document.

NOTHING IN THIS DOCUMENT SHALL BE DEEMED TO CREATE A WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT OF THIRD-PARTY RIGHTS WITH RESPECT TO ANY PRODUCTS AND SERVICES REFERENCED HEREIN.

Brocade
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August 30, 2013

Jennifer Porter
State of Utah Division of Purchasing and General Services
State Office Building, Capitol Hill
Room 3150
Salt Lake City, UT 84114-1061

Dear Ms. Porter:

Thank you for providing Brocade Communications Systems, Inc.® the opportunity to continue our strong partnership by allowing us to respond to the WSCA-NASPO Data Communications Products and Services Request For Proposal, Solicitation #JP14001. We value the state, local government and education (SLED) market and all the WSCA-NASPO Master Contract provides to Brocade and its customers. Brocade looks forward to continuing to provide WSCA eligible entities with award winning products at industry leading prices.

From pioneering storage and Ethernet fabrics to software-defined networking, Brocade delivers innovative solutions for data center, campus, and service provider networks that reduce cost and complexity while facilitating virtualization and cloud computing. Headquartered in San Jose, California since 1995, Brocade has approximately 4700 employees worldwide and serves a wide range of industries and customers in more than 160 countries. Brocade has approximately 400 university clients throughout the world. Today, Brocade leads the Storage Area Network (SAN) market with the industry's most powerful and reliable offerings. In addition, Brocade provides Ethernet fabric technology and high-performance Ethernet networking solutions as part of a complete switching, routing, wireless, and application delivery portfolio.

The SLED marketplace is a key vertical of Brocade's – we look forward to the growth of our thriving partnership. Brocade wishes to work with WSCA-NASPO to insure that the benefits that are embedded in our technologies are fully utilized by your purchasing entities – as such, we are pleased to provide this response. Please do not hesitate to contact us with any questions you may have.

Sincerely,

Chris Oskuie
Director, Solutions Marketing – Education

The State of Utah Division of Purchasing and General Services

In conjunction with

Request for Proposals

JP14001

WSCA-NASPO Master Agreement for

DATA COMMUNICATIONS PRODUCTS & SERVICES

July 1, 2013

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REQUEST FOR PROPOSAL

DATA COMMUNICATIONS PRODUCTS AND SERVICES CONTRACT

Solicitation # JP14001 Revised 5/30/2013

Section 1: WSCA-NASPO Solicitation General Information

1.1 Purpose of Request for Proposal (RFP)

The State of Utah, Division of Purchasing is requesting proposals in conjunction with WSCA-NASPO Cooperative Purchasing Organization, LLC (WSCA-NASPO). The purpose of this request for proposal is to establish master agreements with qualified manufacturers to provide Data Communications products and services outlined in the specifications for all participating States. The services resulting from the award of this solicitation are to be available to all state entities, cities, counties, higher education, school districts and other political subdivisions on an as needed basis under the same pricing and terms and conditions agreed to in the Master Agreement.

It is anticipated that this RFP may result in Master Agreement awards to multiple contractors.

While the primary purpose of this solicitation is to select a proposer(s) who can offer the Products or Services for all Participating States, proposers are permitted to submit a proposal on more limited geographical areas, but not less than one entire Participating State. Proposers must clearly describe the geographical limits (e.g. by State name) if proposing a geographical area less than that of all Participating States. However, if a proposer elects to submit a Proposal for a single State then the proposer must be willing to supply the entire State and will not be allowed to add additional States following award or at any time during the term of the contract or any renewals.

A Participating State may evaluate and select a proposer for award in more limited geographical areas (e.g. A single state) where judged to be in the best interests of the State or States involved.

Each participating entity shall select the authorized contractor(s) they choose to do business with during the participating addendum process. A participating entity may require the authorized contractor(s) to submit additional information regarding their firm as part of the selection process during the execution of a participating addendum. This information could include, but is not limited to; partners or resellers approved under their PA, business references, number of years in business, technical capabilities, and the experience of both their sales and installation personnel.

Each participating entity has the option to select one or more product categories or services from the resulting Master Agreement(s) during the execution of the participating addendum process.

Each participating entity has the option to negotiate an expanded product line within the product category offering and within the scope of this RFP during the Participating Addendum process. Any additional incremental discounts available to a Participating Entity, if offered, may be provided at the discretion and as the sole legal obligation of the Contract provider or their Authorized Sub-Contractor to the Participating Entity and negotiated during the Participating Addendum process. All Participating entities have the right

to put dollar limits and certain line item, parts or on the total amount purchased per occasion on their individual PA's as they deem appropriate.

The resulting Master Agreement will be awarded with the understanding and agreement that it is for the sole convenience of the participating entities. The participating entities reserve the right to obtain like goods or services from other sources when necessary.

This RFP is designed to provide interested proposers with sufficient basic information to submit proposals meeting minimum requirements, but is not intended to limit a proposal's content or exclude any relevant or essential data. Suppliers are encouraged to expand upon the specifications to evidence service and capability.

1.2 WSCA-NASPO Background Information

WSCA-NASPO is a cooperative purchasing organization of all 50 states, the District of Columbia and the organized US territories. WSCA-NASPO is a subsidiary of the National Association of State Procurement Officials (NASPO). NASPO is a non-profit association dedicated to strengthening the procurement community through education, research, and communication. It is made up of the directors of the central purchasing offices in each of the 50 states, the District of Columbia and the territories of the United States. For more information consult the following websites www.wsca-naspo.org and www.naspo.org

Obligations under master agreements that result from this cooperative procurement are limited to those states and other eligible entities that execute a Participating Addendum:

63G-6a-2105. Participation of a public entity or a procurement unit in agreements or contracts of procurement units -- Cooperative purchasing -- State cooperative contracts.

> (2) A public entity may obtain a procurement item from a state cooperative contract or a contract awarded by the chief procurement officer under Subsection (1), without signing a participating addendum if the quote, invitation for bids, or request for proposals used to obtain the contract includes a statement indicating that the resulting contract will be issued on behalf of a public entity in Utah.

Financial obligations of Participating States (Entities) are limited to the orders placed by the departments, agencies and institutions of that Participating State (Entity) having legally available funds. Participating States incur no financial obligations on behalf of its political subdivisions, other governmental entities or other eligible entities.

Unless otherwise specified in the solicitation or a Participating Addendum, the resulting master price agreement(s) will be permissive.

This RFP is designed to provide interested Offerors with sufficient basic information to submit proposals meeting minimum requirements, but is not intended to limit a proposal's content or exclude any relevant or essential data. Proposals must be succinct, concise, and as short as possible to allow for efficient evaluation. Blanket marketing material and unnecessary elaborate brochures or representations beyond what is sufficient to present a complete and effective proposal are not acceptable.

Offerors must respond to any or all of the 12 categories that follow. The following product and service categories are included in this RFP:

1. Data Center Application Services
2. Networking Software
3. Network Management and Automation
4. Network Optimization and Acceleration
5. Optical Networking
6. Routers
7. Security
8. Storage Networking
9. Switches
10. Wireless
11. Unified Communications
12. Services

1.3 Objective

The objective of this RFP is to obtain deeper volume price discounts than are obtainable by an individual state or local government entity. This discount is based on the collective volume of potential purchases by the numerous state and local government entities. The savings realized by the contractor in managing one comprehensive WSCA-NASPO Master Agreement rather than numerous state and local contracts should result in the most attractive service level and discounts available in the marketplace.

The Master Agreement(s) resulting from this procurement may be used by state governments (including departments, agencies, institutions), institutions of higher education, political subdivisions (i.e., colleges, school districts, counties, cities, etc.), and other eligible entities subject to approval of the individual state procurement director and local statutory provisions.

Participation by political subdivisions, other government entities and other eligible participants is with the authorization or acknowledgement of the specific state chief procurement official, and the execution of a Participating Addendum.

1.4 Solicitation Background

This is a rebid for the current for the WSCA-NASPO Data Communications Equipment, Supplies and Services contracts. Eight (8) Manufacturers currently have Master Contracts to provide Data Communications Equipments, Supplies and Services. They are as follows:

Alcatel-Lucent – AR1466

Brocade Communications – AR214

Cisco Systems – AR233

Enterasys Networks, Inc. – AR1471

Extreme Networks – AR1471

Hewlett-Packard - AR1464

Juniper Networks – AR229

Meru Networks – AR218

Although the State of Utah and WSCA-NASPO does not guarantee any usage or spend under these contracts, for bid purposes only, the total combined spend on these contracts for 2012 was $204 million dollars.

1.5 Issuing Office and Solicitation Number

The State of Utah, Division of Purchasing is the issuing office for this document and all subsequent addenda relating to it. The reference number for the transaction is Solicitation # JP14001. This number must be referred to on all proposals, correspondence, and documentation relating to the RFP.

1.6 WSCA-NASPO Contract Administrator

The WSCA-NASPO Contract Administrator designated by WSCA-NASPO and the State of Utah, Division of Purchasing and General Services is:

Name: Jennifer Porter

State of Utah Division of Purchasing and General Services

State Office Building, Capitol Hill

Room 3150

Salt Lake City, UT 84114-1061

Email: jenniferporter@utah.gov

Phone: 801-538-3064

Fax: 801-538-3882

1.7 Proposal Submittal

Offers must be received, according to instructions, by the posted due date and time. Offers received after the deadline will be non-responsive.

Proposals are due August 30, 2013 at 11:00 am MST

Questions will be accepted until July 26, 2013 at 11:00 am MST

Data Communication RFP Release Webinar is scheduled for July 11, 2013. Webinar details will be posted on the WSCA-NASPO website (www.wsca-naspo.org).

The preferred method of submitting your original 'master' proposal packet is electronically in Microsoft Word and Excel through BidSync, (www.bidsync.com), or you may mail or drop off your hard copies to the address noted in Section 1.6 of this RFP on or before the due date and time. The original 'master' proposal packet shall include a separate document or sealed envelope labeled "SOLICITATION # JP14001 Cost Schedule" that contains the pricing document. Please note that the State of Utah Division of Purchasing office is closed on Saturday and Sunday and therefore does not accept deliveries on those days.

When submitting an offer electronically through BidSync, please allow sufficient time to complete the online forms and upload documents. The solicitation will end at the closing time listed in the offer. If you are in the middle of uploading your documents at the closing time, the system will stop the process and your offer will not be received by the system. It is recommended that the submission process be completed the day prior to the due date, with the knowledge that any changes/updates will be accepted through the due date and time.

Electronic offers may require the uploading of electronic attachments. BidSync's site will accept a wide variety of document types as attachments. However, the submission of documents containing embedded documents (zip files), mov, wmp, and mp3 files are prohibited. All documents should be attached as separate files.

BidSync customer support may be contacted at (800) 990-9339 for guidance on the BidSync site.

Respondents are responsible for ensuring that their BidSync registration information is current and correct. The State of Utah accepts no responsibility for missing or incorrect information contained in the vendor registration in BidSync. Incorrect or missing vendor registration information may result in failure to receive notification from BidSync regarding this procurement.

In addition to the original 'master' proposal packet submission, Respondents are required to send one (1) hard copy and one (1) electronic version (Microsoft Word and Excel) of the complete proposal, **excluding pricing information**, to each of the evaluation team members listed below. Each proposal packet shall be marked with the solicitation number and be in accordance with the submittal requirements. The original 'master' sent to the WSCA-NASPO Master Agreement Administrator identified in Section 1.6 of this RFP will prevail in resolving any discrepancies.

Alaska – Ted Fawcett
Contracting Officer
ted.fosket@alsaka.gov

California - Bonnie Bahnsen
bonnie.bahnsen@dgs.ca.gov

Nevada – Marti Marsh
Purchasing Officer
mmarsh@admin.nv.gov

New Jersey – Vicente Azarcon
Procurement Specialist
vicente.azarcon@treas.state.nj.us

Utah – Jennifer Porter
Purchasing Agent
State of Utah
jenniferporter@utah.gov

1.8 Current State Participants

The States currently participating in the existing contracts are: Alaska, Arkansas, California, Colorado, Delaware, District of Columbia, Hawaii, Idaho, Iowa, Kentucky, Louisiana, Minnesota, Missouri, Montana, Nevada, New Jersey, Oklahoma (Grand River Dam Authority), Oregon, South Dakota, Utah, Washington, Wisconsin and Wyoming.

States with "Intent to Participate" – The following states have executed an Intent to Participate thru WSCA-NASPO, which simply indicates that they want to be formally listed in the published Request for Proposal as participating in the solicitation process: California, Hawaii, Minnesota, Missouri, Montana, Nevada, New Jersey, South Carolina, South Dakota, Utah, Vermont and Washington. All 56 NASPO members are eligible to participate in all WSCA-NASPO contracts when and if they decide they want to, in accordance with their individual statutory requirements.

1.9 Governing Laws and Regulations

This procurement is conducted by the State of Utah, Division of Purchasing & General Services, in accordance with the Utah Procurement Code. These are available at the Internet website www.purchasing.utah.gov for the State of Utah's Division of Purchasing & General Services.

The laws of the State of Utah will govern all Master Agreements that result from this procurement unless the Data Communications Products and Services Provider and participating entity agree in a Participating Addendum that the laws of another jurisdiction will govern purchases made by purchasing entities within the jurisdiction of the participating entity.

1.10 Length of Contract

The Master Agreement(s) resulting from this RFP will be for a period of five years (initial term). The Master Agreement(s) may be extended beyond the original Master Agreement period for a two (2) year period, by mutual agreement.

1.11 Pricing Structure

Pricing Structure: Pricing for the WSCA-NASPO Master Agreements shall be based on the Percent Discount off the current global MSRP Schedule applicable to United States customers.

1.12 Price Guarantee Period

Price Guarantee Period: The Data Communication Provider's Discount rate shall remain in effect for the term of the WSCA-NASPO Master Price Agreement.

1.13 Price Escalation

Equipment, Supplies and Services: Data Communications provider may update the pricing on their MSRP price list one time every year after the first year of the original contract term. The WSCA-NASPO Contract Administrator will review a documented request for a Price Schedule price list adjustment only after the Price Guarantee Period.

1.14 Price Reductions

In the event of a price decrease in any category of product at any time during the contract in a Provider's Price Schedule, including renewal options, the WSCA-NASPO Contract Administrator shall be notified immediately. All Price Schedule price reductions shall be effective upon the notification provided to the WSCA-NASPO Master Agreement Administrator.

1.15 Usage Reporting Requirement

All Data Communication Provider's will be required to provide quarterly usage reports to the WSCA-NASPO Contract Administrator or designee. The initiation and submission of the quarterly reports are the responsibility of the Data Communication Contract Provider. You are responsible to collect and report all sales data including your resellers and partners sales associated with your Master Agreement. There will be no prompting or notification provided by the WSCA-NASPO Contract Administrator.

Quarterly reports must coincide with the quarters in the fiscal year as outlined below:

Quarter #1: July 1 through September 30, due annually by October 30.

Quarter #2: October 1 through December 31, due annually by January 30.

Quarter #3: January 1 through March 31, due annually by April 30.

Quarter #4: April 1 through June 30, due annually by July 30.

Respondents must identify the person responsible for providing the mandatory usage reports. This contact information must be kept current during the Master Agreement period. The WSCA-NASPO Contract Administrator must be notified if the contact information changes. The contact information for the person responsible for the mandatory quarterly usage reporting must be specified per Section 3.1.5.

The purpose of the Master Agreement usage-reporting requirement is to aid in Master Agreement management. The specific report content, scope, and format requirements will be provided to the awarded Data Communications Products and Services Provider's during Master Agreement execution. Some WSCA-NASPO States may require additional reporting requirements. Those requirements will be addressed through the individual participating entity's Participating Addendum process. Failure to comply with this requirement may result in Master Agreement cancellation.

1.16 Standard Contract Terms and Conditions

Any Master Agreement resulting from this RFP will include, but will not be limited to, the WSCA-NASPO Standard Master Agreement Terms and Conditions, the State of Utah Additional Terms and Conditions

(Appendix A) and any additional terms and conditions specific to WSCA-NASPO participating addendums for participating entities. The WSCA-NASPO Master Agreement Terms and Conditions and State of Utah Additional Terms and Conditions will take highest precedence in any contract resulting from this solicitation. Vendors must clearly identify exceptions to the WSCA-NASPO Standard Master Agreement Terms and Conditions and the State of Utah Additional Terms and Conditions in the bid submission. Vendor exceptions must include proposed solution language. Failure to submit exceptions and/or solution language will constitute vendor acceptance of WSCA-NASPO and State of Utah Additional Terms and Conditions. No third party terms and conditions will be allowed in resulting contracts awarded under this solicitation. Additional vendor terms and conditions must be submitted with the solicitation bid response for legal review and contract applicability. Submission of vendor terms and conditions with a bid response does not guarantee acceptance. Vendor terms and condition will not include any reference to website URLs that house additional terms and conditions. All terms and conditions associated with resulting contracts will be identified and attached to the WSCA-NASPO Master Agreement. The State of Utah reserves the right to accept, reject, and/or negotiate vendor terms and conditions after the award(s) have been made if it is in the best interest of the State of Utah. Participating States reserve the right to negotiate vendor terms and conditions during the Participating Addendum process. Vendor terms and conditions included with a bid response are limited to a maximum of 10 pages ($8^{1/2}$ x 11 inch paper, 10 pt Arial font, and single sided). Failure to adhere to these terms and conditions requirements may result in vendor disqualification.

Brocade Response:

Please refer to Brocade's response in Section 7.2 Offeror Exceptions to Terms and Conditions, for a detailed listing of Brocade's exceptions and restatements to WSCA-NASPO Master Agreement Terms and Conditions and ATTACHMENT A STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS).

1.17 Questions

All questions must be submitted through BidSync. Answers will be given via the BidSync website. Questions received after the Question/Answer period will not be answered. No agency employee, board member, or evaluation committee member should be contacted concerning this solicitation during the solicitation posting and selection process. Failure to comply with this requirement may result in vendor disqualification.

1.18 Discussions with Respondents (Oral Presentation)

An oral presentation by a Respondent to clarify a proposal may be required at the sole discretion of the WSCA-NASPO Master Agreement Administrator. However, the WSCA-NASPO Contract Administrator may award a Master Agreement based on the initial proposals received without discussion with the Respondent. If oral presentations are required, they will be scheduled after the submission of proposals. Oral presentations will be made at the Respondents expense.

1.19 Protected Information

The Government Records Access and Management Act (GRAMA), Utah Code Ann., Subsection 63-2-304, provides in part that:

> the following records are protected if properly classified by a government entity:
> (1) trade secrets as defined in Section 13-24-2 if the person submitting the trade secret has provided the governmental entity with the information specified in Section 63-2-308 (Business Confidentiality Claims);
> (2) commercial information or non-individual financial information obtained from a person if:
> (a) disclosure of the information could reasonably be expected to result in unfair competitive injury to the person submitting the information or would impair the ability of the governmental entity to obtain necessary information in the future;
> (b) the person submitting the information has a greater interest in prohibiting access than the public in obtaining access; and
> (c) the person submitting the information has provided the governmental entity with the information specified in Section 63-2-308;
> * * * * *
> (6) records the disclosure of which would impair governmental procurement proceedings or give an unfair advantage to any person proposing to enter into a contract or agreement with a governmental entity, except that this Subsection (6) does not restrict the right of a person to see bids submitted to or by a governmental entity after bidding has closed; ....

GRAMA provides that trade secrets, commercial information or non-individual financial information may be protected by submitting a Claim of Business Confidentiality.

To protect information under a Claim of Business Confidentiality, the Respondent must:

1. provide a written Claim of Business Confidentiality at the time the information (proposal) is provided to the State, and
2. include a concise statement of reasons supporting the claim of business confidentiality (Subsection 63-2-308(1)).
3. submit an electronic "redacted" (excluding protected information) copy of your proposal response. Copy must clearly be marked "Redacted Version." Failure to submit a redacted version may result in release of your entire proposal.

A Claim of Business Confidentiality may be appropriate for information such as client lists and non-public financial statements. **Pricing and service elements cannot be protected**. **An entire proposal cannot be protected under a Claim of Business Confidentiality or Propritary. Failure to comply with this requirement many result in your proposal being ruled Non-Responsive** and no longer considered**.** The claim of business confidentiality must be submitted with your proposal on the form which may be accessed at:

www.purchasing.utah.gov/contract/documents/confidentialityclaimform.doc

To ensure the information is protected, the Division of Purchasing asks the Respondent to clearly identify in the Executive Summary and in the body of the proposal any specific information for which a Respondent claims business confidentiality protection as "PROTECTED".

All materials submitted become the property of the State of Utah. Materials may be evaluated by anyone designated by the State as part of the sourcing team. Materials submitted may be returned only at the State's option.

1.20 WSCA Administrative Fee

The Contracted Supplier must pay a WSCA-NASPO administrative fee of one quarter of one percent (.025%) in accordance with the terms and conditions of the contract. The WSCA-NASPO administrative fee shall be submitted quarterly and is based on the actual sales of all products and services in conjunction with your quarterly reports. The WSCA-NASPO administrative fee must be included when determining the pricing offered. The WSCA-NASPO administrative fee is not negotiable and shall not be added as a separate line item on an invoice.

Additionally, some WSCA-NASPO participating entities may require that an administrative fee be paid directly to the WSCA-NASPO participating entity on purchases made by purchasing entities within that State. For all such requests, the fee percentage, payment method and payment schedule for the participating entity's administrative fee will be incorporated in the Participating Addendum. Data Communications Provider will be held harmless, and may adjust (increase) the WSCA-NASPO Master Agreement pricing by the fee percentage for that participating entity accordingly for purchases made by purchasing entities within the jurisdiction of the State. All such agreements may not affect the WSCA-NASPO fee or the prices paid by the purchasing entities outside the jurisdiction of the participating entities requesting the additional fee.

1.21 Interest

Any payments that a Contracted Supplier makes or causes to be made to WSCA-NASPO after the due date as indicated on the Quarterly Report schedule shall accrue interest at a rate of 18% per annum or the maximum rate permitted by law, whichever is less, until such overdue amount shall have been paid in full. The right to interest on late payments shall not preclude WSCA-NASPO from exercising any of its other rights or remedies pursuant to this agreement or otherwise with regards to Data Communication Provider's failure to make timely remittances.

1.22 Proposal Offer Firm

Responses to this RFP, including proposed discounts offered will be considered firm for one hundred and sixty (160) days after the proposal due date. By signature (electronic or otherwise) and submission of a proposal, the person signing verifies that they are authorized to submit the proposal and bind the firm to provide the products/services in the proposal and potential Master Agreement.

1.23 Cancellation of Procurement

This RFP may be canceled at any time and any and all proposals may be rejected in whole or in part when the State of Utah, Division of Purchasing and General Services determines such action to be in the best interest of the State of Utah.

1.24 Right to Waive

The sourcing team reserves the right to waive minor irregularities at its sole discretion.

1.25 Right to Accept All or Portion

It is our intent to accept the entire line of Data Communications Equipment and Services (included in the scope) from the awarded Data Communications Providers, however we reserve the right to accept all or a portion of a Respondents proposal.

1.26 Service Line Additions and Updates

During the term of the contract, Data Communications Providers may submit a request to update the awarded items (within the scope listed in IDENTIFY SECTION) as new technology is introduced, updated or removed from the market. The Master Agreement Administrator will evaluate requests and update the contract offering via written amendment as appropriate. The Data Communications Service Provider shall update the dedicated website, price lists, and catalogs to reflect approved changes. Pricing must utilize the same pricing structure as was used for services falling into the same service category.

1.27 Right to Publish

Throughout the duration of this procurement process and Master Agreement term, Respondents, Data Communications Providers and their authorized contractors must secure from the WSCA-NASPO Contract Administrator prior approval for the release of any information that pertains to the potential work or activities covered by this procurement or the Master Agreement. The Data Communications Provider shall not make any representations of WSCA-NASPO's opinion or position as to the quality or effectiveness of the services that are the subject of this Master Agreement without prior written consent of the WSCA-NASPO Contract Administrator. Failure to adhere to this requirement may result in disqualification of the Respondents proposal or termination of the Master Agreement for cause

1.28 Changes in Representation

The Contracted Supplier must notify the WSCA-NASPO Contract Administrator of changes in the Contracted Supplier's key administrative personnel, to the extent that there may be adverse impacts to the contract. The WSCA-NASPO Contact Administrator reserves the right to require a change in Contracted Supplier(s) representatives if the assigned representative(s) is not, in the opinion of the WSCA-NASPO Contract Administrator, meeting the terms and conditions of the contract.

1.29 E-Rate Requirement

All award contractors must commit to participation in the Federal Communication Commission's E-rate discount program established under authority of the Federal Telecommunications Commission Act of

1996. Participation in, and implementation of, this program must be provided without the addition of any service or administration fee by the contractor.

Brocade Response:

Comply. Brocade is a participating company.

1.30 Section 508 Compliant

Respondents must meet all Federal and State regulations required to these type of products including but limited to accessible products by describing their support of the applicable provisions of the Workforce Investment Act of 1998, Section 508.

1.31 Glossary

Authorized Contractor: The Prime Contractor as listed as Contractor under the resulting Master Agreement(s) as a result of this RFP.

Authorized Sub Contractor: sub Contractor, Reseller, Partner, etc. Authorized by the Contractor (Prime) to sell only the products and services listed under the Master Agreement (s) established as a result of this RFP. This authorized sub contractor must have the authority and ability to accurately reflect the ability of the Respondent to meet the requirements detailed in this RFP.

WSCA-NASPO Contract Administrator: A dedicated person with the authority and ability to manage compliance with the scope and terms and conditions for this contract.

Mandatory Minimum Requirements: Requirements that must be met in order to be considered for further evaluation. Mandatory minimum requirements are non-negotiable. An offer that does not meet the mandatory minimum requirements will be disqualified from further consideration.

Participating Addendum: A Participating Addendum must be executed by any State that decides to adopt a WSCA-NASPO Master Agreement.

A Participating Addendum shall be executed for each contractor by the individual State desiring to use their contract.

Additional States may be added with the consent of the contractor and the Lead State (on behalf of WSCA-NASPO) through execution of Participating Addendums.

A Participating Addendum allows for each Participating State to add terms and conditions that may be unique to their State.

The Participating State and the Contractor shall negotiate and agree upon any additional terms and conditions prior to the signing and execution of the Participating Addendum.

States are not mandated to sign a Participating Addendum with all awarded vendors.

Participating Entity: A State that has indicated intent to participate in the solicitation process, or after award, a State that has executed a participating addendum.

Purchasing Entity: Any end-user in a participating State that is eligible to use the Master Agreement(s) through the participating addendum, including but not limited to State Agencies, Counties, Cities, Education, and other entities.

Qualified Entity: An entity that is eligible to use the Master Agreement(s).

Usage Report Administrator: A contractors person responsible for the quarterly sales reporting and payments described in Section 1.15 Usage Reporting Requirement.

Volume Discount: A percentage discount offered by the seller to the buyer for purchasing a stated dollar amount of Data Communications services and products to be delivered at one time or for a specified period.

Sourcing Team: The technical and business team charged with setting requirements for the Data Communications procurement, and its subsequent evaluation.

Section 2: General Proposal Requirements and Information

2.1 Proposal Content and Format Requirements

Proposals must be detailed and concise. Unless otherwise stated in your proposal as an "exception", Respondents agree to comply with every section, subsection, attachment and addendum of this RFP. Each proposal must be submitted in Microsoft Word or Excel, labeled and organized in a manner that is congruent with the section number, headings, requirements, and terminology used in this RFP. Proposal documents must be Arial font size 10. Respondent responses that are limited to a specified number of pages are referring to single sided pages. As an example, a response that is limited to a document that is no more than two pages long may be submitted on one double sided page, but not two double sided pages.

2.2 RFP Revisions

Revisions, if any, and all written questions and the State's answers, will be posted on the BidSync website. Solicitation documents will not be mailed to prospective Proposers. Respondents must register (free of charge) as a vendor with BidSync in order to have access to the RFP and related documents. Respondents are responsible for ensuring that their registration information is current and correct. The State of Utah accepts no responsibility for missing or incorrect information contained in the supplier's registration information on BidSync. The State of Utah accepts no responsibility for a prospective Respondent not receiving solicitation documents and/or revisions to the solicitation. It is the responsibility of the prospective Respondent to obtain the information provided through BidSync.

2.3 Right to Waive

The State of Utah reserves the right to waive any informality or technicality in any proposal.

2.4 Proposals Become Property of the State of Utah

All proposal contents become the property of the State of Utah. All proposal content is proprietary during the proposal evaluation process. Upon Master Agreement award, the successful Respondents' proposals will be open to public inspection, by request, with the exception of any proposal content that is marked as "proprietary or confidential" by the Respondent. All content designated as "proprietary or confidential" must be supported by documentation as to the rationale for the proprietary nature of the information.

2.5 News Releases

News releases or other public disclosure of information pertaining to this RFP or the statewide contracts may not be published without the prior written permission of the State of Utah.

2.6 State Seal Use

The Utah Great Seal Rule states, in section R622-2-3.Custody and Use, that "no facsimile or reproduction of the Great Seal may be manufactured, used, displayed, or otherwise employed by anyone without the written approval of the Lieutenant Governor."

Other participating States have similar rules that must be adhered to by Respondents or interested parties.

