Proposal- Original

HIGH ▲ POINT
NETWORKS™

Proposal Name: Response To RFP 5885 Z1

Proposal Date: 8/17/18

▶▶ Prepared For:

State of Nebraska

Department of Administrative Services, Material Division State Purchasing Bureau

1526 K Street Suite 130

Lincoln, NE 68760

▶▶ Prepared By:

Mark Bannwarth

High Point Networks, LLC

605.789.5662

mark.bannwarth@highpointnetworks.com

August 16, 2018

THE STATE OF NEBRASKA
Nancy Storant or Annette Walton
1526 K Street, Suite 130
Lincoln, NE

High Point Networks would like to thank you for the opportunity to propose a solution related to your Request for Proposal specific to the replacement of legacy telephone systems. We have filled out the RFP to the best of our abilities. Any questions related to this response can be directed to your representative, Mark Bannwarth. His information is contained within the RFP. We hope to earn your business and look forward to the next steps.
Implementation will be handled by High Point Networks highly trained telephony team, with special focus being on cooperation with your OCIO and supporting team. Our experience suggests that the integrity and skill set of the installation team is of equal importance to the hardware selected.

As the process continues, High Point Networks is capable of supporting The State of Nebraska throughout all locations where Mitel phone systems are deployed, and our vision is to bring all maintenance contracts together to create a single point of contact for all of The State of Nebraska.

The State of Nebraska's mission is to create opportunity through more effective, more efficient, and more customer-focused state government. Effective, reliable communication is essential to that goal, and our role is to support that mission. High Point Networks is in the business of helping our customers buy and use technology that supports their needs, both current and future. The services we offer are designed specifically to meet that objective.

Sincerely,

Tom McDougall, President
tom@highpointnetworks.com
701.499.5225

HIGH POINT NETWORKS™

THE STATE OF NEBRASKA
Nancy Storant or Annette Walton
1526 K Street, Suite 130
Lincoln, NE

I have been in the technology industry now for over 10 years. I had the privilege of moving from a customer to a vendor. This transition has allowed me to learn what customers expect from a vendor. I have always thought more like an engineer and that is how I was taught to sell solutions to customers. I believe that selling technology isn't always having the right answer, or being the "yes" man; it's about building a partnership with a customer to provide solutions that solve challenges in their organization.

Technology continues to evolve every day and you expect a vendor to become a valued partner that can bring you solutions that solve real challenges. High Point Networks value is very hard to describe on paper or in a paragraph. Our mission statement is something we use in our business everyday: "Solve real world challenges with a measureable return on investment". Our goal, as an organization, is to become an extension of your IT team. We want to present you with products and solutions that are right for your business and that are meaningful and needed; not just the "flavor of the week". I want you, at the end of a project, to call me and say, "You have great products, great solutions, and most of all, great people". Our engineers are experts at one solution or another and if they are not an expert in that area, they will bring another team member who is. As a value added reseller, we know what solutions we can bring to your organization and show our value; we are also not afraid to walk away if it's something we are not experts in. My goal is to build a long lasting relationship with customers. So, making sure every opportunity we have to do business with you is done right the first time is important.

I'm a North Dakota native, born and raised about as close to the Canadian border as you can get. I was raised to respect people and property and to be honest and always humble. I love the Midwest, the people who live here, and especially those that I've had the privilege of doing business with. Outside of work, I enjoy hunting, fishing, racquetball, boating, motorcycles, all-terrain vehicles, friends, beagles, and, most of all, my family.

Sincerely,

Justin Fetsch, Vice President of Sales
justin@highpointnetworks.com
701.499.5224

About High Point Networks

CONTACT

WEST FARGO, ND
Corporate Headquarters
728 E. Beaton Dr. Ste. 200
West Fargo, ND 58078
Phone: 701.282.6459

BISMARCK, ND
4204 Boulder Ridge Rd. Ste. 200
Bismarck, ND 58503
Phone: 701.223.4809

SIOUX FALLS, SD
2300 E. 54th St. N. Ste. 3
Sioux Falls, SD 57104
Phone: 605.789.5700

BROOKINGS, SD
422 4th St.
Brookings, SD 57006
Phone: 605.697.3060

TWIN CITIES, MN
7100 Northland Cir. N. Ste. 304
Minneapolis, MN 55428
Phone: 952.715.3490

DETROIT LAKES, MN
910 Lincoln Ave. #6
Detroit Lakes, MN 56501
Phone: 218.844.8787

BILLINGS, MT
1201 Grand Ave. Ste. 7
Billings, MT 59102
Phone: 406.281.7943

DENVER, CO
2919 West 17th Ave. Ste. 201
Longmont, CO 80503
Phone: 970.541.7887

www.HighPointNetworks.com

sales@highpointnetworks.com

High Point Overview

High Point Networks is a value-added reseller (VAR) of information technology providing solutions to both the SMB and enterprise level markets in the upper Great Plains. We offer organizations best-in-class voice and data networking solutions, supported by the best professional services team in the region. Our solutions solve real challenges and provide measurable return on investment.

High Point Networks offers a complete portfolio of technology vendors from which to choose the most suitable products for your business.

High Point Networks has built its foundation upon a time-proven approach for success that starts with Account Managers that are students of the industry, supported by System Engineers that are certified experts in specialized areas of technology.

"Always Connected" is a slogan that epitomizes the day-to-day culture of High Point Networks and the manner in which we consistently provide the highest level of customer satisfaction by being reliable, timely and accurate with our clients.

High Point Networks is based in West Fargo, ND, and has regional offices in: Bismarck, ND; Sioux Falls, SD; Brookings, SD; Billings, MT; Detroit Lakes, MN; Minneapolis, MN and Denver, CO.

High Point Mission

To provide best in class data and voice networking solutions and services to businesses in our operating areas, which solve real challenges, and provide measurable return on investment for our customers.

High Point Coverage Area

High Point Networks services customers in North Dakota, South Dakota, Minnesota, Montana, Iowa, Nebraska, Colorado and Wyoming.

High Point History

Established in 2003, High Point Networks has quickly become one of the region's premier providers of voice and data network solutions. High Point Networks founded its Headquarters in West Fargo, North Dakota and has added the following locations over the years to better serve customers: Bismarck, ND (2006), Sioux Falls, SD (2008), Billings, MT (2011), Denver, CO (2013), Detroit Lakes, MN (2016), Brookings, SD (2017), and Minneapolis, MN (2017).

Since inception, High Point Networks has acquired two companies: Plains Technology, Inc of Fargo (2010) and VAR Division of Earthbend, LLC of Sioux Falls (2017).

High Point Networks not only continues to grow in size, but also in resources. Our solutions solve real challenges and we are here to partner with you on those challenges – big or small.

Project Description & Scope of Work

Request for Proposal Form
VI. A. 1.

REQUEST FOR PROPOSAL FOR CONTRACTUAL SERVICES FORM

By signing this Request for Proposal for Contractual Services form, the bidder guarantees compliance

BIDDER MUST COMPLETE THE FOLLOWING

with the procedures stated in this Request for Proposal and agrees to the terms and conditions unless otherwise indicated in writing and certifies that bidder maintains a drug free work place.
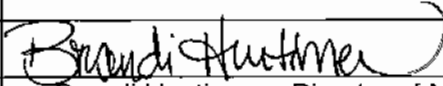
Per Nebraska's Transparency in Government Procurement Act, Neb. Rev Stat § 73-603 DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska Contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

_____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this RFP.

_____ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. § 73-107 and wish to have preference, if applicable, considered in the award of this contract.

_____ I hereby certify that I am a blind person licensed by the Commission for the Blind & Visually Impaired in accordance with Neb. Rev. Stat. §71-8611 and wish to have preference considered in the award of this contract.

## FORM MUST BE SIGNED USING AN INDELIBLE METHOD (NOT ELECTRONICALLY)

FIRM:	High Point Networks, LLC
COMPLETE ADDRESS:	2300 E 54th Street N Suite 3, Sioux Falls SD 57104
TELEPHONE NUMBER:	605.789.5661
FAX NUMBER:	605.789.5701
DATE:	08/17/18
SIGNATURE:	*Brandi Huntimer*
TYPED NAME & TITLE OF SIGNER:	Brandi Huntimer - Director of Marketing and Business Development

Forms Section II - IV
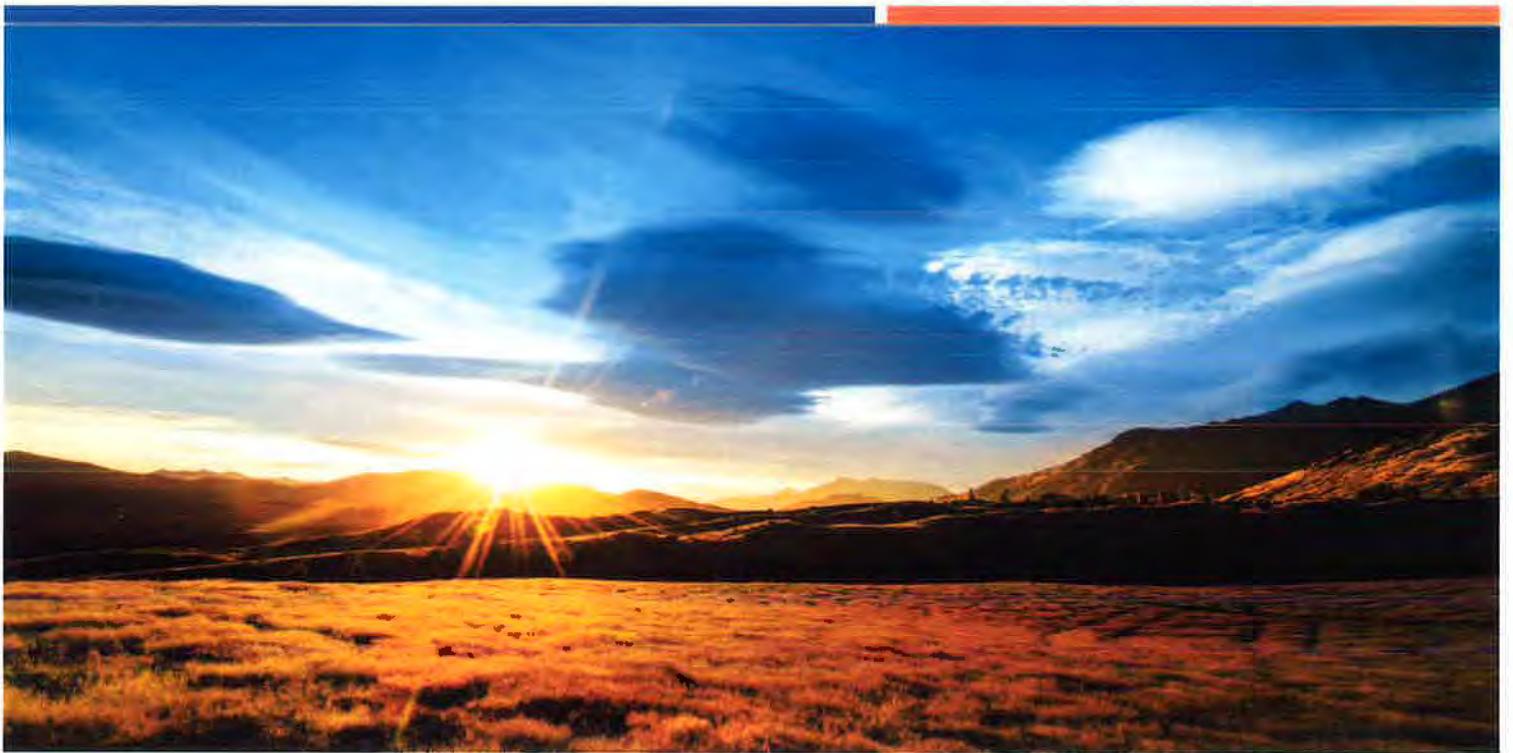
I. TERMS AND CONDITIONS

Bidders should complete Sections II through VI as part of their proposal. Bidder is expected to read the Terms and Conditions and should initial either accept, reject, or reject and provide alternative language for each clause. The bidder should also provide an explanation of why the bidder rejected the clause or rejected the clause and provided alternate language. By signing the RFP, bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the proposal. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the proposal. The State of Nebraska is soliciting proposals in response to this RFP. The State of Nebraska reserves the right to reject proposals that attempt to substitute the bidder's commercial contracts and/or documents for this RFP.

The bidders should submit with their proposal any license, user agreement, service level agreement, or similar documents that the bidder wants incorporated in the Contract. The State will not consider incorporation of any document not submitted with the bidder's proposal as the document will not have been included in the evaluation process. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the Addendum to Contract Award have been negotiated and agreed to, the Addendum to Contract Award shall be interpreted as follows:

1. If only one Party has a particular clause then that clause shall control;
2. If both Parties have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Parties have a similar clause, but the clauses conflict, the State's clause shall control.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
RH			

The contract resulting from this RFP shall incorporate the following documents:

1. Request for Proposal and Addenda;
2. Amendments to the RFP;
3. Questions and Answers;
4. Contractor's proposal (RFP and properly submitted documents);
5. The executed Contract and Addendum One to Contract, if applicable; and,
6. Amendments/Addendums to the Contract.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to RFP and any Questions and Answers, 4) the original RFP document and any Addenda, and 5) the Contractor's submitted Proposal.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

B. **NOTIFICATION**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth below, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.

C. **GOVERNING LAW (Statutory)**

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

D. **BEGINNING OF WORK**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The bidder shall not commence any billable work until a valid contract has been fully executed by the State and the successful Contractor. The Contractor will be notified in writing when work may begin.

E. **CHANGE ORDERS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the RFP. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The Contractor shall prepare a written description of the work required due to the change and an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's proposal, were foreseeable, or result from difficulties with or failure of the Contractor's proposal or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

F.   **NOTICE OF POTENTIAL CONTRACTOR BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

If Contractor breaches the contract or anticipates breaching the contract, the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

G.   **BREACH**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the service from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies and protections.

H.   NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

I.   SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

J.   INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

1.   **GENERAL**
The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all third party claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2.   **INTELLECTUAL PROPERTY**
The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole

cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this RFP.

3. **PERSONNEL**

The Contractor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Contractor.

4. **SELF-INSURANCE**

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

5. **ALL REMEDIES AT LAW**

Nothing in this agreement shall be construed as an indemnification by one Party of the other for liabilities of a Party or third parties for property loss or damage or death or personal injury arising out of and during the performance of this lease. Any liabilities or claims for property loss or damages or for death or personal injury by a Party or its agents, employees, contractors or assigns or by third persons shall be determined according to applicable law.

6. The Parties acknowledge that Attorney General for the State of Nebraska is required by statute to represent the legal interests of the State, and that any provision of this indemnity clause is subject to the statutory authority of the Attorney General.

K. **ATTORNEY'S FEES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other Party prevails.

L. **LIQUIDATED DAMAGES**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Failure to meet the dates for the deliverables as agreed upon by the parties may result in an assessment of liquidate damages due the State as noted below. Contractor will be notified in writing when liquidated damages will commence.

In events where the Contractor does not correct invoices, the State reserves the right to pursue one or more of the following remedies:

1. Withholding of payment on disputed invoices.
2. "Vendor Performance Report" Filed with Materiel Division.
3. Removing or suspending Contractor from State vendor list.
4. Additional legal action as deemed appropriate by the State.

Accurate billing, timely invoice delivery, and billing dispute resolutions are required, and repeated failure to meet these requirements will result in liquidated damages that compensate the State for all costs including labor for such resolutions. The State may choose to deduct an amount equal to the hourly labor rate for employees time spent identifying and disputing billing errors and tracking credits for billing errors. All billing errors must be corrected and/or credited within 60 days

FOR SERVICE DELIVERY NONCOMPLIANCE
For all orders placed after initial installation, committed due dates from the Contractor must be honored or liquidated damages may be assessed. If the committed due date for installation is not met within one day of the scheduled date, the Contractor must waive all installation charges, including labor for that particular order. If the install is not completed within three (3) days of the committed due date the Contractor must further waive the first month of charges for the services that are delayed.

M.   ASSIGNMENT, SALE, OR MERGER

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Either Party may assign the contract upon mutual written agreement of the other Party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

N.   CONTRACTING WITH OTHER NEBRASKA POLITICAL SUB-DIVISIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause. A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

O. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Neither Party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected Party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other Party, and shall have the burden of proof to justify the request. The other Party may grant the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted Party's own employees will not be considered a Force Majeure Event.

P. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than $5,000.

Q. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The contract may be terminated as follows:
1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
   a.   if directed to do so by statute;
   b.   Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;

c.   a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;

d.   fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;

e.   an involuntary proceeding has been commenced by any Party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;

f.   a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;

g.   Contractor intentionally discloses confidential information;

h.   Contractor has or announces it will discontinue support of the deliverable; and,

i.   In the event funding is no longer available.

R.   CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Upon contract closeout for any reason the Contractor shall within 30 days, unless stated otherwise herein:

1.   Transfer all completed or partially completed deliverables to the State;

2.   Transfer ownership and title to all completed or partially completed deliverables to the State;

3.   Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;

4.   Cooperate with any successor Contactor, person or entity in the assumption of any or all of the obligations of this contract;

5.   Cooperate with any successor Contactor, person or entity with the transfer of information or data related to this contract;

6.   Return or vacate any state owned real or personal property; and,

7.   Return all data in a mutually acceptable format and manner.

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or personal property, or information or data owned by the Contractor for which the State has no legal claim.

II. CONTRACTOR DUTIES

A.   INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's proposal shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

All personnel assigned by the Contractor to the contract shall be employees of the Contractor or a subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1.   Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2.   Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3.   Damages incurred by Contractor's employees within the scope of their duties under the contract;
4.   Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law; and
5.   Determining the hours to be worked and the duties to be performed by the Contractor's employees.
6.   All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees)

If the Contractor intends to utilize any subcontractor, the subcontractor's level of effort, tasks, and time allocation should be clearly defined in the bidder's proposal. The Contractor shall agree that it will not utilize any subcontractors not specifically included in its proposal in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a subcontractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html

    The completed United States Attestation Form should be submitted with the RFP response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 to 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for services to be covered by any contract resulting from this RFP.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E.   PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the execution of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F.   OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Contractor on behalf of the State pursuant to this contract.

The State shall own and hold exclusive title to any deliverable developed as a result of this contract. Contractor shall have no ownership interest or title, and shall not patent, license, or copyright, duplicate, transfer, sell, or exchange, the design, specifications, concept, or deliverable.

G.   INSURANCE REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor shall throughout the term of the contract maintain insurance as specified herein and provide the State a current Certificate of Insurance/Acord Form (COI) verifying the coverage. The Contractor shall not commence work on the contract until the insurance is in place. If Contractor subcontracts any portion of the Contract the Contractor must, throughout the term of the contract, either:
1.   Provide equivalent insurance for each subcontractor and provide a COI verifying the coverage for the subcontractor;
2.   Require each subcontractor to have equivalent insurance and provide written notice to the State that the Contractor has verified that each subcontractor has the required coverage; or,
3.   Provide the State with copies of each subcontractor's Certificate of Insurance evidencing the required coverage.
The Contractor shall not allow any Subcontractor to commence work until the Subcontractor has equivalent insurance. The failure of the State to require a COI, or the failure of the Contractor to provide a COI or require subcontractor insurance shall not limit, relieve, or decrease the liability of the Contractor hereunder.

In the event that any policy written on a claims-made basis terminates or is canceled during the term of the contract or within one (1) years of termination or expiration of the contract, the contractor shall obtain an extended discovery or reporting period, or a new insurance policy, providing coverage required by this contract for the term of the contract and one (1) years following termination or expiration of the contract.

If by the terms of any insurance a mandatory deductible is required, or if the Contractor elects to increase the mandatory deductible amount, the Contractor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein.

1. **WORKERS' COMPENSATION INSURANCE**
    The Contractor shall take out and maintain during the life of this contract the statutory Workers' Compensation and Employer's Liability Insurance for all of the contactors' employees to be engaged in work on the project under this contract and, in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work. This policy shall be written to meet the statutory requirements for the state in which the work is to be performed, including Occupational Disease. **The policy shall include a waiver of subrogation in favor of the State. The COI shall contain the mandatory COI subrogation waiver language found hereinafter.** The amounts of such insurance shall not be less than the limits stated hereinafter. For employees working in the State of Nebraska, the policy must be written by an entity authorized by the State of Nebraska Department of Insurance to write Workers' Compensation and Employer's Liability Insurance for Nebraska employees.