Section 3: Data Communications Provider Mandatory Minimum Requirements

3.1 General Information

This section contains requirements that must be addressed in order for your proposal to be considered for the evaluation phase of this RFP. All of the items described in this section are non-negotiable. Respondents are required to complete:

Mandatory Requirements (M)

All Respondents must meet the **(M)** requirements listed in this section, and explain how the requirement is met. A 'no' response on the acceptance document or omission of the required explanation will disqualify the service from further evaluation.

3.1.1 Equipment Offering

(M) Identify Equipment Offering in sections 5.2.1-5.3.0.

Brocade Response:

Please refer to Brocade's response within the individual sections.

3.1.2 Service Offering

(M) Identify Service Offerings for all products offered in Sections 5.2.1-5.3.0.

Brocade Response:

Please refer to Brocade's response within the individual sections.

3.1.3 Insurance Requirement

(M) This pertains to the State of Utah insurance requirements. Other Participating States may identify different insurance requirements during the participating addendum process.

Data Communications Provider's and their authorized contractors shall procure and maintain insurance which shall protect the authorized contractor and The State and/or purchasing entity (as an additional insured) from any claims from bodily injury, property damage, or personal injury covered by the indemnification obligations set forth herein. The Data Communications Provider's authorized contractor shall procure and maintain the insurance policies described below at their own expense and shall furnish to the procurement manager, upon award, an insurance certificate listing the participating State(s) as certificate holder and as an additional insured. The insurance certificate must document that the Commercial General Liability insurance coverage purchased by the authorized contractor to include contractual liability coverage applicable to this Master Agreement. In addition, the insurance certificate must provide the following information: the name and address of the insured; name, address, telephone number and signature of the authorized agent; name of the insurance company (authorized to operate in all States); a description of coverage in detailed standard terminology (including policy period, policy number, limits of liability, exclusions and endorsements) and an acknowledgment of notice of cancellation to the participating States.

> Authorized contractor is required to maintain the following insurance coverage's during the term of the WSCA-NASPO Master Agreement:
>
> 1) Workers' Compensation Insurance – The Data Communications Provider's authorized contractor must comply with Participating State's requirements and provide a certificate of insurance.
>
> 2) Commercial General Liability Policy per occurrence - $1,000,000. Coverage to include bodily injury and property damage combined single limit.
>
> 3) Business Automobile Policy to include but not limited to liability coverage on any owned, non-owned, or hired vehicle used by Data Communications Provider's authorized contractor personnel in the performance of this Master Agreement. The business automobile policy shall have the following limits of liability: Per Occurrence - $1,000,000, Annual Aggregate - $3,000,000, Annual Aggregate applying to products and services - $3,000,000. Coverage must include premises and operations, bodily injury and property damage, personal and advertising injury; blanket contractual, products and services, owner named as an additional insured. The State of Utah must be listed as an additional insured.

Within 10 days of contract award, the Contracted Supplier and/or Authorized Contractor must submit proof of certificate of insurance that meets the above requirements or the Participating States requirements.

Brocade Response:

Brocade will comply within ten (10) days of contract award.

3.1.4 Delivery

(M) The prices offered shall be the delivered price to any WSCA-NASPO purchasing entity. All deliveries shall be F.O.B. destination with all transportation and handling charges paid by the contractor. Responsibility and liability for loss or damage shall remain the Contractor until final inspection and acceptance *(within 30 days after delivery for external damage and 30 days for any concealed damage)* when responsibility shall pass to the Buyer except as to latent defects, fraud and Contractor's warranty obligations. The minimum shipment amount will be found in the special terms and conditions. Any order for less than the specified amount is to be shipped with the freight prepaid and added as a separate item on the invoice. Any portion of an order to be shipped without transportation charges that is back ordered shall be shipped without charge.

Brocade Response:

Please refer to Brocade's response in Section 7.2 Offeror Exceptions to Terms and Conditions, for a detailed listing of Brocade's exceptions and restatements to WSCA-NASPO Master Agreement Terms and Conditions and ATTACHMENT A STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS).

3.1.5 Service Offering Documentation

(M) Upon request, user and/or technical documentation should be supplied for all procured products and services. Manuals may be available via the Contracted Supplier's website. The manual shall contain user and technical instructions appropriate to the service.

Brocade Response:

Comply. Brocade will supply the available documentation upon request.

3.1.6 Data Communications Provider Contract Administrator and Usage Report Administrator

(M) The Contracted Supplier shall provide a Contract Administrator to manage compliance with the scope and terms and conditions for this contract. The following Information, at a minimum, regarding the Contract Administrator shall be provided:

a. Administrator's number of years experience in the Data Communications Services business.

Brocade Response:

Eight (8) years.

b. Confirmation that the Data Communications Provider Contract Administrator has authority to enforce the scope of work and terms and conditions of the resulting contract.

Brocade Response:

Brocade confirms that Tania Craythorne has authority to enforce the scope of work and terms and conditions of the resulting contract.

The Contracted Supplier shall also provide a Usage Report Administrator responsible for the quarterly sales reporting described in Section 1.15 Usage Reporting Requirement.

Brocade Response:

Tania Craythorne
130 Holger Way
San Jose, CA 95134
Phone: (408) 333-6226
Email: SLEDTeam@Brocade.com

3.1.7 eMarket Center Cooperation

(M) To be eligible for contract award, the Contractor must agree to cooperate with WSCA-NASPO and SciQuest (and any authorized agent or successor entity to SciQuest) with uploading a hosted catalog or integrating a punchout site. The contract requirements are in section 7.

Brocade Response:

Comply.

Section 4: Data Communications Provider Qualifications

4.1 General Information:

Provide any pertinent general information about the depth and breadth of the Offeror's product and service offerings and their overall use and acceptance in the Data Communications marketplace.

Brocade Response:

Brocade welcomes the opportunity to submit the enclosed proposal to WSCA-NASPO. We believe Brocade can offer WSCA-NASPO a unique solution which will address all current and many future requirements for your Data Center IP and Fibre Channel SAN networking requirements.

The Brocade solutions are architected with proven hardware, innovative software, enhanced manageability, and design flexibility. In addition, our recommendations are guided by our understanding

of the WSCA-NASPO participant's environment, stated business objectives, investment protection, and clear risk mitigation.

Brocade's overall vision is to simplify networking through technology innovation. We see this as the most direct way for our customers to meet their critical imperatives, whether that comprises Cloud Computing, ubiquitous data, collaboration services, mobile solutions, or social networking to realize sustainable business value. Across product segments, Brocade adheres to Industry Standards and Open Architectures ensuring that customers can participate in a broader ecosystem to unlock value and realize cost advantages.

DATA CENTER IP

Data Center IP networking is undergoing a significant transformation, a reflection of the key role it plays in the delivery of applications, services, and virtualization for Cloud-based platforms such as IaaS, PaaS, and SaaS. The vast majority of Data Centers operate in a classic tiered Ethernet hierarchy with static boundaries. Essentially, the same Ethernet construct designed for Campus Networking was adapted for the Data Center with some proprietary capabilities introduced to accommodate the demands of the changing server and application tiers.

As evident in the current WSCA-NASPO participant's environment, these monolithic architectures were never intended to scale with the mobility, performance, and elasticity attributes dictated by the evolving Data Center.

Ethernet Fabrics were developed for the emerging Data Center and while they are considered new in the market, they are proven solutions in the Data Center. Brocade is the market leader shipping products since 2010 and deployed in over 800 customers. Brocade pioneered fabric technologies with the first Storage Area Networks (SAN) and has applied this expertise to the innovation of the Ethernet Fabric.

Brocade Virtual Cluster Switching (VCS) is purposefully developed to introduce elasticity, improve performance, maximize application availability, increase scalability, and dramatically simplify operations in virtualized Data Centers.

VCS is topology agnostic and readily adapts to changing requirements. The design eliminates a full network tier and can seamlessly integrate with an existing WSCA-NASPO participant's infrastructure. The diminished footprint reduces operational cost and complexity. The fabric is self-forming and self-aggregating without the limitation of a Spine/Edge association—meaning that with minimal configuration, new switches can be dynamically inserted into the topology in a non-disruptive manner. This elasticity presents a more efficient methodology for scaling without the upfront investment in additional equipment.

Brocade Distributed Intelligence enables each switch to participate in and have full view to the topology state with awareness of all devices. This unique architectural approach enables an individual fabric to be managed as a switching element—almost like a single chassis rather than as individual nodes. This significantly reduces complexity for the management layer, which in turn improves reliability and simplifies remediation.

Brocade's innovative hardware ASIC based Trunking Technology along with multiple Virtual Active Gateways offers near equal load balancing regardless of traffic type (IP Unicast, Multicast, Broadcast, and FCoE), something that cannot be realized in other vendor implementations. Why is this critical? With multi-pathing technologies at Layers 1 through 3, VCS can equally address East/West and North/South traffic patterns ensuring scale and optimization for current and emerging traffic flows. As every network link is active, the solution is inherently resilient and can scale up or down with performance demands.

The Hypervisor has been the inflection point that has seen servers evolve from role-specific platforms to the next generation of networking devices creating a "ships-in-the-night" challenge for traditional networking vendors. To achieve elasticity with scale, virtual networking within the server must mirror the capabilities associated with traditional networking. This is the only approach that will deliver a framework where the entire infrastructure can truly be virtualized yet simple to provision and orchestrate.

Toward this end, Brocade recently acquired Vyatta, the leader in open source, platform independent Virtual Networking. Brocade is now the only vendor that can deliver an end-to-end solution spanning the physical and virtual network. The Vyatta Network OS functions as a virtual router, virtual firewall, or virtual VPN device at the server Hypervisor. This integrated construct promises to accelerate deployment and reduce development cycles while enforcing the same security and compliance requirements of WSCA-NASPO participant's physical network in the virtual environment.

The Vyatta acquisition strengthens Brocade's position as a market leader in Software Defined Networks (SDN) which simplifies the provisioning and management of large networks. All of the Brocade products proposed for the Data Center IP are SDN enabled today. VXLAN with VCS is also an extremely powerful solution as tunnels can be created across the fabric layer in a non-hierarchal manner consistent with any-to-any data flows.

The MLXe Series Routers, which are positioned at the interconnection point between Data Center Fabrics and the WSCA-NASPO participant's MAN/WAN, currently supports OpenFlow and is the ***only*** router in the industry that operates in Hybrid Mode. In this mode, a router can simultaneously run traditional routing instances and OpenFlow offering WSCA-NASPO participants the flexibility to deploy SDN to address specific use cases or introduce SDN without incurring the cost of operating a parallel network.

A key deliverable for your future is a solution that will extend the Data Center beyond the current geographical limitations on virtualization mobility and storage proximity imposed by latency and performance constraints. Brocade has integrated proven technologies into a new product that works with the Ethernet Fabric to extend mobility and resource redeployment across Data Centers extending the distance for vMotion and the boundaries of Storage assets.

FIBRE CHANNEL

Brocade is the acknowledged market leader in Fibre Channel (FC) and continues to grow market share with recent product releases targeted to support the growing demands of highly virtualized environments and private cloud architectures. Fibre Channel, the de facto standard for storage networking, is evolving

with the data center. The introduction of Brocade DCX 8510 Backbones with Gen 5 FC and 16Gbps performance delivers greater scalability and advanced capabilities to this robust, reliable, and high-performance technology and integrates with WSCA-NASPO participant's existing IT investments. Gen 5 Fibre Channel is the purpose-built, data center-proven network infrastructure for storage, delivering unmatched reliability, simplicity, and 16 Gbps performance. A significant benefit is the ability to consolidate Storage Area Network (SAN) infrastructures to simplify management and reduce operating costs.

Brocade Fabric Vision technology, an extension of Brocade Gen 5 Fibre Channel, introduces a breakthrough hardware and software technology that maximizes uptime, simplifies SAN management, and provides unprecedented visibility and insight across the storage network. Offering innovative diagnostic, monitoring, and management capabilities, the Brocade 6510 with Fabric Vision technology helps administrators avoid problems, maximize application performance, and reduce operational costs.

Brocade Fabric Vision technology includes:

- Brocade ClearLink diagnostics (D_Port): Ensures optical and signal integrity for Fibre Channel optics and cables.
- Bottleneck Detection: Identifies and alerts administrators to device or ISL congestion as well as abnormal levels of latency in the fabric.
- Non-intrusive and non-disruptive monitoring on every port: Provides a comprehensive end-to-end view of the entire fabric.
- Forward Error Correction (FEC): Enables recovery from bit errors in ISLs, enhancing transmission reliability and performance.
- Real-time bandwidth consumption by hosts/applications on ISLs: Helps easily identify hot spots and potential network congestion.

Additional highlights include:

- Enables simpler, flatter, low-latency chassis connectivity to reduce network complexity, management, and costs.
- Optimization of data center connectivity over distance with integrated high-performance metro and global connectivity.
- Embedded intelligence brings significant visibility and manageability to the SAN delivering comprehensive diagnostics, monitoring, and automation.
- Maximized performance for I/O- and bandwidth-intensive applications.
- Investment protection with the existing WSCA-NASPO participant's SAN and automation tools minimizing business disruption.
- Maximum Flexibility and Reliability - Brocade DCX 8510 Backbones build upon years of innovation and leverage the core technology of Brocade systems performing at greater than 99.999 percent uptime in the world's most demanding data centers.
- Brocade UltraScale chassis connectivity leverages optical Inter-Chassis Links (ICLs) of up to 100 meters to connect up to 10 Brocade DCX 8510 Backbones, enabling flatter, faster, and simpler fabrics that increase consolidation while reducing network complexity and costs.

- Industry-Leading Energy Efficiency - less than one watt per Gbps.

CAMPUS LAN

According to IDC, mobile workers will account for more than a third of the overall global workforce within the next few years, and the adoption of services and applications to aid collaboration and increase productivity continue to grow. In addition, the deployment of virtual desktop infrastructure (VDI), Unified Communications (UC) and the increased use of video for business communications place additional burdens on current campus networks. Unfortunately, these overly complex, rigid, legacy campus networks are unable to support modern requirements for fast application deployment, instant information access and multi-device mobility.

The campus network for today and tomorrow should be flexible, easy to manage, and cost-effective. The Effortless Network is the Brocade vision to meet these objectives, enabled by the Brocade HyperEdge Architecture as the cornerstone of delivering on that vision. HyperEdge Architecture seamlessly integrates new innovations with legacy technologies to improve network flexibility and reduce management complexity, allowing organizations to deploy applications quickly and cost-efficiently.

Brocade HyperEdge Architecture features include:

- **Distributed Services:** The advanced features and services of premium campus switches are extended to entry-level switches within a single HyperEdge Domain, delivering intelligence to all user and device ports at a vastly reduced cost per port. Premium Brocade ICX campus switches can be added to existing Brocade ICX stacks in a HyperEdge Domain at any time to upgrade the service level of network infrastructure, providing unmatched investment protection.

- **Consolidated Management:** As a single logical unit comprised of multiple devices within each HyperEdge Domain, configuration network management and maintenance updates become faster and simpler through dynamic sharing of software images and network policies with fewer management touch points. The wired Brocade ICX infrastructure supports powerful collapsed aggregation and access domains, and the Brocade Mobility products allow centralized wireless APs or controller-based management options.

- **Distributed Access Point (AP) Forwarding:** Mobile traffic is secured and directed at the network edge, not tunneled back to a central controller, thereby preventing controller bottlenecks to deliver higher performance and reliability along with seamless mobile connectivity. Moreover, the self-healing capabilities of Brocade Mobility APs help ensure non-stop high-performance connectivity.

Campus networks built with HyperEdge Architecture technologies are ready to take on the challenges of streaming video, Unified Communications, VDI, and cloud-based applications, as well as demanding mobile users, with flexible, application-centric, automated, and cost-effective network solutions. With innovations such as Distributed Services, Consolidated Management, and Distributed AP Forwarding combined with existing technologies such as intelligent self-healing APs and Multi-Chassis Trunking,

HyperEdge Architecture improves organizational agility by reducing network complexity, application deployment time, and operational costs. With Brocade, owning and maintaining your entire campus network is one step closer to being effortless.

MANAGEMENT

Brocade Network Advisor (BNA) is the industry's first unified network management solution for data, storage, and converged networks and integrates seamlessly with industry-leading hypervisors and management solutions from Microsoft, VMware, EMC, HP, and IBM.

Additionally, Brocade is an active member of the OpenStack Foundation contributing to the Quantum network orchestration component with a plug-in and working proof-of-concept showing the provisioning of a VCS fabric. With the upcoming support of Restful API's, the entire virtual access layer of WSCA-NASPO participants will be OpenStack-enabled, thereby facilitating an automated and simplified approach to management of the entire virtual compute block (compute, storage, network, and security) from a single open management instantiation.

The key elements of the solution include:

- REST and Netconf APIs provided by VCS.
- Brocade extensions to OpenStack that create and manage Linux bridges to provide connectivity between VMs and the physical network. This ensures that customers can manage both virtual and physical networking resources through OpenStack and preserve their investments.
- Brocade innovations such as Automatic Migration of Port Profiles (AMPP), which automatically attaches the correct network policies to the port connected to the VM.

FINANCING OPTIONS

Brocade Capital Municipal Financing Portfolio

Today's state and local governments, as well as publicly-funded school districts and colleges/universities, face the dual challenge of reducing costs while expanding services to staff, citizens and businesses. They must also increase security to protect personal data and meet ever-changing compliance mandates. For a turnkey financing solution you can trust, you need only one partner: Brocade.

- Total solution financing – Brocade Capital Solutions can build the fully weighted cost into affordable monthly payments.
- Simplified processing – One-stop, compliance guaranteed documents that conform with all local laws and federal regulations.
- Making the numbers work – Brocade has a vested interest to identify the ideal configuration and services to meet your needs as well as provide the capital to make it a reality.

Municipal Leases

Tax-exempt municipal lease financing is an effective and increasingly popular vehicle for publicly-funded entities to finance equipment acquisitions.

- OpEx and CapEx financing alternatives designed to support your business goals and technology needs, both today and in the future.
- One source, one solution: hardware, software and services in one predictable monthly payment.
- Includes non-appropriations clause.

Brocade Network Subscription (BNS)

Brocade Network Subscription is a flexible, open-ended network acquisition and direct support model that gives organizations the power to align network capacity to their changing business needs with minimal risk and no capital investment. Including Brocade IP equipment and support services, Brocade Network Subscription allows organizations to provision for anticipated demand—enabling cloud-optimized networking with minimal risk.

Brocade Subscription Plus

A single-contract that blends the “pay-as-you-go” flexibility of Brocade Network Subscription with the ability to finance an end-to-end network solution. You can procure the network solution you need today while retaining a solid cash foundation.

SUMMARY

The Brocade vision for emerging Data Centers are elastic, energy efficient, and location independent architectures where the infrastructure is seamlessly integrated into the Compute platform, enabling the automated provisioning of services with the required performance, management, and security compliance.

As a focused networking vendor with a demonstrated heritage in Campus, Data Center, Storage, and performance leading IP solutions, Brocade has a clear strategy with a strong history of execution in these markets. As a profitable firm with global presence, Brocade’s key industry partnerships would be leveraged to fully support WSCA-NASPO participants’ IT initiatives.

4.2 Warranty

Specify the Offeror's standard warranty offerings for the products and services proposed in the response to this RFP.

Brocade Response:

Warranty coverage for Brocade branded products are described below. Additional support coverage can be purchased with your Brocade branded products. Please consult your local Brocade sales professional for annual support options and services fees.

Brocade Branded Product Warranty Summary*

Warranty Category	Products Covered	Hardware Warranty Duration	Hardware Coverage	Software Warranty Duration	Software Coverage	Exclusion
Standard Limited Warranty	IP & SAN	13 months from ship	Return to Factory 30 day turn around	90 days from ship	Substantial conformance to published specifications & media replacement	None
Host Bus Adaptor & Converged Network Adapter Warranty	Host Bus Adaptor & Converged Network Adapter (HBAs & CNAs)	36 months from ship	Advanced Hardware Replacement	36 months from ship	24x7 phone & email support, lifetime access to updates	None
Limited Lifetime Warranty	EIF, FES, FLS, FGS, FESX	5 years from ship	Return to Factory 30 day turn around	90 days from ship	Substantial conformance to published specifications & media replacement	Power supply, fan, removable optics, LEDs[2]
Brocade Assurance Limited Lifetime Warranty[3]	FCX, FSX800/1600, ICX6610, ICX6430, ICX6450	Life of product[1] Initial registered end user only	Advanced Hardware Replacement (Next Business Day where available)	Life of product[1] Initial registered end user only	Software defect repairs and software maintenance updates through the product end of support date. Knowledge portal access.	Removable optics, LEDs[2]
	FWS & TI-24X				Software defect repairs for firmware release current at time of purchase only. Knowledge portal access.	
Stand Alone Software Warranty	Stand Alone Software	Not Applicable	Not Applicable	90 days from ship	Substantial conformance to published specifications & media replacement	None

* For informational purposes only. Terms and conditions apply. Brocade branded products only.

[1] Covered through product end of support date

[2] Subject to Brocade's Standard Limited Warranty

[3] Applies only to Brocade branded FCX, ICX6610, ICX6430, ICX6450, FWS and TI products purchased on or after October 1, 2009 or FI-SX800/1600 chassis and SX-FI modules purchased on or after July 1, 2010. Brocade branded FCX, FWS and TI products purchased prior to October 1, 2009 or FI-SX800/1600 chassis and SX-FI modules purchased prior to July 1, 2010 are covered under Brocade's Standard Limited Warranty.

Product Repair Information

To submit a request for repair (non-Assurance Limited Lifetime warranty products); please complete the product repair form.

Product Warranty Details

The terms and conditions governing your warranty on Brocade branded products are located below. Such terms and conditions supersede all other terms, unless otherwise agreed in writing by Brocade.

Warranty Start Date

"Start Date" as used in this policy means the date the product is shipped from the manufacturing facilities of Brocade.

Standard Limited Warranty

Brocade branded Products are subject to the Standard Limited warranty other than as specified below.

Hardware

For a period of thirteen (13) months from the Start Date, Brocade warrants that the Brocade branded product hardware will be free from defects in materials and workmanship under normal use. End User's sole and exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be, at Brocade's option, repair or replacement of such product hardware within thirty (30) working days of its receipt of the failed hardware, if in advance of its receipt, such hardware received a Technical Support RMA number from Brocade. Further, the product hardware must be shipped, shipment pre-paid, to Brocade, and the RMA number must be clearly indicated on the shipping box and papers. Where applicable, for shipments to locations outside the US, Customer or Customer's assigned agent will act as Importer of Record for shipments of repaired/replacement units and will be responsible for payment of any import duties, taxes and fees. See other Warranty Limitations and Restrictions below.

Software (embedded in Brocade hardware)

For a period of ninety (90) days from the Start Date, Brocade warrants (a) that the media on which the software is delivered will be free of defects in material and workmanship, and (b) the software will operate substantially as set forth in the applicable Brocade specifications when used in accordance with the terms of the Brocade software license. End User's exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be replacement of the software media. Except for the foregoing, the software is provided AS IS. This limited warranty extends only to the End User as the original licensee. See other Warranty Limitations and Restrictions below.

Software (Stand Alone Software Products)

For a period of ninety (90) days from the Start Date, Brocade warrants (a) that the media on which the software is delivered will be free of defects in material and workmanship, and (b) the software will operate substantially as set forth in the applicable Brocade specifications when used in accordance with the terms of the Brocade software license. End User's exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be replacement of the software media. Except for the foregoing, the software is provided AS IS. This limited warranty extends only to the End User as the original licensee. See other Warranty Limitations and Restrictions below.

Host Bus Adaptor and Converged Network Adapter Warranty

Hardware

For a period of thirty-six (36) months from the Start Date, Brocade warrants that the Brocade branded hardware will be free from defects in material and workmanship under normal use. End User's sole and exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be advanced replacement of such product hardware. Replacement response times are based on local standard business days and working hours and commercially reasonable efforts. Response times commence when Brocade is notified of the warranty failure via web request. In some countries and regions and under certain supplier constraints, actual response times may vary. If your location is outside the customary service area, your response time may be longer. Where applicable, for shipments to locations outside the US, Customer or Customer's assigned agent will act as Importer of Record for shipments of repaired/replacement units and will be responsible for payment of any import duties, taxes and fees. Please contact Brocade's Support Team for response time availability in your area. See other Warranty Limitations and Restrictions below.

Software (embedded in Brocade hardware)

For a period of thirty-six (36) months from the Start Date, Brocade warrants (a) that the media on which the software is delivered will be free of defects in material and workmanship, and (b) that the software, when used in accordance with the terms of the Brocade software license, will operate substantially as set forth in the applicable Brocade specifications for a period of ninety (90) days following delivery of the software to licensee. End User's exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be to provide 24x7 telephone and email support and web access to Brocade Technical Support resources when purchased from Brocade or an approved Brocade partner. Except for the foregoing, the software is provided AS IS. This limited warranty extends only to the End User as the original licensee. See other Warranty Limitations and Restrictions below.

Limited Lifetime Warranty

For select products, Brocade provides a limited lifetime (five year) warranty.

Hardware

Brocade warrants only to the original end-user, that for a period of five (5) years the Brocade branded hardware will be free from defects in material and workmanship under normal use. End User's sole and exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be, at Brocade's option, repair or replacement of such product hardware within thirty (30) working days of its receipt of the failed hardware, if in advance of its receipt, such hardware received a Technical Support RMA number from Brocade. Further, the product hardware must be shipped, shipment pre-paid, to Brocade, and the RMA number must be clearly indicated on the shipping box and papers. Where applicable, for shipments to locations outside the US, Customer or Customer's assigned agent will act as Importer of Record for shipments of repaired/replacement units and will be responsible for payment of any import duties, taxes and fees. This warranty excludes power supplies, fans, removable optics, and LEDs. See other Warranty Limitations and Restrictions below.

Software (embedded in Brocade hardware)

For a period of ninety (90) days from the Start Date, Brocade warrants (a) that the media on which the software is delivered will be free of defects in material and workmanship, and (b) that the software, when used in accordance with the terms of the Brocade software license, will operate substantially as set forth in the applicable Brocade specifications for a period of ninety (90) days following delivery of the software to licensee. End User's exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be replacement of the software media. Except for the foregoing, the software is provided AS IS. This limited warranty extends only to the End User as the original licensee. See other Warranty Limitations and Restrictions below.

Brocade Assurance Limited Lifetime Warranty

For select products, Brocade provides a limited lifetime warranty beginning on the Start Date and continuing for as long as the original End User continues to own and use the Brocade branded equipment, as set forth below.

Hardware

Brocade warrants that the Brocade branded hardware will be free from defects in material and workmanship under normal use. End User's sole and exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be replacement of such product hardware next business day, provided the request is received before 2PM local time.* Defective hardware must be received by Brocade within 30 days of End User's receipt of replacement Product. This warranty excludes removable optics and LEDs. In the event of discontinuance of product manufacture, the warranty is limited to five (5) years from the announced product end of life date. *Response times are based on local standard

business days and working hours and commercially reasonable efforts. Response times commence when Brocade is informed of the warranty failure via web request. In some countries and regions and under certain supplier constraints, actual response times may vary. If your location is outside the customary service area, your response time may be longer. Please contact Brocade's Support Team for response time availability in your area. Where applicable, for shipments to locations outside the US, Customer or Customer's assigned agent will act as Importer of Record for shipments of repaired/replacement units and will be responsible for payment of any import duties, taxes and fees. See other Warranty Limitations and Restrictions below.

Software (embedded in Brocade product)

Brocade warrants (a) that the media on which the software is delivered will be free of defects in material and workmanship, and (b) the software will operate substantially as set forth in the applicable Brocade Documentation when used in accordance with the terms of the Brocade software license. End User's exclusive remedy and the entire liability of Brocade and its suppliers under this limited warranty will be replacement of the software media. In addition, End User may download defect repairs from Brocade.com for the firmware release current at time of purchase or any previous release and may also access Brocade's Knowledge Portal. On certain products (as indicated in the table above) End User may also download software maintenance updates through the product end of support date. Except for the foregoing, the software is provided AS IS. This limited warranty extends only to the End User as the original licensee. See other Warranty Limitations and Restrictions below.

Warranty Limitations and Restrictions

Brocade warranties as set forth herein ("Warranty") are contingent on proper use of the Brocade branded hardware and software ("Products") and do not apply if (a) the Products have been modified without the written approval of Brocade, (b) the Products' serial number label is removed, (c) the Product has been damaged or subjected to abnormal physical or electrical stress, abnormal environmental conditions, misuse, negligence, or accident, or (d) the Product is licensed for beta, evaluation, testing or demonstration purposes. The terms of the Warranty are limited to the remedies as set forth in this Warranty. THIS WARRANTY IS PROVIDED IN LIEU OF ALL OTHER RIGHTS, CONDITIONS AND WARRANTIES. BROCADE MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE SOFTWARE, HARDWARE, PRODUCTS, DOCUMENTATION OR BROCADE SUPPORT, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. BROCADE DOES NOT WARRANT THAT ANY PRODUCTS WILL BE ERROR-FREE, OR THAT ANY DEFECTS THAT MAY EXIST IN ITS PRODUCTS CAN BE CORRECTED. IN NO EVENT SHALL BROCADE BE LIABLE FOR COST OF PROCUREMENT OF SUBSTITUTE GOODS, LOST PROFITS OR ANY OTHER SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOST DATA), HOWEVER CAUSED WHETHER OR NOT BROCADE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME JURISDICTIONS DO NOT ALLOW LIMITATION OR EXCLUSION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THAT LIMITATION OR EXCLUSION MAY NOT APPLY.