2. **COMMERCIAL GENERAL LIABILITY INSURANCE AND COMMERCIAL AUTOMOBILE LIABILITY INSURANCE**
    The Contractor shall take out and maintain during the life of this contract such Commercial General Liability Insurance and Commercial Automobile Liability Insurance as shall protect Contractor and any Subcontractor performing work covered by this contract from claims for damages for bodily injury, including death, as well as from claims for property damage, which may arise from operations under this contract, whether such operation be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall not be less than limits stated hereinafter.

    The Commercial General Liability Insurance shall be written on an **occurrence basis**, and provide Premises/Operations, Products/Completed Operations, Independent Contractors, Personal Injury, and Contractual Liability coverage. **The policy shall include the State, and others as required by the contract documents, as Additional Insured(s). This policy shall be primary, and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory. The COI shall contain the mandatory COI liability waiver language found hereinafter.** The Commercial Automobile Liability Insurance shall be written to cover all Owned, Non-owned, and Hired vehicles.

REQUIRED INSURANCE COVERAGE

COMMERCIAL GENERAL LIABILITY

General Aggregate	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Personal/Advertising Injury	$1,000,000 per occurrence
Bodily Injury/Property Damage	$1,000,000 per occurrence
Medical Payments	$10,000 any one person
Damage to Rented Premises (Fire)	$300,000 each occurrence
Contractual	Included
XCU Liability (Explosion, Collapse, and Underground Damage)	Included
Independent Contractors	Included
Abuse & Molestation	Included

If higher limits are required, the Umbrella/Excess Liability limits are allowed to satisfy the higher limit.

WORKER'S COMPENSATION

Employers Liability Limits	$500K/$500K/$500K
Statutory Limits- All States	Statutory - State of Nebraska
USL&H Endorsement	Statutory
Voluntary Compensation	Statutory

COMMERCIAL AUTOMOBILE LIABILITY

Bodily Injury/Property Damage	$1,000,000 combined single limit
Include All Owned, Hired & Non-Owned Automobile liability	Included
Motor Carrier Act Endorsement	Where Applicable

UMBRELLA/EXCESS LIABILITY

Over Primary Insurance	$5,000,000 per occurrence

PROFESSIONAL LIABILITY

All Other Professional Liability (Errors & Omissions)	$1,000,000 Per Claim / Aggregate

COMMERCIAL CRIME

Crime/Employee Dishonesty Including 3rd Party Fidelity	$1,000,000

CYBER LIABILITY

Breach of Privacy, Security Breach, Denial of Service, Remediation, Fines and Penalties	$10,000,000

MANDATORY COI SUBROGATION WAIVER LANGUAGE

"Workers' Compensation policy shall include a waiver of subrogation in favor of the State of Nebraska."

MANDATORY COI LIABILITY WAIVER LANGUAGE

"Commercial General Liability & Commercial Automobile Liability policies shall name the State of Nebraska as an Additional Insured and the policies shall be primary and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory as additionally insured."

If the mandatory COI subrogation waiver language or mandatory COI liability waiver language on the COI states that the waiver is subject to, condition upon, or otherwise limit by the insurance policy, a copy of the relevant sections of the policy must be submitted with the COI so the State can review the limitations imposed by the insurance policy.

3.   **EVIDENCE OF COVERAGE**
The Contractor shall furnish the Contract Manager, with a certificate of insurance coverage complying with the above requirements prior to beginning work at:

Office of the CIO
Attn: Controller
501 South 14th Street
Lincoln, NE 68508

These certificates or the cover sheet shall reference the RFP number, and the certificates shall include the name of the company, policy numbers, effective dates, dates of expiration, and amounts and types of coverage afforded. If the State is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall be responsible for all reasonable costs properly attributable thereto.

Reasonable notice of cancellation of any required insurance policy must be submitted to the contract manager as listed above when issued and a new coverage binder shall be submitted immediately to ensure no break in coverage.

4. **DEVIATIONS**
The insurance requirements are subject to limited negotiation. Negotiation typically includes, but is not necessarily limited to, the correct type of coverage, necessity for Workers' Compensation, and the type of automobile coverage carried by the Contractor.

H. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

I. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

By submitting a proposal, bidder certifies that there does not now exist a relationship between the bidder and any person or entity which is or gives the appearance of a conflict of interest related to this RFP or project.

The bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or an appearance of conflict of interest.

The bidder certifies that it will not knowingly employ any individual known by bidder to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the RFP or project, or who had any influence on decisions affecting the RFP or project.

J.   STATE PROPERTY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Contractor's use during the performance of the contract. The Contractor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.

K.   SITE RULES AND REGULATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Contractor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Contractor.

L.   ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

M.   NEBRASKA TECHNOLOGY ACCESS STANDARDS (Statutory)

Contractor shall review the Nebraska Technology Access Standards, found at http://nitc.nebraska.gov/standards/2-201.html and ensure that products and/or services provided under the contract are in compliance or will comply with the applicable standards to the greatest degree possible. In the event such standards change during the Contractor's performance, the State may create an amendment to the contract to request the contract comply with the changed standard at a cost mutually acceptable to the parties.

N. DISASTER RECOVERY/BACK UP PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The Contractor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue services as specified under the specifications in the contract in the event of a disaster.

O. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

III. PAYMENT

A.   PROHIBITION AGAINST ADVANCE PAYMENT (Statutory)

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B.   TAXES (Statutory)

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

C.   INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Invoices for payments must be submitted by the Contractor to the agency requesting the services with sufficient detail to support payment. Invoices shall be submitted to AS Accounting 1526 K St. Suite 240, Lincoln, NE 68508 .The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

The billing cycle for all contractor provided services must end on the last day of each month, and the next billing cycle must begin the first day of the following month.

A paper summary invoice must be delivered to the AS Accounting 1526 K St. Suite 240, Lincoln, NE 68508. The paper invoice must include all current services covering the previous calendar month and must be delivered by the 10th of the month. Bidders must provide snap shots depicting the actual invoice format that includes each service type offered.

The paper invoice must show order activity detail and current monthly charges by services and be organized in a clear and precise manner. An overall summary must provide total lines and total cost.

An accurate electronic station billing file must be delivered to the OCIO. This electronic billing file must include all current services covering the previous calendar month and must be received by the 10th of each month.

Totals in the electronic Station files must match totals on the paper summary invoice. Paper summary invoices that do not match the electronic data files will not be paid until corrected.

The electronic station record file layout must be either "delimited" or "fixed length". There must be a separate line for each telephone number that includes, as a minimum, 10 Digit Station number, station type identifier, and rate (i.e. basic, standard, or premium).

An accurate electronic Toll Record file must be delivered to the OCIO (for Option A only). This electronic billing file must include all toll records covering the previous calendar month and must be received by the 10th of each month.

The format must include the following items:
1. Time of Day
2. Date of Call
3. Originating Number (calling number)
4. Originating City/State
5. Terminating Number (called number)
6. Terminating City/State
7. Call Duration (billable time).

Receiving electronic files must be an automated process. The State will not consider a CD, DVD or email attachment to be automated. Any process that relies on a single person at a desktop to receive data and manually extract or manipulate files will not be considered automation. The Contractor must deliver files to a server on the State network monthly via SFTP. The Bidder must provide a complete description of their proposed process for delivering electronic files.

The bidder must provide an example of electronic billing files. This sample must be included within 10 days of intent to award

D.   INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Contractor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work.

E.   PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. (Neb. Rev. Stat. Section 73-506(1)) Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services.

F.   LATE PAYMENT (Statutory)

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408).

G.   **SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

H.   **RIGHT TO AUDIT (First Paragraph is Statutory)**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
BH			

The State shall have the right to audit the Contractor's performance of this contract upon a 30 days' written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. The State may audit and the Contractor shall maintain, the Information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. Under no circumstance will the Contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds one-half of one (.5%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

IV.

Form A
Bidder Contact Sheet
Request for Proposal Number 5885 Z1

Form A should be completed and submitted with each response to this RFP. This is intended to provide the State with information on the bidder's name and address, and the specific person(s) who are responsible for preparation of the bidder's response.

Preparation of Response Contact Information	
Bidder Name:	High Point Networks, LLC
Bidder Address:	2300 E 54th Street N Suite 3, Sioux Falls SD 57104
Contact Person & Title:	Dean Putnam – Regional Sales Manager
E-mail Address:	Dean.Putnam@highpointnetworks.com
Telephone Number (Office):	605.789.5626
Telephone Number (Cellular):	605.366.2040
Fax Number:	605.789.5701

Each bidder should also designate a specific contact person who will be responsible for responding to the State if any clarifications of the bidder's response should become necessary. This will also be the person who the State contacts to set up a presentation/demonstration, if required.

Communication with the State Contact Information	
Bidder Name:	High Point Networks, LLC
Bidder Address:	2300 E 54th Street N Suite 3, Sioux Falls SD 57104
Contact Person & Title:	Mark Bannwarth – Senior Account Manager
E-mail Address:	Mark.Bannwarth@highpointnetworks.com
Telephone Number (Office):	605.789.5622
Telephone Number (Cellular):	605.321.2294
Fax Number:	605.789.5701

Form B
Notification of Intent to Attend Pre-Proposal Conference
Request for Proposal Number 5885 Z1

Bidder Name:	High Point Networks, LLC
Bidder Address:	728 E Beaton Drive #200 West Fargo, ND 57078
Contact Person:	Mark Bannwarth – Senior Account Manager
E-mail Address:	Mark.Bannwarth@highpointnetworks.com
Telephone Number:	605.789.5622
Fax Number:	605.321.2294
Number of Attendees:	605.789.5701

The "Notification of Intent to Attend Pre-Proposal Conference" form should be submitted to the State Purchasing Bureau via e-mail (as.materielpurchasing@nebraska.gov), hand delivered or US Mail by the date shown in the Schedule of Events.
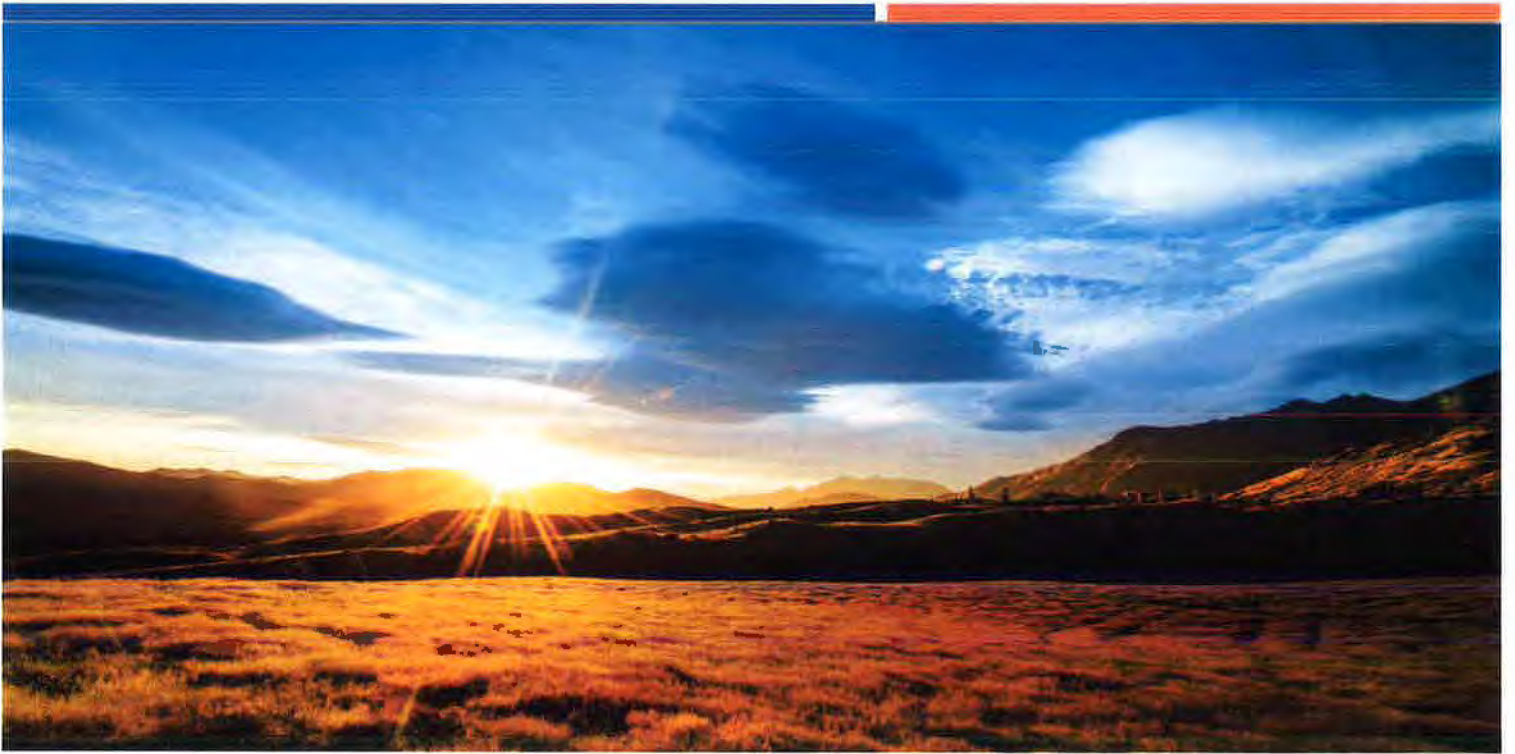
Project Description & Scope of Work

Corporate Overview
VI. A. 2. A-M
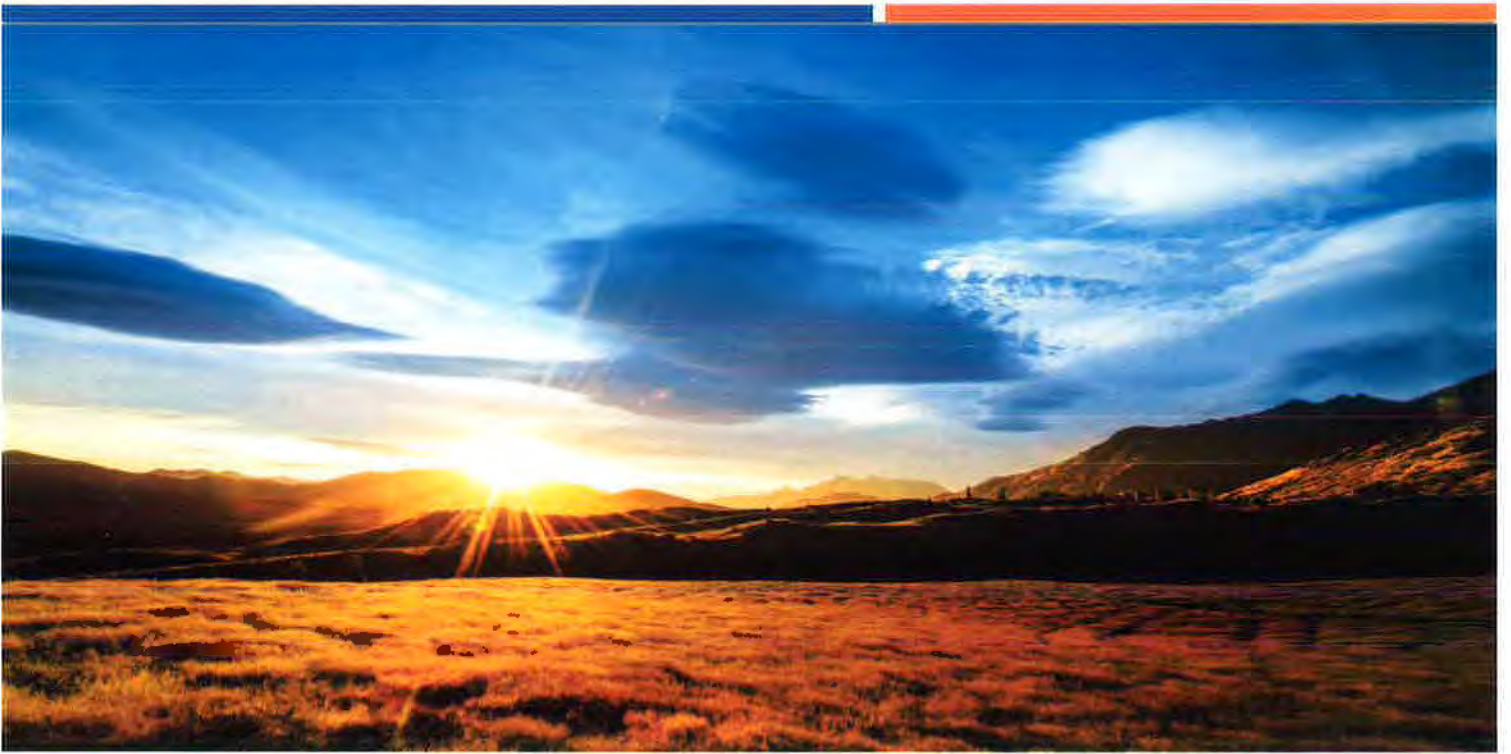
August 18, 2018

State of Nebraska

In response to the telephony RFP specifically the questions on financial statements and company description, included here you will find financial summary information, size of the company, longevity of High Point Networks, a flavor of our client base, areas of expertise and our banking reference information. Also, in the following paragraph we address our privacy and security policies and practices.

High Point Networks recognizes that our customers expect us to safeguard the privacy and security of their confidential information. We have confidentiality policies in place to minimize the risk of any issues with it. All employees are required to sign a confidentiality agreement when they are going through new employee training. The importance of confidentiality and customer privacy is also emphasized in our employee handbook. We educate our employees to understand the importance of confidential and customer privacy and they are also aware of the appropriate disciplinary measures that will be taken for any violation of the confidentiality agreement.

High Point Networks is insured with an industry specific policy which covers the below risks.
   a) Network and Information Security Liability
   b) Technology Errors and Omissions

If you would be interested in obtaining a certificate of these coverages, we certainly can provide. If there are any other questions or concerns, please do not hesitate to reach out to us.

Sincerely,

Kelly L. Schlauderaff, CPA
General Manager and CFO
High Point Networks

A. BIDDER IDENTIFICATION AND INFORMATION

High Point Networks, LLC (the "Company") is an LLC formed in the State of North Dakota and is a privately held company. The corporate headquarters address is 728 E Beaton DR, West Fargo, ND 58078. High Point Networks, Inc was incorporated in 2003 by Tom McDougall. High Point Networks, LLC was formed in 2010 and is a subsidiary of High Point Networks, INC which is the majority owner of the Company. The company has been operating the same since the inception of High Point Networks, Inc in 2003. www.highpointnetworks.com

The principal activities of the Company are the resale of hardware and software technology solutions in four categories including network infrastructure, unified communications, the data center and security. The Company provides professional design services, installation and support for each of these general groups of business. The Company currently has over 120 employees and has offices in ND, MN, SD, MT and CO. High Point Networks has over 1500 customers in various verticals, the largest being government, followed by education, financial, healthcare and telecommunications. The company doesn't have any special classifications such as small business or minority owned.

DUNS number: 142291777 NAICS/SIC Code: 541512

B. FINANCIAL STATEMENTS

Accountant's Compilation Report
I have compiled the accompanying balance sheet of High Point Networks, LLC as of Dec 31, 2017, and the related income statement for the periods then ended. I have not audited or reviewed the accompanying financial statements and, accordingly, do not express an opinion or provide any assurance about whether the financial statements are in accordance with the accounting principles generally accepted in the United States of America.

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America and for designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial statements.

My responsibility is to conduct the compilation in accordance with Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants. The objective of a compilation is to assist the owner in presenting financial information in the form of financial statements without undertaking to obtain or provide any

assurance that there are no material modifications that should be made to the financial statements.

Management has elected to omit substantially all of the disclosures, the statements of changes in owner's equity and statements of cash flows required by generally accepted accounting principles in the United States of America. If the omitted disclosures, statements of changes in owner's equity and statements of cash flows were included in the financial statements, they might influence the user's conclusions about the company's financial position, results of operations, and cash flows. Accordingly, these financial statements are not designed for those who are not informed about such matters.

Generally accepted accounting principles require that fixed assets be depreciated over their estimated useful lives. The Company has computed depreciation on fixed assets in accordance with the fair market value (inside basis) established at inception of the Company using the Modified Accelerated Cost Recovery System using bonus depreciation and IRC section 179 as allowed for federal income tax purposes, which does not allocate depreciation to expense based on the original cost (outside basis) over the useful lives of the assets. The effects of this departure from generally accepted accounting principles on financial position and results of operations have not been determined.

I am not independent with respect to High Point Networks, LLC as of and for the year ended December 31, 2017, because I am an employee of the company.

Kelly L. Schlauderaff, CPA
August 18, 2018

High Point Networks, LLC
Balance Sheet
Dec 31, 2017

ASSETS	2015	2016	2017
Current Assets			
Cash and Cash Equivalents	$173,000	$16,500	$150,000
Accounts Receivable(Net of allowance)	3,998,000	5,310,000	4,376,000
Inventory	2,242,000	2,538,000	2,665,000
Other Current Assets	180,000	173,000	384,000
Total Current Assets	6,593,000	8,037,500	7,575,000
Fixed Assets			
Property Plant And Equipment (NBV)	308,000	452,000	1,085,000
Other Assets	86,000	84,000	1,080,000
Intangible Assets	3,430,000	3,430,000	6,353,000
TOTAL ASSETS	$10,417,000	$ 12,003,500	$16,093,000
LIABILITIES & EQUITY			
Liabilities			
Current Liabilities			
Line of Credit	21,000	1,160,000	1,337,000
Accounts Payable	3,489,000	3,810,000	3,747,000
Other Current Liabilities	533,000	535,000	186,000
Total Current Liabilities	4,043,000	5,505,000	5,270,000
Other Long Term Liabilities			3,489,000
Total Liabilities	4,043,000	5,505,000	8,759,000
Total Equity	6,374,000	6,498,500	7,334,000
TOTAL LIABILITIES & EQUITY	$10,417,000	$ 12,003,500	$16,093,000

High Point Networks, LLC
Profit and Loss
January 2015 through December 2017

	Jan - Dec 15	Jan - Dec 16	Jan - Dec 17
Net Sales	$40,056,000	$ 37,284,000	$ 44,846,000
Cost of Sales	33,125,000	30,766,000	37,103,000
Gross Profit	6,931,000	6,518,000	$ 7,743,000
Less:			
Operating Expenses	5,532,000	5,794,000	7,203,000
Operating Income	1,399,000	724,000	540,000
Other Income and Expense			
Total Other Expense	(19,000)	(21,000)	(89,349.00)
Net Income	$1,380,000	$ 703,000	$ 450,651.00

See accompanying accountant's letter- **ONLY FOR USE OF INTENDED RECIPIENT**

Selected Information
Substantially All Disclosures Required by Accepted Accounting Principles Generally Accepted in the United States of America Are Not Included.

Banking Information
Starion Bank
Angie Baumann – Banking Officer
angieb@starionbank.com
direct line – 701-281-5633

C. CHANGE OF OWNERSHIP
- No change of ownership is expected within the next (12) months.

D. OFFICE LOCATION
- The State of Nebraska will be serviced from our on-site technicians located at:
  2300 E 54th St. N. Suite 3
  Sioux Falls, SD 57104

E. RELATIONSHIPS WITH THE STATE
- High Point Networks enjoys a long-standing relationship with the Dakota County Nebraska City/County Law Enforcement Center in which we installed and currently support their 911 hardware. No other relationship with government entities within the State of Nebraska exists.

F. BIDDER'S EMPLOYEE RELATIONS TO THE STATE
- No named party within High Point Networks response to RFP 5885 Z1 is/was an employee of the State of Nebraska

G. CONTRACT PERFORMANCE
- High Point Networks has not had a contract terminated for default since its inception

H. SUMMARY OF BIDDER'S CORPORATE EXPERIENCE

State of South Dakota

1. High Point Networks was selected by the State of South Dakota as the exclusive vendor in their move from statewide Centrex phone services to VoIP (Mitel MiVoice Business). This project is extremely similar to the project outlined in this RFP.

- Size – anticipated to be approximately 10,000 end points when complete
- Scope – all tasks required to move from Centrex and small PBX systems to VoIP and centralized voicemail
- Complexity – multiple geographically dispersed business units / sites across SD; multiple agencies with autonomous budgets and differing requirements

  a) Time period of project – October 2010-present
  b) HPN has met scheduled and completed dates for business unit / site installations – project is ongoing
  c) HPN's Responsibilities:
     - Overall systems architecture and design consulting
     - Core systems installation and configuration
     - Business unit / site specific programming
     - Initial onsite installations and trainings
     - Systems maintenance and upgrades

- Ongoing technical support
- Project management
- Knowledge transfer to Bureau of Information and Telecommunications (BIT) personnel
- Collaborative planning with business unit / site, BIT and HPN project teams
- Ongoing strategic planning

d) Customer Contact: Jeff Pierce • 605.773.4347 • jeff.pierce@state.sd.us

e) HPN was/is the exclusive primary contractor. This engagement is an ongoing agency site-by-agency site rollout based upon agency requirements and budget. As such, each agency rollout has its own individual budget and schedule. HPN has completed its project tasks on budget and on time for these individual rollouts.

Altru Health System

1. High Point Networks was selected by the Altru Health System as the exclusive vendor in their move to a Mitel Connect VoIP telephony system. This project is similar to the project outlined in this RFP.
   - Size – anticipated to be approximately 5,000 end points when complete
   - Scope – all tasks required to move to IP telephony and unified messaging; also using 2 datacenter deployment for redundancy
   - Complexity – 37 geographically disparate sites across ND and MN

   a) Time period of project – November 2010-present
   b) HPN has met scheduled and completed dates for business unit / site installations – project is ongoing
   c) HPN's Responsibilities:
      - Overall systems architecture and design consulting
      - Core systems installation and configuration
      - Business unit / site specific programming
      - Initial onsite installations and trainings
      - Systems maintenance and upgrades
      - Ongoing technical support
      - Knowledge transfer to Altru Health System voice team
      - Project management
   d) Customer Contact: Mark Waind • 701.780.6550 • mwaind@altru.org
   e) HPN was/is the exclusive primary contractor. This engagement is an ongoing site-by-site rollout. Project budget is confidential. HPN has met all agreed-to project dates.

City of Fargo

1. High Point Networks was selected by the City of Fargo as the exclusive vendor in their move to a Mitel Connect VoIP telephony system.
   - Size – approximately 1,000 end points
   - Scope – all tasks required to move to IP telephony and unified messaging
   - Complexity – 27 departments/business units with unique telephony requirements

   a) Time period of project – August 2012-June 2013
   b) Customer requested 12 month deployment schedule – HPN completed the project ahead of schedule
   c) HPN's Responsibilities:
      - Overall systems architecture and design consulting
      - Core systems installation and configuration
      - Business unit / site specific programming
      - All onsite installations and trainings
      - Systems maintenance and upgrades
      - Ongoing technical support
      - System administration training to City of Fargo
      - Project management
   d) Customer Contact: Nick Lindhag • 701.476.4052 • nlindhag@cityoffargo.com
   e) HPN was/is the exclusive primary contractor. This engagement was completed within budget and ahead of schedule (planned July 2013 – completed June 2013)

I. **SUMMARY OF BIDDER'S PROPOSED PERSONNEL/MANAGEMENT APPROACH**
High Point Networks' approach to the personnel & personnel management of the project is to form a State of Nebraska project team and utilize the existing reporting structure of the team members.
Upon award of this contract, HPN will establish a dedicated project team. The team will include personnel from sales and professional service.

Sales Team
- Justin Fetsch • Vice President of Sales / Principal Owner of the Company
  - Andy Middlemiss • Director of Sales
    - Dean Putnam • Regional Sales Manager (Sales Leadership & Strategic Planning)*
      - Mark Bannwarth • Sr. Account Manager (overall project contact / order activities)*
    - Meghan Schmidt • Inside Sales Manager
      - Laura Ford • Inside Sales (order processing)*

Professional Services
- Shawn Mendel • Director of Professional Services
  - David Florey • Telephony Operations Manager (telephone systems leadership)*
    - Lonnie Six • Sr. Solutions Engineer (voice systems' application design / implementation)*
    - Doug George • Sr. Solutions Engineer (implementation / support)*
    - Dennis Boehmer • Sr. Solutions Engineer (implementation / support)*
    - Jack Kliegl • Sr. Solutions Engineer (implementation / support)*
    - Lance Serbousek • Solutions Engineer (implementation / support)*
  - Mike Brekke • Solutions Architect (server & network design)*
  - Randy Cinco • Sr. Solutions Engineer (network design / support)*
  - Doug Koole • Solutions Engineer (network design / support)*
- Chip Bartunek • Director of Customer Service
  - Jeremy Wyland • Manager of PMO
    - Brian Beck • Project Manager (overall project management/ site implementation project management / technical sales engineering)*
    - Tiffany Clanton • Project Manager (site implementation project management)*

*indicates members of the project team

J. DEDICATED SUPPORT AND REPAIR TEAM
- High Point Networks will have a dedicated team assigned directly to support the activities of the order, installation and repair. Additionally, HPN will have personnel that will support the dedicated team to deliver the highest customer service possible to the State.
- The primary contact for The State of Nebraska will be
  - **Mark Bannwarth**
  - **Mark.Bannwarth@highpointnetworks.com**
  - **605.789.5622**
- Contract Assigned Team
  - Lonnie Six, Sr. Solutions Engineer
  - Doug Koole, Solutions Engineer
  - Brian Beck, Project Manager
  - Laura Ford, Inside Sales
- In the event of an emergency, additional staff that will be made available to personnel 24 hours a day, 365 days a year are as follows:

Personnel	Title	Phone	e-mail
David Florey	Telephony Services Manager	605-789-5657	david.florey@highpointnetworks.com
Shawn Mendel	Director of Professional Services	605-789-5663	shawn.mendel@highpointnetworks.com
Dean Putnam	Regional Sales Manager	605-789-5626	dean.putnam@highpointnetworks.com
Andy Middlemiss	Director of Sales	720-595-2057	andy.middlemiss@highpointnetworks.com
Justin Fetsch	VP of Sales	701-499-5334	justin@highpointnetworks.com

K. PERSONNEL AND MANAGEMENT APPROACH

HPN will establish a dedicated project and management team during the term of this contract and through any renewals. This group will include resources from sales, project management and technical engineering that will work collaboratively with the OCIO team. HPN's project approach to this contract is to engage the OCIO team in all aspects of the project.

1. Overall Planning & Consultation
   a. System standards
   b. Best practices for LAN/WAN configuration for VoIP deployment
   c. Security practices and policies
   d. Total system features and functions
   e. Resiliency and fail over
   f. Upgrade and update processes
   g. Education for OCIO team
      i. Classroom
      ii. Remote leader led
      iii. Self-study
      iv. On the Job training
   h. Scheduling of events
2. Core System Installation, Including Knowledge Transfer at All Steps
   a. Physical Host Server deployment
   b. Application deployment
   c. SIP PSTN Trunk Termination
   d. Voice infrastructure network
   e. Initial systems failover and recovery testing
   f. As-built diagrams with continual updates

3. Individual Site/Business Unit Planning & Development
    a. Kick-off meeting with business unit
    b. Discovery of needs and requirements
    c. Development of deployment plan
        i. OCIO approval of deployment plan
        ii. Scheduling
    d. Post deployment review
4. Strategic Planning: recommended twice per year
    a. Features and functions available but not requested in RFP
    b. Newly released manufacturer features or hardware
    c. Capacity planning
        i. System
        ii. SIP PSTN trunking
    d. Manufacturer roadmap planning

Steps listed above will be accomplished through:
1. Onsite planning meetings
2. Remote Conference sessions
    a. Voice
    b. Web
    c. Video
3. Project status calls
4. Onsite collaborative working of HPN engineering staff and OCIO staff
5. Twice annual onsite strategic planning sessions

L. PROJECT MANAGER

High Point Networks prides itself on employee retention. According to Bersin by Deloitte research, average voluntary turnover rate typically hovers around 13%. Although we have achieved 400% growth, we have maintained an average of 5% voluntary employee turnover since our inception. We believe we can attribute our high retention rate to several factors: higher than average pay, appropriate work life balance, and most importantly, empowering our employees with the tools and knowledge to do their job well.

Not feeling as if you are making a meaningful contribution towards company goals is often cited as a top reason for resignation. With clear goals as well as defined steps to achieve those goals, High Point Networks ensures that each member of our team contributes to our success and knows that they are valued.

Additionally, High Point Networks has never experienced a layoff, or mandatory reduction of workforce. We believe it is due to our consistent approach towards controlled growth that balanced evolution with a sustainable business model. Our exceptional customer service and support has afforded us a loyal customer base that has sustained us when other companies have failed.

M. SUBCONTRACTORS

At the time of this RFP submission, High Point Networks does not anticipate the need for subcontractors; as no definitive due dates have been stated. HPN may need to supplement its workforce with subcontractor resources. If subcontracting resources would be required, it would be for 'low-level' tasks (e.g. phone assembly and placement) only. OCIO approval of subcontractor use would be obtained prior to any subcontractor inclusion

High Point Networks Team

CONTACT

Dean Putnam | Regional Sales Manager

CERTIFICATIONS: *Mitel*

Dean Putnam is Regional Sales Manager for High Point Networks. Previously he held the position of Director of Commercial Sales and Presales Engineering at EarthBend, LLC. Prior to EarthBend Dean served as the Senior Account Executive and Technical Sales Engineer with SDN Communications for 14 years. Dean has over 20 years experience in the telecommunications and technology industry. He holds a master's degree in Technology and Management from Colorado Technical University. Dean is a member of the Sales and Marketing Executives of Sioux Falls, a charter member of the Sioux Empire Lions Club, a member of CBMC of Sioux Falls, a volunteer for the Prairie Hills District Committee for the Boy Scouts of America and has served on various advisory boards and steering committees for higher education institutions. He has also been an Adjunct Professor of Computer Science at CTU.

References
Jeff Pierce, State of SD • 605.773.4347 • jeff.pierce@state.sd.us
Bonnie Auch, Great Western Bank • 605.553.9475 • bonnie.auch@greatwesternbank.com
Jamey Herr, Delta Dental • 605.224.7345 • jamey.herr@deltadentalsd.com

Mark Bannwarth | Sr. Account Manager

CERTIFICATIONS: *Mitel MiVoice Business, Sonicwall*

Mark Bannwarth is Senior Account Manager with High Point Networks. Prior to High Point Networks he worked as Director of Business Development with EarthBend, LLC formally known as Mitel DataNet. He joined the team in 1996. During his time with Mitel and EarthBend he held several positions with the latter position holding responsibility in managing Major Account Executives and Commercial Sales Managers. Mark attended Mitchell Technical Institute and has an Associates degree in Computer Systems Technology. He also served in South Dakota National Guard Artillery unit for 15 years and is an active member of the American Legion, supporting veterans in the area.

References
Dawn Wolf, SF Catholic Diocese • 605.334.9861 • dawnwolf@sfcatholic.org
Dan Meyer, The First National Bank of Sioux Falls • 605.357.7690 • drmeyer@fnbsf.com
Brad Gerlach, Smithfield Foods • 605.330.3650 • bgerlach@smithfield.com

High Point Networks Team

Laura Ford| Inside Sales

CERTIFICATIONS: *HPE, HPI, Microsoft*

Lara Ford is an inside Sales professional for High Point Networks. She is resposible for supporting customers through ordering, quoting, deal registrations and technology consulting. Laura has over 12 years of experience in customer service and Information technology. She has a B.S. & M.B.A in Business Management/Marketing from Colorado Technical University.

Brian Beck | Project Manager

CERTIFICATIONS: *Mitel*

Brian has 25+ years' experience working within the technology industry, on both voice and data projects. Brian was an IBM system engineer for 13 years and has been an IT Director of a local technical college. Brian holds multiple BA Degrees from Augustana College and provides project management for Mitel telephony implementations.

References

Eric Rise, Concordance Health Solutions • 605.679.0728 • erise@concordancehs.com
Ellen Ludemann, State of SD • 605.773.6090 • ellen.ludemann@state.sd.us
Mark Johns, The First National Bank of Sioux Falls • 605.335.5253 • mwjohns@fnbsf.com

Tiffany Clanton | Project Manager

Tiffany is a project manager for High Point Networks. She is responsible for managing projects directly related to HPN customers. She ensures each project is on time, budget and meets customer expectations. She is oversees communication between both internal High Point Networks resources and customer resources to ensure all parties are in line with project requirements. She has over 14 years of information technology sales, support, business development, accounting and now project management.

High Point Networks Team

David Florey | Telephony Operations Manager

CERTIFICATIONS: *Mitel*

Dave is the Telephony Operations Manager with High Point Networks. Prior to High Point he filled the role as Sr. Telephony Engineer for EarthBend, LLC. Dave has 25+ years in the telephony industry throughout the upper Midwest. Dave holds the following certifications: CTP (Convergence Technologies Professional), MiCollab (Mitel Applications Suite), Mitel MiOffice (5000), Mitel MiVoice Business (MCD/3300), MSL (Mitel Standard Linux), and NuPoint Unified Messaging.

References

Ellen Ludemann, State of SD • 605.773.6090 • ellen.ludemann@state.sd.us
Greg Parham, Malloy Electric • 605.336.3693 • gparham@malloyelectric.com
Keith Graber, Lutheran Social Services of SD • 605.444.7535 • kgraber@lsssd.org

Doug George | Sr. Solutions Engineer - Telephony

CERTIFICATIONS: *CSSP – Mitel*

Doug has 25+ years of experience working with various telephony equipment and system. Doug brings crossover knowledge of radio systems and application integration solutions to our clientele. Doug is certified for: CTP (Convergence Technologies Professional), MiCollab (Mitel Applications Suite), Mitel MiVoice Business (MCD/3300), MSL (Mitel Standard Linux), and NuPoint Unified Messaging.

References

Maureen Flynn, Syverson Tile • 605.336.1175 • mflynn@syversontile.com;
Rick Herrold, CorTrust • 605.335.1400 • rherrold@cortrustbank.com
Scott Welsh, LG Everist • 605.330.6569 • sjwelsh@lgeverist.com

Dennis Boehmer | Sr. Solutions Engineer - Telephony

CERTIFICATIONS: *Mitel*

Dennis has 30+ years of experience working within the technology industry. Dennis holds a strong Mitel background with the following certifications: MiContact Center (MiCC) rel 7.1 Technical Certification, MiVoice Border Gateway (MBG) Rel 9.1 Technical Certification Completed, MiVoice Business (MCD/3300) rel 7.1 Core.

References
Dane Stone, 211 Helpline Center • 605.274.1404 • dane@helplinecenter.org

High Point Networks Team

Lonnie Six | Sr. Solutions Engineer - Telephony

CERTIFICATIONS: *Mitel*

Lonnie has 30+ years of experience working within the technology industry. Lonnie started at Mitel as a Service Engineer before his tenure with HPN. Lonnie is certified for: MGB Mitel Boarder Gateway/Teleworker/Web Proxy, MiCC Business (Contact Center/Prairie Fyre), MiCollab (Mitel Applications Suite), MiCollab Audio, Web & Video, MiCollab Client (UCA), Mitel Mioffice (5000), Mitel MiVoice Business (MCD/3300), MSL (Mitel Standard Linux), NuPoice Unified Messaging), SX200 ICP/AX (Hotel/Motel Phone System).

References

Ellen Ludemann, State of SD • 605.773.6090 • ellen.ludemann@state.sd.us
Bonnie Auch, Great Western Bank • 605.553.9475 • bonnie.auch@greatwesternbank.com
Dustin Beisch, Grapetree Medical Staffing • 712.336.0800 • dustin.beisch@grapetree.org

Jack Kliegl | Sr. Solutions Engineer - Telephony

CERTIFICATIONS: *Mitel*

Jack has 40+ years experience in the telephony industry. Jack holds the following certifications: Mitel MiVoice Business (MCD/3300), MSL (Mitel Standard Linux) NuPoint Unified Messaging, MiCollab (Mitel Applications Suite), MBG (Mitel Border Gateway), MiContact Center Office, MiVoice Office 400, MiVoice Office 250, Mitel Phone Manager and Mitel SX200 ICP.

References

Nathan Sieve, Blue Sky Hospitality • 763.241.4777
Jenny Shuster, Winther-Stave • 712.262.3117 • jljohnson@winther-stave.com
Landon Allen, Spencer School District IA • 712.262.0339 • lallen@spencerschools.org

Lance Serbousek| Solutions Engineer - Telephony

CERTIFICATIONS: *Mitel*

Lance has 6+ years of experience working within the technology industry. Lance is certified with Mitel 5000, MCD, MCD Advanced, Mitel 3000, Mitel MBG, Mitel MSL. Lance has proficiencies with: Mitel Phone Manager, Mitel Nupoint, Oaisys Call Recoding, Mitel UCA, Mitel AWC.