4.3 Website

Award contractors are required to establish and maintain a website applicable to the WSCA/NASPO contract which will allow Participating States to see applicable contract price list, discounts on said price list, approved resellers or partners for their state and any additional information that may be required to assist the participating states in obtaining information concerning the contract award. The State of Utah representing WSCA/NASPO reserves the right to require the award contractor to add additional items to assist in this process. Specify Websites used by the Offeror to facilitate customer ordering under awarded contracts.

This is a mandatory requirement.

Brocade Response:

http://www.brocade.com/sales/sled/wsca.page.

4.4 Customer Service

Specify the Offeror's standard customer service policies and detail the escalation process used to handle customer-generated issues.

Brocade Response:

Customer Service Policies

Brocade Technical Support Plan Policies cover Brocade products that are supported under a purchased Brocade Technical Support Plan. Any equipment or software for which you have not purchased a Brocade Technical Support Plan is covered only by the warranty you received when you purchased the equipment or software. These Technical Support Plan Policies do not apply to equipment or software for which you have not purchased a Brocade Technical Support Plan. Detailed descriptions of Brocade Technical Support Plans can be found at http://www.brocade.com/services-support/support-plans/index.page. Brocade has a fully trained, full-time, dedicated support staff in each Technical Assistance Center (TAC). There are 8 TACs located around the world providing 24x7 support.

Escalation Process

At Brocade, our goal is to be as responsive, flexible, and highly disciplined as possible, because your success is the ultimate measure of our own success. What you can expect from Brocade Technical Support: live assistance from Brocade Technical Support Engineers, having 24×7×365 access to all Brocade technical engineering resources. Engineers have access to multiple Brocade test laboratories, with extensive equipment and networking environments with qualified OEMs and Brocade Partners to aid in issue replication and troubleshooting.

Brocade has escalation policies based on the tier of support purchased. To review these escalation policies, please visit http://www.brocade.com/services-support/support-plans/direct-support/policies_and_locations.page

Brocade has implemented a Time Based escalation process for critical network outages. The objective is to pool all necessary resources within Brocade to resolve the problem as quickly as possible while reporting progress on the resolution to the Brocade Management team. The progress reporting may go all the way up to the CEO depending on how long it takes to resolve the problem.

1. Severity 1 (Critical): Network Down - An existing network is down or there is a critical impact to the customer's business operations. No workaround is yet available.

2. Severity 2 (High): Serious Degradation - Operations of an existing network are severely degraded, or significant aspects of the customer's business operations are being negatively impacted by unacceptable network performance.

3. Severity 3 (Medium): Performance Impact - Operational performance of the network is impaired, while most business operations remain functional.

4. Severity 4 (Low): Information or Assistance - Product issue being reported has little or no negative impact to the business operation.

4.5 Firm

a. Provide a brief history of your firm including the following:

1. Number of years providing Data Communications Services being offered in response to this RFP.

Brocade Response:

Founded in 1995, Brocade is an industry leader in providing reliable, high-performance network solutions that help the world's leading organizations transition smoothly to a virtualized world where applications and information reside anywhere.

As a result, Brocade facilitates strategic business objectives such as consolidation, network convergence, virtualization, and cloud computing. Today, Brocade solutions are used in over 90 percent of Global 1000 data centers as well as in enterprise LANs and the largest service provider networks.

Brocade is extending its proven data center expertise across the entire network with future-proofed solutions built for consolidation, network convergence, virtualization, and cloud computing.

Headquartered in San Jose, California, the company has approximately 4700 employees worldwide and serves a wide range of industries and customers in more than 160 countries. With a complete family of Ethernet, storage, and converged networking solutions, Brocade helps organizations achieve their most critical business objectives through:

- Unmatched simplicity to overcome today's complexity
- Non-stop networking to maximize business uptime
- Optimized applications to increase business agility and gain a competitive advantage
- Investment protection to provide a smooth transition to new technologies while leveraging existing infrastructure

Brocade combines a proven track record of expertise, innovation, and new technology development with open standards leadership and strategic partnerships with the world's leading IT companies. This extensive partner ecosystem enables truly best-in-class business solutions.

To ensure a comprehensive solution, Brocade also provides a full range of education, support, and professional services offerings.

2. Number of separate services provided in each of the area categories described in this RFP.

Brocade Response:

Please refer to the offerings within the individual sections starting with section 5.2.1 through section 5.3.0.

b. Describe specifically what makes your firm a stable long term partner for WSCA-NASPO.

Brocade Response:

Brocade has been a contracted supplier of the WSCA-NASPO contract for seven years and has remained compliant since its award. Besides Brocade's compliance, Brocade has established strong relationships with entities who have executed a participating addendum and SLED end-customers and SLED focused sub-contractors who have utilized Brocade's WSCA-NASPO contract.

Brocade maintains a solid commitment to ensuring the highest levels of quality in the design, manufacture, and testing of its products. As a result, organizations can feel confident in their Brocade networking solutions, knowing that they are using products that have met the most rigorous quality standards in the industry.

BROCADE QUALITY MANAGEMENT SYSTEM

The Brocade Quality Management System (QMS) is a holistic approach to quality that leverages the expertise, proven testing methodologies, and tools of engineering teams across Brocade to deliver the highest quality networking solutions. An integrated quality value chain, the Brocade QMS spans five key areas:

- Hardware design
- Software design and development
- Partner interoperability testing
- Manufacturing and operations
- Technical support

Hardware Design
Brocade engineers employ proven design techniques and a system of rigorous test and validation cycles to ensure the highest level of hardware quality. At the same time, they leverage existing product designs to minimize risks for potential quality issues. Brocade also works closely with OEM partners to ensure that its products meet the stringent quality standards of the world's leading IT vendors.

Software Design and Development
As part of the Brocade QMS, Brocade software design and development adhere to a disciplined quality framework that includes several testing phases as well as ongoing customer quality monitoring. The types of testing include: Functional Verification Testing (FVT), Software Quality Assurance (SQA) testing, Integrated OEM Fabric (IOF) tests, and software sustaining Root Cause Analysis (RCA).

Manufacturing and Operations
The Brocade manufacturing team plays a vital role in the QMS, working closely with the engineering team to meet stringent quality, reliability, and cost requirements. The manufacturing process helps ensure that any defects introduced during product assembly (or by a purchased component variation) are removed—before the product ships to Brocade customers.

Technical Support
By leveraging best practices and fostering a culture of continuous improvement, Brocade can offer high-quality technical support throughout its eight Technical Support Centers, 170 parts depots, and 12 interoperability and testing labs. In addition, Brocade regularly assesses its support organization by gathering customer feedback on delivery quality, processes, systems, products, and offerings.

For more information, please visit: http://www.brocade.com/company/about-brocade/brocade-quality.page

c. Describe specifically what information the Data Communications Provider contract administrator would provide at annual meetings with an entity that has executed a participating addendum.

Brocade Response:

Brocade's contract administrator would provide the following at annual meetings with an entity that has executed a participating addendum:

- Any new enhancements to Brocade's State Government, Local Government, and Education (SLED) Program.
- Past year successes and challenges with the contract in that specific state.
- Roundtable discussion on how to raise revenue and increase awareness within that specific state.
- Discuss any needs, issues, or concerns the entity may have that the SLED Team can address (i.e. reporting requirements, administrative fees, administrative processes, etc.).

d. Describe how you plan to implement the contract including having a single point of contact to perform and manage all aspects of this contract.

Brocade Response:

Brocade's implementation plan is as follows:

- Contract administrator will meet with the rest of the Brocade SLED Team to sync up on implementation plan.
- SLED Team to leverage marketing vehicles to announce and market the WSCA-NASPO contracting vehicles (i.e. national weekly sales calls, SalesForce.com Chatter, internal newsletters, emails to RSMs to push to sales teams).
- SLED Team to schedule sales training to train the Brocade sales teams on how to utilize the WSCA-NASPO contract and record information properly in SalesForce.com, as well as who to contact, which will include our contract administrator's information and our SLED Team alias.
- SLED Team to notify Brocade corporate legal team and send fully executed contract for filing purposes.
- SLED Team to notify and work with Brocade Sales Operations Department to coordinate reporting requirements in SalesForce.com.
- SLED Team to notify and work with Brocade Finance Department to coordinate administrative fee requirements.
- SLED Team to set up a meeting with Jennifer Porter to review reporting requirements and templates, as well as any other expectations.
- SLED Team to update the WSCA-NASPO Brocade.com website with new price list, reseller list, and contract information.
- SLED Team to notify authorized sub-contractors of contract award and expectations.

- SLED Team to follow up with all entities that have executed a participating addendum in order to get new participating addendums established between each entity and Brocade.
- SLED Team to ensure that eMarket Center is set up properly and according to contract requirements.

Brocade's maintenance plan is as follows:

- Contract administrator will set up monthly report reminders via Outlook to ensure reporting requirements are met.
- Contract administrator will check the SLED Team inbox daily to handle any inquiries and requests from resellers, sales team members, and/or end-customers regarding the WSCA-NASPO contract.
- Contract administrator will set up quarterly reminders to update the WSCA-NASPO Brocade price list and ensure price lists are updated via eMarket Center.
- Contract administrator maintains a tracker to handle all reseller requests that come in to ensure that the proper approvals are received according to the contract and participating addendums.

e. Describe in detail your firm's escalation management plan including contact information.

Brocade Response:

Escalation Management Plan

Brocade has escalation policies based on the tier of support purchased. To review these escalation policies, please visit http://www.brocade.com/services-support/support-plans/direct-support/policies_and_locations.page.

Contact Information

For more information on Brocade Technical Support Plans, contact.
maintcontracts@brocade.com

Email-based support is provided through an email engagement template provided to the customer. When completed, the template is emailed to support@brocade.com where it is processed by the Level 1 / Brocade Call Center (BCC).

4.6 Authorized Sub Contractor Relationships

Respondents may propose the use of Servicing Subcontractors or partners however, the Contractor shall remain solely responsible for the performance under the terms and conditions of the Contract if Servicing Subcontractors are utilized. This includes sales report information. The Contractor will be responsible to collect, and report this information from all partners or resellers representing your contract.

a. Briefly describe what your firm requires from potential contractors to become an "Authorized Data Communications Reseller". Provide an Authorized Contractor List.

Brocade Response:

The WSCA-NASPO Contract provides significant value to our top committed partners focused on State, Local, and Education business by providing access to this nationwide purchasing vehicle. As a result, Brocade has established specific criteria in order for Partners to be considered as an Authorized Value-Add Reseller (VAR) for the WSCA-NASPO Contract.

Step 1

All participating resellers on the Data Communications WSCA-NASPO Contract must first join the Brocade Alliance Partner Network (APN) Program and hold a Select, Premiere, or Elite partner level. Some exceptions may apply.

APN Program Requirements		
Elite Level	**Premier Level**	**Select Level**
Maintain two (2) SAN certified personnel Maintain the following number of IP networking certified personnel based on company size: • 1 to 999 employees: Two (2) IP networking certified personnel • 1000 to 2000 employees: Three (3) IP networking certified personnel • Over 2000 employees: Four (4) IP networking certified personnel Train sales personnel: Two (2) for SAN and four (4) for IP networking Incentive growth plans	Maintain one (1) SAN certified person Maintain the following number of IP networking certified personnel based on company size: • 1 to 999 employees: One (1) IP networking certified person • 1000 to 2000 employees: Two (2) IP networking certified personnel • Over 2000 employees: Three (3) IP networking certified personnel Train sales personnel: One (1) for SAN and	Suggested certification: One (1) SAN certified person Suggested certification: One (1) IP networking certified person Suggested sales training: One (1) for SAN and one (1) for IP networking Complete the Brocade APN registration form online at https://my.brocade.com

More about the Brocade Alliance Partner Network (APN) Program can be located at http://www.brocade.com/partnerships/distributors-resellers/alliance-partner-network/index.page.

Step 2

After joining the Brocade APN Program, each reseller must submit an application. The application includes contact information, Brocade APN Program status, expected annual revenue, regions where they focus on the SLED vertical market, and more. Once the application is completed, the form is sent to the SLED Team who reviews the request and submits it through the proper channels in order to receive the required approvals. Approval processes vary per entity that holds a participating addendum. After approvals are received, the SLED Team notifies the reseller of any additional next steps. Next steps vary per entity that holds a participating addendum. Only after the request has received all mandated approvals and the reseller has completed all required next steps, will the reseller then become a Brocade Data Communications reseller.

Please refer to "Attachment 1" for a list of Brocade's Authorized Resellers as of 08-14-13.

Please refer to http://www.brocade.com/sales/sled/wsca.page for the most up-to-date listing of Brocade's Authorized Resellers.

b. Describe in detail how your firm currently measures an authorized contractors' performance.

Brocade Response:

Brocade's Channel Marketing Team conducts quarterly audits to ensure that each reseller is maintaining their Brocade APN Program requirements. Brocade's APN Program requirements are detailed in section 4.6 a.

In addition, through Quarterly Business Reviews with the Reseller and the Channel Account Management Team, the resellers' marketing and sales planning are discussed as they relate to the SLED vertical market.

c. Describe in detail the process for revoking a designation as a sub contractor from an authorized contractor for issues related to customer service, or other authorized contractor performance related issues.

Brocade Response:

Brocade reserves the right to revoke any reseller from the Data Communications due to poor performance or customer service. Our APN agreement notes the following language:

Either party may terminate their APN Partner Participation Agreement for convenience by giving the other party thirty (30) days prior written notice. Either party may terminate their APN Partner Participation Agreement upon fifteen (15) days written notice if the other party breaches a material term or condition of their APN Partner Participation Agreement and fails to cure the breach within the notice period.

d. Describe in detail how your firm will support and assist an authorized contractor in improving their performance and the corrective action process.

Brocade Response:

With all of Brocade Authorized Partners, the Brocade Channel Account Manager works with the Partners on an individual basis to get them back on track by developing a 'get well plan' to ensure the best customer service is provided to the end customer. In addition to channel team support Brocade field sales and engineering resources will engage with the partners to help overcome any perceived sales or engineering deficiency.

Support

The Brocade Cooperative Support Program (CSP) for IP networking and Ethernet Fabric products combines Brocade's technical expertise and leadership in product solutions and support with the services and support capabilities of various partners to have Brocade-authorized support and services delivered to Brocade End Users.

To qualify for rebates, a partner must meet the training and certification requirement as stated in these CSP Professional Tier Guidelines, the maximum qualifying thresholds in Service Case Ratio, RMA Ratio, minimum Customer Satisfaction responses, and the minimum Customer Satisfaction survey scores.

An existing CSP will have their rebate suspended if they cannot meet any one of the following requirements for two (2) consecutive Brocade's fiscal quarters:

- Training and certification requirement as stated in these CSP Professional Tier Guidelines
- The maximum threshold in Service Case Ratio
- The maximum threshold in RMA Ratio
- The minimum threshold for Customer Satisfaction survey score

Once the CSP's Eligibility Discount is suspended, the partner will have a six (6) months "get well" period to improve to the required thresholds, and/or to make remedial actions to fulfill the partner eligibility requirements to re-instate their eligibility discount. If, after the six (6) months "get well" period, the partner still cannot meet the requirements, Brocade reserves the right to remove the partner from the CSP program.

Services

Brocade's Professional Services Partner Program (PSP) was created to enhance the Partner's professional services offerings to its customers by supporting Partner in effectively selling and delivering its own professional services on Brocade gear. Brocade's Professional Services Partner Program is intended to provide a comprehensive set of tools to support Partner throughout its professional services selling cycle.

Benefits such as wider access to remote labs, a dedicated team of engineers to provide technical direction with professional service implementations and step-by-step instruction from Brocade Subject Matter Experts (SMEs) are available to qualified PSPs at no cost. Brocade has introduced these program updates to provide a comprehensive program infrastructure to better enable partners throughout the professional services selling cycle and beyond.

At any time Brocade reserves the right to terminate a Partner if the Partner breaches any material term or condition of the Addendum.

e. Describe in detail the process that your firm uses to track and respond to issues and concerns from both your authorized contractors and from participating entities.

Brocade Response:

Issues and concerns of both partners and participating entities are tracked in several ways.

1. The Brocade Technical Support Hotline allows the tracking and response of all issues related to hardware/software specific issues.

2. The local channel and sales account teams work with the authorized contacts to solve and to respond to issues that may arise.

3. Web-based support is provided through our customer and partner portal called MyBrocade. MyBrocade offers a variety of tools and learning opportunities exclusively for end users of Brocade solutions. End users can customize a homepage on Brocade.com to include Brocade products they own or frequently access and their most frequently used content and applications, including Communities, SAN Health, Support and Services Tools, and Software Licensing. For Brocade Technical Support customers, MyBrocade also provides access to software downloads, case management, and licensing tools through its MySupport online support module. For Brocade NMS customers, it provides the secure Web portal for all collected data, analysis, and reporting.

f. Describe in detail how your firm will track, report and verify sales from your designated Data Communication partners and authorized contractors.

Brocade Response:

Reports

Partners (or the associated distributor) shall provide Brocade with point-of-sale ("POS") reports in the format requested by Brocade in accordance with the Marketing Program Participation Guidelines. The POS report shall include the quantity, Brocade serial number and worldwide name of Product sold, date of sale and End User name and address where the Product is installed. Partner shall reconcile inventory information and the POS report no less often than monthly and submit to Brocade within fifteen (15) days after the end of each month. Brocade shall have the right, once per quarter, to audit the inventory of Partner to ensure both parties maintain matching POS records. Untimely or lack of submission of POS is grounds for termination.

Section 5: Service Offering Qualifications

5.1 General Information

This section contains mandatory minimum requirements that must be met in order for your proposal to be considered for the evaluation phase of this RFP. All of the items described in this section are non-negotiable. Respondents are required to complete:

Mandatory Requirements (M)

All Respondents must meet the **(M)** requirements listed in this section, and explain how the requirement is met. A 'no' response on the acceptance document or omission of the required explanation will disqualify the service from further evaluation.

5.1.1 General Business Requirements

Each provider must meet the following mandatory general business requirements:

5.1.2 Terms and Conditions

(M) Respondents *must* indicate their acceptance of the State of Utah Standard Terms and Conditions in addition to the WSCA-NASPO Terms and Conditions attached to this RFP as Attachment A and Attachment B. Any exceptions to these terms and conditions must be clearly identified in bid response and during the question and answer period on BidSync. Significant exceptions may constitute grounds for rejecting Respondent proposals.

Brocade Response:

Please refer to Brocade's response in Section 7.2 Offeror Exceptions to Terms and Conditions, for a detailed listing of Brocade's exceptions and restatements to WSCA-NASPO Master Agreement Terms and Conditions and ATTACHMENT A STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS).

5.1.3 Experience

(M) Respondents *must* be able to provide reference service contracts from a minimum of five government or commercial customers for their Data Communications Product and Services offerings. Government references are preferred. References must include environments and complexity that is similar in scope to those described within this RFP. Any proposals from Respondents that cannot meet these requirements will not be considered. The Respondent must provide specific contact information describing their reference service contracts, which may be verified.

Brocade Response:

Comply. Brocade will solicit references from a minimum of five (5) of its customers. These customers will submit Attachment B – Reference Form directly to the State of Utah.

5.1.4 Financial Stability

(M) The Data Communications Product and Services vendor ***must*** provide audited financial statements to the State and should meet a minimum Dun and Bradstreet (D&B) credit rating of 4A2 or better, or a recognized equivalent rating. Please provide the Respondent's D&B Number and the composite credit rating. The State reserves the right to verify this information. If a branch or wholly owned subsidiary is bidding on this RFP, please provide the D&B Number and score for the parent company that will be financially responsible for performance of the agreement. Prime contractors working on behalf of Respondents must submit financial statements that demonstrate financial stability, and adequate working capital, but do not need to meet 4A2 credit rating requirements.

Brocade Response:

Brocade's D&B rating is: 5A2

D&B Number: 92-777547

Our most updated 2011 & 2012 10-K financial statements can be found on our website at: http://www.brcd.com/secfiling.cfm?filingID=1009626-12-55.

5.1.5 Other General Responsibilities

(M) The Respondent *must* provide the personnel, equipment, tools, and expertise to meet the requirements in this RFP.

Brocade Response:

Please refer to Brocade's response within the individual sections.

(M) Computer applications and Web sites *must* be accessible to people with disabilities, and *must* comply with Participating entity accessibility policies and the Americans with Disability Act.

Brocade Response:

Comply.

(M) Applications and content delivered through Web browsers must be accessible using current released versions of multiple browser platforms (such as Internet Explorer, Firefox, Chrome, and Safari) at minimum.

Brocade Response:

Comply.

5.2 Data Communications Services – Requirements

Offerors may respond to any of the sections where they have substantive product offerings that address the scope detailed in each Section from 5.2.1-5.3.0. All Offerors must include a response to section 5.31 services, that addresses products proposed in 5.2.1-5.3.0.

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. Responses should consider this breadth of use and users.

The scope and context of this solicitation **does not include endpoints such as cell/smart phones, other mobile devices or 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. Respondents should offer a range of solutions that are appropriate for installations of varying size and complexity.

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.

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

Brocade Response:

The Brocade Virtual ADX Application Delivery Switch provides the ultimate in flexibility and portability, enabling deployment in private, public, or hybrid clouds. It allows service providers and service-oriented enterprises to develop, manage, and deliver key services while significantly reducing operational costs. As a virtual solution, the Brocade Virtual ADX provides several advantages, including:

- Rapid service provisioning: The Brocade Virtual ADX can be provisioned and ready for inclusion in the production pool much faster than a physical device.
- Simplified operation: The Brocade Virtual ADX simplifies the administration and orchestration of the application delivery tier, an integral part of the overall cloud ecosystem.
- Reduced TCO: The flexibility and simplicity of provisioning the Brocade Virtual ADX on a hypervisor helps reduce capital and operational network infrastructure costs.

Load Balancing

The Brocade Virtual ADX enables the efficient distribution of traffic among application and infrastructure servers. In this capacity, the system can load balance traffic based on a number of different characteristics including server connection load, server resources such as CPU and memory, application response time, and pre-assigned server weights while ensuring session stickiness on selected servers when required. Together, these capabilities combined with a rich set of server monitoring capabilities serve to ensure an optimal application experience.

Content Switching

To manage traffic based on deeper application intelligence, the Brocade Virtual ADX can determine the server that is best suited to respond to different traffic types and direct traffic accordingly. Traffic policies can be configured based on both URL and HTTP header information allowing traffic to be distributed based on user information and device characteristics as well as the content they're requesting.

OpenScript

The Brocade Virtual ADX includes a powerful application scripting engine for developing real-time application services - allowing for the manipulation of transaction responses based on information in the request and vice versa enabling more advanced traffic-handling. The small footprint of the Openscript engine increases the number of scripts that can run simultaneously on the system. And to ensure optimal performance, the system can estimate the performance of custom scripts without requiring the need for live traffic.

Category	Feature
Networking	Static Routing
	VLANs and VLAN tagging
	IPv4
Load Balancing	Server Load Balancing for TCP and UDP protocols
	Policy-based Server Load Balancing (PBSLB)
	Source NAT
	Direct Server Return (DSR)
Content Switching	Content Switching for HTTP protocol
OpenScript	Content Scripting for HTTP protocol
Health Monitoring	Health Check for TCP, UDP, and HTTP protocols
High Availability	Hot Standby configuration (Switch Build only)
System Management	All system management including SOAP/XML API for supported features, CLI, GUI, syslog, telnet, SCP, SNTP, SNMP, AAA, packet filter etc.)

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

Brocade Response:

Brocade is not submitting a response to this section at this time.

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

Brocade Response:

Brocade Network Advisor (BNA) greatly simplifies daily operations while improving the performance and reliability of the overall Storage Area Network (SAN) and IP networking environment. This software management tool offers flexible and proactive SAN/IP network performance analysis in addition to IP network configuration change deployment and monitoring for compliance. Brocade Network Advisor supports Fibre Channel SANs, including Brocade Gen 5 Fibre Channel platforms, Layer 2/3 IP networks (including those running Brocade VCS? Fabric technology), wireless networks, application delivery networks, and Multiprotocol Label Switching (MPLS) networks for service providers.

Brocade Network Advisor (BNA) manages not only Brocade products, but any/all other vendor's products which support standards-based SNMP management.

5.2.2.1 Network Management and Automation — Software products and solutions for data center automation, cloud computing, and IT systems management.

Brocade Response:

End-to-End Network Management

With Brocade Network Advisor, organizations can reduce operational expenditures by leveraging the same management solution for their entire SAN and IP network infrastructure. This enables better coordination between storage and data networking administrators for provisioning, troubleshooting, and reporting.

Brocade Network Advisor manages:

- IP and SAN networks
- MPLS services

- Brocade application delivery switches
- Virtual IP (VIP)
- SSL certificates
- Global Server Load Balancing (GSLB)

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.

Brocade Response:

Simplified Daily Network Operations

Brocade Network Advisor (BNA) saves administrators valuable time and enables greater IT and business agility through several key capabilities, including:

- **Intelligent dashboards:** Organizations can proactively identify problem areas and prevent network downtime with a customizable, at-a-glance summary of all discovered Brocade devices and third-party IP devices.
- **Easy-to-use interface:** Administrators can rapidly identify problem areas and troubleshoot use cases with performance dashboards and drill-down options.
- **Performance and historical data reporting:** Organizations gain visibility into in-depth performance measures and historical data for advanced troubleshooting and performance management
- **Network time and scope:** Administrators can set all dashboard widgets by network type and/or time scope to easily troubleshoot and correlate errors.
- **Virtual Machine (VM) visibility:** Network administrators gain visibility into virtual environments within SAN and IP networks through integration with VMware vCenter.
- **Role-Based Access Control (RBAC):** Organizations can define granular administrator roles and privileges to support the needs of different SAN and IP network teams.
- **Event management:** Administrators can receive SNMP traps, syslog event messages, and customizable event alerts for reporting, analysis, monitoring, and remediation.
- **Advanced Call Home:** Brocade Network Advisor can automatically collect diagnostic information and send notifications for faster fault diagnosis, isolation, and remote support operations.

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.

Brocade Response:

Brocade Network Advisor (BNA)

- **Virtual Machine (VM) visibility:** Network administrators gain visibility into virtual environments within SAN and IP networks through integration with VMware vCenter.
- **Role-Based Access Control (RBAC):** Organizations can define granular administrator roles and privileges to support the needs of different SAN and IP network teams.

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.

Brocade Response:

Brocade Network Advisor (BNA)

- **Intelligent dashboards:** Organizations can proactively identify problem areas and prevent network downtime with a customizable, at-a-glance summary of all discovered Brocade devices and third-party IP devices
- **Easy-to-use interface:** Administrators can rapidly identify problem areas and troubleshoot use cases with performance dashboards and drill-down options.
- **Performance and historical data reporting:** Organizations gain visibility into in-depth performance measures and historical data for advanced troubleshooting and performance management
- **Network time and scope:** Administrators can set all dashboard widgets by network type and/or time scope to easily troubleshoot and correlate errors.
- **Virtual Machine (VM) visibility:** Network administrators gain visibility into virtual environments within SAN and IP networks through integration with VMware vCenter.
- **Role-Based Access Control (RBAC):** Organizations can define granular administrator roles and privileges to support the needs of different SAN and IP network teams.
- **Event management:** Administrators can receive SNMP traps, syslog event messages, and customizable event alerts for reporting, analysis, monitoring, and remediation.

- **Advanced Call Home:** Brocade Network Advisor can automatically collect diagnostic information and send notifications for faster fault diagnosis, isolation, and remote support operations.

5.2.3 NETWORK OPTIMIZATION AND ACCELERATION — Devices and tools for increasing data-transfer efficiencies across wide-area networks.

Brocade Response:

Brocade Layer 4-7 application delivery and traffic management solutions enable high-performance, always-on, and secure IP service delivery in enterprise, service provider, and e-commerce data centers. The Brocade ServerIron ADX Series of application delivery switches is designed to accelerate, secure, and scale IP, cloud, Web, and VoIP applications.

Brocade application delivery solutions are deployed in over 3000 of the world's most demanding networks to support business-critical applications such as cloud-based applications and services, financial trading, e-mail, DNS, VoIP, Web, CDN, e-commerce, and ERP. Brocade offers more than 10 years of expertise and experience in providing application delivery solutions to the world's largest ISPs and enterprises across the globe.

Today, the Brocade ADX Series simplifies the orchestration and operation of highly virtualized and cloud-based environments, integrating with Brocade Application Resource Broker to increase application visibility and provide greater administrative control in these environments.

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.

Brocade Response:

Brocade® application delivery solutions provide the flexibility and scale to meet the demands of service-driven data centers—all without compromising on performance and reliability. Whether an organization requires dedicated hardware, hardware-based multitenancy, or a virtual platform, the Brocade ServerIron® ADX® Series provides a comprehensive application delivery portfolio.