References

Susan DeGroot, Vance Thompson Vision • 406.219.0515 • susan.degroot@ vancethompsonvision.com

High Point Networks Team

CONTACT

WEST FARGO, ND
Corporate Headquarters
728 E. Beaton Dr. Ste. 200
West Fargo, ND 58078
Phone: 701.282.6459

BISMARCK, ND
4204 Boulder Ridge Rd. Ste. 200
Bismarck, ND 58503
Phone: 701.223.4809

SIOUX FALLS, SD
2300 E. 54th St. N. Ste. 3
Sioux Falls, SD 57108
Phone: 605.789.5700

BROOKINGS, SD
422 4th St.
Brookings, SD 57006
Phone: 605.697.3060

TWIN CITIES, MN
7100 Northland Cir. N. Ste. 304
Minneapolis, MN 55428
Phone: 952.715.3490

DETROIT LAKES, MN
910 Lincoln Ave. #6
Detroit Lakes, MN 56501
Phone: 218.844.8787

BILLINGS, MT
1201 Grand Ave. Ste. 7
Billings, MT 59102
Phone: 406.281.7945

DENVER, CO
2919 West 17th Ave. Ste. 201
Longmont, CO 80503
Phone: 970.541.7887

www.HighPointNetworks.com

sales@highpointnetworks.com

Shawn Mendel | Director of Engineering

CERTIFICATIONS: *Microsoft, Citrix, Sophos, Vmware, HPE*

Shawn Mendel has been with High Point Networks since August of 2017 and currently holds the position of Director of Professional Services. He is responsible for leading HPN's technical engineering team across a five-state region, making sure the team is technically proficient, abreast to trends and prepared to deliver IT solutions. In addition, he travels the region educating users on their role in IT security. Shawn began his career in the VAR sector in 2000, starting as a Solutions Engineer advancing to Services Director. During that time he worked closely with his team and customers to deploy, integrate, and support IT solutions. Shawn takes pride in being part of the team that is able to assist customers with using technology that results in making them more successful at what they do.

References
Dan Buse, Central Farmers Coop • 605.648.3941 • dbuse@cenfarmcoop.com
Nathan Headley, Children's Home Society • 605.965.3193 • nathan.headley@chssd.org
Michael Oldenkamp, Northwest Iowa Comm. College • 712.324.5061 • mikeo@nwicc.edu

Mike Brekke | Solutions Architect - Systems

CERTIFICATIONS: *HPE, Veeam, Microsoft, Cisco, Vmware*

Mike Brekke is a Solutions Architect with High Point Networks. His primary focus is helping businesses design & deploy enterprise solutions. As a Solutions Architect Mike holds the highest certifications within Systems, Networking and Storage. He works very closely with customers of all sizes to solve their business challenges with the right technology. Mike over 20 years' experience of complex information technology environments. Mike has a B.A. in Business Administration and Computer Science from Augustana College.

References
Mike Logan, Western Iowa Tech Comm. College • 712.898.5758 • mike.logan@witcc.edu
Dan Buse, Central Farmers Coop • 605.648.3941 • dbuse@cenfarmcoop.com
Children's Home Society • 605.965.3193 • nathan.headley@chssd.org

High Point Networks Team

CONTACT

Randy Cinco | Sr. Solutions Engineer - Systems

CERTIFICATIONS: *Cisco, Juniper, Palo Alto Networks, Sonicwall*

Randy Cinco is a Senior Solutions Engineer with High Point Networks specializing in routing, switching, and firewalls. Prior to High Point Networks he was a IP/MPLS Network Engineer with SDN Communications. He spent 11 years working with routing and switching for Mitel, supporting implementation of phone systems, wide area networks and campus LANs. Randy is a 10 year veteran of the US Navy focusing in command and control systems.

Doug Koole| Solutions Engineer - Systems

CERTIFICATIONS: *Mitel, Sophos, Cisco, HPE*

Doug has 20+ years of experience working within the technology industry. Doug holds certifications with MBG (Mitel Border Gateway)/Teleworker/Web Proxy, MiCollab (Mitel Applications Suite), MiCollab Audio, Web & Video, MiCollab Client (UCA), Microsoft MCP), Mitel MiVoice Business (MCD/3300), and MSL (Mitel Standard Linux).

References
Mike Holmes, Service First FCU • 605.274.9113 • michaelh@servicefirstfcu.org
Keith Graber, Lutheran Social Services of SD • 605.444.7535 • kgraber@lsssd.org
Chris Blackwelder, Rosenbauer • 605.543.9746 • cblackwelder@rosenbaueramerica.com

Project Description & Scope of Work

Technical Approach
VI. A. 3. A-F
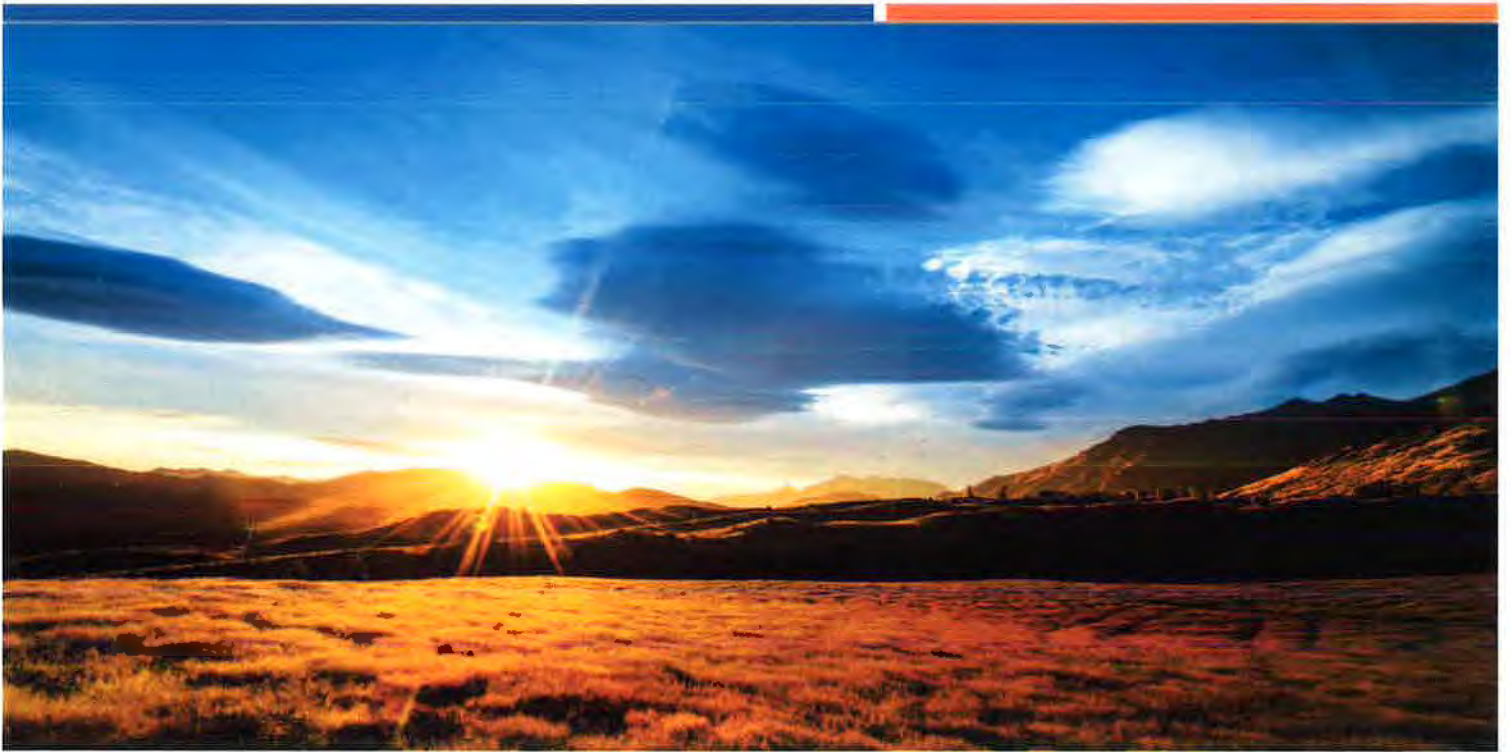
3. TECHNICAL APPROACH

The technical approach section of the Technical Proposal should consist of the following subsections:

a. Understanding the Project Requirements

High Point Networks understands the requirements provided by the State in this RFP give direction for:
- The replacement of the State's Centrex service in select locations throughout the State
- Features and functions required – these have been outlined and responded to in 'Option A Requirements' and '5885 Z1 Attachment A Option A Requirements'
- Size and scope of project – 10634 IP telephone sets, 150 analog stations spread across multiple State business units in 70 communities throughout Nebraska
- Professional services required (in collaboration with OCIO Project Team) – this is to include:
    - HPN's design and planning of the solution and deployment
    - HPN's installation of all hardware and software related to the solution in two (2) of the State's geographically diverse datacenters
    - HPN's discovery, programming, phone set placement, and cutover support for the various business units with the State
- Support services – HPN to provide ongoing system maintenance, system programming, and helpdesk support in a managed/hosted services type offering
- Initial contract term to be five (5) years in length with no mandatory minimum orders
- Pricing model to be on a per line (end point) per month basis with all associated costs included. Equipment ownership, maintenance and service remains with HPN.
- The State is to provide:
    - Network necessary to transport VOIP from the core platform out to the desktop
    - PSTN connectivity resources using SIP trunks
    - Datacenter environments in two (2) locations in Lincoln and Omaha (rack space, power, heating/cooling, & physical security)
    - OCIO project team to work collaboratively with HPN

b. Proposed development approach

High Point Networks began an iterative team process to develop the proposed solution. This team consisted of company leadership, sales and sales engineering, project managers, design architects, and system engineers. Senior engineering resources from Mitel and other manufacturers were consulted on the design and architecture of the solution. Using the requirements outlined in this RFP, HPN refined the proposed solution while balancing the following considerations:
- Features and function availability
- Size and scope that the solution must support (technical and geographical)
- High availability and redundancy requirements
- Sound technical design based on best practices, industry standards and manufacturer limitations

- Length of contract term
- Cost competitiveness
- HPN resources required to manage and support solution

c. Technical considerations

High Point Networks used the following technical considerations in the solution design:
- Must be IP based including accommodation for analog stations and overhead paging
- Must support SIP PSTN trunking
- Must provide high availability and resiliency of end points and SIP PSTN trunking
- Must scale to 10634 end points
- Must provide Unified Messaging
- Must provide features and functions outlined in 'Revised Cost Proposal A' and 'Attachment A: Option A Requirements'
- Must provide resource monitoring and management (RMM)

Additionally, HPN used the following presumptions in the solution design:
- HPN has provided the Mitel 6920 IP phone for all locations requested allowing one uniform model for ease of end user familiarity, replacement, inventory and management
- HPN solution does not require a 1:1 ratio of lines to end points. A pool of SIP PSTN trunks can be shared amongst all users throughout the enterprise minimizing trunking costs to the State. HPN's proposed solution is based upon a 11:1 user-to-trunk ratio and, therefore, is built to accommodate up to 1,200 SIP PSTN trunks from a State selected provider. Additional trunking capacity is available up to 20,000 SIP PSTN trunks but not included in this initial proposal.
- HPN will be assisting the State with consulting and knowledge transfer regarding QoS, DHCP, and other voice quality configurations that will enhance the quality of the voice solution

d. Attachments A and/or B

See next section for '5885 Z1 Attachment A Option A Requirements'
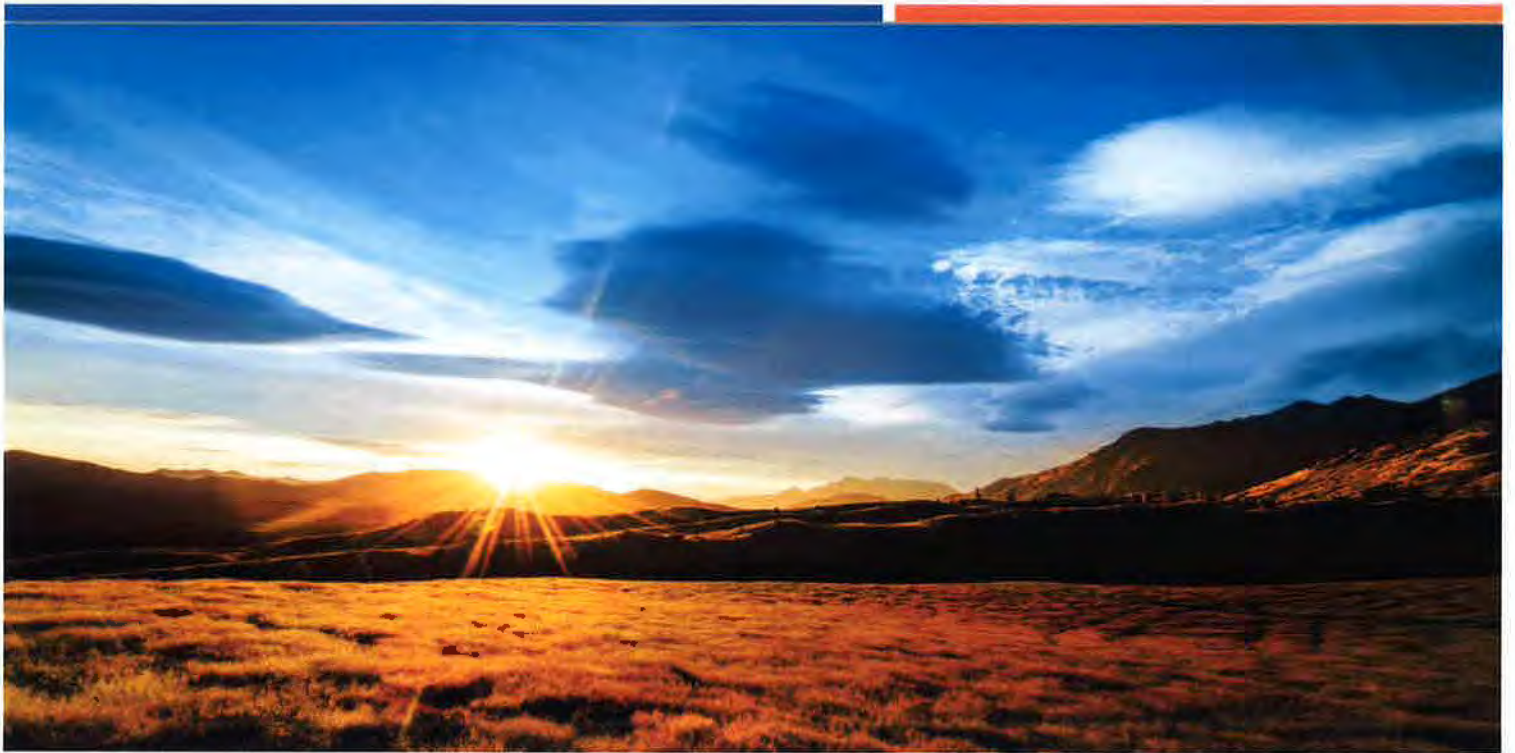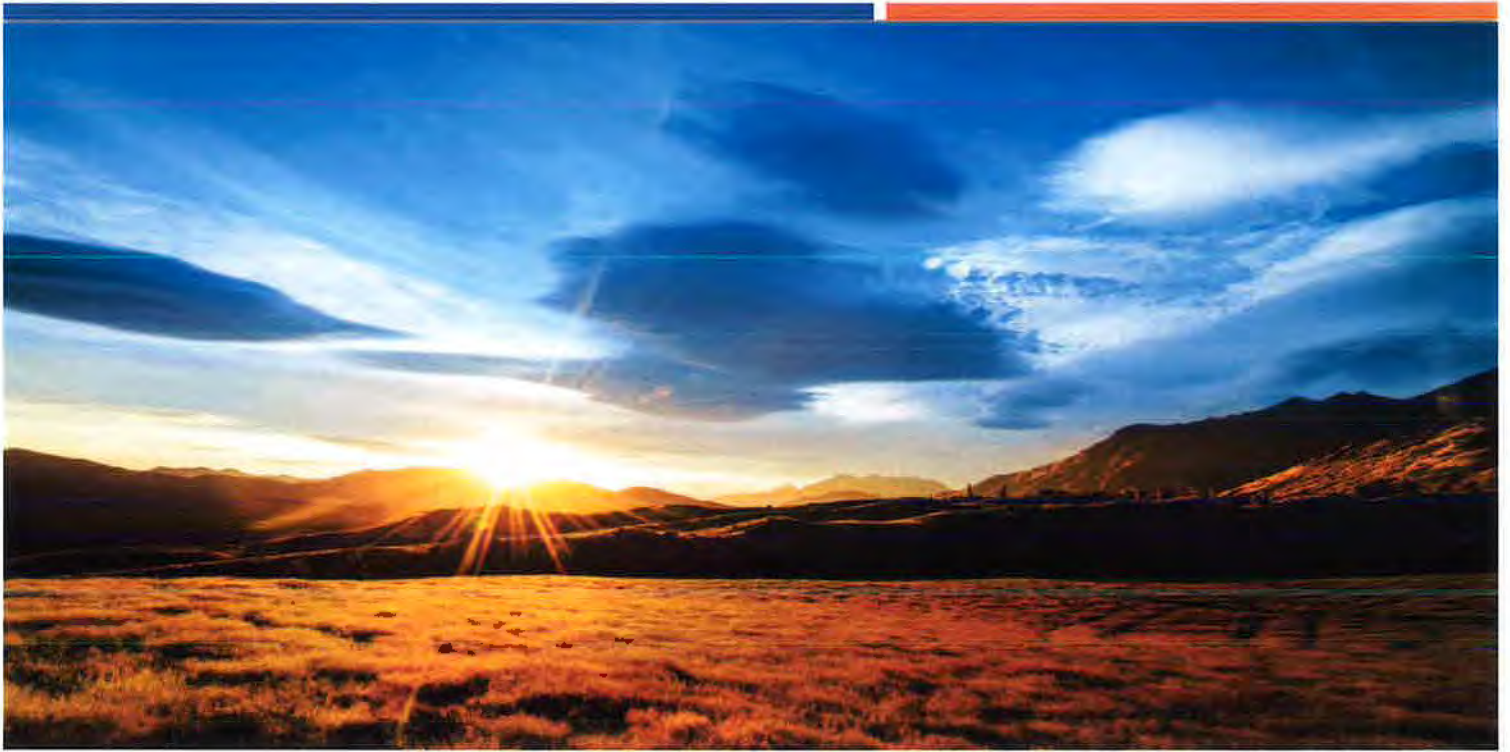
	System Requirements
	OCIO-hosted solution
SR-1	The State requires that the bidder's solution provide call forwarding, both inside and outside of the system. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed by HPN inherently supports Call Forwarding types and methods

Call Forward Type	Used to redirect ...
Busy (External & Internal Source)	incoming calls when your phone is busy
Busy (External Source)	Incoming external calls when your phone is busy
Busy (Internal Source)	incoming internal calls when your phone is busy
No Answer (External & Internal Source)	incoming calls when you do not answer
No Answer (External Source)	Incoming external calls when you do not answer
No Answer (Internal Source)	incoming internal calls when you do not answer
Follow Me (Call Forward Always)	all incoming calls (activated from the forwarding set)
Follow Me Third Party	all incoming calls (activated from a third party set on the network)
I Am Here	all Incoming calls (activated from the destination set)