The Brocade ADX Series is used by the world’s most demanding service provider networks and large enterprise data centers. With the Brocade ADX Series, these organizations gain a highly scalable and carrier-grade platform designed to ensure the cost-effective, reliable delivery of cloud services and maximum Return on Investment (ROI).

The Brocade ADX Series increases availability and scalability of infrastructure components that are critical for service delivery, including Domain Name Server (DNS), firewalls, caching devices, authentication services such as RADIUS and LDAP, and secure IPv4 and IPv6 DNS as well as DNS Security Extension (DNSSEC) servers.

High Availability

The Brocade ADX Series provides multiple high-availability options to suit varying infrastructure and business needs for overall enhanced application resiliency. Real-time synchronization of sessions between two peer Brocade ADX units operating in high-availability mode provides protection against system outages. If one device shuts down, then the second device transparently resumes control of client traffic, with no loss to existing sessions or connectivity.

The Brocade ADX family of application delivery switches includes:

- **Brocade ADX 1000 Series:**

  • Compact, 1U application delivery switch with multiple port configurations and three different performance options available through Capacity on Demand licensing

  • Available in both copper and fiber interface configurations

- **Brocade ADX 4000 Series:**

  • A 4U chassis-based modular application delivery switch that can be equipped with one management module and up to two Application Switch Modules (ASM)

- **Brocade ADX 10000 Series:**

  • A 10U chassis-based modular application delivery switch that can be equipped with up to two management modules and up to four ASMs.

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

Brocade Response:

Brocade is not submitting a response to this section at this time.

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.

Brocade Response:

The Brocade ADX Series provides multiple **high-availability** options to suit varying infrastructure and business needs for overall enhanced application resiliency. Real-time synchronization of sessions between two peer Brocade ADX units operating in high-availability mode provides protection against system outages. If one device shuts down, then the second device transparently resumes control of client traffic, with no loss to existing sessions or connectivity.

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.

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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.2.4.2 Edge Optical Switches — Provide entry points into the enterprise or service provider core networks.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.2.4.3 Optical Network Management — Provides capabilities to manage the optical network and allows operators to execute end-to-end circuit creation.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.2.4.4 IP over DWDM (IPoDWDM) — A device utilized to integrate IP Routers and Switches in the OTN (Optical Transport Network).

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 data flowing between networks and keep the networks connected to the Internet.

Brocade Response:

Brocade offers a complete family of Ethernet routers that meet the stated requirements for enterprise, data center, and service provider networks with industry-leading performance, reliability, and scalability features. Depending on the application requirements, network design, port counts, and/or price considerations per subsection, Brocade recommends the following product lines.

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/feature. For example: security, VoIP, wan acceleration, etc.

Brocade Response:

For Branch Routing Applications, Brocade recommends the following product lines:

- **FastIron ICX6610 Series** –

  The Brocade® ICX® 6610 Switch redefines the economics of enterprise networking by providing unprecedented levels of performance, availability, and flexibility in a stackable form factor—delivering the capabilities of a chassis with the flexibility and cost-effectiveness of a stackable switch.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6610-switch-ds.pdf

- **FastIron CX Series** –

  The Brocade® FCX Series of switches provides new levels of performance, scalability, and flexibility required for today's enterprise campus and data center networks. With advanced capabilities, these switches deliver performance and intelligence to the network edge in a flexible 1U form factor that helps reduce infrastructure and administrative costs.

  Designed for wire-speed and non-blocking performance, the Brocade FCX Series includes 24- and 48-port models, in both Power over Ethernet (PoE) and non-PoE versions. Utilizing Brocade stacking technology, organizations can stack up to eight switches into a single logical switch with up to 384 ports.

The Brocade FCX Series offers a comprehensive line of switches with specific models optimized for campus and data center deployments. The Brocade FCX Series can deliver both power and data across network connections, providing a single-cable solution for edge devices such as Voice over IP (VoIP) phones, video surveillance cameras, and wireless Access Points (APs). The switches are compatible with industry-standard VoIP equipment as well as legacy IP phones.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fcx-series-ds.pdf

- **FastIron ICX6450 Series** –

Brocade ICX 6450 Switches provide feature-rich enterprise-class stackable LAN switching solutions to meet the scalability and reliability demands of evolving campus networks–at an affordable price. The Brocade ICX 6450 are available in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports–with or without IEEE 802.3af and 802.3at Power over Ethernet/Power over Ethernet Plus (PoE/PoE+)–to support enterprise edge networking, wireless mobility, and IP communications.

Highlights include:

- Offers enterprise-class stackable switching at an entry-level price, allowing organizations to buy what they need now and easily scale as demand grows and new technologies emerge
- Delivers unprecedented feature/price value for enterprise applications, including Unified Communications (UC) and mobility with 10 Gigabit Ethernet (GbE) and PoE/PoE+
- Simplifies network operations and protects investments with the Brocade HyperEdge Architecture, enabling consolidated network management and advanced services sharing across heterogeneous switches
- Offers an attractive 12-port, compact, and enterprise-class fanless switch model for deployments outside the wiring closet
- Includes the Brocade Assurance Limited Lifetime Warranty and three years of technical support

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6430-6450-switches-ds.pdf

Note: the 6430 is not recommended for branch router applications because it has no layer 3 functionality.

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.

Brocade Response:

For Edge Routing Applications, Brocade recommends the following product lines:

- **FastIron SX Series** – large-scale port-count requirements –

  The Brocade® FastIron® SX Series of Layer 2/3 switches provides a superior scalable foundation for improved operational efficiency and faster response to business opportunities today and into the future. The FastIron SX Series extends control from the network edge to the backbone with intelligent network services, including superior Quality of Service (QoS), predictable performance, advanced security, comprehensive management, and integrated resiliency.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fastiron-sx-ds.pdf

- **FastIron ICX6610 Series**

  Today's enterprise networks are expected to deliver services thought impossible just a few years ago. High-Definition (HD) video conferencing, real-time collaboration, Unified Communications (UC), and Virtual Desktop Infrastructure (VDI) are only a few of the applications that organizations are deploying to enhance employee productivity, improve customer service, and create a competitive advantage. These same networks must also provide anytime, anywhere mobile access and scale to meet rising user expectations. At the same time, organizations face continued pressure to reduce costs and do more with less. More than ever, campus networks need to quickly and efficiently evolve with the ever-changing business environment.

  COMBINING THE BEST OF A CHASSIS AND A STACKABLE SWITCH

  The Brocade® ICX® 6610 Switch redefines the economics of enterprise networking by providing unprecedented levels of performance, availability, and flexibility in a stackable form factor—delivering the capabilities of a chassis with the flexibility and cost-effectiveness of a stackable switch.

Class-Leading Performance for Today and Tomorrow

The Brocade ICX 6610 delivers wire-speed, non-blocking performance across all ports to support latency-sensitive applications such as real-time voice/video streaming and VDI. Brocade ICX 6610 Switches can be stacked using four full-duplex 40 Gbps stacking ports that provide an unprecedented 320 Gbps of backplane stacking bandwidth with full redundancy, eliminating inter-switch bottlenecks. Additionally, each switch can provide up to eight 10 Gigabit Ethernet (GbE) ports for high-speed connectivity to the aggregation or core layers.

High Availability

When every second matters, Brocade ICX 6610 Switches help deliver continuous availability to optimize the user experience. Brocade stacking technology delivers high availability, performing real-time state synchronization across the stack and enabling instantaneous hitless failover to a standby controller in the unlikely event of a failure of the master stack controller. Organizations also can use hot-insertion/removal of stack members to avoid interrupting service when adding a switch to increase the capacity of a stack or replacing a switch that needs servicing.

In addition to stack-level high availability, Brocade ICX 6610 Switches include system-level high-availability features, such as dual hot-swappable, load-sharing, and redundant power supplies. The modular design also has dual hot-swappable fan trays. These features provide another level of availability for the campus wiring closet in a compact form factor. Additional design features include intake and exhaust temperature sensors and fan spin detection to quickly identify abnormal or failed operating conditions—helping to minimize mean time to repair.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6610-switch-ds.pdf

- **FastIron CX Series**

The Brocade® FCX Series of switches provides new levels of performance, scalability, and flexibility required for today's enterprise campus and data center networks. With advanced capabilities, these switches deliver performance and intelligence to the network edge in a flexible 1U form factor that helps reduce infrastructure and administrative costs.

Designed for wire-speed and non-blocking performance, the Brocade FCX Series includes 24- and 48-port models, in both Power over Ethernet (PoE) and non-PoE versions. Utilizing Brocade stacking technology, organizations can stack up to eight switches into a single logical switch with up to 384 ports.

The Brocade FCX Series offers a comprehensive line of switches with specific models optimized for campus and data center deployments. The Brocade FCX Series can deliver both power and data across network connections, providing a single-cable solution for edge devices such as Voice over IP (VoIP) phones, video surveillance cameras, and wireless Access Points (APs). The switches are compatible with industry-standard VoIP equipment as well as legacy IP phones.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fcx-series-ds.pdf

- **FastIron ICX 6650 Series – Mid-Scale fixed form factor applications –**

Part of the Brocade® ICX® family of Ethernet switches for campus LAN and classic Ethernet data center environments, the Brocade ICX 6650 Switch is a compact, high-performance, high-availability, and high-density 10/40 Gigabit Ethernet (GbE) solution that meets the needs of business-sensitive deployments and High-Performance Computing (HPC) environments. With industry-leading price/performance and a low-latency, cut-through, non-blocking architecture, the Brocade ICX 6650 provides a cost-effective, robust solution for the most demanding deployments, including high-frequency trading and iSCSI storage.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6650-ds.pdf

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).

Brocade Response:

Depending on the size of the network and the application and performance requirements, Brocade offers several products/solutions which meet the listed requirements.

- **For large scale and/or highest performance Core Router Applications, Brocade offers the MLXe routing platform.**

The way organizations communicate and conduct business has changed dramatically in the past decade. Services such as high-definition video streaming, cloud services, and anytime/anywhere connectivity not only consume an enormous amount of network capacity,

but also create a greater degree of complexity for network operations. As a result, today's network planners are seeking solutions that provide the right mix of scalability, performance, operational simplicity, and cost-effectiveness.

The Brocade® MLX® Series of high-performance routers, which includes existing Brocade MLX Routers and new Brocade MLXe Core Routers, is designed to meet these requirements and many others. Built with a state-of-the-art, sixth-generation, network processor-based architecture and terabit-scale switch fabrics, the Brocade MLX Series provides a rich set of high-performance IPv4, IPv6, and Multiprotocol Label Switching (MPLS) capabilities as well as advanced Layer 2 switching capabilities. As a result, these routers address the diverse needs in environments that include service provider backbones, Metro Ethernet networks, transit/wholesale networks, Internet Service Providers (ISPs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), data centers, and distributed enterprises.

HIGHLIGHTS include:

- Scalable multiservice IP/MPLS Carrier Ethernet routers in 4-, 8-, 16-, and 32-slot options
- Fully distributed, non-blocking architecture with up to 15.36 Tbps fabric capacity
- Up to 32 100 GbE, 128 40 GbE, 768 10 GbE, or 1536 1 GbE ports in a single router
- Integrated support for OpenFlow in true hybrid-port mode, enabling Software-Defined Networking (SDN) for programmatic control of the network
- Wire-speed IPv4, IPv6, and MPLS forwarding performance with 1 million FIB entries
- High-availability design with redundant management modules, switch fabrics, power supplies, and fans; hitless failover; hitless software upgrades; and non-stop routing
- Ideal for advanced applications in service provider backbones, MANs, CSPs, data centers, federal agencies, and distributed enterprises

- **For mid-to-large scale Modular Router Applications, Brocade offers the FastIron SX Series.**

As organizations strive for a competitive advantage, their network infrastructures must be resilient, secure, and highly efficient. As requirements to protect, optimize, and grow the enterprise have extended from basic connectivity to a much higher level of intelligent service-based infrastructures, the network has evolved to provide even greater value.

The Brocade® FastIron® SX Series of Layer 2/3 switches provides a superior scalable foundation for improved operational efficiency and faster response to business opportunities today and into the future. The FastIron SX Series extends control from the network edge to the backbone with intelligent network services, including superior Quality of Service (QoS), predictable performance, advanced security, comprehensive management, and integrated resiliency.

In addition, the FastIron SX Series offers compatibility with a common operating system, and a shared interface and power supply modules reduce the cost of ownership by minimizing operational expenses and improving Return on Investment (ROI).

The FastIron SX Series has an extensive feature set, making it well suited for real-time collaborative applications, IP telephony, IP video, e-learning, and Wireless LANs (WLANs). The FastIron SX Series delivers wire-speed performance and ultra-low latency, which are ideal for converged network applications such as Voice over IP (VoIP) and video conferencing. These platforms present the industry's most scalable and resilient Power over Ethernet (PoE) design, with a robust feature set to secure and simplify the deployment of an edge-to-core converged network. In addition, the FastIron SX Series supports high-density 10 Gigabit Ethernet (GbE) capabilities for enterprise backbone deployments.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fastiron-sx-ds.pdf

- **FastIron ICX 6650 Series – Mid-Scale fixed form factor applications –**

  Part of the Brocade® ICX® family of Ethernet switches for campus LAN and classic Ethernet data center environments, the Brocade ICX 6650 Switch is a compact, high-performance, high-availability, and high-density 10/40 Gigabit Ethernet (GbE) solution that meets the needs of business-sensitive deployments and High-Performance Computing (HPC) environments. With industry-leading price/performance and a low-latency, cut-through, non-blocking architecture, the Brocade ICX 6650 provides a cost-effective, robust solution for the most demanding deployments, including high-frequency trading and iSCSI storage.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6650-ds.pdf

- **For small scale Router Applications, Brocade offers the FastIron CX series**:

Brocade® ICX® 6450 Switches provide enterprise-class stackable LAN switching solutions to meet the growing demands of campus networks. Designed for small to medium-size enterprises, branch offices, and distributed campuses, these intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price—without compromising on performance and reliability. The Brocade ICX 6430 and 6450 are available in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports (see Figures 1 and 2)—with or without IEEE 802.3af and 802.3at Power over Ethernet (PoE) and 802.3at Power over Ethernet Plus (PoE+)—to support enterprise edge networking, wireless mobility, and IP communications. When configured with routing

firmware code, these switches are capable of functioning as core routers in small scale network designs.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6430-6450-switches-ds.pdf

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.

Brocade Response:

For Service Aggregation Routing Applications, Brocade recommends the following product lines:

- **NetIron MLXe Series** – Large-Scale Modular Applications –

  The way organizations communicate and conduct business has changed dramatically in the past decade. Services such as high-definition video streaming, cloud services, and anytime/anywhere connectivity not only consume an enormous amount of network capacity, but also create a greater degree of complexity for network operations. As a result, today's network planners are seeking solutions that provide the right mix of scalability, performance, operational simplicity, and cost-effectiveness.

  The Brocade® MLX® Series of high-performance routers, which includes existing Brocade MLX Routers and new Brocade MLXe Core Routers, is designed to meet these requirements and many others. Built with a state-of-the-art, sixth-generation, network processor-based architecture and terabit-scale switch fabrics, the Brocade MLX Series provides a rich set of high-performance IPv4, IPv6, and Multiprotocol Label Switching (MPLS) capabilities as well as advanced Layer 2 switching capabilities. As a result, these routers address the diverse needs in environments that include service provider backbones, Metro Ethernet networks, transit/wholesale networks, Internet Service Providers (ISPs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), data centers, and distributed enterprises.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/MLX_Series_DS.pdf

- **NetIron CER Series** – Mid-Scale Applications –

  The NetIron CER 2000 is available in 24- and 48-port 1 Gigabit Ethernet (GbE) copper and hybrid fiber configurations with four or two optional 10 GbE uplink ports. To help ensure high performance, all the ports are capable of forwarding IP and MPLS packets at wire speed without oversubscription. With less than 5 watts/Gbps of power consumption, service providers can push up to 136 Gbps of triple-play services through the NetIron CER 2000 while reducing their carbon footprint.

  A broad set of highly scalable IP unicast and multicast routing features, combined with a low total cost of ownership, makes the NetIron CER 2000 an ideal choice for service providers that want to deliver Layer 2 and Layer 3 business services through a single, easy-to-manage platform.

  KEY APPLICATIONS

  - Edge routing applications in Metro Ethernet networks
  - MPLS-based Layer 2 and Layer 3 VPN services
  - Provider edge routing for triple-play/IPTV delivery
  - Provider-managed router in end-user customer premises
  - Compact BGP route reflector
  - Data center or campus border routing
  - Virtualized data center or campus applications with multi-VRF
  - Data center interconnectivity

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-cer-2000-ds.pdf

- **NetIron CES Series** – Small to Mid-Scale Applications –

  Network planners today must increasingly extend the range of their service offerings to the edge of carrier networks. However, extending intelligence and high-touch processing capabilities to the network edge requires the ability to flexibly define and easily manage services in an efficient manner. As a result, Quality of Service (QoS), resiliency, and security are critical factors in the deployment of these Ethernet-based services.

  Whether they are located at a central office or remote site, the availability of space often determines the feasibility of deploying new equipment and services within a service

provider, campus, or data center environment. To meet these challenges, the Brocade® NetIron® CES 2000 Series is purpose-built to provide flexible, resilient, secure, and advanced Ethernet and MPLS-based services in a compact form factor.

The NetIron CES 2000 Series is a family of compact 1U, multiservice edge/aggregation switches that combine powerful capabilities with high performance and availability. The switches provide a broad set of advanced Layer 2, IPv4, IPv6, and MPLS capabilities in the same device. As a result, they support a diverse set of applications in metro edge, service provider, mobile backhaul wholesale, data center, and large enterprise networks.

KEY APPLICATIONS

- Large-scale Carrier Ethernet build-outs at the global, national, and metro levels--combined with Brocade MLX® Series routers
- High-density aggregation of access devices such as DSLAMs, GPON/EPON OLTs, or CMTS systems at the network edge
- Edge aggregation switching and routing applications in metro networks
- MPLS access and aggregation
- Multiple security zones and simplified VPNs for enterprise and campus networks using Multi-VRF
- Mobile backhaul over Carrier Ethernet infrastructure for wholesale
- Fiber To The Curb (FTTC) and Fiber To The Building (FTTB) applications with stringent Service Level Agreements (SLAs)
- Aggregation in ISP networks
- High-performance data center top-of-rack server access with high-touch processing and deep buffering

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-ces-2000-ds.pdf

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).

Brocade Response:

Service providers, more than ever, are looking for ways to reduce network operational costs while increasing new revenue streams through over-the-top services. Brocade® NetIron® Series routers

are purpose-built to help these providers save on space, power, and cooling while extending wire-speed IP and Multi-Protocol Label Switching (MPLS) services to the network edge without compromising performance.

For Carrier Ethernet Applications, Brocade recommends the following product lines:

- **Brocade 6910** – Carrier Ethernet Access Switch/Router

  Service providers today are focused on transforming their networks and business models to operate more efficiently and profitably. To meet these challenges, service providers need to extend their reach and offer differentiated services while reducing both cost and complexity.

  The Brocade® 6910 Ethernet Access Switch provides a flexible, easy-to-deploy solution to address these challenges. Optimized for pure-play Ethernet access within metro areas, the Brocade 6910 supports applications for business Ethernet services, mobile backhaul, and next-generation broadband offerings. In addition, it offers an energy-efficient and small form-factor solution that extends wire-speed Ethernet services to the network edge without compromising on reliability.

  The Brocade 6910 helps service providers reduce operational costs by providing greater flexibility and efficiency. In addition to supporting multiple fiber or copper configurations on a single switch, it allows the same ports to be configured to connect directly to the customer or as a network interface on the service side. This ideally positions the Brocade 6910 at the edge of a broadband access network for Ethernet service demarcation, access, and aggregation—enabling service providers to economically deliver high-value Ethernet services.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/6910-ds.pdf

- **NetIron MLXe Series** – Large-Scale Modular Applications –

  The Brocade® MLX® Series of high-performance routers, which includes existing Brocade MLX Routers and new Brocade MLXe Core Routers, is designed to meet these requirements and many others. Built with a state-of-the-art, sixth-generation, network processor-based architecture and terabit-scale switch fabrics, the Brocade MLX Series provides a rich set of high-performance IPv4, IPv6, and Multiprotocol Label Switching (MPLS) capabilities as well as advanced Layer 2 switching capabilities. As a result, these routers address the diverse needs in environments that include service provider backbones, Metro Ethernet networks, transit/wholesale networks, Internet Service

Providers (ISPs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), data centers, and distributed enterprises.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/MLX_Series_DS.pdf

- **NetIron CER Series**

The NetIron CER 2000 is available in 24- and 48-port 1 Gigabit Ethernet (GbE) copper and hybrid fiber configurations with four or two optional 10 GbE uplink ports. To help ensure high performance, all the ports are capable of forwarding IP and MPLS packets at wire speed without oversubscription. With less than 5 watts/Gbps of power consumption, service providers can push up to 136 Gbps of triple-play services through the NetIron CER 2000 while reducing their carbon footprint.

A broad set of highly scalable IP unicast and multicast routing features, combined with a low total cost of ownership, makes the NetIron CER 2000 an ideal choice for service providers that want to deliver Layer 2 and Layer 3 business services through a single, easy-to-manage platform.

KEY APPLICATIONS

- Edge routing applications in Metro Ethernet networks
- MPLS-based Layer 2 and Layer 3 VPN services
- Provider edge routing for triple-play/IPTV delivery
- Provider-managed router in end-user customer premises
- Compact BGP route reflector
- Data center or campus border routing
- Virtualized data center or campus applications with multi-VRF

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-cer-2000-ds.pdf

- **NetIron CES Series**

The NetIron CES 2000 Series is a family of compact 1U, multiservice edge/aggregation switches that combine powerful capabilities with high performance and availability. The switches provide a broad set of advanced Layer 2, IPv4, IPv6, and MPLS capabilities in

the same device. As a result, they support a diverse set of applications in metro edge, service provider, mobile backhaul wholesale, data center, and large enterprise networks.

KEY APPLICATIONS

- Large-scale Carrier Ethernet build-outs at the global, national, and metro levels--combined with Brocade MLX® Series routers
- High-density aggregation of access devices such as DSLAMs, GPON/EPON OLTs, or CMTS systems at the network edge
- Edge aggregation switching and routing applications in metro networks
- MPLS access and aggregation
- Multiple security zones and simplified VPNs for enterprise and campus networks using Multi-VRF
- Mobile backhaul over Carrier Ethernet infrastructure for wholesale
- Fiber To The Curb (FTTC) and Fiber To The Building (FTTB) applications with stringent Service Level Agreements (SLAs)
- Aggregation in ISP networks
- High-performance data center top-of-rack server access with high-touch processing and deep buffering

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-ces-2000-ds.pdf

5.2.6 SECURITY

Brocade Response:

Brocade Vyatta vRouter:

Brocade Vyatta vRouters delivers advanced routing and security functionality for physical, virtual and cloud networking environments. The Vyatta Network OS includes dynamic routing, stateful firewall, VPN and NAT support, traffic management and more in a package that is optimized to take advantage of multicore x86 processing power, common hypervisor platforms and emerging cloud architectures. All features are configured through Vyatta's familiar, networking-centric CLI, web-based GUI or third party management systems using the Vyatta Remote Access API.

Security in Brocade Physical Switches and Routers:

Visibility and Security with sFlow

Brocade networking products are designed to deliver line-rate Layer 2-3 forwarding, and provide traffic flow information through embedded sFlow technology. This enables real-time delivery of network traffic to a variety of security, reporting, and compliance devices. This includes IPS along with traffic accounting appliances and applications. With sFlow, Brocade provides network monitoring capabilities to sFlow collectors, complementing the protection services available via IPS solutions from Brocade security partners such as McAfee and CheckPoint.

Complete network management has always been a goal for network managers in organizations of all sizes. Trying to understand all the possible traffic flows, the bandwidth requirements, performance implications, security threats, and billing allocations are just a few of the challenges of modern networks. As networks grow in size, speed, and capacity, it becomes much more difficult to monitor and manage with traditional tools that rely on RMON or NetFlow-based counters and statistics.

sFlow is a modern standard-based network export protocol (RFC 3176) that addresses many of the challenges that organizations face today. By embedding sFlow technology into its LAN switch ASICs, Brocade delivers "always-on" technology that operates at wire-speed performance. Cost of implementation is significantly lower compared to traditional network monitoring solutions that use mirrored ports, probes, and line tap technologies. A full enterprise-wide monitoring capability for every port in the corporate network is now possible using sFlow.

Advantages of Brocade sFlow implementation include:

- Is ASIC-based for fast, low-overhead monitoring
- Reduces the need to use port mirroring and to provision probes throughout the network (this reduces cost and complexity while maintaining high performance)
- Supports a broad range of protocols (IPv4, IPv6, and MPLS)
- Is easily integrated with a broad range of network management and partner threat protection technologies
- Works with InMon Traffic Server to provide continuous monitoring and analysis of network traffic. For more information on the InMon Traffic Sentinel, visit http://www.inmon.com/

Switch Security

As today's networks become increasingly converged delivery environments, they must be secured at every layer. Brocade network solutions provide full switch and router security by protecting against DoS attacks, spoofing, and wireless rogue attacks. Brocade switches and routers protect against a broad range of attacks in each sector, and with embedded sFlow capabilities, they can provide additional visibility and data for third-party security devices.

Brocade Layer 2-3 wired and wireless LAN switches provide advanced converged, embedded, high-speed security features that protect the network infrastructure from being attacked by malicious or accidental users. These features help ensure that networks built around Brocade Layer 2 and IP forwarding products are secure, stable, and continue to forward packets at wire-speed without vulnerabilities and with no loss of service.

Brocade embedded security features are also designed for secure services. This helps ensure secure communications and infrastructure for converged voice, video, and data services. As VoIP and video delivery services grow in many organizations, it is imperative that these services are secured and that service uptime is guaranteed for all traffic.

Brocade networking products support a wide range of critical security features, including DoS attack mitigation for the industry's widest range of services as well as Layer 2, Layer 3, and Layer 4 (TCP/UDP) service protection. Wire-speed access control lists and rate-limiting capabilities are easily implemented and managed in Brocade LAN switches. Brocade also supports protection features against rogue services, including DHCP snooping, ARP inspection, and IP source protection to prevent IP and MAC layer spoofing, as well as validating DHCP services.

For wireless environments, Brocade Access Points (APs) can be easily turned into rogue AP detection and suppression engines, preventing rogue APs from violating network security policies.

Authentication

Brocade network products have been validated with best-in-class authentication solutions, including those based on RADIUS, Windows login, and other popular authentication techniques. With security partners such as McAfee, Brocade is engaged in interoperability and co-development efforts to support the most popular industry-standard authentication solutions, and validate that its network, security, and traffic management solutions work seamlessly in a wide range of environments.

Brocade IronShield 360 security supports a variety of authentication mechanisms that serve the needs of many organizations. These include RADIUS-based 802.1x, MAC, and Web authentication. Brocade Layer 2 and 3 switches and routers have been tested for interoperability, scalability, and reliability with a number of best-in-class RADIUS server implementations, including Microsoft Internet Authentication Server (IAS) and Windows supplicant; Juniper Networks Steel-Belted RADIUS Series [formerly known as Funk Software's Steel Belted RADIUS (SBR)] and Odyssey Client; the open source FreeRadius product; Cisco Access Control Server (ACS); Radiator; and Infoblox.

Brocade edge products can support different authentication mechanisms on a per-port basis. This enables converged endpoint security and authentication in the case where multiple users are on the same port, or a client PC shares a port with an IP phone or multimedia device.

Brocade Web authentication support provides security for sites that might not control the end hosts, or have a multitude of different OS types. This is ideal for university and hotspot environments that need to protect network access but cannot place supplicants on the end clients. In this type of environment, users attempting to access the Web are redirected via the Brocade switch servicing them to validate their credentials.

Together with the best-in-class RADIUS vendor solutions, Brocade supports the industry's most well known authentication techniques. This enables organizations to choose the authentication technique and vendor that best suits their needs and does not lock them into proprietary solutions.

Network Access Control

Brocade is committed to delivering broad support for Network Access Control (NAC) by working with different vendors to ensure that Brocade products work in client admission-control environments. These environments include 802.1x supplicants and RADIUS servers, as well as those that use a NAC appliance approach. Brocade products are validated to ensure interoperability through an open, standards-based approach to delivering NAC solutions. This includes being able to automate the admittance of a compliant user; remediation; or restricting/blocking that user.

While 802.1x is an excellent protocol for securing access to the network based on username and password certificates, it has some limitations. The main limitation is that there is no way to validate that the client is healthy and running the necessary security software to safeguard both itself and the organization whose network resources the user is attempting to access.

Organizations that are serious about internal network security must have policies that ensure this security. Examples of policies that help ensure internal security might include:

- Clients must run a specific Windows version and Service Pack
- Clients must run specific anti-virus software
- Clients must run specific personal firewall software
- Clients must run specific intrusion detection and prevention software
- Clients must run spyware/adware protection software

While these IT policies help ensure the internal security of an organization, without policy enforcement they are simply guidelines rather than rules. To help enforce IT security policy and proactively ensure that clients connecting to the network are healthy and do not either accidentally or maliciously infect other systems in the network, Brocade has developed the industry's most scalable, standards-based network admission control architecture.