SR-2	The State will use telephone sets in line with computer workstations. All telephone sets provided by the Contractor must include an internal 10/100/1000 baseT switch. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** All phone proposed by HPN will have 10/100/1000 Mbps Ethernet ports (LAN/PC) *Note: The State could realize cost savings by placing non-gigabit backplane phones in public spaces or locations that do not have a workstation*
SR-3	The bidder's solution must provide call transfer inside and outside of the system. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed by HPN allows for transfer. The transfer function lets you move a call from one telephone to another both inside and outside the system. Each phone will have either a fixed 'hard key' or a softkey to do the transfer function. Transferring is a simple as hitting the transfer button, dialing the number where the call is to be transferred and either hanging up or hitting the transfer button again. Additionally, before completing a Transfer, you can consult privately with the third party and swap between private conversations with each of the parties.
SR-4	The bidder's solution must provide redial inside and outside of the system. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel phone sets proposed by HPN all have a fixed function redial key. Pressing the key brings up a call history log of recent calls. The user selects the recent call desired and hits a 'dial' key.
SR-5	The bidder's solution must provide caller ID capability for both the called and calling party. This feature must apply to internal and external calls. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed supports both incoming and outgoing caller ID. - For incoming calls from another State of Nebraska extension, both the caller's name and number will be displayed on the phone's display - For Incoming calls from external callers, the caller's name and number will displayed on the phone's display if the external caller is sending it. - For outgoing calls to another State of Nebraska extension, the called party's name and number will be displayed on the caller's phone display. - For outgoing calls to an external party, the called party's number will be displayed on the phone set and the name will be optionally displayed if it is in the phone's contacts
SR-6	The bidder's solution must provide a means of capturing Call Detail Records. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed captures Call Detail Records (also known as SMDR records). These are managed by a call accounting solution that provides both scheduled and on-demand reports. These reports are available to authorized users via a web browser.
SR-7	Rack space will be provided by the State at both the Lincoln and Omaha data centers. Bidders must propose a solution that provides core redundancy by utilizing both data centers for connectivity between their solution and the SIP PSTN trunks provided by the State. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed will have multiple redundant Mitel Border Gateways acting as session border controllers to terminate SIP PSTN trunks. These Mitel Border Gateways will be clustered together in an active-active fashion between the Lincoln and Omaha datacenters. Should any of these Mitel Border Gateways fail or should the SIP PSTN connection to one of the datacenters be lost, all SIP PSTN connections move automatically to remaining active Mitel Border Gateways. No human intervention is required. This allows for the continued ability to make outgoing calls and to receive incoming calls.
SR-8	Bidders must describe rack space and power requirements necessary for both the Lincoln and Omaha data center locations.
Bidder Response:	**Comply:** The Mitel system proposed by HPN has the following rack space and power requirements: Lincoln data center: 20U rack space and 15 NEMA 5-15R power-protected receptacles. Total power draw: 1.5 Kilowatts Omaha data center: 20U rack space and 15 NEMA 5-15R power-protected receptacles. Total power draw: 1.1 Kilowatts A ground bar is required in each data center.
SR-9	Telephone sets must support Power over Ethernet (PoE) IEEE standard 802.03af. Provide the PoE current draw and power requirements for each proposed telephone in your proposal.
Bidder Response:	**Comply:** The Mitel phone sets proposed comply with the IEEE standard 802.03af for Power over Ethernet. The power draw when idle 1.3w; the power draw when in typical use is 3.4 w
SR-10	Bidders solution must be capable of restricting toll, and/or International calling from stations designated by the State. Bidder must also restrict dialing to 900/976 numbers. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed allows for all the restrictions listed above. This is accomplished by a 'class of restriction' to the phone extension that limits the numbers that station can be called. As an example, a phone that is not allowed to dial long distance calls would be given a class of restriction that doesn't allow any 1+xxx+xxx+xxxx numbers to be called.
SR-11	The System must be configured so that all internal calling will be 10 Digit dialing. All local calling will be dialed using 9 + xxx-xxx-xxxx, and toll calling dialed using 9 + 1-xxx-xxx-xxxx. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed by HPN allows for internal extension numbers of 10 digits. Simply dialing the 10 digit number completes the internal call. Furthermore, using automatic route selection (ARS), the system will be programmed so that any number pattern of 9+1+xxx+xxx+xxxx will be routed out any available SIP PSTN trunk.

SR-12	Telephone sets must be repair or replacement guaranteed and supported for the life of the contract Including all renewals and extensions. Describe how the solution meets this requirement.
Bidder Response:	**Comply with exception** - The Mitel telephone sets proposed by HPN are repair or replacement guaranteed and supported for the life of the contract. **Exception:** HPN will extend the repair or replacement guarantee for an additional 5 year term. HPN has no reason to believe that the Mitel telephone set proposed will come end-of-life in the next 10 year. However, HPN reserves the right at the end of that extended term to review lifecycle of the proposed Mitel telephone set with the State.
SR-13	Describe your procedure for replacing non-working telephone sets.
Bidder Response:	**Comply** - The procedure is as follows: 1) State notifies HPN of non-working set 2) HPN ships replacement set to location of the non-working set 3) HPN provides instruction to a) disconnect the non-working set; b) assemble and connect the replacement set; c) register the new set and ensure proper operation and d) disassemble the non-working set for return to HPN.
SR-14	Upon Intent to Award, the bidder must provide a list of contacts and telephone numbers for personnel who can be called upon during emergencies. These contacts must have the authority to expedite the installation and/or restoration of State service, and be willing to work directly with OCIO personnel 24 hours a day, 365 days a year. These Contractor personnel may be contacted periodically and their contact numbers verified as the OCIO conducts preparedness exercises. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** Upon Intent to Award, High Point Networks will provide the information requested above.
SR-15	The bidder's solution must provide music on-hold. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed allows for music-on-old. This is accomplished by uploading a Microsoft Windows WAV (.wav) file to the system in CCITT u-law or a-law 8.00 kHz, 8 bit mono format.
SR-16	Hunt Group capability must be available with the bidder's solution. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed supports hunt groups. A hunt group pilot number is programmed and the stations that belong to that group are added to the pilot number. There are two types of hunting: circular and terminal. In circular hunting, the search for an idle station begins at the station after the last one to receive a call. In terminal hunting, the search for an idle station begins at the first station programmed in the Hunt Group. In both cases, the search progresses through all stations in the Hunt Group in a programmed sequence. Up to two different announcements can be played to callers when members of the hunt group are busy, in Do Not Disturb or when they fail to answer the call. Additionally, with the proper authorization, end-users can put themselves into and out of hunt groups by the push of a key on the phone. This allows them to continue receive calls dialed directly to their station, but not get calls directed to the hunt group. *Note:* The Mitel system proposed also supports ring groups, which provide similar and In some cases expanded function compared to hunt groups. It is programmed like hunt groups above. It allows for a) simultaneous ringing of all ring group members b) terminal ringing as above c) circular ringing as above. Additionally, calls that are not answered (based upon timers) can be directed to other hunt groups, ring groups or voicemail. Optionally, users with the proper authorization, can put themselves into and out of ring groups just like they can with hunt groups.
SR-17	Ring down capability must be available with the bidder's solution. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed allows for ring down capability (Mitel calls this 'Hotline'). This automatically dials a specified answer point when a station goes off-hook. The designated answer point can be: a) another set, b) an attendant, c) a trunk, d) a hunt group, e) a system speed call number(s), f) feature access codes to access loudspeaker paging equipment, g) Personal Ring Group
SR-18	The bidder's solution must be able to provide IP to analog conversion where needed. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed includes Mitel analog terminal adapters. These units are security-ready, VoIP terminal adapters, allowing analog phones and fax machines (using the T.38 standard) to connect to Mitel phone system via an IP network. The terminal adapters offer security features such as SIP over TLS, SRTP, certificates management, HTTPS, all designed to bring enhanced security for the network management, SIP signaling and media transmission aspects.
SR-19	The State requires the Do Not Disturb Feature. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed supports a Do Not Disturb feature It is can be programmed on a key on an extension-by-extension basis. The user presses the Do Not Disturb key to toggle do not disturb on and off.
SR-20	The State requires a solution that provides for seasonal suspension on select lines, where the lines and billing are suspended at the end of each season and returned to service at the beginning of the next season. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** Sets would remain in place, but service to the set can be suspended through configuration changes.
SR-21	The State requires the ability to block all incoming calls to select lines. Describe how the solution meets this requirement.
Bidder Response:	**Comply** - The Mitel system proposed by HPN has the ability to block all incoming calls to a specific line (number). This can be done for calls dialed from external numbers, from other internal extension numbers or both. An optional announcement, such as "this number does not accept incoming calls" can be offered.
SR-22	The State requires the ability to block specific numbers to select lines. Describe how the solution meets this requirement.
Bidder Response:	**Comply** - The Mitel system proposed by HPN provides the ability to block specific numbers to select telephone sets (blacklist function). This can be used to block unwanted or malicious callers. Calls be blocked can be based upon a full or partial incoming caller ID match. There is no set limit on the amount of numbers that can be blocked.
SR-23	The bidder should be able to mask the outbound caller id with a fictitious number selected by the State when necessary. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed allows for the out pulsing of outbound caller ID with any number selected by the State as long as it is in compliance with the FCC's caller ID rules under '47 CFR §64.1604 Prohibition on transmission of inaccurate or misleading caller identification information'. Additionally, the SIP PSTN carrier must accept the fictitious number.
SR-24	The Bidder's solution must be able to send an accurate 10 digit station number to the PSTN on all Toll calls so that the Toll carrier can route and bill appropriately. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The Mitel system proposed will be configured to out pulse the 10-digit station number on ALL calls (both toll and non-toll calls).

SR-25	The State requires call waiting. Describe how the solution meets this requirement.
Bidder Response:	Comply: The Mitel system proposed allows for call waiting. When a user is on an active call, another call can be sent to the extension. The phone will play a short 'courtesy' beep and display the caller ID of the waiting call. The user can choose to answer the second call - with or without ending the first call - or can allow the second call to cover to their voicemail box. The number of concurrent waiting calls per extension is limited to the number of open programmable buttons on the end-user's phone (proposed phones have 18 buttons).
SR-26	In a small number of locations the State requires analog paging interfaces. Describe how the solution meets this requirement.
Bidder Response:	Comply: The Mitel system proposed supports an IP Paging Adapter to connect to various paging systems. It converts the IP voice stream into an analog voice stream and delivers it to the paging equipment. It also supports contact / relay closure, which is required by some paging system. Additionally, it allows for dialing of paging zones if the paging system support zones.
SR-27	Describe options for re-routing of voice traffic in the event of a component failure on Contractor equipment.
Bidder Response:	Comply: The Mitel system proposed provides for re-routing of voice traffic in the event of component failure on Contractor equipment and for other unplanned or planned outages. To maintain service to each telephone set, the process is as follows: 1. Normal Operation: phone sets register and receive call control from a primary call server in datacenter #1. 2. Planned or unplanned outage: phone set loses connection for any reason (network failure / hardware failure / system upgrade) - phone set automatically re-registers with redundant system in datacenter #2 (in many cases, in-progress calls can remain active). 3. Recovery: After outage is resolved and connection remains stable for a period of time, phone set returns to primary call server in datacenter #1 without user intervention and only when an active call is not in progress. To maintain service to the SIP PSTN network, the process is as follows: 1. Normal Operation: Inbound/Outbound calls use SIP trunks from either data center. Calls volume can be split 50/50 among the two data centers. 2. Planned or unplanned outage: SIP session border controller(s) loses connection to SIP PSTN network for any reason (network failure / hardware failure / system upgrade) – All incoming / outgoing calls now use the remaining datacenter. Number of available SIP trunks remains at 100% of total. 3. Recovery: After outage is resolved and connection remains stable for a period of time, 50% of the SIP trunks revert back to original datacenter.
SR-28	The State requires conference calling capabilities. How many parties can be conferenced from a single telephone set? Describe how the solution meets this requirement.
Bidder Response:	Comply: Mitel system proposed by HPN allows up to 8 participants in a "make me" conference. With an active call in progress, the user presses the 'add user' softkey on their phone and dials the next party to be added to the conference (this could be an internal or external number). When the party answers, the user presses the 'join calls' softkey and the conference is established. Any user on the conference can continue adding others to the conference (up to the 8 party limit) using the same process. An optional audio bridge (not proposed) is available and supports up to 300 concurrent audio "meet me" conference sessions.
SR-29	Telephone set firmware releases (including dot releases) from the manufacturer are to be tested and certified for use with the Contractor's VOIP Communications platform. Describe how the solution meets this requirement.
Bidder Response:	Comply: The Mitel system proposed by HPN uses Mitel phones with Mitel firmware. As the manufacturer of both the firmware and phones, Mitel does extensive testing before releasing firmware updates.
SR-30	Describe how firmware releases will be rolled out to the States telephone sets.
Bidder Response:	Comply: The Mitel system proposed by HPN uses Mitel phones that automatically receive firmware release updates from a central server. Firmware updates are regularly provided when an overall system upgrade is performed. No end user intervention is required.
SR-31	Provide a list of wireless headsets that are compatible with proposed telephone sets.
Bidder Response:	Comply: The Mitel System proposed by HPN is compatible with both Plantronics and Jabra headsets and works with EHS cables for lifter-less call control amongst other adapters and accessories. Plantronics BackBeat FIT Plantronics BackBeat 300 Plantronics BackBeat Go 3 Plantronics BackBeat Go 600 Plantronics BackBeat UHS106 Plantronics BackBeat UHS206 Plantronics Blackwire 215/225 Plantronics Blackwire 3210 Plantronics Blackwire 3215 Plantronics Blackwire 3220 Plantronics Blackwire 3225 Plantronics Blackwire 5210 Plantronics Blackwire 5220 Plantronics Blackwire C310 Plantronics Blackwire C310-M Plantronics Blackwire C315 Plantronics Blackwire C315-M Plantronics Blackwire C320 Plantronics Blackwire C320-M Plantronics Blackwire C325 Plantronics Blackwire C325-M Plantronics Blackwire C435 Plantronics Blackwire C435-M Plantronics Blackwire C520 Plantronics Blackwire C520-M

Bidder Response (cont):	Plantronics Blackwire C710
	Plantronics Blackwire C710-M
	Plantronics Blackwire C720
	Plantronics Blackwire C720-M
	Plantronics Blackwire C725
	Plantronics Blackwire C725-M
	Plantronics Calisto 7200
	Plantronics Calisto P240
	Plantronics Calisto P240-M
	Plantronics Calisto P610
	Plantronics Calisto P610-M
	Plantronics Calisto P620
	Plantronics Calisto P620-M
	Plantronics Clarity P340
	Plantronics Clarity P340-M
	Plantronics CS500 Bundle
	Plantronics CS510
	Plantronics CS510-XD
	Plantronics CS520
	Plantronics CS520-XD
	Plantronics CS530
	Plantronics CS530-XD
	Plantronics CS540
	Plantronics CS540-XD
	Plantronics CS545-XD

Bidder Response (cont):	Plantronics EncorePro 510
	Plantronics EncorePro 515
	Plantronics EncorePro 520
	Plantronics EncorePro 525
	Plantronics EncorePro 530
	Plantronics EncorePro 535
	Plantronics EncorePro 540
	Plantronics EncorePro 545
	Plantronics EncorePro 710
	Plantronics EncorePro 715
	Plantronics EncorePro 720
	Plantronics EncorePro 725
	Plantronics Explorer 50
	Plantronics H251H
	Plantronics M130i
	Plantronics M165
	Plantronics M180
	Plantronics M205i
	Plantronics M220c
	Plantronics MS200 Aviation Set
	Plantronics MS200-1
	Plantronics MS250 Aviation Set
	Plantronics MS260 Aviation Set

Bidder Response (cont):	Plantronics MS260-1
	Plantronics MS30-1
	Plantronics MS30-2
	Plantronics MS30-3
	Plantronics MS50/T30-1
	Plantronics MS50/T30-1 Headset
	Plantronics MS50/T30-2
	Plantronics MS50/T30-2 Headset
	Plantronics MS50/T30-3
	Plantronics PTH100
	Plantronics PTH200
	Plantronics RIG 400HS/400JS Camo
	Plantronics RIG 400LX
	Plantronics RIG 4VR
	Plantronics RIG 500 PRO
	Plantronics RIG 500 PRO HC
	Plantronics RIG 500 PRO HS
	Plantronics RIG 500 PRO HX
	Plantronics RIG 500 PRO HX SE
	Plantronics RIG 500E
	Plantronics RIG 500HS
	Plantronics RIG 505 Lava
	Plantronics RIG 515HD Lava
	Plantronics RIG 600
Bidder Response (cont):	Plantronics RIG 600LX
	Plantronics RIG 800HS
	Plantronics RIG 800HX
	Plantronics RIG 800LX
	Plantronics S12
	Plantronics SAVI 410
	Plantronics SAVI 410-M
	Plantronics SAVI 420
	Plantronics SAVI 420-M
	Plantronics SAVI 430
	Plantronics SAVI 430-M
	Plantronics SAVI 440
	Plantronics SAVI 440-M
	Plantronics SAVI 445
	Plantronics SAVI 445-M
	Plantronics SAVI 710
	Plantronics SAVI 710-M
	Plantronics SAVI 720
	Plantronics SAVI 720-M
	Plantronics SAVI 730
	Plantronics SAVI 730-M
	Plantronics SAVI 710
	Plantronics SAVI 710-M
	Plantronics SAVI 745
	Plantronics SAVI 745-M

Bidder Response (cont):	Plantronics SP11
	Plantronics SP11 Avaya
	Plantronics SP11 CIS
	Plantronics SP11-PC
	Plantronics SP11-QD
	Plantronics SP12
	Plantronics SP12 Avaya
	Plantronics SP12 CIS
	Plantronics SP12-PC
	Plantronics SP12-QD
	Plantronics Supra H51NS
	Plantronics Supra H251N-UNC
	Plantronics Supra H261N-UNC
	Plantronics Supra Plus H251N
	Plantronics Supra Plus H251N-CIS
	Plantronics Supra Plus H261N
	Plantronics Supra Plus H261N-CIS
	Plantronics Supra Plus 251
	Plantronics Supra Plus 261
	Plantronics T10
	Plantronics T10H
	Plantronics T20
	Plantronics TrainingHset1

Bidder Response (cont):	Plantronics Voyager 104
	Plantronics Voyager 3200
	Plantronics Voyager 3200UC
	Plantronics Voyager 5200
	Plantronics Voyager 5200UC
	Plantronics Voyager 6200UC
	Plantronics Voyager 8200UC
	Plantronics Voyager Edge UC
	Plantronics Voyager Focus UC
	Plantronics Voyager Legend
	Plantronics Voyager Legend CS
	Plantronics Voyager Legend CS w/HL10 Lifter
	Plantronics Voyager Legend UC
	Jabra Engage 75 Stereo
	Jabra Engage 75 Mono
	Jabra Engage 75 Convertible
	Jabra Engage 65 Stereo
	Jabra Engage 65 Mono
	Jabra Pro 9470 Mono
	Jabra Pro 9470 Duo
	Jabra Pro 935
	Jabra Pro 935 Dual Connectivity For MS
	Jabra Motion Office MS
	Jabra Motion Office
	Jabra Motion UC With Travel & Charge Kit MS
	Jabra Motion UC With Travel & Charge Kit

Bidder Response (cont):	Jabra Evolve 75e UC
	Jabra Evolve 75e MS
	Jabra Evolve 75+ UC Stereo
	Jabra Evolve 75 UC Stereo
	Jabra Evolve 65+ UC Stereo
	Jabra Evolve 65 UC Stereo
	Jabra Evolve 80 UC Stereo
	Jabra Evolve 80 MS Stereo
	Jabra Evolve 40 UC Stereo
	Jabra Evolve 40 MS Stereo
	Jabra Evolve 30 II UC Stereo
	Jabra Evolve 30 II MS Stereo
	Jabra Evolve 20SE UC Stereo
	Jabra Evolve 20 UC Stereo
	Jabra Biz 2400 II USB Duo CC
	Jabra Biz 2400 II USB Duo BT
	Jabra Biz 2300 USB UC Duo
	Jabra Biz 2300 USB MS Duo
	Jabra Biz 1500 Duo QD
	Jabra Biz 1500 Mono QD
	Jabra Handset 450 White
	Jabra GN2100 3-in-1, Soundtube
	Jabra GN2100 3-in-1, Noise Canceling, STD

SR-32	Describe any administrative interfaces available to the State to manage, configure or change settings on an individual line or group of lines.
Bidder Response:	**Comply:** The Mitel system proposed by HPN has a browser-based management interface. Users access this interface using a userid and password combination. The management capabilities allowed can be allowed or restricted on a user-by-user basis. The range of capabilities spans from allowing all administrative functions down to limiting a user to only a single function (e.g. changing a user's password).
SR-33	Describe how errors and alarms will be reported to the State for issues within Contractor owned equipment.
Bidder Response:	**Comply:** The Mitel system proposed by HPN allows for the emailing of alarm notifications based upon the severity of the alarm. There are 4 alarm status and emails can be enabled or disabled for each status: 1) Clear Status - If selected, an email is sent whenever a System Alarm Status transitions to or from Cleared. 2) Minor Status - If selected, an email is sent whenever the System Alarm Status is at the Minor level or when an alarm at another level (including Clear) transitions to or from Minor. 3) Major Status - if selected, an email is sent whenever the System Alarm Status is at the Major level or when an alarm an another level (including Clear) transitions to or from Major or Minor. 4) Major Status - if selected, an email is sent whenever the System Alarm Status is at the Critical level or when an alarm at another level (including Clear) transitions to or from Critical, Major, or Minor. The Mitel system proposed has the following logging functions: •Maintenance Logs record all maintenance-related information, including anything that affects the functioning or capacity of the system in any way. •Software Logs record unusual activities within the system. •Audit Trail Logs identify who has logged into the system and what changes were made to the system database. •CESID Logs enable you to monitor and troubleshoot device moves and automatic CESID updates. •Data Distribution Update Logs identify any System Data Synchronization updates that were made on the local element that have failed to be distributed to the other elements in the network or cluster. Logs can be accessed by State personal with proper authorization from the browser based administrative interface outlined in SR-32 above. Additional, logs can be downloaded in .csv format if required. Optionally, the Mitel system can be act as an SNMP Agent and send traps to a State's Network Management application. The SNMP agent communicates with SNMP-compatible Network Management system and supports industry-standard MiB-II definitions as well as proprietary SNMP extensions.
SR-34	The Contractor may not market their products or services to any State agency except the office of the CIO without prior written permission. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** HPN will not market their products or services to any Nebraska State agency except the office of the CIO without prior written permission.
SR-35	Unless otherwise mutually agreed to in writing, the Contractor will, during the contract period, maintain any and all software and licensing products at their most current version or no less than one version back from the most current version at no additional charge, provided that such third-party software version upgrades can be installed and maintained with the State staff indicated in the Proposal for the Maintenance and Support services. Any patches made available by equipment manufacturers must be applied by the contractor at a time and date mutually agreed upon. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** The solution proposed by HPN includes access to all Mitel software version upgrades, patches, service packs and firmware upgrades for the term of the contract. Application of these upgrades will be done at no additional charge to the State and will be scheduled as mutually agreeable between the State and HPN.