Together with best-in-class partners McAfee, Microsoft, and Symantec, Brocade delivers proactive network admission control solutions that easily build onto existing 802.1x RADIUS-based authentication systems, ensuring that IT policies are met before clients are allowed to access network resources.

The open-standards support built into the Brocade security architecture ensures that clients meet IT policies before gaining access to the production network. If a policy compliance issue arises, the user can either be prevented from accessing the network at all or is provided limited access (e.g., to the Internet). Otherwise, the user is quarantined and a remediation action is enforced so that clients that are valid users, (but that are not compliant with IT security policy); can quickly determine why and how to patch their systems to get access to the production network.

In this architecture, several new components are added to the Brocade RADIUS/802.1x security model to provide this health check capability. This includes NAC clients and servers. The NAC client is installed on each client that is to be health checked before gaining access to the internal network. The NAC server can be an appliance that runs in conjunction with the RADIUS server, acting as a

RADIUS proxy. Brocade, together with Impulse Point, McAfee, Microsoft, Symantec, and Check Point Software, has validated that its edge switch and wireless AP solutions are interoperable and easily deployable. Together, Brocade and partner products help organizations maintain and enforce IT security policies to provide proactive network 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.

Brocade Response:

The Brocade Vyatta vRouter supports an enterprise grade stateful firewall with support for SIP, RTP, FTP, TFTP ALGs (Application Layer Gateway). The vRouter acts as a gateway router within the hypervisor to create a Virtual Private Cloud and provide Firewall, VPN, NAT and Routing. VPN can be SSL or IPsec VPN. The Vyatta vRouter interoperates with any standards based VPN vendor. Also supported is the ability to apply security policies close to the applications within the hypervisor which provides for optimized traffic flow such that traffic that has to stay within the server or data center does not have to traverse externally to another router appliance outside to apply policy.

For more information, please visit:
http://www.vyatta.com/sites/vyatta.com/files/pdfs/vyatta-at-a-glance-software.pdf

5.2.6.2 **Intrusion Detection/Protection and Firewall Appliances** — Provide comprehensive inline network firewall security from worms, Trojans, spyware, key loggers, and other malware. This includes Next-Generation Firewalls (NGFW), which offer a wire-speed integrated network platform that performs deep inspection of traffic and blocking of attacks. Intrusion Detection/Protection 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 (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)

Brocade Response:

The Brocade Vyatta vRouter features IPv4/IPv6 stateful packet inspection to intercept and inspect network activity and protect your critical data. Vyatta offers one of the most advanced firewall's on the market with capabilities that include stateful failover, zone and time-based firewalling, P2P filtering and more.

- Stateful Inspection Firewall

- Zone-based Firewall
- P2P Filtering
- IPv6 Firewalling
- Time-based Firewall Rules
- Rate Limiting
- ICMP Type Filtering
- Stateful Failover
- NAT support

For more information, please visit:
http://www.vyatta.com/sites/vyatta.com/files/pdfs/vyatta-at-a-glance-software.pdf

5.2.6.3 Logging Appliances and Analysis Tools — Solutions utilized to collect, classify, analyze, and securely store log messages.

Brocade Response:

The Brocade Vyatta vRouter presents complete logging and diagnostics information that can be monitored using in industry standard toolsets such as SNMP, Netflow, Syslog, Wireshark and more.

- tcpdump
- Wireshark Packet Capture
- BGP MD5 Support
- Serial Loopback Commands
- Netflow/ sFlow
- LLDP
- Syslog
- SNMPv2c
- SNMP for IPv6

For more information, please visit:
http://www.vyatta.com/sites/vyatta.com/files/pdfs/vyatta-at-a-glance-software.pdf

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.

Brocade Response:

The Brocade Vyatta vRouter establishes secure site-to-site VPN tunnels with standards-based IPSec VPN between two or more Vyatta systems or any IPSec VPN device. Or provide secure network access to remote users via Vyatta's SSL-based OpenVPN functionality. Vyatta now supports Dynamic Multipoint VPN (DMVPN) and the ability to represent policy-based IPsec tunnels as virtual interfaces (Virtual Tunnel Interface – VTI).

Brocade Vyatta vRouters are designed to be installed on any standard x86 based system scaling from single-core desktop units for SME and branch office needs to quad core plus for high-performance BGP routing or scalable VPN termination. Advancements in x86 processing power have proven that readily available multi-core systems can easily handle small packet processing up to 10Gbps.

- SSL-based OpenVPN
- Site to Site VPN (IPSec)
- Remote VPN (PPTP, L2TP, IPSec)
- Virtual Tunnel Interface
- OpenVPN Client Auto-Configuration
- Layer 2 Bridging over GRE
- Layer 2 Bridging over OpenVPN
- OpenVPN Dynamic Client
- Dynamic Multipoint VPN

For more information, please visit:
http://www.vyatta.com/sites/vyatta.com/files/pdfs/vyatta-at-a-glance-software.pdf

5.2.6.5 Secure Mobility Products — Delivers secure, scalable access to corporate applications across multiple mobile devices.

Brocade Response:

The core of the Brocade's Vyatta system is a complex routing engine with full support of IPv4 and IPv6 dynamic routing protocols (BGP Multipath, OSPF, RIP, Multicast) and multiple tunneling protocols. Brocade Vyatta vRouters also include support for 802.11 wireless, Serial WAN Interfaces and a wide variety of 10/100 thru 10Gb Ethernet NICs when installed on bare-metal servers.

For more information, please visit:
http://www.vyatta.com/sites/vyatta.com/files/pdfs/vyatta-at-a-glance-software.pdf

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.

Brocade Response:

IPsec provides security at the IP network layer of the TCP/IP protocol stack. As a result, all IP packets can be protected, irrespective of the upper layer protocol being carried in the packet payloads, and that no re-engineering of applications is required in order to take advantage of the security provided by IPsec. The security provided by IPsec can also be made transparent to end users. For these reasons, IPsec forms the basis of many Virtual Private Networking (VPN) solutions, where it is used to provide security for communications over an untrusted network such as the Internet. IPsec has also been used by many vendors to build Remote Access Solutions (RAS), allowing organizations to control the access of roaming users to internal networks and hosts. Vyatta supports a standards-based IPsec VPN solution.

The Brocade Vyatta vRouter system supports all of the following solutions:

VPN method	Description	Authentication	Hash	Encryption
Site-to-site IPsec	Point-to-point secure tunnel using IKE, IPsec protocols.	Pre-shared keys, RSA keys, X.509 certificates	MD5, SHA1	3DES, AES128, AES256
Site-to-site IPsec VTI	Same as Point-to-point secure tunnel above however a Virtual Tunnel Interface provides a routable interface to which policies can be applied to.	Pre-shared keys, RSA keys, X.509 certificates	MD5, SHA1	3DES, AES128, AES256
Site-to-site SSL-based OpenVPN	Point-to-point tunnel. SSL protocol used with OpenVPN. UDP or TCP based.	Pre-shared keys, TLS	MD5, SHA1, SHA256, SHA512	3DES AES128, AES192, AES256 Blowfish -128, 256

Remote Access L2TP IPsec	L2TP is a tunneling protocol that is used with IPsec for encryption and confidentiality.	User authentication: EAP, MS-CHAP, CHAP, SPAP, and PAP. Computer authentication: Pre-shared keys, X.509 certificates	MD5, SHA1	3DES, AES128, AES256
Remote Access PPTP	First VPN protocol supported on the Microsoft Windows platform. Relies on Microsoft's Point-to-Point Encryption protocol (MPPE).	Username, Password	None	Microsoft's Point-to-Point Encryption protocol (MPPE)
Remote Access using SSL-based OpenVPN	Remote access connectivity based SSL/TLS encryption protocols.	Pre-shared keys, TLS	MD5, SHA1, SHA256, SHA512	3DES AES128, AES192, AES256 Blowfish -128, 256

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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

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

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.2.7 STORAGE NETWORKING — High-speed network of shared storage devices connecting different types of storage devices with data servers.

Brocade Response:

The Fibre Channel protocol and Brocade have been intimately connected since the development of the first Brocade Fibre Channel platforms over 15 years ago. Today, organizations worldwide rely on Brocade Gen 5 Fibre Channel (16 Gbps) Storage Area Network (SAN) solutions in their mission-critical data centers to deliver unmatched reliability, simplicity, and performance.

Gen 5 Fibre Channel is the proven, purpose-built network infrastructure for data center storage, delivering unmatched reliability, scalability, and 16 Gbps performance.

Brocade platforms with Gen 5 Fibre Channel –including the Brocade DCX 8510 Backbone and Brocade 6520, 6510, and 6505 Switches –unleash the full potential of high-density server virtualization, cloud architectures, and next generation storage. Brocade Gen 5 Fibre Channel platforms deliver many unique capabilities and advantages to meet the evolving requirements of today's data center.

Brocade Fabric OS (FOS) runs on the Brocade family of Fibre Channel and FICON backbones and switches—providing transparent interoperability between 1, 2, 4, 8, and 16 Gbps devices for superior investment protection. Brocade FOS also provides the reliable, high-performance data transport that is critical for interconnecting thousands of servers and storage devices. The integration of innovative core Brocade FOS and SAN fabric technology uniquely enables Brocade products to provide the building blocks that solve today's challenges and act as a strategic foundation for next-generation data centers. Through delivering industry-leading technologies that help improve performance, efficiency, RAS, and optimization at an affordable cost, Brocade continues to lead the development of Fibre Channel standards and offer breakthrough products.

Industry-leading Brocade SAN extension solutions leverage Fibre Channel over IP (FCIP) and cost-effective IP WAN transport to build or expand flexible and high-performance disaster recovery, data protection, and data mobility solutions. They extend open systems and mainframe storage applications over distances that would otherwise be impossible, impractical, or too expensive with standard Fibre Channel or FICON connections. Offering unique bandwidth management, protocol optimization, and advanced compression capabilities, Brocade FCIP SAN extension solutions move more data faster and farther than ever before, at the lowest possible cost.

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.

Brocade Response:

The Brocade DCX 8510 and Brocade DCX Backbone families are designed to unleash the full potential of private cloud storage. With unmatched scalability, performance, and reliability, they are the strategic platforms for transforming current SAN fabrics into cloud-optimized SANs. Brocade backbones enable organizations to meet their most pressing business requirements with a future-proof solution built on proven data center technology.

For Director Class SAN applications, Brocade recommends the following product lines:

- **Brocade DCX 8510 Backbone Director Family**

  The Brocade DCX 8510 Backbone Directors are the industry's most reliable, scalable, and high-performance Gen 5 Fibre Channel switching infrastructure for mission-critical storage. They are designed to increase business agility while providing non-stop access to information and reducing infrastructure and administrative costs.

  Networks need to evolve in order to support the growing demands of highly virtualized environments and private cloud architectures. Fibre Channel, the de facto standard for storage networking, is evolving with the data center. Brocade DCX 8510 Backbones with Gen 5 Fibre Channel deliver a new level of scalability and advanced capabilities to this robust, reliable, and high-performance technology. This enables organizations to continue leveraging their existing IT investments as they grow their businesses. In addition, they can consolidate their Storage Area Network (SAN) infrastructures to simplify management and reduce operating costs.

  Brocade DCX 8510 Backbones are available in two modular form factors. Built for large enterprise networks, the 14U Brocade DCX 8510-8 has eight vertical blade slots to provide up to 384 16 Gbps Fibre Channel ports. Built for midsize networks, the 8U Brocade DCX 8510-4 has four horizontal blade slots to provide up to 192 16 Gbps Fibre Channel ports. The Brocade DCX 8510 family supports 2, 4, 8, 10, and 16 Gbps Fibre Channel, FICON®, and 1/10 Gbps Fibre Channel over IP (FCIP).

  Emerging and evolving critical workloads and higher density virtualization are continuing to push the limits of SAN infrastructure. The Brocade DCX 8510 features industry-leading

Gen 5 Fibre Channel that provides 16 Gbps line-speed performance and 8.2 Tbps chassis bandwidth to address next-generation I/O- and bandwidth-intensive applications.

Brocade DCX 8510 Backbones provide unmatched chassis, slot-to-slot, and port performance and bandwidth. In addition, local switching capabilities ensure that data traffic within the same port group does not consume slot bandwidth, maximizing the number of line-rate ports.

Brocade DCX 8510 Backbones are highly efficient at reducing power consumption, cooling, and the carbon footprint in data centers. While providing unmatched performance and scale, they use less than one watt per Gbps—making them four times more efficient than competitive offerings.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/dcx-8510-ds.pdf

- **Brocade DCX Backbone Director Family**

Fibre Channel is the traditional and transformational networking solution for mission-critical applications and data. It is the foundation for the virtualized data center with years of deployment and customer success. Brocade DCX Backbones are a family of 8 Gbps Fibre Channel modular network switching platforms that deliver performance, scalability, and reliability for enterprise storage. Brocade DCX Backbones are designed to address the data growth and application demands; enable server, SAN, and data center consolidation; and reduce infrastructure and administrative costs.

Brocade DCX Backbones are available in two modular form factors. Built for large enterprise networks, the 14U Brocade DCX has eight vertical blade slots to provide up to 512 Fibre Channel ports using Brocade-branded 4 Gbps or 8 Gbps SFPs. Built for midsize networks, the 8U Brocade DCX-4S has four horizontal blade slots to provide up to 256 Fibre Channel ports.

Both models feature ultra-high-speed Inter-Chassis Link (ICL) ports to connect up to three backbones, providing extensive scalability and flexibility at the network core without using any Fibre Channel ports. At the network edge, organizations can utilize Brocade 8 Gbps switches, Brocade 48000 Directors, or—for complete backbone-class capabilities—the Brocade DCX-4S.
Highest Performance and Scalability

Both Brocade DCX models provide 256 Gbps of bandwidth per slot. When combined with unique Brocade local switching capabilities—data traffic within the same port group does

not consume slot bandwidth—the Brocade DCX family provides over *four times* the performance of competitive offerings.

Brocade DCX Backbones include a Virtual Fabrics feature that enables partitioning of a physical SAN into logical fabrics and isolation by application, business group, customer, or traffic type. Optional Fibre Channel Integrated Routing alleviates the need for special-purpose blades or routers to connect servers and storage in separate fabrics.

The Brocade DCX family supports 1/2/4/8 Gbps Fibre Channel and FICON, FCIP, and IPFC. To consolidate server connectivity using Data Center Bridging (DCB) and Fibre Channel over Ethernet (FCoE) in open system environments, the Brocade FCOE10-24 Blade enables a high-density, end-of-row chassis configuration. Alternatively, Brocade 8000 top-of-rack switches can be connected over Fibre Channel Inter-Switch Links (ISLs) to Brocade DCX Backbones in the network core.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/DCX_DS.pdf

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 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.

Brocade Response:

The Brocade Gen 5 Fibre Channel Switches listed below all provide exceptional price/performance value, combining flexibility, simplicity, and enterprise-class functionality into 1U and 2U switch form factors. Designed to enable maximum flexibility and reliability, all Brocade FC switches offer configurable port densities and support 2, 4, 8, or 16 Gbps speeds. Each offer the full range of fabric channel services and characterics including many-to-many communication, device name lookup, security, and redundancy. They also offer a simplified deployment process and a point-and-click user interface which make the Brocade Gen 5 Fibre Channel Switches both powerful and easy to use.

For Fabric and Blade Server Switch Applications, Brocade recommends the following product lines:

- **Brocade 6505 Switch**

  The Brocade 6505 Switch with Gen 5 Fibre Channel provides exceptional price/performance value, combining flexibility, simplicity, and enterprise-class functionality in an entry-level switch. Designed to enable maximum flexibility and reliability, the Brocade 6505 is configurable in 12 or 24 ports and supports 2, 4, 8, or 16 Gbps speeds in an efficiently designed 1U package. It comes standard with a single power supply with integrated fans. A second, optional power supply provides additional redundancy for increased resiliency.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/6505-ds.pdf

- **Brocade 6510 Switch**

  The Brocade 6510 Switch meets the demands of hyper-scale, private cloud storage environments by delivering market-leading Gen 5 Fibre Channel technology and capabilities that support highly virtualized environments. Designed to enable maximum flexibility and reliability, the Brocade 6510 is a high-performance, enterprise-class switch configurable in 24, 36, or 48 ports. It supports 2, 4, 8, 10, or 16 Gbps speeds in an efficiently designed 1U package.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/6510_DS.pdf

- **Brocade 6520 Switch**

  The Brocade 6520 features 96 Fibre Channel ports in a 2U form factor, delivering industry-leading port density and space utilization for data center consolidation. Designed for maximum flexibility, this enterprise-class switch offers “pay-as-you-grow” scalability with Ports on Demand (PoD). Organizations can quickly, easily, and cost-effectively scale from 48 to 96 ports in 24-port increments, each supporting 2, 4, 8, 10, or 16 Gbps. In addition, flexible, high-speed 16 Gbps and 8 Gbps optics allow organizations to deploy bandwidth on demand to meet growing data center needs. For maximum flexibility, the switch also features dual-direction airflow options to support the latest hot aisle/cold aisle configurations.

The Brocade 6520 delivers exceptional performance for growing and dynamic workloads through a combination of market-leading throughput and bandwidth utilization. With the unpredictability of virtualized workloads and cloud services, throughput becomes critical to ensuring that the network does not become the bottleneck. With 96 ports, the Brocade 6520 provides an aggregate 1536 Gbps full-duplex throughput. Up to eight ISLs can be combined together in a 128 Gbps framed-based trunk. Switch meets the demands of hyper-scale, private cloud storage environments by delivering market-leading Gen 5 Fibre Channel technology and capabilities that support highly virtualized environments. Designed to enable maximum flexibility and reliability, the Brocade 6510 is a high-performance, enterprise-class switch configurable in 24, 36, or 48 ports. It supports 2, 4, 8, 10, or 16 Gbps speeds in an efficiently designed 1U package.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/6520-switch-ds.pdf

- **Brocade 7800 Switch**

The Brocade 7800 Extension Switch combines best-in-class Fibre Channel, FICON, and FCIP performance, "pay-as-you-grow" scalability, and flexible deployment options for remote replication, backup, and migration. Up to sixteen 8 Gbps Fibre Channel ports and six 1 Gigabit Ethernet (GbE) ports provide scalable bandwidth, port density, and throughput, extending and optimizing Storage Area Network (SAN) fabric connectivity over distance to support business continuity and disaster recovery applications.

IT organizations continue to face unprecedented data growth as more platforms, applications, and users connect to the data center network. In turn, the storage network infrastructure must continue evolving to enable fast, continuous, and cost-effective access to mission-critical data from anywhere in the world.

To address this challenge, the Brocade® 7800 Extension Switch helps provide the fastest, most reliable, and most cost-effective network infrastructure for remote data replication, backup, and migration. Leveraging advanced Fibre Channel and Fibre Channel over IP (FCIP) technology, the Brocade 7800 provides a flexible and extensible platform to move more data faster and farther than ever before.

Whether configured for simple point-to-point or comprehensive multisite SAN extension, the Brocade 7800 addresses the most demanding business continuity, compliance, and global data access requirements. Up to sixteen 8 Gbps Fibre Channel ports and six 1 Gigabit Ethernet (GbE) ports provide unmatched Fibre Channel and FCIP bandwidth, port density, and throughput for maximum application performance over WAN links.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/7800_DS.pdf

- **Brocade 300 Switch**

The Brocade 300 is a 24-port switch that provides an affordable, flexible foundation for entry-level SANs, and an edge switch for core-to-edge SAN environments. It delivers 8 Gbps performance in an energy-efficient, optimized 1U form factor to support the most demanding server and virtual server deployments.

As the value and volume of business data continue to rise, organizations need technology solutions that are easy to implement and manage, and that can grow and change with minimal disruption. The Brocade® 300 Switch provides small to medium-sized enterprises with Storage Area Network(SAN) connectivity that simplifies their IT management infrastructures, improves system performance, maximizes the value of virtual server deployments, and reduces overall storage costs.

The 8 Gbps Fibre Channel Brocade 300 provides a simple, affordable, single-switch solution for both new and existing SANs. To simplify deployment, the Brocade 300 features the EZSwitchSetup wizard and other usability and configuration enhancements, as well as the optional Brocade Access Gateway mode of operation. Moreover, it provides state-of-the-art performance and Ports on Demand (PoD) scalability to support SAN expansion and enable long-term investment protection

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/300-DS-03.pdf

- **Brocade Blade Server SAN I/O Modules**

Blade servers and Fibre Channel SANs are the ideal infrastructure for IT consolidation and server virtualization. The combination of high density computing power and scalable networked storage maximize the benefits of consolidation: reduce capital and operational costs, simplify management complexity, lower power, cooling and space requirements and eliminate cable sprawl. As more applications and servers are virtualized and consolidated on fewer physical servers, IT organizations must deploy computing resources capable of keeping up with workload demands without impacting performance or service levels.

Brocade and its blade server partners solve these IT challenges with next-generation blade server and data center networking platforms that provides exceptional performance, advanced functionality, energy efficiency, and simplified management.

Brocade partners with the following blade server technology leaders:

- Dell
- Fujitsu
- Hitachi
- Hewlett-Packard
- IBM
- NEC

5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management — Management tools to provisions, monitors, troubleshoot, and administers SANs and VSANs.

Brocade Response:

Brocade Network Advisor for SAN

Brocade Network Advisor simplifies management of data center fabrics with its performance dashboards, easy-to-use interface, and automation features. With Brocade Network Advisor, storage and server administrators can proactively manage their SAN environments to support non-stop networking, address issues before they impact operations, and minimize manual tasks. Key capabilities include:

- **Configuration management:** Organizations can automate manual operations with configuration wizards for Fibre Channel SANs, FICON® and cascaded FICON environments, Fibre Channel over IP (FCIP) tunnels, Fibre Channel over Ethernet (FCoE) network environments, Host Bus Adapters (HBAs), and Converged Network Adapters (CNAs).
- **Policy Monitor management:** Brocade Network Advisor can proactively validate SAN configurations with best-practices templates.
- **Top Talkers:** Organizations can identify devices or ports with the most demanding traffic flows for proactive capacity planning.
- **VM-to-storage visibility:** Brocade Network Advisor integrates with leading virtualization solutions such as VMware vCenter to provide VM-to-LUN visibility and management.

Brocade Fabric Vision Technology

Brocade Network Advisor integrates with Brocade Fabric Vision technology to provide unprecedented visibility and insight across the storage network. Brocade Network Advisor supports the following Brocade Fabric Vision technology features:

- **Monitoring and Alerting Policy Suite (MAPS):** Configures and monitors data center fabrics based on a set of user-defined policies.
- **Flow Vision:** Identifies, monitors, and analyzes application-level data flows to maximize network performance.
- **Single-dialog bulk configuration:** Reduces time spent on repetitive tasks by deploying MAPS policies and rules across the fabric from a single dialog.
- **Brocade ClearLink Diagnostics:** Runs diagnostic tests on optics and cables to quickly identify and isolate potential fabric issues.
- **Bottleneck Detection:** Automatically monitors and detects network congestion in the fabric, and identifies which devices or hosts are impacted by a bottlenecked port.

For more information, please visit:
http://www.brocade.com/forms/getFile?p=documents/data_sheets/product_data_sheets/brocade-network-advisor-ds.pdf

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.

Brocade Response:

Brocade FS8-18 Encryption Blade

The Brocade FS8-18 Encryption Blade is a 16-port 8 Gbps blade for the Brocade DCX Backbone family that provides up to 96 Gbps of disk encryption processing power and up to 48 Gbps of compression processing power for tapes, and is FIPS 140-2 Level 3 validated. A high-speed, highly reliable hardware device, the Brocade FS8-18 delivers fabric-based encryption services that allow organizations to secure their data to meet regulatory and internal compliance requirements.

Based on industry standards, Brocade encryption for data-at-rest provides centralized, scalable encryption and compression services that seamlessly integrate into existing Brocade Fabric OS environments.

The Brocade fabric-based approach to data encryption scales to meet performance requirements, provides a centralized point of management for both disk and tape storage security as well as key management, and supports heterogeneous storage environments. Deployment is simple and non-disruptive: Organizations can encrypt data from any switch port without reconfiguring the fabric.

Key advantages of the Brocade FS8-18 include:

- The ability to encrypt data at wire speed
- Central management of storage and fabric-based security resources
- Concurrent support for both disk and tape encryption operations from a single device
- Transparent, online encryption of "cleartext" LUNs and rekeying of encrypted LUNs without disruption, including support for thin provisioned LUNs
- Data compression and integrity authentication for tape backup data
- Simplified, non-disruptive installation and configuration

For more information, please visit:
http://www.brocade.com/forms/getFile?p=documents/data_sheets/product_data_sheets/EncryptionBlade_DS.pdf

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.

Brocade Response:

Brocade offers a full suite of Layer 2 and Layer 3 network solutions. Brocade network infrastructure products are engineered for enterprise-class applications, combining high performance with resiliency and industry-leading energy efficiency. For network deployments, Brocade offers a broad spectrum of access, aggregation, and core switches to build a complete end-to-end solution for small, medium and large enterprises.

Depending on the application requirements, network design, port counts, and/or price considerations per subsection, Brocade recommends the following product lines per subsection.

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
  i. SSHv2 (Secure Shell Version 2)
  ii. 802.1X (Port Based Network Access Control)
  iii. Port Security
  iv. 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 tree
- Netflow Support (Optional).

Brocade Response:

For Switching Applications, Brocade recommends the following product lines:

- **FastIron SX Series – Mid-Scale Modular Applications –**

  The Brocade® FastIron® SX Series of Layer 2/3 switches provides a superior scalable foundation for improved operational efficiency and faster response to business opportunities today and into the future. The FastIron SX Series extends control from the network edge to the backbone with intelligent network services, including superior Quality of Service (QoS), predictable performance, advanced security, comprehensive management, and integrated resiliency.

  In addition, the FastIron SX Series offers compatibility with a common operating system, and a shared interface and power supply modules reduce the cost of ownership by minimizing operational expenses and improving Return on Investment (ROI).

  The FastIron SX Series has an extensive feature set, making it well suited for real-time collaborative applications, IP telephony, IP video, e-learning, and Wireless LANs (WLANs). The FastIron SX Series delivers wire-speed performance and ultra-low latency, which are ideal for converged network applications such as Voice over IP (VoIP) and video conferencing. These platforms present the industry's most scalable and resilient Power over Ethernet (PoE) design, with a robust feature set to secure and simplify the deployment of an edge-to-core converged network. In addition, the FastIron SX Series supports high-density 10 Gigabit Ethernet (GbE) capabilities for enterprise backbone deployments.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fastiron-sx-ds.pdf

- **For small-to-mid scale router applications, Brocade offers the FastIron ICX6610 Series**

  Today's enterprise networks are expected to deliver services thought impossible just a few years ago. High-Definition (HD) video conferencing, real-time collaboration, Unified Communications (UC), and Virtual Desktop Infrastructure (VDI) are only a few of the applications that organizations are deploying to enhance employee productivity, improve customer service, and create a competitive advantage. These same networks must also provide anytime, anywhere mobile access and scale to meet rising user expectations. At the same time, organizations face continued pressure to reduce costs and do more with less. More than ever, campus networks need to quickly and efficiently evolve with the ever-changing business environment.

  The Brocade® ICX® 6610 Switch redefines the economics of enterprise networking by providing unprecedented levels of performance, availability, and flexibility in a stackable form factor—delivering the capabilities of a chassis with the flexibility and cost-effectiveness of a stackable switch.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6610-switch-ds.pdf

- **FastIron CX Series – Small-Scale Applications –**

  The Brocade® FCX Series of switches provides new levels of performance, scalability, and flexibility required for today's enterprise campus and data center networks. With advanced capabilities, these switches deliver performance and intelligence to the network edge in a flexible 1U form factor that helps reduce infrastructure and administrative costs.

  Designed for wire-speed and non-blocking performance, the Brocade FCX Series includes 24- and 48-port models, in both Power over Ethernet (PoE) and non-PoE versions. Utilizing Brocade stacking technology, organizations can stack up to eight switches into a single logical switch with up to 384 ports.

  The Brocade FCX Series offers a comprehensive line of switches with specific models optimized for campus and data center deployments.

  The Brocade FCX Series can deliver both power and data across network connections, providing a single-cable solution for edge devices such as Voice over IP (VoIP) phones, video surveillance cameras, and wireless Access Points (APs). The switches are compatible with industry-standard VoIP equipment as well as legacy IP phones.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fcx-series-ds.pdf

- **FastIron ICX6450 and 6430 Series** – Small-Scale Applications –

  Brocade® ICX® 6430 and 6450 Switches provide **enterprise-class** stackable LAN switching solutions to meet the growing demands of campus networks. Designed for small to medium-size enterprises, branch offices, and distributed campuses, these intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price—without compromising on performance and reliability. The Brocade ICX 6430 and 6450 are available in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports (see Figures 1 and 2)—with or without IEEE 802.3af and 802.3at Power over Ethernet (PoE) and 802.3at Power over Ethernet Plus (PoE+)—to support enterprise edge networking, wireless mobility, and IP communications.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6430-6450-switches-ds.pdf

- **Brocade 6910** – Carrier Ethernet Access Switch/Router –

  The Brocade® 6910 Ethernet Access Switch provides a flexible, easy-to-deploy solution to address these challenges. Optimized for pure-play Ethernet access within metro areas, the Brocade 6910 supports applications for business Ethernet services, mobile backhaul, and next-generation broadband offerings. In addition, it offers an energy-efficient and small form-factor solution that extends wire-speed Ethernet services to the network edge without compromising on reliability.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/6910-ds.pdf

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 Redundancy Protocol) Support
- Netflow Support.