SR-36	The Contractor will be responsible for determining the cause for service outages and providing that information to the State at no cost. Those outages that are determined to reside in the Contractor owned or leased facilities must be repaired without cost to the State. In the event the failure is determined to be on the Contractor side of the demarcation point, the Contractor must NOT charge for such failure determination. Describe how the solution meets this requirement.
Bidder Response:	Comply: HPN will not invoice the State of Nebraska for problem determination if the root cause of the issue is determined to be on the Contractor side of the demarcation point.
SR-37	Provide a description of your basic ACD and UCD features.
Bidder Response:	Comply: The Mitel system proposed by HPN has the following ACD / UCD features: - skills-based routing to get the call to the agent with the highest skill(s) level to handle the call - call queuing with announcement-in-queue, music-in-queue ability - queue dial out - allows the queued caller the option to leave the queue and be directed to someplace else (such as a general voicemail box) - Time-of-day, day-of-week call routing - Overflow to up to three other groups of agents as backups in case the primary agent group is unavailable. Timers are programmed to determine how long the callers stay queued before overflowing. - Predictive overflow determines whether a newly-queued call to an agent group should be immediately overflowed or sent to the next agent skill group based if the system predicts the call will not be handles within a certain configurable time. - No agent available call handling - if no agents are currently logged in to the system, callers will not be queued and will be directed to another answering point. - Silent monitoring / Whisper Coach - supervisors can listen to calls answered by an agent (with or without the agents knowledge) for quality assurance. Additional, while listening to calls, they can 'whisper' or talk to the agent with out the caller hearing the conversation.
SR-38	Provide a description of any ACD or UCD reporting functionality.
Bidder Response:	Comply: The Mitel system proposed by HPN has a reporting feature that provides the following: 1) Real-time reports - This is information about what is actually happening with the contact center at the moment (i.e. number of calls waiting, longest waiting calls, average wait times, number of agents available, agent status, etc.) This information can is displayed on a workstation and/or a wallboard-monitor in the call center and is fully customizable, allowing users to select the statistics that are important to them. The data can be shown in tabular format and via charts and graphs. 2) Historical reports - These report on call center activity over a period of time. Over 100 pre-defined reports are included and customized reports can be created by users. Reports can be in tabular format and/or charts and graphs. Reports can be scheduled to run at certain times and reports emailed to the appropriate personnel.
SR-39	The State requires that the following tasks be performed by the Contractor as part of the installation process:
	1. All programming of VOIP line in Contractors core equipment
	2. All programming or configuration of telephone set
	3. Delivery of telephone set to site
	4. Unboxing and assembly of telephone set at site
	5. Labeling of telephone set and keys
	6. Connecting telephone set to Ethernet jack and workstation if applicable
	7. Testing telephone set
	Describe in detail your process for telephone set configuration and installation.
Bidder Response:	Comply: HPN's installation process will be as follows: 1. Discovery - This is working with the State (and end-users of various organizational units (departments/divisions as appropriate) to document telephony requirements for the end-users and sites. 2. HPN will program the systems per the planning information 3. HPN will coordinate and work with technical resources in the OCIO to ensure the site is ready for VOIP. 4. Telephone sets will either be a) shipped directly to the site or b) delivered by HPN 5. HPN will facilitate the onsite assembly and placement of the telephone sets 5. .Keys and labels will appear automatically on the telephone set from the system programming done in step 2 above. (Proposed phones do not have paper labels.) 6. HPN will facility the connection to the Ethernet jack and workstation as part of step 4 above. 7. HPN will test the phone by making an internal and external call

	Voice Mail Requirements
	OCIO-hosted solution
VM-1	The bidders proposed solution must include a centralized voice mail system including system installation, engineering, implementation, maintenance, and support. The State will provide network from the Centralized voicemail system to the telephone sets. Describe how the solution meets this requirement.
Bidder Response:	Comply - The Mitel solution proposed by HPN includes MICollab Advanced Messaging (MICAM). It can be configured for a centralized architecture using a number of technologies to support a single voicemail system that ties together multiple telephone systems at different locations. MICAM supports networked PBX systems, where the PBX systems from a single vendor type are networked to function as an integrated system. MICAM will be deployed with Call Servers located at each data center site. All the Call Servers share a common database and the system functions as a single voicemail system. By deploying the Call Servers in both datacenters, HPN's solution provides high availability and redundancy.
VM-2	The Bidder's proposed system must provide "announcement only" mailboxes where the caller cannot leave a message. Describe how the solution meets this requirement.
Bidder Response:	Comply - The Mitel solution proposed by HPN provides for 'announcement-only' mailboxes. Announcement Mailboxes are used to store and play audio information. These mailboxes may be used for a variety of purposes, such as providing callers with commonly requested information in pre-recorded announcements. Examples would be: a) directions to the facility b) hours of operation c) schedules of special events, etc. Any announcement may be password protected, allowing only those callers that know the appropriate password to access the audio information stored in the mailbox. Any announcement-only mailbox may also be programmed to hang-up immediately after completing the playback of the audio information stored in the mailbox.
VM-3	The State requires unified messaging. Describe the functionality and features of the unified messaging platform included with your proposal.
Bidder Response:	Comply - The Mitel system proposed by HPN is designed with a flexible architecture in such a way that MICAM will work with virtually any email environment. MICAM can support simultaneous connections to multiple email servers for implementing unified messaging. This can be connections to multiple email servers of the same type (such as multiple Exchange servers in different domains) or can be connections to multiple email systems of a different type (such as simultaneous connection to IBM Notes, GroupWise, and Google Mail). Any user can be assigned to any of the connected email systems for the purpose of supporting unified messaging. There is no fixed limit to the number of different email servers to which a single MICAM system can provide simultaneous integration. Unlike all other competing products, MICAM allows customers to deploy any type and mix of unified messaging on a system as well as allowing users to mix unified messaging and traditional voice mail users on the same system. As voice messages are received by the system, they are moved from the system to the appropriate email server. This allows users to access their voice messages from all of their familiar email clients; their desktop email program, any web-based email access program, their smartphone email program, etc. MICAM also supports secure IMAP and SMTP for server-based integrations to "cloud"-based email systems, such as Google Gmail, Office365 and other cloud-based email environments.
VM-4	The bidders proposed solution must include automated attendant features. Describe how the solution meets this requirement.
Bidder Response:	Comply - The Mitel solution proposed by HPN supports a sophisticated set of automated attendant features that allow outside callers to quickly and easily be transferred to the party to whom they wish to speak without involving a live attendant. Automated Attendant allows the caller to transfer to the user by either entering the user's telephone extension number or speaking their name (optional). MICAM also supports user directories that allow callers who are unfamiliar with the extension number of the called party to access that number by spelling the user's name. MICAM supports many advanced automated attendant features including multiple transfer types, call blocking, call screening, caller queuing, Extension Specific Processing (ESP), voice forms, etc. as standard features. All of these applications are supported with both a DTMF and an ASR (Automated Speech Recognition – optional license) interface. Each call processing structure may be triggered based on time-of-day, day-of-week, specific date and DNIS number. An unlimited number of schedules may be established. In addition, in order to easily handle emergency situations, pre-defined call processing may be established, but not enabled. Then, when an emergency arises, the system administrator can simply call into the system with a normal telephone call, record an appropriate greeting(s), and enable this call processing application, all over the telephone. Call Processing in front of, or as an overflow from, the ACD of the existing PBX is supported.
VM-5	The proposed voice mail/unified messaging system must accommodate multiple levels of automated attendant menus of various lengths. Describe how the solution meets this requirement.
Bidder Response:	Comply - The Mitel solution proposed by HPN has no fixed limit to the number of call processing menus that may be created on a MICAM system. Menus can be nested as deeply as required by the application (multilevel menus). Different menu trees can be accessed on time of day, date, day of week, day of month, etc., and menus can be shared across different applications.
VM-6	The proposed automated attendant must support automatic time, day, night and holiday routing schedules. (i.e.. Route calls to various destination numbers based on day/time). Describe how the solution meets this requirement.
Bidder Response:	Comply - The Mitel system proposed by HPN uses a call processing structure that may be triggered based on time-of-day, day-of-week, specific date and DNIS number using the Schedule Mailbox. An unlimited number of schedules may be established. In addition, in order to easily handle emergency situations, pre-defined call processing may be established, but not enabled. Then, when an emergency arises, the system administrator can simply call into the system with a normal telephone call, record an appropriate greeting(s), and enable this call processing application, all over the telephone.
VM-7	The bidder's solution should provide message waiting indicators. Describe the various message waiting indicators included with the proposed solution.
Bidder Response:	Comply - The Mitel system proposed by HPN can be programmed to send message waiting indicator (MWI) set and cancel commands to the telephone system to control the message waiting indicators at subscribers' extensions. MICAM will turn the indicator on for new voice and fax messages and turn the indicator off when the messages are accessed. To allow for meeting various differing user expectations, each user mailbox can be programmed to turn off the message waiting indicators based on any of the following criteria: - First...Clears the indicator when the subscriber first starts to listen to any message in their new message queue. - All...Clears the indicator when the subscriber has listed to all new messages in their new message queue. - Empty...Only clears the indicator when the subscriber has listened to and either saved or discarded all messages in their new message queue. MICAM can be configured to set the message waiting indicator for the primary extension associated with the Subscriber Mailbox as well for any secondary telephone system extensions also associated with the subscriber.

VM-8	Describe any limitations to the storage size on the voice mail system. Please state the limit per user.
Bidder Response:	Comply - The Mitel system proposed by HPN does not license storage space (all available space on the drive is free to be used for message storage) and since hard drive space has become so affordable, MICAM does not generally apply a storage capacity or a maximum number of messages limit on a per user basis. MICAM manages message storage space by controlling message retention for voice mail users. Any message left in a subscriber mailbox, either new or saved, will be deleted when the Message Retention time set for that mailbox has been exceeded. Messages are purged during Daily Maintenance. The message threshold can be set anywhere from one day to ninety nine days, or to unlimited (in which case messages will never be automatically deleted). The MICAM administrator can set the Message Retention threshold on either a per-user or a per-Class of Service. For those customers who wish to manage storage space, user mailboxes or Class of Service mailboxes can have both a maximum message length and a maximum number of allowed messages applied. The maximum message length can be set anywhere from two seconds to forty-five minutes. The maximum number of messages can be set from 1 to 32,767.
VM-9	What are the time limits for recorded greetings?
Bidder Response:	Comply - The Mitel system proposed by HPN has maximum length of recorded greetings of 3 minutes.
VM-10	What are the time limits for messages?
Bidder Response:	Comply - The Mitel system proposed by HPN has a maximum length of messages from 2 to 2,700 seconds (45 minutes). In order to provide the greatest flexibility. this parameter may be set by Class-of-Service or on a per-user basis.

State Network Requirements
OCIO-hosted solution

SN-1	The State does not allow Multicast across the State's Wide Area Network. Describe how the solution meets this requirement.
Bidder Response:	Comply: The Mitel system proposed by HPN does not require the use of multicast traffic
SN-2	The State requires the use of certificate-based 802.1x for network devices. Describe how the solution meets this requirement.
Bidder Response:	Comply: The Mitel telephone set proposed by HPN supports 802.1x certificates via EAP-TLS
SN-3	The bidder's solution must be capable of providing data and signaling confidentiality for all VoIP traffic. The system must meet FIPS 140-2 validated cryptographic hardware modules or software toolkits operated in FIPS mode for all encryption mechanisms. Explain how the proposed solution meets these requirements and provide supporting documentation.
Bidder Response:	Comply with exception - The Mitel system proposed by HPN supports both media and signaling path encryption for all VOIP traffic. Media path encryption is support RFC 3711 Secure RTP using 128-bit Advanced Encryption Standard (AES). This provides added confidentiality, message authentication and replay protection over the standard RTP protocol. Signaling path has a choice of two main methods to secure a signaling channel. These are: • SSL (Secure Socket Layer) or TLS (Transport Layer Security), both open standards • Secure MINET (a Mitel proprietary standard) Mitel's Secure MINET protocol uses the Advanced Encryption Standard (AES) to encrypt call control packets. Using secure MINET ensures that call control signaling packets between the IP phones and the MiVoice Business system (PBX) are protected from eavesdropping. Using secure MINET also protects the MiVoice Business System (PBX function) from unauthorized control packets. Secure MINET uses a predefined algorithm to encode the signaling messages. Negotiation of the encryption method is not needed, so this provides a simpler and faster method to establish secure connections. Exception: The Mitel system proposed by HPN does not support the FIPS 140-2 standard.
SN-4	Does your solution require the placement of any equipment other than phones on the State's network? Please provide the physical and logical network requirements in the proposal. What type of remote access is required for Contractor owned equipment?
Bidder Response:	Comply - The Mitel system proposed by HPN requires the following equipment other than phones to be placed on the State's network: 1) Mitel analog terminal adapters to support analog telephone sets - these have no other physical requirements than an IP network connection and a 120-volt outlet. 2) Mitel IP paging units to support the limited number of sites that have overhead paging - these have no other physical requirements than an IP network connection and a 120-volt outlet. 3) A connection from the State network to the phone system infrastructure network in each datacenter. Remote access is required to the phone system infrastructure network at both datacenters. The preferred method is using an 'egress' model where an HPN internal server on the phone system infrastructure network makes an outbound connection request to HPN support servers. The internal server will only connect to a trusted HPN support server IP address. No inbound requests from HPN or any other external devices are allowed, limiting the possibility of an unauthorized attack from the public internet. HPN is also open to considering other remote access methods mutually agreed upon between the State and HPN.

SN-5	Provide your bandwidth requirements with regards to the following:		
	any overhead network requirements		
	bandwidth per call		
	bandwidth for management		
Bidder Response:	**Comply:** The Mitel solution proposed by HPN requires the following: - overhead network requirements are only needed when the phone is in a idle state. These are normally less than 1kbits/second - bandwidth per call is determine by the codec being used and the packet rate of the device(s). Using the G.711 high quality codec and a 20ms packet rate, 96.8 kbps is used. - bandwidth for management - this is included in the above numbers		
SN-6	What are your network requirements to include but not limited to the following:		
	latency		
	jitter		
	QOS prioritization		
	QOS bandwidth reservation		
Bidder Response:	**Comply:** The Mitel solution proposed by HPN requires the following: **Latency (end-to-end delay)** Good: <50ms / Borderline: <80ms / unacceptable: >80ms **Jitter** Good: <20ms / Borderline: <60ms / unacceptable: >60ms **QoS prioritization** · Voice packets: DSCP 64; 802.1p: 5 · Signaling packets: DSCP 26; 802.1p: 3 **QoS bandwidth reservation** · Not required		
SN-7	Describe how the solution supports IPv6.		
Bidder Response:	**Comply:** Mitel supports IPv6 in their next software release, which will be available in August 2018.		
SN-8	What troubleshooting duties will State personnel be responsible for?		
Bidder Response:	The State will be responsible for troubleshooting the following: 1) any cabling issues 2) any layer 2 switching issues, including PoE 3) any layer 3 routing issues, including QoS 4) any power / heating / cooling issues in the data centers 5) any IP-network related services (DHCP / DNS / NTP / TFTP / etc.) that are not allowed to be provided by Contractor equipment. 6) any non-telephony end-point devices connected to the Mitel system (e.g. fax machines / paging equipment / etc.) 7) the secured remote connection between the State and HPN 8) any Internet connection required to communicate with Mitel's licensing system, HPN's remote diagnostic system and for the uploading of system logs needed for troubleshooting. 9) Connection between the proposed voicemail system and the State's email system for unified messaging. 10) Unified messaging issues on the email system. 11) SIP trunk voice quality issues / availability 12) WAN link connections between sites 13) Any firewall issues 14) Participation in business unit / site number porting cutovers with HPN and SIP PSTN provider		
SN-9	What level of monitoring is provided by the Contractor?		
Bidder Response:	**Comply** - The following items are monitored: - System alarms - Emergency Response (ER) alarms - System reachability and availability - Inventory (system hardware, software information, hardware ID, app record) - License inventory, node and cluster - Performance metrics: CPU, memory, interface statistics - Voice metrics: voice quality ratings by call (R factor) & Voice quality visualization charts · SIP trunk utilization · IP Telephony user data - Near end and far end call statistics and voice quality ratings by call (R factor) for SIP trunks		
SN-10	Describe the remote diagnostic capabilities and any firewall policies, including all TCP and UP port(s), that will be required to enable this functionality.		
Bidder Response:	The following ports / protocols will be required for remote monitoring / diagnostics: HTTPS TCP port 443 FTP, FTPS implicit TCP port 21 (can be optional) SFTP TCP port 22 (can be optional) FTPS explicit TCP port 990 (can be optional) SSH TCP port 50000 DNS TCP & UDP port 53 (not required if these services are provided by the State) NTP UP port 123 (not required if these services are provided by the State)		

SN-11	Bidder should provide a list of the various network elements and devices that are monitored and their procedure for reporting trouble to the OCIO.
Bidder Response:	**Comply** - The following devices are monitored: - Mitel MiVoice Business virtual server (PBX function) - Mitel MiVoice Border Gateway (session border controller function) - Mitel Contact Center (ACD Call Center Reporting / Call Accounting function) - Mitel Standard Linux operating system (operating system function for some systems) - Microsoft Windows operating system (operating system function for some systems) - VMware ESXi server (virtualization platform) - Ethernet switches connecting above equipment The system can be configured to report trouble to the State and HPN support personnel via any of the following methods: 1) email 2) SMS message 3)Twitter Direct Message 4) SNMP trap 5) desktop notification.
SN-12	Describe how the solution supports DHCP. Explain what DHCP options are used.
Bidder Response:	**Comply:** The Mitel phone sets support DHCP. The phone sets use the following DHCP options: - Option 1: Subnet mask (required) - Option 3: Gateway (required) - Option 125: Vendor-Identifying Vendor Specific (required) (this is where the IP addresses of the call server(s), TFTP server(s) and DSCP and L2P values are set)
SN-13	Describe if the State will be allowed or required to monitor Contractor owned equipment.
Bidder Response:	**Comply:** The State will be allowed, but not required to monitor Contractor owned equipment
SN-14	Describe if the Contractor requires access to State owned equipment. Explain what level of access is required.
Bidder Response:	**Comply:** HPN will not require access to State owned equipment.
SN-15	Describe the levels of security included with the bidder's solution (IP network security, etc.).
Bidder Response:	**Comply** - The Mitel system proposed offers the following security: - Media path encryption: RFC 3711 SRTP (Secure RTP using 128-bit Advanced Encryption Standard (AES). - Signaling path encryption (two options): 1) SSL (Secure Socket Layer) / TLS (Transport Layer Security) both open standards or 2)Secure MiNET - a Mitel proprietary protocol that uses AES (Advanced Encryption Standard) - Phone set authentication using 802.1x certificates via EAP-TLS. - User authentication to system administration function via https:// and SSL certificates plus userid/password combination - System-to-system communication validated via SSL certificates
SN-16	Please describe, in detail, the demarc between the Contractor and the State.
Bidder Response:	**Comply** - The Mitel system proposed by HPN has the following demarcation points: - at the telephone set end point, the demarc would be the connection of the phone to the RJ-45 jack of a CAT5/6 cable. - at all non-telephony devices (e.g. fax machines / paging equipment / etc.) that are connected to the Mitel system, the demarc will be at the cable connection between the Mitel equipment and the non-telephony device. - at all datacenters, the demarc would be the connection of the HPN voice infrastructure network to the State's LAN and the State's power electrical power. - at the SIP PSTN connection, the demarc will be the connection of the Mitel session border controller to the State's ethernet switch.