Brocade Response:

For Campus LAN Core Switching/Routing Applications, Brocade offers several platforms meeting the specified requirements.

- **NetIron MLXe Series – Large-Scale Modular Applications –**

  The Brocade® MLX® Series of high-performance routers, which includes existing Brocade MLX Routers and new Brocade MLXe Core Routers, is designed to meet these requirements and many others. Built with a state-of-the-art, sixth-generation, network processor-based architecture and terabit-scale switch fabrics, the Brocade MLX Series provides a rich set of high-performance IPv4, IPv6, and Multiprotocol Label Switching (MPLS) capabilities as well as advanced Layer 2 switching capabilities. As a result, these routers address the diverse needs in environments that include service provider backbones, Metro Ethernet networks, transit/wholesale networks, Internet Service Providers (ISPs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), data centers, and distributed enterprises.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/MLX_Series_DS.pdf

- **FastIron SX Series – Mid-Scale Modular Applications –**

  The Brocade® FastIron® SX Series of Layer 2/3 switches provides a superior scalable foundation for improved operational efficiency and faster response to business opportunities today and into the future. The FastIron SX Series extends control from the network edge to the backbone with intelligent network services, including superior Quality of Service (QoS), predictable performance, advanced security, comprehensive

management, and integrated resiliency.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fastiron-sx-ds.pdf

- **FastIron ICX 6650 Series – Mid-Scale fixed form factor applications –**

  Part of the Brocade® ICX® family of Ethernet switches for campus LAN and classic Ethernet data center environments, the Brocade ICX 6650 Switch is a compact, high-performance, high-availability, and high-density 10/40 Gigabit Ethernet (GbE) solution that meets the needs of business-sensitive deployments and High-Performance Computing (HPC) environments. With industry-leading price/performance and a low-latency, cut-through, non-blocking architecture, the Brocade ICX 6650 provides a cost-effective, robust solution for the most demanding deployments, including high-frequency trading and iSCSI storage.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6650-ds.pdf

- **FastIron ICX6610 Series – Small to Mid-Scale Applications –**

  The Brocade® ICX® 6610 Switch redefines the economics of enterprise networking by providing unprecedented levels of performance, availability, and flexibility in a stackable form factor—delivering the capabilities of a chassis with the flexibility and cost-effectiveness of a stackable switch.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6610-switch-ds.pdf

- **FastIron CX Series – Small-Scale Applications –**

  The Brocade® FCX Series of switches provides new levels of performance, scalability, and flexibility required for today's enterprise campus and data center networks. With advanced capabilities, these switches deliver performance and intelligence to the network edge in a flexible 1U form factor that helps reduce infrastructure and administrative costs.

  Designed for wire-speed and non-blocking performance, the Brocade FCX Series includes 24- and 48-port models, in both Power over Ethernet (PoE) and non-PoE

versions. Utilizing Brocade stacking technology, organizations can stack up to eight switches into a single logical switch with up to 384 ports.

The Brocade FCX Series offers a comprehensive line of switches with specific models optimized for campus and data center deployments.

The Brocade FCX Series can deliver both power and data across network connections, providing a single-cable solution for edge devices such as Voice over IP (VoIP) phones, video surveillance cameras, and wireless Access Points (APs). The switches are compatible with industry-standard VoIP equipment as well as legacy IP phones.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fcx-series-ds.pdf

- **FastIron ICX6450 Series – Small-Scale Applications –**

Brocade ICX 6450 Switches provide feature-rich enterprise-class stackable LAN switching solutions to meet the scalability and reliability demands of evolving campus networks–at an affordable price. The Brocade ICX 6450 are available in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports–with or without IEEE 802.3af and 802.3at Power over Ethernet/Power over Ethernet Plus (PoE/PoE+)–to support enterprise edge networking, wireless mobility, and IP communications.

Highlights include:

- Offers enterprise-class stackable switching at an entry-level price, allowing organizations to buy what they need now and easily scale as demand grows and new technologies emerge
- Delivers unprecedented feature/price value for enterprise applications, including Unified Communications (UC) and mobility with 10 Gigabit Ethernet (GbE) and PoE/PoE+
- Simplifies network operations and protects investments with the Brocade HyperEdge Architecture, enabling consolidated network management and advanced services sharing across heterogeneous switches
- Offers an attractive 12-port, compact, and enterprise-class fanless switch model for deployments outside the wiring closet
- Includes the Brocade Assurance Limited Lifetime Warranty and three years of technical support

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6430-6450-switches-ds.pdf -

Note: The similar ICX6430 is not recommended core router applications where Layer 3 routing is required because it has no layer 3 functionality.

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 equivalent

Brocade Response:

For Distribution Switching Applications, Brocade recommends the following product lines:

- **FastIron SX Series**

The Brocade® FastIron® SX Series of Layer 2/3 switches provides a superior scalable foundation for improved operational efficiency and faster response to business opportunities today and into the future. The FastIron SX Series extends control from the network edge to the backbone with intelligent network services, including superior Quality of Service (QoS), predictable performance, advanced security, comprehensive management, and integrated resiliency.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fastiron-sx-ds.pdf

- **FastIron ICX 6650 Series**

  Part of the Brocade® ICX® family of Ethernet switches for campus LAN and classic Ethernet data center environments, the Brocade ICX 6650 Switch is a compact, high-performance, high-availability, and high-density 10/40 Gigabit Ethernet (GbE) solution that meets the needs of business-sensitive deployments and High-Performance Computing (HPC) environments. With industry-leading price/performance and a low-latency, cut-through, non-blocking architecture, the Brocade ICX 6650 provides a cost-effective, robust solution for the most demanding deployments, including high-frequency trading and iSCSI storage, as well as campus distribution and/or edge designs.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6650-ds.pdf

- **FastIron ICX6610 Series**

  The Brocade® ICX® 6610 Switch redefines the economics of enterprise networking by providing unprecedented levels of performance, availability, and flexibility in a stackable form factor—delivering the capabilities of a chassis with the flexibility and cost-effectiveness of a stackable switch.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6610-switch-ds.pdf

- **FastIron CX Series**

  The Brocade® FCX Series of switches provides new levels of performance, scalability, and flexibility required for today's enterprise campus and data center networks. With advanced capabilities, these switches deliver performance and intelligence to the network edge in a flexible 1U form factor that helps reduce infrastructure and administrative costs.

  Designed for wire-speed and non-blocking performance, the Brocade FCX Series includes 24- and 48-port models, in both Power over Ethernet (PoE) and non-PoE versions. Utilizing Brocade stacking technology, organizations can stack up to eight switches into a single logical switch with up to 384 ports.

The Brocade FCX Series offers a comprehensive line of switches with specific models optimized for campus and data center deployments. The Brocade FCX Series can deliver both power and data across network connections, providing a single-cable solution for edge devices such as Voice over IP (VoIP) phones, video surveillance cameras, and wireless Access Points (APs). The switches are compatible with industry-standard VoIP equipment as well as legacy IP phones.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/fcx-series-ds.pdf

- **FastIron ICX 6430 and 6450 Series**

Brocade ICX 6430 and 6450 Switches provide feature-rich enterprise-class stackable LAN switching solutions to meet the scalability and reliability demands of evolving campus networks–at an affordable price. The Brocade ICX 6430 and 6450 are available in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports–with or without IEEE 802.3af and 802.3at Power over Ethernet/Power over Ethernet Plus (PoE/PoE+)–to support enterprise edge networking, wireless mobility, and IP communications.

Highlights include:

- Offers enterprise-class stackable switching at an entry-level price, allowing organizations to buy what they need now and easily scale as demand grows and new technologies emerge
- Delivers unprecedented feature/price value for enterprise applications, including Unified Communications (UC) and mobility with 10 Gigabit Ethernet (GbE) and PoE/PoE+
- Simplifies network operations and protects investments with the Brocade HyperEdge Architecture, enabling consolidated network management and advanced services sharing across heterogeneous switches
- Offers an attractive 12-port, compact, and enterprise-class fanless switch model for deployments outside the wiring closet
- Includes the Brocade Assurance Limited Lifetime Warranty and three years of technical support

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/icx-6430-6450-switches-ds.pdf

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
- Load Balancing across Trunk group able to use packet based load balancing scheme
- Bridging of Fibre Channel SANs and Ethernet fabrics
- Jumbo Frame Support
- 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
- Support NetFlow or equivalent

Brocade Response:

As organizations look for ways to modernize their data centers to meet both current and future business requirements, they are increasingly turning to virtualization and cloud computing. To gain the full benefits of these technologies, organizations need a reliable, high-performance data center networking infrastructure with built-in investment protection.

Based on over 15 years of proven data center expertise, Brocade is leading the way to the virtualized data center and the cloud with the unique Brocade One strategy. The comprehensive family of Brocade networking solutions provides a robust foundation for these data center environments, enabling organizations to achieve their most critical business objectives.

The data center is arguably the most active and critical segment of today's IT environment in terms of innovation, strategy, and investment. In particular, it is integral to key initiatives such as the migration of legacy IT infrastructures and architectures to a more flexible, agile cloud model in its various forms—including public, private, and hybrid clouds. One of the key factors driving organizations to migrate to these new, more agile IT architectures is the need to better address the complexities associated with the widespread and accelerating adoption of server virtualization.

More than ever, IT organizations face the reality that they will need to upgrade and modernize their legacy infrastructures to be more dynamic, reliable, and scalable in order to meet the needs of a virtualized data center. Brocade believes that an intelligent, ultra-reliable, and high-performance network infrastructure is fundamental because networks are the touch points for all resources available in the data center.

This vision is the driving force behind the Brocade One strategy and its four core value propositions:

- **Unmatched simplicity:** Reducing complexity and costs is a key IT initiative and one of the motivations for moving to cloud architectures.
- **Non-stop networking:** The networks that support cloud architectures must provide high performance and reliability in order to meet today's stringent service level agreements.
- **Investment protection:** The ROI for moving to cloud architectures will take too long to achieve if the only option is to rip and replace existing infrastructure.
- **Application optimization:** Cloud architectures need to support current and emerging applications to be most effective. A high-performance, intelligent network infrastructure is a critical requirement.

Today, Brocade offers a comprehensive data center networking portfolio that includes solutions for storage networking, IP networking, converged networking, and an emerging category called Ethernet fabrics.

- **VDX6710 Series**

  The Brocade® VDX® 6710 Switch is a 1 Gigabit Ethernet (GbE) fixed configuration switch that provides a reliable, scalable, and flexible foundation for supporting the most demanding business applications. It features 48 1 GbE copper interfaces and six 10 GbE SFP+ interfaces with low power consumption, making the Brocade VDX 6710 with Brocade VCS® Fabric technology an ideal platform for Top-of-Rack (ToR) fabric deployments in existing 1 GbE server environments.

  The Brocade VDX 6710 delivers high performance for intra-rack traffic in virtualized environments, providing ultra-low latency of 600 nanoseconds for the same ASIC on the switch. This helps organizations design a network with no oversubscription for deterministic network performance and improved application response time. In addition, the Brocade VDX 6710 connects to iSCSI and NAS storage 1 and simplifies virtualization server management, making the Brocade VDX 6710 ideal for demanding data centers.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/vdx-6710-ds.pdf

- **VDX6730 Series**

  The Brocade VDX 6730 Switch is a 10 Gigabit Ethernet (GbE) fixed configuration switch with LAN and **native Fibre Channel** ports. It supports multiple connectivity options, Ethernet storage connectivity for Fibre Channel over Ethernet (FCoE), iSCSI, NAS, and bridges to Fibre Channel Storage Area Networks (SANs).

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/vdx-6730-ds.pdf

- **VDX6740 Series**

  The Brocade VDX 6740 and 6740T are Ethernet fabric Top of Rack (ToR) switches featuring 10 Gigabit Ethernet (GbE) ports with 40 GbE uplinks. Together with Brocade VCS Fabric technology, these switches deliver the high performance and low latency needed to support demanding virtualized data center environments.

  Brocade VDX 6740 and 6740T Switches provide the advanced feature set that data centers require and deliver the high performance and low latency virtualized environments demand. Together with Brocade VCS Fabric technology, these switches can simplify network design and operations for a more automated and efficient network, offer the flexibility needed to easily scale networks, deliver the intelligence to more effectively manage Virtual Machine (VM) mobility and rack density, as well as provide a cloud-ready infrastructure.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/vdx-6740-ds.pdf

- **VDX 8770 Series** – Ethernet Fabric, FCoE and Fibre Channel, and Modular Design –

  The Brocade VDX 8770 Switch is a highly scalable, low-latency, 1/10/40 Gigabit Ethernet (GbE) modular switch. Designed to easily scale out Brocade VCS fabrics, the Brocade VDX 8770 Switch brings new levels of performance to VCS fabric deployments. The Brocade VDX 8770 is designed with advanced capabilities, including 100 GbE and hardware-enhanced SDN support, to support data center networking a decade or more into the future.

Designed to scale out Brocade VCS fabrics, the 100 Gigabit Ethernet (GbE)-ready Brocade VDX 8770 Switch supports complex, highly dynamic environments with dense virtualization and extensive automation requirements. The Brocade VDX 8770 is a highly scalable, low-latency 1/10/40 GbE modular switch, available in both 8U four-slot and 15U eight-slot versions.

Some of the critical data center features supported by this modular chassis platform are listed below:

- Enables easy scale-out of Brocade VCS fabrics with unified logical chassis management
- Provides efficiently load-balanced multipathing at Layers 1, 2, and 3, and multiple active Layer 3 gateways
- Delivers 40 Gigabit Ethernet (GbE) wire-speed switching with auto-trunking Inter-Switch Links (ISLs) for non-disruptive scaling, with direct connections for more than 8000 server ports per fabric
- Simplifies Virtual Machine (VM) mobility and management with automated, dynamic port profile configuration and migration
- Provides scale-out performance and investment protection via a 100 GbE-ready, 4 Tbps per slot line-rate design while delivering exceptional application response times with 4-microsecond latency
- Provides hardware-enabled support for Software-Defined Networking (SDN) implementations across data, control, and management planes

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/vdx-8770-ds.pdf

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

Brocade Response:

Traditional networks and data centers are being stretched to their limits. They were never designed for today's astronomical growth in bandwidth-intensive applications—and the ever-increasing demand for speed, scalability, and resilience. Software-Defined Networking (SDN) is a powerful new network paradigm designed to address these issues. Brocade leads the way in SDN technologies to help unleash the power, intelligence, and analytics of networks with a flexible, end-to-end cloud-based solution.

An early supporter of SDN initiatives, such as OpenFlow and OpenStack, Brocade is helping organizations realize the promise of SDN through innovative technologies and solutions. The Brocade approach will enable organizations to control their networks programmatically, transforming the network into a platform for innovation through new applications and services. In addition, they can significantly increase the flexibility of network infrastructure in order to deliver new services faster and more easily.

OpenFlow:

OpenFlow presents a paradigm shift from traditional networking. In a traditional router or switch, the data plane (the hardware) and the control plane (the software) reside on the device. OpenFlow moves part of the control plane operations to run on external servers called controllers. In practice, the OpenFlow capability is a feature added to commercial network devices, whose hardware architecture and features remain crucial to network performance. The goal of OpenFlow is to streamline innovation by enabling user organizations and third-party developers to experiment with and develop new applications at a pace that suits their needs. OpenFlow can be used to easily deploy innovative routing and switching protocols in the network for high-value applications such as VM mobility, high-security networks, and next-generation IP-based mobile networks.

Brocade is taking an innovative approach by implementing OpenFlow in Brocade Hybrid Port Mode on its high-performance routing platforms. With Hybrid Port Mode on the Brocade MLXe Series, organizations can simultaneously deploy traditional routing or switching with OpenFlow on the same port. This unique capability provides a pragmatic path to SDN by enabling network operators to integrate OpenFlow into existing networks, giving them the programmatic control offered by SDN for specific flows while the remaining traffic is routed as before. Brocade hardware support for OpenFlow enables organizations to apply these capabilities at line rate in 10 GbE, 40 GbE, and 100 GbE networks.

OpenStack:

Brocade joined the OpenStack initiative in May 2011 and became a corporate sponsor in September 2012 in order to drive networking architecture (frameworks, services, APIs) in the OpenStack community. Brocade leads OpenStack initiatives and spearheaded the formation of the group focused on Fibre Channel SAN extensions to OpenStack. Brocade is helping to accelerate the evolution toward robust, cloud-based solutions.

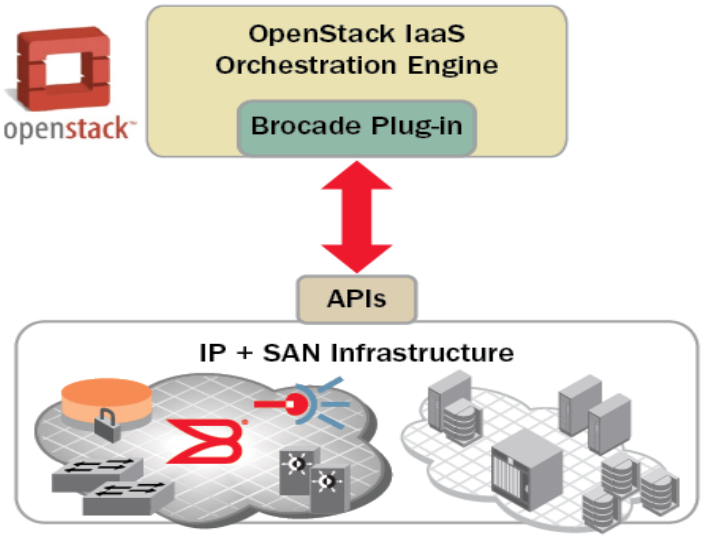
Brocade is committed to OpenStack and is optimizing its networking portfolio for this open-source cloud platform. Executing on this vision, Brocade offers plugins to the networking layers of OpenStack, which enable organizations to improve the agility, scalability, and robustness of their private and public cloud infrastructures. These Brocade OpenStack solutions will prove critical as organizations transition to cloud-optimized architectures.

The promise of OpenStack is to deliver an orchestration framework that can provision all components in a cloud architecture—compute, storage, and networking—with standard components and interfaces that give customers a choice for underlying products in their data

center. OpenStack is capturing the hearts and minds of the industry and is rapidly becoming the de facto open source standard for cloud computing, with more than 8,000 members in 87 countries. OpenStack allows organizations to rapidly and cost-effectively develop and offer cloud computing capabilities using open source software.

The Brocade VCS Fabric Plugin for OpenStack is now available—with Brocade actively working on the Brocade ADX Series and Brocade Vyatta vRouter Plugins. Brocade solutions will soon be extended to other product and technology areas, such as the Brocade MLX Series and Fibre Channel (FC) SAN.

Using a customized plugin for OpenStack Quantum, the Brocade VCS Plugin for OpenStack demonstrates cloud management capabilities for Ethernet fabrics built as a cloud solution, reflecting an ongoing commitment by Brocade to offer flexible architectures. The Brocade VCS Fabric Plugin and Brocade ADX Plugin for OpenStack enable OpenStack to orchestrate both physical and logical networking resources as part of a Virtual Machine (VM) deployment to support multitiered application topologies.



OpenDaylight:

The OpenDaylight Project is an open source project committed to accelerating customer adoption of Software-Defined Networking (SDN). Established in early 2013, the Project was founded by industry leaders committed to an open development community for an SDN framework that will drive best-in-class innovations in SDN technology, products, and solutions.

The goal of the Project is to deliver an open SDN framework—code and blueprint—resulting in a standards-based solution that organizations can use as a foundation for their SDN strategy. The

Project is a combination of components, including controllers, interfaces, protocol plug-ins, and applications.

Brocade is a Platinum sponsor of the OpenDaylight Project and one of the original founding members. As a leader in data center networking, Brocade is collaborating on the Project to deliver an SDN framework that accelerates the adoption of SDN technologies and products. Brocade is a strong supporter of open networking solutions and architectures, and believes that openness is critical for the success of SDN.

The OpenDaylight Project aligns with this vision, and Brocade customers will be able to implement their SDN strategies knowing that the OpenDaylight Project is compatible across the data center.

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 network path for application traffic.

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 used by Service Providers

Capabilities should include:

- Redundant Processors
- Redundant Power
- IPv4 and IPv6 unicast and multicast
- High bandwidth
- Low latency
- 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
- 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)

Brocade Response:

Service Provider networks, of all infrastructure environments, face the most unrelenting pressure day in, day out. There's the question of uptime - Anything short of 100% won't do. There's the issue of traffic - Typical providers route over a terabyte of data a day. And then there's reputation - One outage can destroy years of credibility.

In this always-on business environment, Brocade's portfolio of high-performance, scalable, Carrier class solutions give Service Providers the confidence to innovate on-demand. With extensive selection of Carrier Ethernet Routers and Switches the Brocade Ethernet solutions address a broad range of requirements in service provider backbones, Metro Ethernet networks, transit/wholesale networks, Internet Service Providers (ISPs), Content Delivery Networks (CDNs) and Internet Exchange Points (IXPs).

The Brocade products are proven in thousands of IP/MPLS router deployments around the globe and in some of the largest and most demanding service provider networks. No matter what new technology comes down the pipe, Brocade's open standards approach means highly flexible solutions that maximize ROI.

- **NetIron MLXe Series**

  The Brocade® MLX® Series of high-performance routers, which includes existing Brocade MLX Routers and new Brocade MLXe Core Routers, is designed to meet these requirements and many others. Built with a state-of-the-art, sixth-generation, network processor-based architecture and terabit-scale switch fabrics, the Brocade MLX Series provides a rich set of high-performance IPv4, IPv6, and Multiprotocol Label Switching (MPLS) capabilities as well as advanced Layer 2 switching capabilities. As a result, these routers address the diverse needs in environments that include service provider backbones, Metro Ethernet networks,

transit/wholesale networks, Internet Service Providers (ISPs), Content Delivery Networks (CDNs), Internet Exchange Points (IXPs), data centers, and distributed enterprises.

HIGHLIGHTS include:

- Scalable multiservice IP/MPLS Carrier Ethernet routers in 4-, 8-, 16-, and 32-slot options
- Fully distributed, non-blocking architecture with up to 15.36 Tbps fabric capacity
- Up to 32 100 GbE, 128 40 GbE, 768 10 GbE, or 1536 1 GbE ports in a single router
- Integrated support for OpenFlow in true hybrid-port mode, enabling Software-Defined Networking (SDN) for programmatic control of the network
- Wire-speed IPv4, IPv6, and MPLS forwarding performance with 1 million FIB entries
- High-availability design with redundant management modules, switch fabrics, power supplies, and fans; hitless failover; hitless software upgrades; and non-stop routing
- Ideal for advanced applications in service provider backbones, MANs, CSPs, data centers, federal agencies, and distributed enterprises

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/MLX_Series_DS.pdf

- **NetIron CER Series**

  The NetIron CER 2000 is available in 24- and 48-port 1 Gigabit Ethernet (GbE) copper and hybrid fiber configurations with four or two optional 10 GbE uplink ports. To help ensure high performance, all the ports are capable of forwarding IP and MPLS packets at wire speed without oversubscription. With less than 5 watts/Gbps of power consumption, service providers can push up to 136 Gbps of triple-play services through the NetIron CER 2000 while reducing their carbon footprint.

  A broad set of highly scalable IP unicast and multicast routing features, combined with a low total cost of ownership, makes the NetIron CER 2000 an ideal choice for service providers that want to deliver Layer 2 and Layer 3 business services through a single, easy-to-manage platform.

  KEY APPLICATIONS

  - Edge routing applications in Metro Ethernet networks
  - MPLS-based Layer 2 and Layer 3 VPN services
  - Provider edge routing for triple-play/IPTV delivery

- Provider-managed router in end-user customer premises
- Compact BGP route reflector
- Data center or campus border routing
- Virtualized data center or campus applications with multi-VRF

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-cer-2000-ds.pdf

- **NetIron CES Series**

The NetIron CES 2000 Series is a family of compact 1U, multiservice edge/aggregation switches that combine powerful capabilities with high performance and availability. The switches provide a broad set of advanced Layer 2, IPv4, IPv6, and MPLS capabilities in the same device. As a result, they support a diverse set of applications in metro edge, service provider, mobile backhaul wholesale, data center, and large enterprise networks.

KEY APPLICATIONS

- Large-scale Carrier Ethernet build-outs at the global, national, and metro levels--combined with Brocade MLX® Series routers
- High-density aggregation of access devices such as DSLAMs, GPON/EPON OLTs, or CMTS systems at the network edge
- Edge aggregation switching and routing applications in metro networks
- MPLS access and aggregation
- Multiple security zones and simplified VPNs for enterprise and campus networks using Multi-VRF
- Mobile backhaul over Carrier Ethernet infrastructure for wholesale
- Fiber To The Curb (FTTC) and Fiber To The Building (FTTB) applications with stringent Service Level Agreements (SLAs)
- Aggregation in ISP networks
- High-performance data center top-of-rack server access with high-touch processing and deep buffering

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/netiron-ces-2000-ds.pdf

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 32 VDC and 36V to 72 VDC
- Ethernet and console port for manageability
- SD flash card slot for additional external storage
- Stratum 3 network clock
- Line-rate performance with a minimum of 62-million packets per second (MPPS) forwarding rate
- Support for dying gasp on loss of power
- 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
- Supports Resilient Ethernet Protocol REP/G.8032 for rapid layer-two convergence

Brocade Response:

Brocade is not submitting a response to this section at this time.

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

Brocade Response:

Brocade Mobility Wireless LAN (WLAN) solutions enable secure, real-time data access in environments ranging from remote offices to large enterprises. With high-performance and high-availability features, these systems boost productivity and improve collaboration on a global basis.

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

Brocade response:

Any successful wireless LAN (WLAN) deployment requires the careful consideration of two primary factors: infrastructure and security. As primary components supporting the Brocade HyperEdge Architecture, our evolutionary campus architecture that radically simplifies networking and improves business agility, Brocade Mobility Wireless LAN (WLAN) solutions deliver secure, anywhere anytime wireless connectivity for organizations of any size. With Distributed Access Point Forwarding technology, a TCO that's up to 50 percent lower than major wireless providers, and a robust security eco-system, you can deploy an agile, automated, and affordable wireless solution to securely improve mobile user productivity and collaboration.

Brocade Mobility Solution Benefits:

- High-quality user experience through eliminating wireless controller bottlenecks
- Self-healing automation ensures reliable service availability
- Tremendous value with up to 50 percent lower TCO than competitors
- Access point-based firewalls and advanced encryption deliver reliable security
- 802.11n and up to 10,240 access points per controller leave room to grow

- **Brocade AP650** –

  For small and medium-size enterprises, lowering the costs of mobility capabilities must be balanced with the need for a secure and high-quality user experience. As a component of the Brocade® HyperEdge™ Architecture, the Brocade Mobility 650 Access Point (AP), a thin (dependent) multipurpose AP, meets all of these needs.

  The intelligent Brocade Mobility 650 uses Distributed AP Forwarding to understand and forward local traffic. This efficient wireless architecture eliminates the need for all data traffic

to route to the wired network core before reaching its destination. This architecture is also ideal for the increased AP bandwidth and performance demands expected from the 802.11ac standard.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-650ap-ds.pdf

- **Brocade AP6511** –

  Conventional Access Points (APs) require careful planning, in addition to pulling cable and installing ceiling brackets. Sometimes organizations need wireless connectivity installed in minutes, not hours. As a component of the Brocade® HyperEdge™ Architecture, the Brocade Mobility 6511 Wallplate Access Point (AP) integrates a dual-band 802.11a/b/g/n AP and switched Fast Ethernet connectivity into a sleek design that is fast and easy to deploy on any wall surface or structured wiring telecom box using the existing CAT 5/6 cabling.

  The Brocade Mobility 6511 is ideal for dormitories, patient rooms, guest rooms, and other multi-dwelling units where walls, metal doors, mirrors, plumbing, and wall tiles impede hallway Wi-Fi signals. It features a snap-in port for any keystone-style connector—such as RJ11 or TV coax— so multiple services can be supported on a single integrated AP. Guest rooms often require additional Ethernet ports for voice service, device monitoring, or even guest wireline. A snap-on three-port wired Fast Ethernet expansion module dramatically reduces deployment costs by providing multiple wired Ethernet switch ports while eliminating multiple CAT 5/6 cables to a single room.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-6511ap-ds.pdf

- **Brocade AP7131** –

  Getting the most out of wireless capabilities can lead many enterprises to take on unnecessary complexity, cost, and risk. From voice to video, supporting multiple bandwidth-intensive enterprise applications usually means multiple access points, which can siphon IT staff productivity, add new operational expenses, and open the door to lowered service expectations—and even new security concerns.

  As a component of the Brocade® HyperEdge™ Architecture, the Brocade Mobility 7131 Access Point (AP) provides enterprises and branch offices with key functions—such as a wireless firewall; Dynamic Host Configuration Protocol (DHCP); Authentication, Authorization, and Accounting (AAA); VPN; hotspot services; and Power over Ethernet (PoE) capabilities—eliminating the need to purchase and manage multiple pieces of equipment.

The 802.11a/b/g/n Brocade Mobility 7131 provides the throughput, coverage, and resiliency required for wireless enterprises. The band-unlocked tri-radio design provides simultaneous support for three major networking functions:

- High-speed wireless voice, video, and data services for client access
- Self-healing mesh networking
- Non-data applications, including wireless Intrusion Prevention System (IPS) sensor functionality for protection of wireless and wired networks

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-6511ap-ds.pdf

- **Brocade AP1220 –**

For small and medium-size enterprises, lowering the costs of mobility capabilities must be balanced with the need for a secure and high-quality user experience. As a component of the Brocade® HyperEdge™ Architecture, the Brocade Mobility 1220 Access Point (AP) adds site survivability and controller-less operation to the strengths of the Brocade Mobility 650 AP to meet all of these needs while improving service availability.

The intelligent Brocade Mobility 1220 uses Distributed AP Forwarding to understand and forward local traffic. This efficient wireless architecture eliminates the need for all data traffic to route to the wired network core before reaching its destination. This architecture is also ideal for the increased AP bandwidth and performance demands expected from the 802.11ac standard.

Designed to lower the cost of deploying and operating a secure, reliable 802.11n Wireless LAN (WLAN), this highly efficient AP offers simultaneous WLAN access and sensing, remote over-the-air help-desk support, and the comprehensive, wireless intrusion-prevention features that nimble organizations require.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-1220ap-ds.pdf

- **Brocade AP1240** –

Today's organizations must meet the increasing bandwidth demands of a mobile population while maximizing existing technology investments. The Brocade® Mobility 1240 Access Point (AP) goes beyond typical AP functionality and features. In addition to providing high-speed and reliable network access, its unique modular design protects investments by enabling organizations to easily adapt to future requirements.

Similar to the Brocade Mobility 7131 and a component of the Brocade HyperEdge™ Architecture, the Brocade Mobility 1240 provides enterprises and branch offices with the performance, flexibility, and resiliency required for wireless enterprises while two USB slots provide a modular design for meeting future requirements. The band-unlocked tri-radio design delivers simultaneous support for three major networking functions:

- High-speed wireless voice, video, and data services for client access
- Self-healing mesh networking
- Dedicated wireless Intrusion Prevention System (IPS) sensor functionality for protection of wireless and wired networks

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-1240ap-ds.pdf

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
- Provides real-time wireless intrusion monitoring and detection
- Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 network operations center. The WLAN controller automatically handles the 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
- System encrypts all management layer traffic and passes it through a secure tunnel
- 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
- Support configurable access control lists to filter traffic and denying wireless peer to peer traffic

Brocade response:

A reliable, high-performance, automated wireless network is critical for today's organizations. Faced with limited IT resources and a thriving mobile workforce, they need an effective way to meet the growing demands of sophisticated mobile devices and bandwidth-intensive applications, as well as user demand for anywhere, anytime access. The Brocade HyperEdge Architecture seamlessly integrates intelligent wireless solutions with innovative wired technologies to provide organizations the application-centric and automated wireless network needed to respond faster to changing business challenges while controlling costs.

Designed for Wireless LAN (WLAN) deployments in which performance and reliable access are critical, Brocade Mobility 802.11n controllers provide highly scalable mobility solutions for small remote offices to very large campuses, with support for up to 10,000 Access Points (APs) and 200,000 devices. The Brocade Mobility controllers provide the right features, performance, security, and manageability to meet the needs of today's demanding mobile workforce.

Brocade Mobility controllers also provide the tools to simplify and minimize the costs associated with day-to-day management. Easy to deploy and manage, these controllers integrate seamlessly with the Brocade HyperEdge Architecture to provide a wide range of networking functions, including:

- Provides efficient scalability for distributed, high-performance WLAN communications platforms
- Maximizes 802.11n performance and eliminates excessive network traffic using the HyperEdge Architecture and Distributed AP Forwarding technology
- Centrally controls networks of any size from very small remote offices to 10,000 geographically dispersed WLAN APs and up to 200,000 devices
- Manages configuration and policy setting, and performs remote troubleshooting from a central location
- Configures hotspots and aggregates statistics and DHCP/RADIUS/FTP services
- Secures guest access with built-in captive Web portal for Bring Your Own Device (BYOD)
- Provides improved Return on Investment (ROI) through shared controller licenses
- Provides hitless failover capabilities for reliable service availability

Brocade Mobility controller offerings include:

- **Brocade Mobility RFS4000 Controller**

  Supporting today's remote office requirements calls for tight integration of wired, wireless, and network security features. The Brocade® Mobility RFS4000 Controller integrates all three of these critical networking features into a compact and easy-to-use form factor, enabling organizations to create resilient remote office networks using a single platform.

  The Brocade Mobility RFS4000 cost-effectively extends 802.11n capabilities to remote offices and smaller enterprises by supporting up to 36 Brocade Mobility Access Points (APs). The Brocade Mobility RFS4000 also provides multiple value-added and productivity applications. An integrated customizable secure guest access application with distributed or centralized authentication allows small enterprises and remote offices to provide hotspot services for guests. A real-time locationing system for Wi-Fi and RFID provides centralized asset tracking and monitoring. USB storage ensures seamless software image distribution.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-rfs4000-ds.pdf

- **Brocade Mobility RFS6000 Controller**

  The Brocade® Mobility RFS6000 Controller empowers wireless enterprises by providing an integrated communications platform that delivers secure and reliable voice, video, and data applications. Based on an innovative architecture, the Brocade Mobility RFS6000 provides a fully featured best-in-class WLAN solution with integrated Layer 2 switching with integrated Power over Ethernet (PoE) ports, Quality of Service (QoS) mechanisms for multimedia applications, and onboard DHCP and RADIUS server. Advanced functionality includes mesh, high-availability, clustering, and end-to-end security features.

  The enterprise-class Brocade Mobility RFS6000 provides the tools to simplify and minimize the costs associated with day-to-day management of mobility solutions. Its underlying architecture helps unify management of network hardware, software configuration, and network policies—and includes comprehensive built-in process monitors and troubleshooting tools.

The Brocade Mobility RFS6000 features a multicore, multithreaded architecture capable of supporting from 2000 to 20,000 mobile devices and up to 256 Brocade Mobility 802.11 a/b/g Access Points (APs) per controller.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-rfs6000-ds.pdf

- **Brocade Mobility RFS7000 Controller**

  Designed for high-bandwidth Wireless LAN (WLAN) deployments, the Brocade® Mobility RFS7000 Controller provides highly scalable mobility in large enterprises, campuses, and data centers. The innovative architecture enables a comprehensive set of services, offering unmatched security, reliability, and mobility for high-performance 802.11n networks. Easy to deploy and manage, the Brocade Mobility RFS7000 acts as a converged platform to deliver multimedia applications (data, voice, and video), wireless networking, and value-added mobility services such as guest access and seamless roaming. Next-generation self-healing mesh, RFID locationing services, and centralized management simplify and minimize the costs associated with day-to-day management.

  The Brocade Mobility RFS7000 features a multicore, multithreaded architecture designed for large-scale, high-bandwidth enterprise deployments. It easily handles from 8000 to 96,000 mobile devices and 1024 Brocade Mobility APs per controller.

  For more information, please visit:
  http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-rfs7000-ds.pdf

- **Brocade Mobility RFS7000-GR Controller**

  Managing Wireless LANs (WLANs) in large government environments is often costly and complex. Without a single-box solution fully compliant with the Federal Information Processing Standard, Publication 140-2 (FIPS 140-2), government agencies cannot meet mandated high-security and cryptographic requirements, while also cost-effectively controlling tens of thousands of devices.

  Designed specifically for large-scale, high-bandwidth government deployments, the Brocade® Mobility RFS7000-GR WLAN Controller provides a single point of management for tens of thousands of network devices. In addition, it offers

robust, highly scalable features and support for seamless enterprise-grade mobility.

The Brocade Mobility RFS7000-GR also meets all FIPS 140-2 and Common Criteria Evaluation Level2 (CC EAL2) security requirements.*

The Brocade Mobility RFS7000-GR leverages multicore/multithreaded architecture to achieve robust, enterprise class performance. It's designed to handle from 8000 to 96,000 mobile devices and up to 1024 802.11n Access Points (APs), while supporting up to 12,288 APs in a cluster. Multi-level failover capabilities and cluster management provide high availability.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-rfs7000-gr-ds.pdf

- **Brocade Mobility RFS9510 Controller**

  Designed for large, geographically dispersed Wireless LAN (WLAN) deployments, the Brocade® Mobility RFS9510 Controller provides centralized control, statistics aggregation, and single-point policy management for highly scalable mobility in enterprises and campuses. It enables organizations to centrally control WLANs with 1000 to 10,000 Access Points (APs) distributed across small to medium-sized enterprise locations. The Brocade Mobility RFS9510 further simplifies management by providing a single point for hotspot configuration, policy setting, statistics aggregation, DHCP/RADIUS/FTP services, and remote troubleshooting. A powerful component of the Brocade HyperEdge™ Architecture, the Brocade Mobility RFS9510 makes deploying and maintaining wireless networks easy and cost-effective.

HIGH PERFORMANCE AND SCALABILITY

The Brocade Mobility RFS9510 features a multicore, multithreaded architecture with redundant, hot-swappable 2×1 TB hard drives, 36 GB of high-speed memory, and 4×10 GbE ports. As a result, it can handle more than 10,000 Brocade Mobility APs and up to 200,000 mobile devices—typical requirements for large-scale, geographically dispersed enterprise deployments.

BYOD SERVICES ENSURE USER PRODUCTIVITY

The Brocade Mobility RFS9510 offers enterprise-class services to help ensure a secure, cost-effective, and high-quality user experience for Bring Your Own Device (BYOD) initiatives. The controller includes device "fingerprinting," analytics, and identity management to help manage and secure user-owned devices. The guest access analytics feature reports

on user browsing behavior while the multivendor— including iOS- and Android-based— mobile device management capability can centrally manage up to 200,000 devices.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/mobility-rfs9510-ds.pdf

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 failover
- 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

Brocade Response:

Brocade Wireless Solutions include CLI-based and GUI-based management functionality for efficient planning, configuration and deployment of wireless systems.

AIRDEFENSE –

AirDefense® Enterprise Appliances for Brocade® Mobility solutions provide the most powerful wireless Intrusion Prevention System (IPS) available. Scaling to meet the needs of the largest global organizations, these appliances provide complete protection against wireless threats, policy compliance monitoring, robust performance monitoring and troubleshooting, and location tracking capabilities.

This innovative platform combines collaborative intelligence with secure sensors that work in tandem with purpose-built server appliances to monitor all 802.11 (a/b/g) wireless traffic in real time for the highest levels of security, rogue mitigation, and policy enforcement.

Three models are available:

- **AirDefense 1250 Appliance for Brocade Mobility:**

Packaged in a rack-optimized 1U chassis, the AirDefense 1250 provides 250 GB of storage for small WLAN deployments. It accommodates an Intel Pentium 4 3.4 GHz Processor and 1 GB of Error-Correcting Code DDR2 memory support.

- **AirDefense 3650 Appliance for Brocade Mobility:**

Packaged in a rack-optimized 1U chassis, the AirDefense 3650 provides 250 GB of storage in RAID 1 configurations for medium-size to large WLAN deployments. It accommodates an Intel Core Duo 2.13 GHz Processor and 4 GB of Error-Correcting Code DDR2 memory support.

- **AirDefense 4250 Appliance for Brocade Mobility:**

Packaged in a 2U chassis, the AirDefense 4250 provides 500 GB of storage in RAID 1 configurations and a redundant power supply for large to very large WLAN deployments. It accommodates an Intel 2.33 GHz Xeon 5140 Dual-Core Processor and 8 GB of fully buffered DDR2 memory support.

For more information, please visit:
http://www.brocade.com/downloads/documents/data_sheets/product_data_sheets/AirDefense_DS_01.pdf

5.2.9.5 **Cloud-based services for Access Points** — Cloud-based management of campus-wide WiFi deployments and distributed multi-site networks. Capabilities include:

- Zero-touch access point provisioning
- Network-wide visibility and control
- RF optimization,
- Firmware updates

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 devices authentication to the network
- Provide secure remote access capability
- Support 802.1x
- Network optimization for performance, scalability, and user experience

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 solution capabilities should include:

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

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.3.0.1 IP Telephony — Solutions utilized to provide the delivery of the telephony application (for example, call setup and teardown, and telephony features) over IP, instead of using circuit-switched or other modalities. Capabilities should include:

- Support for analog, digital, and IP endpoints
- Centralized Management
- Provide basic hunt group and call queuing capabilities
- 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
- E911 Support

Brocade Response:

Brocade is not submitting a response to this section at this time.

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, along with shared clients, instant messaging basically offers real-time direct written language-based online chat. Instant messaging may also provide video calling, file sharing, PC-to-PC voice calling and PC-to-regular-phone calling.

Brocade Response:

Brocade is not submitting a response to this section at this time.

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)

Brocade Response:

Brocade is not submitting a response to this section at this time.

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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.3.0.5 Communications End Points and Applications

- Attendant Consoles
- IP Phones

Brocade Response:

Brocade is not submitting a response to this section at this time.

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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.3.0.7 Collaboration — Voice, video, and web conferencing; messaging; mobile applications; and enterprise social software.

Brocade Response:

Brocade is not submitting a response to this section at this time.

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 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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

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.

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.3.0.8.2 **Physical Security** — Technology utilized to restricting physical access by unauthorized people to controlled facilities. Technologies include:

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

Brocade Response:

Brocade is not submitting a response to this section at this time.

5.3.1 **SERVICES** — For each Category above (5.21-5.30), 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, flexible hardware coverage, and smart, proactive device diagnostics for hardware.

Brocade Response:

Brocade offers a complete portfolio of support services to meet various customer needs:

Essential support provides base level support for Brocade hardware and software products, and offers various service levels to fit customer requirements.

Premier support provides a higher level of proactive support for larger, more complex environments. Premier adds support account management, quarterly support reviews and annual Brocade SAN Health and Brocade NET Health checks to help customer increase the performance and efficiency of their networking infrastructures.

Premier Plus provides Premier customers with a Brocade Onsite Engineer focused on performing proactive maintenance to optimize Brocade networking infrastructures.

These support services are available under two support plans:

Brocade Direct Support provides a direct support relationship between Brocade and customers on all Brocade Storage Area Network and IP hardware and software products, with Brocade delivering all support services through its resources or subcontractors.

Brocade Supplemental Support augments customers' Brocade OEM Partner support plans, allowing customers to obtain software and hardware troubleshooting support directly from

Brocade on equipment purchased through a Brocade OEM Partner or Brocade solution provider.

Each of these options contain Service Level Agreements(SLA's) consisting of: 4 Hour Onsite Parts and Labor, Next-Business-Day On-Site Parts and Labor, 4 Hour Parts, Next-Business-Day Parts, Return to Factory, Remote Support, Software Technical Support (24×7 Access).

Brocade offers some level of remote diagnostics on all Brocade products, under all service levels and tiers. Some Brocade products are supported via remote access, while others require customers to provide logs to Brocade Support in order to initiate remote diagnostics. Brocade attempts to resolve the majority of issues remotely, with onsite support reserved for defective hardware replacement.

Brocade also offers the remote Brocade Network Monitoring Service (NMS) as an additional service for many SAN and IP network products. Brocade NMS combines 24×7 monitoring, proactive alerting, and flexible reporting to help customers increase the availability and efficiency of their data center networks and resources. All remote support is performed by Brocade via our 24x7 telephone hotline or the use of several online tools via MyBrocade.

Responding to Sections:

- 5.2.1 Data Center Application
- 5.2.2 Networking Software
- 5.2.2.1 Network Management and Automation
- 5.2.2.2 Data Center Management and Automation
- 5.2.2.3 Cloud Portal and Automation
- 5.2.2.4 Branch Office Management and Automation
- 5.2.3 Network Optimization and Acceleration
- 5.2.3.1 Dynamic Load Balancing
- 5.2.3.3 High Availability and Redundancy
- 5.2.5 Routers
- 5.2.5.1 Branch Routers
- 5.2.5.2 Network Edge Routers
- 5.2.5.3 Core Routers
- 5.2.5.4 Service Aggregation Routers
- 5.2.5.5 Carrier Ethernet Routers
- 5.2.6 Security

- 5.2.6.1 Data Center and Virtualization Security Products and Appliances
- 5.2.6.2 Intrusion Detection/Protection and Firewall Appliances
- 5.2.6.3 Logging Appliances and Analysis Tools
- 5.2.6.4 Secure Edge and Branch Integrated Security Products
- 5.2.6.5 Secure Mobility Products
- 5.2.6.6 Encryption Appliances
- 5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security
- 5.2.6.8 Secure Access
- 5.2.7.1 Director Class SAN (Storage Area Network) Switches and Modules
- 5.2.7.2 Fabric and Blade Server Switches
- 5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management
- 5.2.7.4 SAN Optimization
- 5.2.8 Switches
- 5.2.8.1 Campus LAN - Access Switches
- 5.2.8.2 Campus LAN - Core Switches
- 5.2.8.3 Campus Distribution Switches
- 5.2.8.4 Data Center Switches
- 5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers
- 5.2.8.7 Carrier Aggregation Switches
- 5.2.8.8 Carrier Ethernet Access Switches

5.3.1.2 Professional Services

- Deployment Services
  - Survey/ Design Services — Includes, but not limited to, discovery, design, architecture review/validation, and readiness assessment.

    Brocade Response:

    The Brocade Design service offering provides End Users with the ability to utilize Brocade Professionals to perform design activities focusing on manageability, availability, performance and scalability. The design addresses many design points. As part of the Brocade design service, Brocade will perform a multi-phase service engagement involving analysis, development of a preliminary design (including device naming, zoning architecture, device connection strategy, ISL oversubscription ratios, topology selection), detailed interviews and the

development of a final design. Brocade will conduct a turnover of installation related information to the End User and closeout the solution delivery process.

Responding to Sections:

- 5.2.1 Data Center Application
- 5.2.2 Networking Software
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- 5.2.8.8 Carrier Ethernet Access Switches

- Implementation Services — Includes, but not limited to, basic installation and configuration or end-to-end integration and deployment.

Brocade Response:

The Brocade Implementation service offering provides End Users with the ability to utilize Brocade Professionals to perform logical configuration activities for new or pre-existing products. As part of the service, Brocade will gather and validate End User specific configuration requirements necessary for the solution implementation. Brocade will apply the End User specific configuration requirements for each in-scope device using standardized multi-step implementation processes. Upon completion of the implementation activities, Brocade will conduct a turnover of implementation related information to the End User and closeout the solution delivery process.

Responding to Sections:

- 5.2.1 Data Center Application
- 5.2.2 Networking Software
- 5.2.2.1 Network Management and Automation
- 5.2.2.2 Data Center Management and Automation
- 5.2.2.3 Cloud Portal and Automation
- 5.2.2.4 Branch Office Management and Automation
- 5.2.3 Network Optimization and Acceleration
- 5.2.3.1 Dynamic Load Balancing
- 5.2.3.3 High Availability and Redundancy
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- 5.2.8.8 Carrier Ethernet Access Switches

- 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.

Brocade Response:

The Brocade Assessment is a multi-phased engagement that provides an in-depth analysis of the End User Data Center, development of a preliminary report, detailed End User interviews, and development of a final report. The final report includes recommendations and associated work breakdown structures. The assessment includes SAN Health reports and Visio diagrams. Follow-on analysis by Brocade PS augments the SAN Health capture. A critical aspect of the Assessment service is the presentation of preliminary findings and the Final Assessment Report, where the End User and the BSC can engage in important dialogue.

The Final Assessment includes issues identified, impact of these issues, and recommendations. Where applicable, best practices will be specified in the recommendations section. A work breakdown structure accompanies each recommendation. The work breakdown structure includes the high-level task associated with the recommendation, estimated effort, and associated risks with not following the recommendation. The resulting work breakdown structure can be utilized by the End User to develop a project implementation plan for the recommendations identified. If the End User desires, Brocade can develop and execute this plan where appropriate as a separate service.

The Network Assessment Service provides an in-depth analysis of the End User's network environment. This service reviews the End User's business and functional requirements related to host connectivity and network infrastructure. This service captures important information about the End User's network as it reviews and considers network statistics, performance, scalability, capacity, and overall health.

When applicable the service also provides a suite of network information collections which provide a baseline of the network's performance, health, and capabilities. The collected data is analyzed per best practices and compiled into a report. Within the report the state of the current environment will be documented and assessed on how it is addressing the End User's goals. Any gaps or items noted for improvement will be prioritized in order of importance and corrective action will be detailed.

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- 5.2.8.8 Carrier Ethernet Access Switches

- 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.

Brocade Response:

Brocade provides management services with, but not limited to, our maintenance contracts. With Premier and Premier Plus certain levels of support, Support Account Managers and On-Site Engineers help deliver proactive maintenance to optimize Brocade network infrastructures.

Brocade offers some level of remote diagnostics on all Brocade products, under all service levels and tiers. Some Brocade products are supported via remote access, while others require customers to provide logs to Brocade Support in order to initiate remote diagnostics. Brocade attempts to resolve the majority of issues remotely, with onsite support reserved for defective hardware replacement.

Brocade also offers the remote Brocade Network Monitoring Service (NMS) as an additional service for many SAN and IP network products. Brocade NMS combines 24×7 monitoring, proactive alerting, and flexible reporting to help customers increase the availability and efficiency of their data center networks and resources. All remote support is performed by Brocade via our 24x7 telephone hotline or the use of several online tools via MyBrocade.

Brocade NMS goes beyond network monitoring and real-time alerts to include a suite of advanced and predictive analytic capabilities. Accessible via the Brocade MySupport portal or customized e-mail reports, the advanced analytics are predictive enablers that allow organizations to forecast their future needs; establish baselines and optimize performance; set, track, and manage to customer-defined Service Level Agreements (SLAs); and provide a comprehensive, automatically updated inventory of the resources that comprise their network. The real-time dashboard gives organizations the visibility and insight needed to be proactive, predictive, and transparent in the management of their networks.

The Brocade Technical Support escalation policy offers rapid response and more frequent communication with Premier and Premier-Plus Support customers. Severity 1 and Severity 2 issues receive management attention faster and at a higher level within Brocade for faster problem resolution. Premier and Premier-Plus customers also receive frequent updates on the status of outstanding service requests. Brocade does not offer change management services.

Responding to Sections:

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- Consulting/Advisory Services — Includes, but not limited to, assessing the availability, reliability, security and performance of Customer's existing solutions.

  Brocade Response:

  Brocade Professional Consulting Services enable the placement of a consultant onsite to assist the End User in areas of Brocade technology management. As part of the services the consultant will act as a "Brocade Representative" with the End Users Technology department. Brocade consultants are well versed in available service offerings and have the ability to deliver across the Brocade services offerings portfolio.

  Responding to Sections:

  - 5.2.1 Data Center Application
  - 5.2.2 Networking Software
  - 5.2.2.1 Network Management and Automation
  - 5.2.2.2 Data Center Management and Automation
  - 5.2.2.3 Cloud Portal and Automation
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- 5.2.8.8 Carrier Ethernet Access Switches

- Data Communications Architectural Design Services — Developing architectural strategies and roadmaps for transforming Customer's existing network architecture and operations management.

Brocade Response:

The Brocade Design service offering provides End Users with the ability to utilize Brocade Professionals to perform design activities focusing on manageability, availability, performance and scalability. The design addresses many design points. As part of the Brocade design service, Brocade will perform a multi-phase service engagement involving analysis, development of a preliminary design (including device naming, zoning architecture, device connection strategy, ISL oversubscription ratios, topology selection), detailed interviews and the development of a final design. Brocade will conduct a turnover of installation related information to the End User and closeout the solution delivery process.

Responding to Sections:

- 5.2.1 Data Center Application
- 5.2.2 Networking Software
- 5.2.2.1 Network Management and Automation
- 5.2.2.2 Data Center Management and Automation
- 5.2.2.3 Cloud Portal and Automation
- 5.2.2.4 Branch Office Management and Automation
- 5.2.3 Network Optimization and Acceleration
- 5.2.3.1 Dynamic Load Balancing
- 5.2.3.3 High Availability and Redundancy
- 5.2.5 Routers
- 5.2.5.1 Branch Routers
- 5.2.5.2 Network Edge Routers
- 5.2.5.3 Core Routers
- 5.2.5.4 Service Aggregation Routers
- 5.2.5.5 Carrier Ethernet Routers
- 5.2.6 Security
- 5.2.6.1 Data Center and Virtualization Security Products and Appliances
- 5.2.6.2 Intrusion Detection/Protection and Firewall Appliances
- 5.2.6.3 Logging Appliances and Analysis Tools
- 5.2.6.4 Secure Edge and Branch Integrated Security Products
- 5.2.6.5 Secure Mobility Products
- 5.2.6.6 Encryption Appliances
- 5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security
- 5.2.6.8 Secure Access
- 5.2.7.1 Director Class SAN (Storage Area Network) Switches and Modules
- 5.2.7.2 Fabric and Blade Server Switches
- 5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management
- 5.2.7.4 SAN Optimization
- 5.2.8 Switches

- 5.2.8.1 Campus LAN - Access Switches
- 5.2.8.2 Campus LAN - Core Switches
- 5.2.8.3 Campus Distribution Switches
- 5.2.8.4 Data Center Switches
- 5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers
- 5.2.8.7 Carrier Aggregation Switches
- 5.2.8.8 Carrier Ethernet Access Switches

- 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.

  Brocade Response:

  The Brocade Statement of Work (SOW) will set forth the scope of work and Services to be performed by Brocade for the Customer. Brocade agrees to perform the Services described by the SOW subject to terms and conditions and prices set forth.

  The scope of work in the SOW will be Brocade's best effort to meet the Customer's business and technical requirements brought forth in the services request, fitting within the Brocade Professional Services portfolio.

  Responding to Sections:

  - 5.2.1 Data Center Application
  - 5.2.2 Networking Software
  - 5.2.2.1 Network Management and Automation
  - 5.2.2.2 Data Center Management and Automation
  - 5.2.2.3 Cloud Portal and Automation
  - 5.2.2.4 Branch Office Management and Automation
  - 5.2.3 Network Optimization and Acceleration
  - 5.2.3.1 Dynamic Load Balancing
  - 5.2.3.3 High Availability and Redundancy
  - 5.2.5 Routers
  - 5.2.5.1 Branch Routers
  - 5.2.5.2 Network Edge Routers
  - 5.2.5.3 Core Routers

- 5.2.5.4 Service Aggregation Routers
- 5.2.5.5 Carrier Ethernet Routers
- 5.2.6 Security
- 5.2.6.1 Data Center and Virtualization Security Products and Appliances
- 5.2.6.2 Intrusion Detection/Protection and Firewall Appliances
- 5.2.6.3 Logging Appliances and Analysis Tools
- 5.2.6.4 Secure Edge and Branch Integrated Security Products
- 5.2.6.5 Secure Mobility Products
- 5.2.6.6 Encryption Appliances
- 5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security
- 5.2.6.8 Secure Access
- 5.2.7.1 Director Class SAN (Storage Area Network) Switches and Modules
- 5.2.7.2 Fabric and Blade Server Switches
- 5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management
- 5.2.7.4 SAN Optimization
- 5.2.8 Switches
- 5.2.8.1 Campus LAN - Access Switches
- 5.2.8.2 Campus LAN - Core Switches
- 5.2.8.3 Campus Distribution Switches
- 5.2.8.4 Data Center Switches
- 5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers
- 5.2.8.7 Carrier Aggregation Switches
- 5.2.8.8 Carrier Ethernet Access Switches

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. Customers can have the option to purchase the Services to be directly delivered by Contractor (OEM) or its certified Partners/Resellers.

Brocade Response:

ISE Program

Brocade offers installation services via Brocade's Installation Services Enablement (ISE) Program. The ISE Program enables a select number of Brocade Alliance Partner Network (APN) Partners to quote and sell installation services to SLED customers in connection with the sale of Brocade branded products, by adding generic SKU(s) for third party installation services to Brocade's SLED customer pricelist. These SKU(s) can be utilized by the SLED customer to order Partner services directly from the Partner.

Reseller Approval Steps for ISE Program

1. Channel Account Manager submits to SLED Team at SLEDTeam@Brocade.com a request to invite a reseller to participate with justification via internal VAR Request Form.
2. SLED Team verifies if they are a Brocade Alliance Partner Network (APN) Partner.
3. Channel Sales Director, sole approver, decides if the reseller is a good fit and pushes them to Channel Sales Engineer for audit phase.
4. Finance runs a preliminary D&B.
5. Channel Sales Engineer validates reseller's technical aptitude for deploying install services on our gear.

a. Completes audit via Assessment Form.

b. Visits reseller's site and approves reseller.

6. Channel Account Manager provides legal with a signed addendum to the VAR list and proof of contractually mandated insurance coverage.
7. SLED Team announces the VAR's award on the SLED contract and sets up a call for training with the newly awarded VAR.