	Post Implementation Support
	OCIO-hosted solution
PI-1	The Contractor must provide a centralized trouble reporting and maintenance system that is staffed 24 hours a day, seven days a week. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** High Point Networks has a team of 4 dispatchers who leverage ConnectWise for PSA/ticketing. Tickets are funneled to this team by phone, email, or webpage support form. Calls outside of standard business hours (Monday through Friday 7 am – 6 pm central time) are handled by HPN dispatchers and routed to the appropriate Engineer on call.
PI-2	The centralized Trouble Reporting Center must provide notification to the State immediately after any occurrence of a service affecting network failure condition when the State has not previously reported such failure. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** High Point Networks has a Network Operations Center that leverages a series of Remote Monitoring and Management (RMM) tools to notify our staff of anomalies. Our NOC Engineers are trained to both proactively prevent anomalies and maintain a stable baseline. When anomalies are detected, our engineers will begin troubleshooting and reach out to our primary customer contact to update.
PI-3	Bidder must provide a flow chart along with other available contractor documentation describing the trouble reporting and the contractor's problem escalation support model. Describe how the solution meets this requirement.
Bidder Response:	**Refer to Fig. A**

Fig. A

Ticket Dispatch & Escalation Flow

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INCOMING FROM CUSTOMER

RMM ALERT

NOC DISCOVERY

TICKET OPENED WITH DISPATCH

ENGINEER ASSIGNED TO THE TICKET

ENGINEER RESOLVES TICKET

ESCALATED TO SR. ENGINEER OR ARCHITECT VIA DISPATCH

ENGINEER RESOLVES TICKET

PI-4	Upon Intent to Award, the bidder must provide an escalation procedure and contact list to be used for unresolved troubles, including names, titles, and phone numbers of contact persons in the escalation chain. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** HPN will provide an escalation procedure and contact list to be used for unresolved troubles, including names, titles, and phone numbers of contact persons in the escalation chain.
PI-5	The bidder must provide Service Level Agreements (SLA) that are applicable to the service being proposed. SLA's must be included with the Bidder's proposal.
Bidder Response:	**Refer to Fig. B**
PI-6	The bidder must provide a plan of redundancy and business recovery. A copy of the plan must be included in the bidder's response.
Bidder Response:	Comply - The Mitel solution proposed by HPN utilizes redundancy at the hardware level and at the application layer. - Each call server (PBX function) has a redundant partner in the other datacenter. Should a call server application become unavailable (due to an application issue, a physical host server issue, a network outage or any other event that would cause an IP Phone to lose connectivity to it, etc.), its redundant partner in the second datacenter automatically takes control (often preserving in progress calls). - Each session border controller (SIP PSTN connection) has a redundant partner in the other datacenter. Should a session border controller application become unavailable (due to an application issue, a physical host server issue, a network outage - including SIP PSTN provider outages - or any other event that would cause a loss of SIP PSTN connectivity), its redundant partner in the second datacenter automatically takes control. This preserves 100% of the total number of SIP trunks available. - MICAM (voicemail / auto attendant function) has a redundant call server in the other datacenter. Should the MICAM call server become unavailable (due to an application issue, a physical host server issue, a network outage or any other event that would make it unavailable), voicemails will continue to be received and processed and auto attendant functions & call routing would be process by its redundant partner in the second datacenter. Stored voicemails would be unavailable until primary system becomes available and all newly received messages are automatically re-synchronized. - The HPN voice infrastructure network in each datacenter has a meshed switched network. **Refer to Fig. C-H**

Fig. B

Service Level Agreements

HIGH POINT NETWORKS™

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Phone: 970.541.7887

www.HighPointNetworks.com

Response Times and Scale

Service Priorities:	**PRIORITY 1** - Emergency or immediate response
	PRIORITY 2 - Quick response
	PRIORITY 3 - Normal response
	PRIORITY 4 - Next scheduled visit

Level of Severity:
LOW - One user or a small group of users is affected
MEDIUM - Departments or large group of users are affected
HIGH - Whole company is affected

Business Impact:
LOW - Business process can continue
MEDIUM - Business is degraded, but there is a reasonable workaround
HIGH - Critical, major business processes are stopped

	High Severity	Medium Severity	Low Severity
High Impact	PRIORITY 1	PRIORITY 2	PRIORITY 2
Medium Impact	PRIORITY 2	PRIORITY 3	PRIORITY 3
Low Impact	PRIORITY 3	PRIORITY 3	PRIORITY 4

Standard SLA (11 Hours/Day)

	Respond Within	Resolution Plan Within	Resolved Within
PRIORITY 1: *Emergency*	.2 Hours	.5 Hours	Best Effort
PRIORITY 2: *Quick*	.2 Hours	1 Hour	Best Effort
PRIORITY 3: *Normal*	.2 Hours	2 Hours	Best Effort
PRIORITY 4: *Next Visit*	.2 Hours	4 Hours	Best Effort

Help Desk

High Point Networks is always ready and prepared to serve you 24/7/365!

📞 701.293.8300 *or* 605.789.5678   ✉ helpdesk@highpointnetworks.com   🦅 myhph.highpointnetworks.com

Normal Operation: phone sets register and receive call control from a primary call server

Remote Site 1
IP Phones

Remote Site 2
IP Phones

Remote Site 70
IP Phones

WAN

MiVoice Business (virtual)
- Call Control
- Management

Lincoln Data Center

Omaha Data Center

MiVoice Business (virtual)
- Call Control
- Management
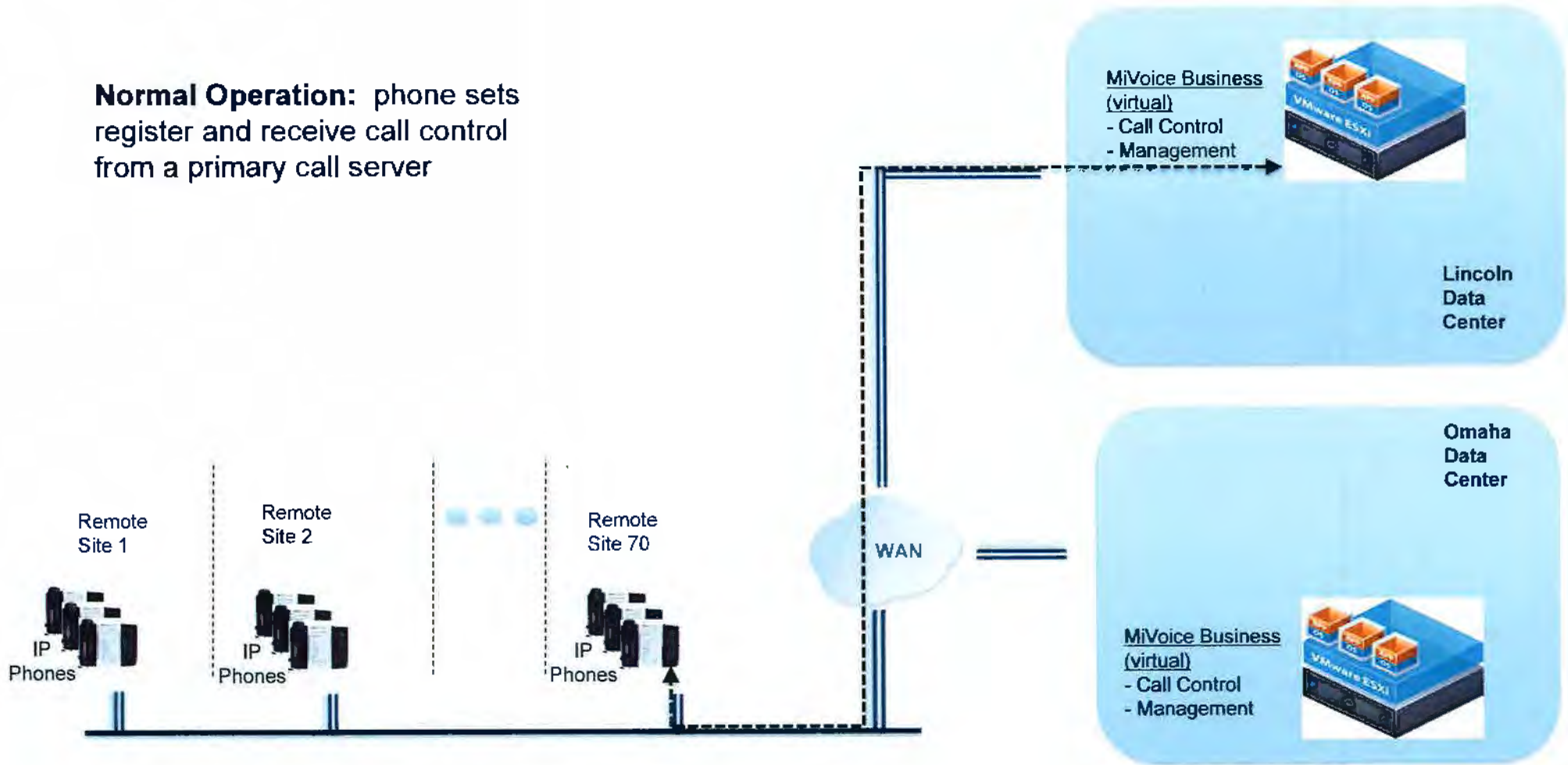
Figure C

Telephone Resiliency

HIGH POINT NETWORKS

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Planned or unplanned outage: phone set loses connection for any reason (network failure / hardware failure / system upgrade); phone set automatically re-registers with redundant system (in many cases, in-progress calls can remain active)

MiVoice Business (virtual)
- Call Control
- Management

Lincoln Data Center

Omaha Data Center

Remote Site 1

Remote Site 2

Remote Site 71

IP Phones

IP Phones

IP Phones

WAN

MiVoice Business (virtual)
- Call Control
- Management
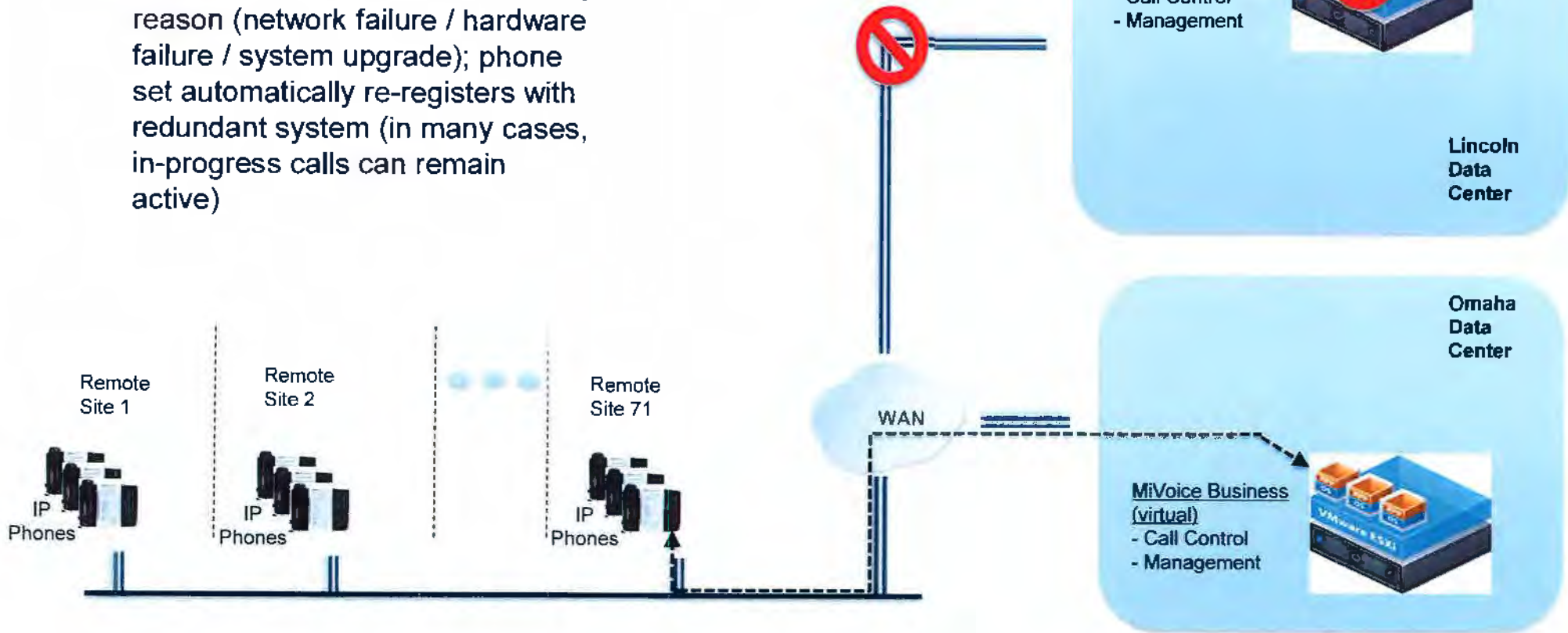
Figure D

Telephone Resiliency

HIGH▲POINT
NETWORKS

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Recovery: After outage is resolved and connection remains stable for a period of time, phone set returns to primary call server without user intervention and only when an active call is not in progress.

MiVoice Business (virtual)
- Call Control
- Management

Lincoln Data Center

Omaha Data Center

MiVoice Business (virtual)
- Call Control
- Management

Remote Site 1

Remote Site 2

Remote Site 71

IP Phones

IP Phones

IP Phones

WAN
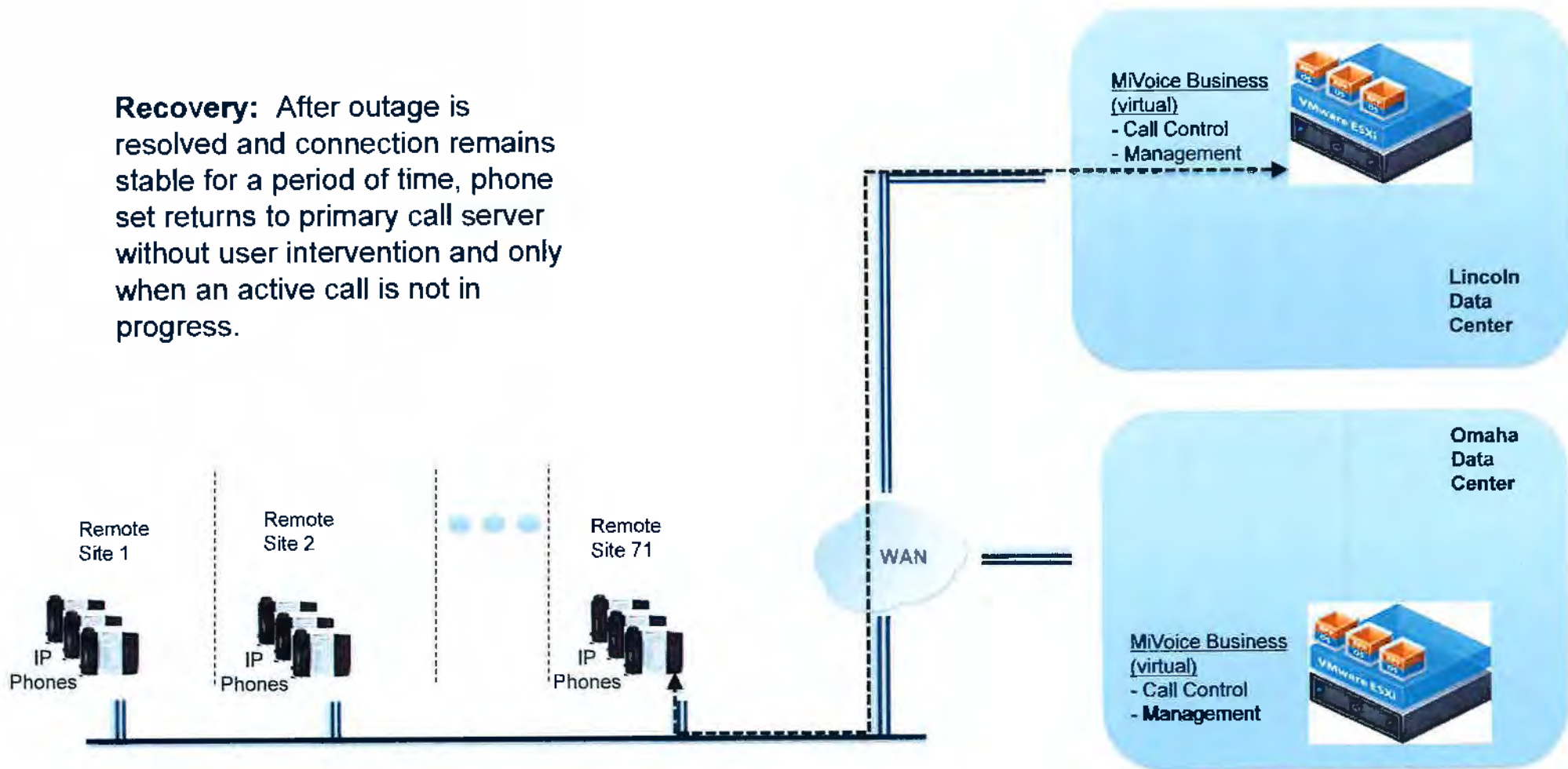
Figure E

Telephone Resiliency

HIGH POINT NETWORKS

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Normal Operation: Inbound/Outbound calls use SIP trunks from either data center. Calls volume can be split 50/50 among the two data centers