Responding to Sections:

- 5.2.1 Data Center Application Services
- 5.2.1.1 Virtualized Load Balancers
- 5.2.2 Networking Software
- 5.2.2.1 Network Management and Automation
- 5.2.2.2 Data Center Management and Automation
- 5.2.2.3 Cloud Portal and Automation
- 5.2.2.4 Branch Office Management and Automation
- 5.2.3 Network Optimization and Acceleration
- 5.2.3.1 Dynamic Load Balancing

- 5.2.3.3 High Availability and Redundancy
- 5.2.5 Routers
- 5.2.5.1 Branch Routers
- 5.2.5.2 Network Edge Routers
- 5.2.5.3 Core Routers
- 5.2.5.4 Service Aggregation Routers
- 5.2.5.5 Carrier Ethernet Routers
- 5.2.6 Security
- 5.2.6.1 Data Center and Virtualization Security Products and Appliances
- 5.2.6.2 Intrusion Detection/Protection and Firewall Appliances
- 5.2.6.3 Logging Appliances and Analysis Tools
- 5.2.6.4 Secure Edge and Branch Integrated Security Products
- 5.2.6.5 Secure Mobility Products
- 5.2.6.6 Encryption Appliances
- 5.2.8 Switches
- 5.2.8.1 Campus LAN - Access Switches
- 5.2.8.2 Campus LAN - Core Switches
- 5.2.8.3 Campus Distribution Switches
- 5.2.8.4 Data Center Switches
- 5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers
- 5.2.8.7 Carrier Aggregation Switches
- 5.2.9 Wireless
- 5.2.9.1 Access Points
- 5.2.9.3 Wireless LAN Controllers

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.

Brocade Response:

Training – Brocade University offers multiple training options. Courses can be delivered via instructor led courses taught in a classroom, virtual classroom courses taught by an on-line

instructor or through self-paced, web based on-line courses. Certification on Brocade technologies and equipment is also available.

Brocade University training portfolio is available online at http://www.brocade.com/education/index.page on the bottom of the web page under “COURSE DATA SHEETS”.

Responding to Sections:

- 5.2.1 Data Center Application
- 5.2.2 Networking Software
- 5.2.2.1 Network Management and Automation
- 5.2.2.2 Data Center Management and Automation
- 5.2.2.3 Cloud Portal and Automation
- 5.2.2.4 Branch Office Management and Automation
- 5.2.3 Network Optimization and Acceleration
- 5.2.3.1 Dynamic Load Balancing
- 5.2.3.3 High Availability and Redundancy
- 5.2.5 Routers
- 5.2.5.1 Branch Routers
- 5.2.5.2 Network Edge Routers
- 5.2.5.3 Core Routers
- 5.2.5.4 Service Aggregation Routers
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- 5.2.6.4 Secure Edge and Branch Integrated Security Products
- 5.2.6.5 Secure Mobility Products
- 5.2.6.6 Encryption Appliances
- 5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security
- 5.2.6.8 Secure Access

- 5.2.7.1 Director Class SAN (Storage Area Network) Switches and Modules
- 5.2.7.2 Fabric and Blade Server Switches
- 5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management
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- 5.2.8 Switches
- 5.2.8.1 Campus LAN - Access Switches
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- 5.2.8.3 Campus Distribution Switches
- 5.2.8.4 Data Center Switches
- 5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers
- 5.2.8.7 Carrier Aggregation Switches
- 5.2.8.8 Carrier Ethernet Access Switches

5.3.2 ADDING PRODUCTS

The ability to add new equipment and services is for the convenience and benefit of WSCA-NASPO, the Participating States, and all the Authorized Purchasers. The intent of this process is to promote “one-stop shopping” and convenience for the customers and equally important, to make the contract flexible in keeping up with rapid technological advances. The option to add new product or service categories and/items will expedite the delivery and implementation of new technology solutions for the benefit of the Authorized Purchasers.

After the contracts are awarded, additional IT product categories and/or items may be added per the request of the Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO. Additions may be ad hoc and temporary in nature or permanent. All additions to an awarded Contractor or Manufacturer’s offerings must be products, services, software, or solutions that are commercially available at the time they are added to the contract award and fall within the original scope and intent of the RFP (i.e., converged technologies, value adds to manufacturer’s solution offerings, etc.).

5.3.2.1 New Product from Contractors — If Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO itself requests to add new product categories permanently, then all awarded Contractors (Manufacturers) will be notified of the proposed change and will have the opportunity to work with WSCA to determine applicability, introduction, etc. Any new products or services must be reviewed and approved by the WSCA-NASPO Contract Administrator.

5.3.2.2 Ad Hoc Product Additions — A request for an ad hoc, temporary addition of a product category/item must be submitted to WSCA-NAPOS via the governmental entity’s contracting/purchasing officer. Ad hoc, temporary requests will be handled on a case-by-case basis.

5.3.2.3 Pricelist Updates — As part of each Contractor’s ongoing updates to its pricelists throughout the contract term, Contractor can add new SKUs to its awarded product categories that may have been developed in-house or obtained through mergers, acquisitions or joint ventures; provided, however, that such new SKUs fall within the Contractor’s awarded product categories.

Section 6: Evaluation

6.1 General Information

Proposals will be evaluated for completeness and compliance with the requirements of this RFP by a sourcing team. The sourcing team may engage additional qualified individuals during the process to assist with technical, financial, legal, or other matters.

Except at the invitation of the sourcing team, no activity or comments from Offerors regarding this RFP shall be discussed with any member of the sourcing team during the evaluation process. An Offeror who contacts a member of the sourcing team in reference to this RFP may have its proposal rejected.

Each proposal must be submitted in Microsoft Word or Excel, or PDF labeled and organized in a manner that is congruent with the section number, headings, requirements, and terminology used in this RFP. Proposal documents must be use Arial font size 10. All proposals must be submitted in electronic form.

6.2 Administrative Requirements Compliance

The sourcing team will evaluate each proposal for compliance with administrative requirements. Non compliance with any of these requirements will render a proposal non-responsive. Only those proposals that pass the administrative requirements will be evaluated further.

In order to pass the Administrative Requirements, the following must be received by due date and time associated with this RFP as listed in Bid Sync.

6.2.1 References

Vendor must provide a least three current account references for which your company provides similar Data Communications services for private, state and/or large local government clients (preferably government/public entities). **Offerors are required to submit Attachment B - Reference Form, for business references. The business providing the reference must submit the Reference Form directly to the State of Utah, Division of Purchasing.** It is the offeror's responsibility to ensure that completed forms are received by the State of Utah Division of Purchasing on or before the proposal submission deadline for inclusion in the evaluation process. Business references not received, or not complete, may adversely affect the offeror's score in the evaluation process. The Purchasing Division reserves the right to contact any or all business references for validation of information submitted.

Brocade Response:

Comply. Brocade will solicit references from a minimum of five (5) of its customers. These customers will submit Attachment B – Reference Form directly to the State of Utah.

6.3 Minimum Scope Requirements Compliance

The sourcing team will evaluate each proposal that passed the administrative requirements for compliance with Section 5.2 Data Communications Services – Requirements. Scope requirements are evaluated in terms of the breadth and depth of the offeror proposal for each of the section 5.2.1-5.3.0 Scope categories. Only those proposals in each section that score 70% or better will move on to cost evaluation.

6.4 Evaluation Criteria

The following table details how each proposal shall be evaluated on a basis of 100 points.

An evaluation committee comprised of representatives from some WSCA-NASPO member States will be appointed by the WSCA-NASPO Contract Administrator to perform the proposal evaluation.

All Offeror's proposals will be initially reviewed for compliance with the mandatory general requirements in Section 3 and Sections 5.1.1-5.1.5 stated within the RFP. Any proposal failing to meet one or more mandatory requirement(s) will be considered non-responsive and deemed "unacceptable", and will be eliminated from further consideration.

Those proposals deemed "acceptable" or "potentially acceptable" will be evaluated against the following proposal evaluation criteria using a point-based scoring methodology. Proposal evaluation criteria are listed in relative order of importance:

6.4.1 Cost – (bid sheets including discounts off list price attached) – 30%

Given that technology products generally depreciate over time and go through typical product lifecycles, it is more favorable for customers to have prime contracts be based on minimum discounts off the Offeror's' commercially published pricelists versus fixed pricing. In addition, Offerors must have the ability to update and refresh their respective price books, as long as the agreed-upon discounts are fixed. Minimum guaranteed contract discounts do not preclude an Offeror and/or its authorized resellers from providing deeper or additional, incremental discounts at there sole discretion.

6.4.1.1 Refurbished Equipment – Many IT manufacturers offer refurbished equipment at a substantially lower cost with attractive warranties that also address risk concerns some customers may have with refurbished gear. Offerors may add an optional provision for manufacturer-certified refurbished equipment to be available for procurement under this contract. This offering will not be evaluated as part of the cost scoring process.

6.4.2 Demonstrate ability to provide products and services within scope of the RFP (Section 5.2-5.31) – 25%

6.4.3 Qualifications, technical ability, maintenance, training and value added services – 10%

6.4.4 Ability to supply to WSCA / NASPO member states/geographical coverage -10%

6.4.5 Offer profile and references (i.e., financial stability, presence in marketplace, adequate staff, marketing efforts etc.) – **20%**

6.4.6 Administrative (i.e., report generating ability, e-commerce, account reps, problem resolution, customer satisfaction, website hosting and other administrative related issues) – **5%**

At the option of the evaluation committee the WSCA-NASPO Contract Administrator may initiate discussion(s) with Offerors who submit responsive or potentially responsive proposals for the purpose of clarifying aspects of the proposal(s), however, proposals may be evaluated without such discussion(s). Such discussion(s) is not to be initiated by Offerors.

Based on the competitive range of the evaluation scores, the evaluation committee may choose to make a "finalist list" of offeror's; if opted for, all offeror's will be notified of their status at this juncture by the Procurement Manager.

Finalist Offeror's may be required, at the option of the evaluation committee, to present their proposals and possibly demonstrate their Internet website to the evaluation committee. The Procurement Manager will schedule the time and location for each Offeror presentation. Each Offeror presentation will be of equal duration for all offeror's and may also include an additional amount of time reserved for questions/answers.

The sourcing team will evaluate each proposal that has passed the administrative requirements and met or exceeded the Section 3 and Section 5.1.1-5.1.5 Mandatory Requirements.

WSCA-NASPO Data Communications Equipment and Associated Products #JP14001

Firm Name: _____

Section Number: _____

Evaluator: _____

Date: _____

Score will be assigned as follows:

0 = Failure, no response

1 = Poor, inadequate, fails to meet requirement

2 = Fair, only partially responsive

3 = Average, meets minimum requirement

4 = Above average, exceeds minimum requirement

5 = Superior

		Score (0-5)	Weight	Points
1. Demonstrated Ability to meet scope of requirements (25 points possible)		-------	-------	
Scope and Varity of products provided	8 points possible		X 1.6	
Experience and technical ability of manufacturer	7 points possible		X 1.4	
Maintenance Program	2 points possible		X .40	
Training Program	2 points possible		X .40	
Service Program	2 points possible		X .40	
Demonstrate Effective Reseller Program managed by the manufacturer in WSCA / NASPO States	4 points possible		X .80	
2. Demonstrate Qualifications and Technical Ability (10 points possible)		-------	---------	

Technical Staff Qualifications	2 points possible		X .40	
Maintenance Staff Qualifications	2 points possible		X .40	
Training Staff Qualifications	2 points possible		X .40	
Technical Suitability of Products	4 points possible		X .80	
3. Demonstrate ability to supply WSCA / NASPO member States **(10 points possible)**	10 points possible		X 2	
4. Company profile and references (20 points)		-----	--------	
Financial Statements and Records	10 points possible		X 2	
References, Reputation, Breadth and Depth of Offering	10 points possible		X 2	
5. Demonstrate ability to provide administrative support (5 points possible)	5 points possible		X 1	
6. Cost (30 points possible)* **Services (10 Points)** **Product Offering Discount Percentage (20 points)**	30 points possible	-------	--------	***** Inserted by Purchasing**
TOTAL EVALUATION POINTS	**(100 points possible)**		**Total**	

* Purchasing will use the following cost formula for the "Services": The points assigned to each Offeror's cost proposal will be based on the lowest proposal price. The offeror with the lowest Proposed Price will receive 100% of the price points. All other Offerors will receive a portion of the total cost points based on what percentage higher their Proposed Price is than the Lowest Proposed Price. An Offeror who's Proposed Price is more than double (200%) the Lowest Proposed Price will receive no points. The formula to compute the points is: Cost Points x (2- Proposed Price/Lowest Proposed Price).

Purchasing will use the following cost formula for the "Product Offering Discount Percentage": The points assigned to each Offeror's cost proposal will be based on the highest discount percentage. The Offeror with the highest discount percentage will receive 100% of the price points. All other Offerors will receive a portion of the total cost points based on what percentage lower their discount percentage is than the highest discount percentage. An Offeror who's Proposed percentage discount is less than double (200%) the highest discount percentage will receive no points. The formula to compute the points is: Cost Points x (2- Highest Proposed Discount/Proposed Discount).

Section 7: Master Agreement Terms and Conditions/Exceptions

7.1 WSCA-NASPO Master Agreement Terms and Conditions

7.1.1 The WSCA-NASPO Contract Administrator referred to in section 2 of the WSCA-NASPO Master Agreement Terms and Conditions is Debra Gunderson, State of Utah Division of Purchasing and General Services. This RFP represents the WSCA-NASPO Contract Administrator's written approval of the modifications, waivers, alterations, amendments, and supplements to the Master Agreement Terms and Conditions made in this RFP and this Section 7.

7.1.2 Except as limited in this section or elsewhere in this RFP, Participating Entities who execute a Participating Addendum may alter, modify, supplement, or amend the WSCA-NASPO Master Agreement Terms and Conditions as necessary to comply with Participating Entity law or policy with respect to their orders under the Master Agreement. A Contractor may not deliver Products or perform services under this Master Agreement until a Participating Addendum acceptable to the Participating Entity and Contractor is executed. The WSCA-NASPO Terms and Conditions are applicable to any order by a Participating Entity, except to the extent altered, modified, supplemented or amended by a Participating Addendum. By way of illustration and not limitation, this authority may apply to unique delivery and invoicing requirements, confidentiality requirements, defaults on orders, governing law and venue relating to orders by a Participating Entity, Indemnification, and insurance requirements. Statutory or constitutional requirements relating to availability of funds may require specific language in some Participating Addenda in order to comply with applicable law. The expectation is that these alterations, modifications, supplements, or amendments will be addressed in the Participating Addendum or, with the consent of the Participating Entity and Contractor, may be included in the commitment voucher (e.g. purchase order or contract) used by the Participating Entity to place the order.

7.1.3 The term Purchasing Entity and Participating Entity shall both mean "Participating Entity" as that term is defined in WSCA-NASPO Master Agreement Terms and Conditions.

7.1.4 With respect to section 11, Indemnification, the terms of any Participating Addendum may alter, modify, supplement, or amend the language in section 11 and may include a limitation of liability mutually agreeable to the Participating Entity and the Contractor.

7.1.5 With regard to section 20, Participants, Participating Entities who are not states may under some circumstances sign their own Participating Addendum, subject to the approval of the Chief Procurement Official of the state where the Participating Entity is located. Contractors may upon request obtain a copy of the written authorization from the WSCA-NASPO Contract Administrator.

7.2 Offeror Exceptions to Terms and Conditions

Brocade Response:

EXCEPTIONS TO WSCA-NASPO MASTER AGREEMENT TERMS AND CONDITIONS

Contractor accepts WSCA-NASPO Master Agreement Terms and Conditions with the exception of the following restated sections:

26. STANDARD OF PERFORMANCE AND ACCEPTANCE The Standard of Performance applies to all Product(s) purchased under this Master Agreement, including any additional, replacement, or substitute Product(s) and any Product(s) which are modified by or with the written approval of Contractor after Acceptance by the Participating Entity. The Acceptance Testing period shall be thirty (30) calendar days after receipt of the Product(s). If the Product does not meet the Standard of Performance, in accordance with Contractor's specifications, the Participating Entity shall so notify Contractor and Contractor will: (1) provide a replacement or repair the Product at no additional cost to the Participating Entity, or (2) accept return of the Product for credit or refund. If Contractor does not receive notice of a Standard of Performance issue within the Acceptance Testing period, the Product shall be deemed accepted.

30. WARRANTY The Contractor warrants for a period of one year from the date the Product is received that the Product performs according to all Contractor specifications and is free of defects. Upon breach of the warranty, the Contractor will repair or replace (at no charge to the Participating Entity) the Product whose nonconformance is discovered and made known to the Contractor. If the repaired and/or replaced Product proves to be inadequate, the Contractor will provide a refund or credit for such defective Product. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law.

Definitions
Acceptance - means a written notice from Purchasing Entity to Contractor advising Contractor that the Product has passed its Acceptance Testing.

EXCEPTIONS TO ATTACHMENT A (STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS)

Contractor accepts State of Utah Standard Information Technology Terms and Conditions with the exception of the following restated sections:

26. COPYRIGHT: The State of Utah shall receive from Contractor a royalty-free, nonexclusive license to reproduce, publish, or otherwise use for Federal or State Government purposes, the Deliverables, including, related software, modifications and documentation.

31. TERMINATION UPON DEFAULT: In the event this contract is terminated as a result of a default by the Contractor, the State may procure or otherwise obtain services similar to those terminated, and Contractor shall be liable for any direct damages arising therefrom to the extent awarded to the state by a court of competent jurisdiction.

7.2.1 The Lead State discourages exceptions to contract terms and conditions in the RFP, attached Participating Entity terms and conditions (if any), and the WSCA-NASPO Master Agreement Terms and Conditions. As specified in this RFP, exceptions may cause a proposal to be rejected as nonresponsive when, in the sole judgment of the Lead State (and its evaluation team), the proposal appears to be conditioned on the exception or correction of what is deemed to be a deficiency or unacceptable exception would require a substantial proposal rewrite to correct. Moreover, Offerors are cautioned that award may be made on receipt of initial proposals without clarification or an opportunity for discussion, and the nature of exceptions would be evaluated. Further, the nature of exceptions will be considered in the competitive range determination if one is conducted. Exceptions will be evaluated to determine the extent to which the alternative language or approach poses unreasonable, additional risk to the state, is judged to inhibit achieving the objectives of the RFP, or whose ambiguity makes evaluation difficult and a fair resolution (available to all vendors) impractical given the timeframe for the RFP.

7.2.2 The Lead State will entertain exceptions to contract terms and conditions in this RFP, including the WSCA-NASPO Master Agreement Terms and Conditions. Offerors are strongly encouraged to be judicious in identifying exceptions.

7.2.3 Based on the market research conducted by the Lead State, the following provisions are intended to frame the contours of exceptions that may be acceptable, additional risk so long as the Offeror's exceptions are specified with sufficient particularity.

7.2.4 The Lead State will consider Offeror standard terms for inspection and acceptance, so long as a reasonable time for acceptance is stated. However, the Participating Entities right to exercise revocation of acceptance under its Uniform Commercial Code must be preserved. Submit the standard terms with the offer and describe generally how commerciality in their use is established, e.g., identify publicly-available catalogs where the warranty terms are used and how long they have been in use.

7.2.5 The Lead State will consider standard warranty and/or maintenance terms, but the alternative warranty and/or maintenance will be evaluated to determine whether they provide comparable protection to the warranty specified in section 30 of the WSCA-NASPO Master Agreement Terms and Conditions. Provide the terms of the warranty and maintenance in the offer. Also describe generally how commerciality is established for those terms, e.g., publicly-available catalogs the warranty terms are used and how long they have been in use. Provide one reference from a customer having comparable sales volume who is using the warranty and maintenance provisions, where the warranty term has expired, and who has exercised rights under the warranty.

Brocade Response:

Please refer to Brocade's response in Section 7.2 Offeror Exceptions to Terms and Conditions, for a detailed listing of Brocade's exceptions and restatements to WSCA-NASPO Master Agreement Terms and Conditions and ATTACHMENT A STATE OF UTAH STANDARD

INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS).

Brocade's restatement of warranty in Section 7.2 is to bring warranty wording in line with Brocade's standard warranty. The commerciality of this wording is established through the listing of Brocade's standard warranty terms on the company website at http://www.brocade.com/services-support/warranties/index.page. Brocade standard warranty terms are included within this response in Section 4.2 Warranty. All Brocade customers are covered by this warranty, including the references provided with this response submission.

7.2.6 Intellectual property. The Lead State will consider license terms and conditions that as a minimum convey to Participating Entities a nonexclusive, irrevocable, perpetual, paid-up, royalty free license to use software or other intellectual property delivered with or inherent in the commodity or service, and to transfer the license rights to third parties for government purposes. Provide the terms of the license, including any terms that cover third party intellectual property used in the Offeror's solution. Offerors should be aware that Participating Entities using federal funds may be required to negotiate additional or different terms to satisfy minimum rights requirements of their federal grants.

7.2.7 Any limitation of liability provision – including any exclusion of damages clause – proposed by an Offeror to be the default limitation of liability provision under the Master Agreement must preserve a reasonable amount of direct damages for breach of contract, additionally permit the Participating Entity to recoup amounts paid for supplies or services not finally accepted (as in the case of advance or progress payments, if used), and preserve the right of the Participating Entity to be held harmless from costs of litigation as well as ultimate liability within limits agreed by the parties.

Moreover, any limitation of liability clause proposed by an Offeror should be reciprocal, cover lost profits, and exclude claims or liability arising out of intellectual property infringement, bodily injury (including death), damage to tangible property, and data breach. Include the text of any such language if proposed. Further, provide contact information for a public entity, or private entity if no public entity exists, where the limitation of liability clause (or another clause substantially similar) operated to limit liability. If no such example exists, provide contact information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

7.2.8 The enumerated examples in subsection 7.2 are not intended to limit the ability of Offerors to propose additional, reasonable exceptions. For any other exception, where the exception is based on claims of standard or normal commercial practice, provide contact information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

7.3 WSCA-NASPO eMarket Center

Brocade Response:

Comply.

7.3.1 In July 2011, WSCA-NASPO entered into a multi-year agreement with SciQuest, Inc. whereby SciQuest will provide certain electronic catalog hosting and management services to enable eligible WSCA-NASPO entity's customers to access a central online website to view and/or shop the goods and services available from existing WSCA-NASPO Cooperative Contracts. The central online website is referred to as the WSCA-NASPO eMarket Center Contractor shall either upload a hosted catalog into the eMarket Center or integrate a punchout site with the eMarket Center.

Supplier's Interface with the eMarket Center

There is no cost charged by SciQuest to the Contractor for loading a hosted catalog or integrating a punchout site.

At a minimum, the Contractor agrees to the following:

1. Implementation Timeline: WSCA-NASPO eMarket Center Site Admin shall provide a written request to the Contractor to begin enablement process. The Contractor shall have fifteen (15) days from receipt of written request to work with WSCA-NASPO and SciQuest to set up an enablement schedule, at which time SciQuest's technical documentation shall be provided to the Contractor. The schedule will include future calls and milestone dates related to test and go live dates. The contractor shall have a total of Ninety (90) days to deliver either a (1) hosted catalog or (2) punch-out catalog, from date of receipt of written request.

2. Definition of Hosted and Punchout: WSCA-NASPO and SciQuest will work with the Contractor, to decide which of the catalog structures (either hosted or punch-out as further described below) shall be provided by the Contractor. **Whether hosted or punch-out, the catalog must be strictly limited to the Contractor's awarded contract offering (e.g. products and/or services not authorized through the resulting cooperative contract should not be viewable by WSCA-NASPO Participating Entity users).**

    a. Hosted Catalog. By providing a hosted catalog, the Contractor is providing a list of its awarded products/services and pricing in an electronic data file in a format acceptable to SciQuest, such as Tab Delimited Text files. In this scenario, the Contractor must submit updated electronic data annually to the the eMarket Center for WSCA-NASPO Contract Administrator's approval to maintain the most up-to-date version of its product/service offering under the cooperative contract in the eMarket Center.

    b. Punch-Out Catalog. By providing a punch-out catalog, the Contractor is providing its own online catalog, which must be capable of being integrated with the eMarket Center as a. Standard punch-in via Commerce eXtensible Markup Language (cXML). In this

scenario, the Contractor shall validate that its online catalog is up-to-date by providing a written update quarterly to the Contract Administrator stating they have audited the offered products/services and pricing listed on its online catalog. The site must also return detailed UNSPSC codes (as outlined in line 3) for each line item. Contractor also agrees to provide e-Quote functionality to facilitate volume discounts.

3. Revising Pricing and Product Offerings: Any revisions (whether an increase or decrease) to pricing or product/service offerings (new products, altered SKUs, etc.) must be pre-approved by the WSCA-NASPO Contract Administrator and shall be subject to any other applicable restrictions with respect to the frequency or amount of such revisions. However, no cooperative contract enabled in the eMarket Center may include price changes on a more frequent basis than once per quarter. The following conditions apply with respect to hosted catalogs:

    a. Updated pricing files are required by the 1st of the month and shall go into effect in the eMarket Center on the 1st day of the following month (i.e. file received on 1/01/14 would be effective in the eMarket Center on 2/01/14). Files received after the 1st of the month may be delayed up to a month (i.e. file received on 11/06/14 would be effect in the eMarket Center on 1/01/15).

    b. Contract Administrator-approved price changes are not effective until implemented within the eMarket Center. Errors in the Contractor's submitted pricing files will delay the implementation of the price changes in eMarket Center.

4. Supplier Network Requirements: Contractor shall join the SciQuest Supplier Network (SQSN) and shall use the SciQuest's Supplier Portal to import the Contractor's catalog and pricing, into the SciQuest system, and view reports on catalog spend and product/pricing freshness. The Contractor can receive orders through electronic delivery (cXML) or through low-tech options such as fax. More information about the SQSN can be found at: www.sciquest.com or call the SciQuest Supplier Network Services team at 800-233-1121.

5. Minimum Requirements: Whether the Contractor is providing a hosted catalog or a punch-out catalog, the Contractor agrees to meet the following requirements:

    a. Catalog must contain the most current pricing, including all applicable administrative fees and/or discounts, as well as the most up-to-date product/service offering the Contractor is authorized to provide in accordance with the cooperative contract; and

    b. The accuracy of the catalog must be maintained by Contractor throughout the duration of the cooperative contract between the Contractor and the Contract Administrator; and

    c. The Catalog must include a Lead State contract identification number; and

    d. The Catalog must include detailed product line item descriptions; and

    e. The Catalog must include pictures when possible; and

    f. The Catalog must include any additional WSCA-NASPO and Participating Addendum requirements.*

6. Order Acceptance Requirements: Contractor must be able to accept Purchase Orders via fax or cXML.

    a. The Contractor shall provide positive confirmation via phone or email within 24 hours of the Contractor's receipt of the Purchase Order. If the Purchasing Order is received after 3pm EST on the day before a weekend or holiday, the Contractor must provide positive confirmation via phone or email on the next business day.

7. UNSPSC Requirements: Contractor shall support use of the United Nations Standard Product and Services Code (UNSPSC). UNSPSC versions that must be adhered to are driven by SciQuest for the suppliers and are upgraded every year. WSCA-NASPO reserves the right to migrate to future versions of the UNSPSC and the Contractor shall be required to support the migration effort. All line items, goods or services provided under the resulting statewide contract must be associated to a UNSPSC code. All line items must be identified at the most detailed UNSPSC level indicated by segment, family, class and commodity. More information about the UNSPSC is available at: http://www.unspsc.com and http://www.unspsc.com/FAQs.asp#howdoesunspscwork.

8. Applicability: Contractor agrees that WSCA-NASPO controls which contracts appear in the eMarket Center and that WSCA-NASPO may elect at any time to remove any supplier's offering from the eMarket Center.

9. The WSCA-NASPO Contract Administrator reserves the right to approve the pricing on the eMarket Center. This catalog review right is solely for the benefit of the WSCA-NASPO Contract Administrator and Participating Entities, and the review and approval shall not waive the requirement that products and services be offered at prices (and approved fees) required by the Master Agreement.

    * Although suppliers in the SQSN normally submit one (1) catalog, it is possible to have multiple contracts applicable to different WSCA-NASPO Participating Entities. For example, a supplier may have different pricing for state government agencies and Board of Regents institutions. Suppliers have the ability and responsibility to submit separate contract pricing for the same catalog if applicable. The system will deliver the appropriate contract pricing to the user viewing the catalog.

    Several WSCA-NASPO Participating Entities currently maintain separate SciQuest eMarketplaces, these Participating Entities do enable certain WSCA-NASPO Cooperative Contracts. In the event one of these entities elects to use this WSCA-NASPO Cooperative Contract (available through the eMarket Center) but publish to their own eMarketplace, the Contractor agrees to work in good faith with the entity and WSCA-NASPO to implement the catalog. WSCA-NASPO does not anticipate that this will require substantial additional efforts by the Contractor; however, the supplier agrees to take commercially reasonable efforts to enable such separate SciQuest catalogs.

Attachment B – Reference Form

Brocade Response:

Attachment B has been submitted to the State of Utah by a minimum of five (5) customer references, per the requirements of this solicitation.

Attachment C – Cost Schedule

Brocade Response:

Attachment C (and Brocade's price lists) are included with Brocade's response as separate files, per the requirements of this solicitation.