SIP PSTN Network

WAN

MiVoice Border Gateway (virtual) - SIP Trunk Session Border Controller

Lincoln Data Center

Omaha Data Center

MiVoice Border Gateway (virtual) - SIP Trunk Session Border Controller
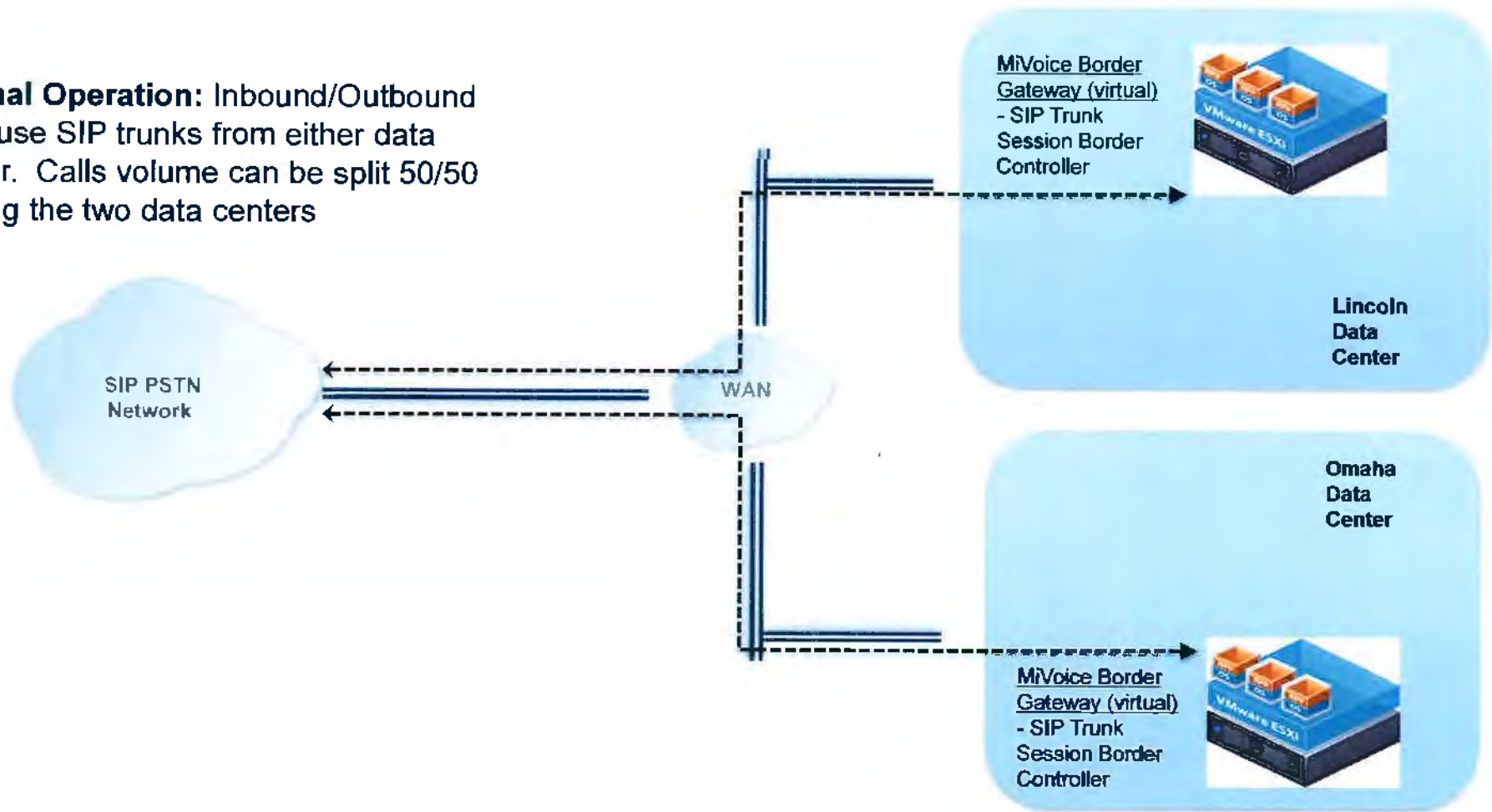
Figure F

SIP Trunk Resiliency

HIGH POINT NETWORKS

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Planned or unplanned outage: session border controller loses connection to SIP PSTN network for any reason (network failure / hardware failure / system upgrade) – All incoming / outgoing calls now use the remaining site. Number of available SIP trunks remains at 100% of total

MiVoice Border
Gateway (virtual)
- SIP Trunk
Session Border
Controller

Lincoln
Data
Center

SIP PSTN
Network

WAN

Omaha
Data
Center

MiVoice Border
Gateway (virtual)
- SIP Trunk
Session Border
Controller
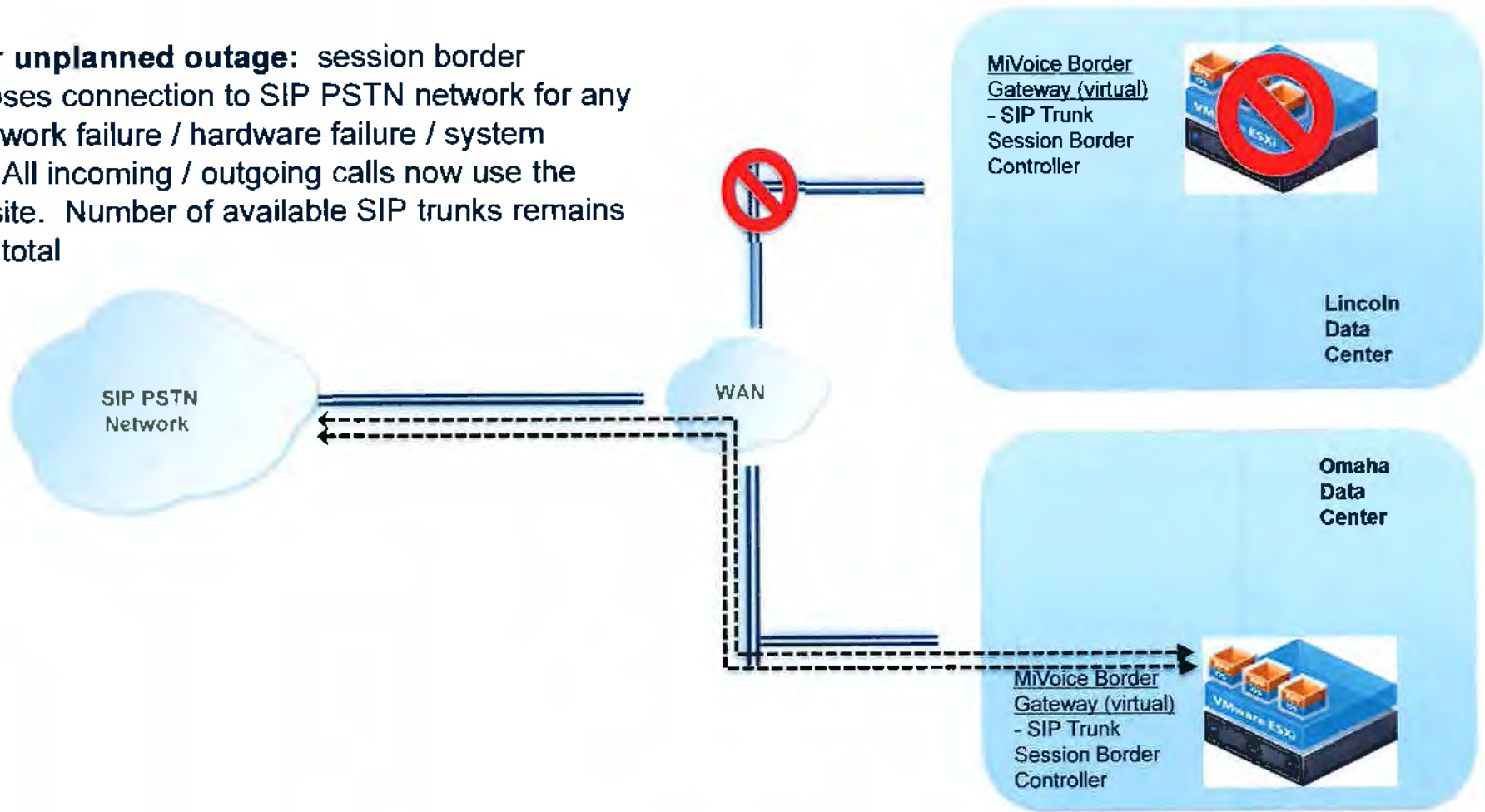
Figure G

SIP Trunk Resiliency

HIGH POINT
NETWORKS

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Recovery: After outage is resolved and connection remains stable for a period of time, 50% of the SIP trunks revert back to original site.

MiVoice Border
Gateway (virtual)
- SIP Trunk
Session Border
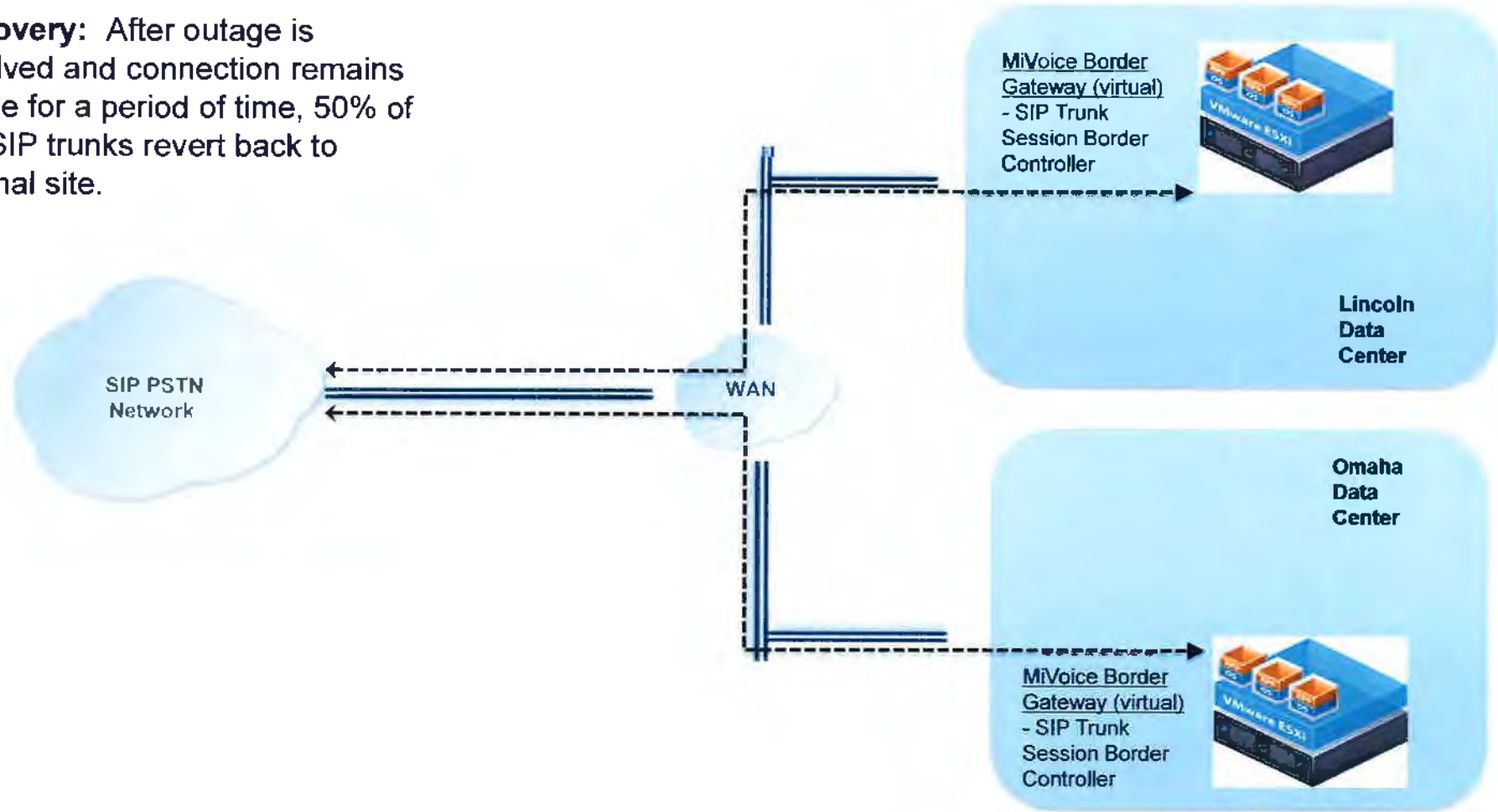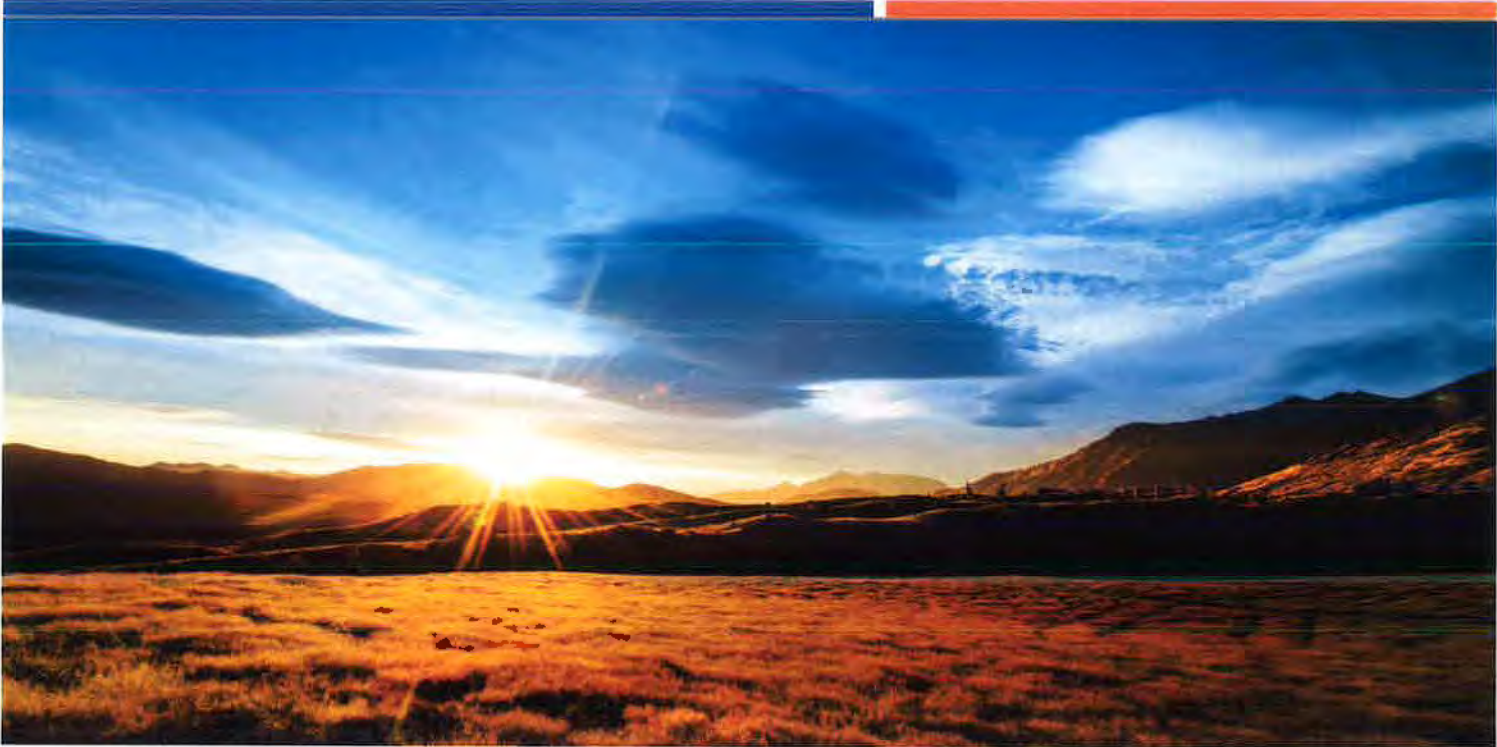Controller

Lincoln
Data
Center

SIP PSTN
Network

WAN

Omaha
Data
Center

MiVoice Border
Gateway (virtual)
- SIP Trunk
Session Border
Controller

Figure H

SIP Trunk Resiliency

HIGH POINT
NETWORKS

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PI-7	Describe any end user documentation provided.
Bidder Response:	Comply: The following end-user documentation is available:
	- Mitel 6920 IP Telephone Quick Reference Guide (usually provided in hardcopy or softcopy)
	- Mitel 6920 IP Telephone User Guide (usually provided in softcopy)
	- MiContact Center Business User Guide (for data analysists)
	- MiContact Center Business Reports Guide (for contact center supervisors / agents)

PI-8	Describe any administrator documentation provided.
Bidder Response:	Comply
	Mitel MiVoice Business virtual server (PBX function)
	System Administration Tool help files
	Technician's Handbook
	Hardware Technical Reference Manual
	Engineering Guidelines
	Mitel Voice Cluster Design and Implementation
	Troubleshooting Guide
	Voice Quality Troubleshooting Guide
	Resiliency Guidelines
	Site Planning Guide
	General Information Guide
	Installation and Administration Guide for MiVoice Business for Industry Standard Servers and Virtual MiVoice Business

Bidder Response (cont) :	Mitel MiVoice Border Gateway (session border controller function)
	Online Help files
	Installation and Maintenance Guide
	Engineering Guidelines
	Mitel Contact Center (ACD Call Center Reporting / Call Accounting function)
	MiContact Center Business Installation and Administration Guide
	MiContact Center Business and MiVoice Analytics System Engineering Guide
	Multimedia Contact Center Installation and Deployment Guide
	MiContact Center Business User Guide
	MiContact Center Business Reports Guide
	MiContact Center Business - Workgroup Reports Guide
	MiContact Center Business General Information Guide
	MiContact Center Business Site-Based Security (Multi-tenant) Administration Guide
	Mitel Standard Linux operating system (operating system function for some systems)
	System Administration help files
	Installation and Administration Guide

PI-9	Describe any end user training provided.
Bidder Response:	Comply - HPN will provide web-based end-user training on the telephone sets. This training outlines the features / function of all the buttons on the phone as well as the process to complete many common tasks (making calls, taking calls, call transferring, call conferencing, accessing voicemail, etc. Additionally, HPN will provide
	1) A customized 'State of Nebraska cheat sheet' detailing specific information for the business unit / site
	2) An end-user quick reference guide for the phone set.

PI-10	Describe any administrator training provided.
Bidder Response:	Comply - The following administrative training is provided:
	Mitel University Course & recorded workshops
	- MiVoice Business System Administration self study
	- Session Initiation Protocol (SIP) introduction
	- Simple IP Subnetting Review and Practice
	- Voice packetization
	- Beneath the Application: Network Dependencies for VoIP Networks
	- Understanding Mitel Multi-Site Networks
	- Clustering and Resiliency on MiVoice Business
	- MiVoice Business Administrative Groups and Multi-node Management
	- MiVoice Business Fundamental Automatic Route Selections (ARS)
	- MiVoice Business Automatic Route Selection (ARS)
	- E-911 Emergency Workshop
	Additionally, there will be OJT 'knowledge transfer' from HPN to OCIO project team as they work collaboratively on this project.

		E911
		OCIO-Hosted Solution
E-1		Proposed solution must support E911 by sending the station number on all calls to the PSAP. Describe how the solution meets this requirement.
Bidder Response:		Comply - The Mitel solution proposed by HPN provides a CESID (customer emergency service ID) to the SIP PSTN trunking provider on all 9-1-1 calls. This CESID is then passed to the PSAP to determine the correct location of the 9-1-1 to direct emergency responders to the site. Each extension will have a CESID programmed for this purpose.
E-2		Proposed solution must support E911 by allowing callers to dial "911", or "9, 911". Describe how the solution meets this requirement.
Bidder Response:		Comply - The Mitel solution proposed by HPN allows for immediate outbound calls to be initiated whenever a user dials 9-1-1 or 9, 9-1-1. It does not wait for the fully 10 digits (xxx-xxx-xxxx) to be entered.
		Business Requirements
		Supported
		OCIO-Hosted Solution
BR-1		The State will not accept any requirements by the bidder concerning minimum orders. The State may place orders for 1 line, or as many as 1000 lines at any given time, and will pay the same installation and monthly rate for each line regardless of the quantity of lines ordered. Describe how the solution meets this requirement.
Bidder Response:		Comply - HPN will maintain the same installation and monthly rate per phone (line) regardless of the quantity of phone(s) (lines) ordered.
BR-2		The State requires the ability to remove lines as Agency requirements change. This will be done at any time without penalty, and the Contractor will cease billing on any lines removed from service. Describe how the solution meets this requirement.
Bidder Response:		Comply: HPN is proposing no "lines", however those SIP Trunks allocated will be removed from service to allow the licensing to return back into the usable pool.
BR-3		The OCIO will provide a list of State personnel to the contractor that are authorized to place orders and make billing inquiries. The Contractor will not accept or act on orders and inquiries from anyone whose name does not appear on the OCIO provided list. Describe how the solution meets this requirement.
Bidder Response:		Comply: HPN will provide the State personnel list to its ordering procurement officers. Also, HPN internal systems will be configured to alert any HPN purchasing agent of this requirement prior to placing any orders.
BR-4		Volume commitments will not be accepted by the State. If the bidder submits a response that contains Volume Commitments the bid may be rejected. Describe how the solution meets this requirement.
Bidder Response:		Comply: HPN has no volume commitments in this proposal.
BR-5		All due dates must be met by the Contractor. In the event that a Contractor provided due date cannot be met, the OCIO must be notified in writing at least two (2) business days prior to original due date. The Contractor must notify the service requestor when a work order has been completed. Describe how the solution meets this requirement.
Bidder Response:		Comply: HPN will provide the OCIO notification in writing at least two (2) business days prior to original due date. HPN will notify the service requestor when a work order has been completed.
BR-6		The State requires timely response to all requests for order activity. All requests should be acknowledged by the Contractor in writing within 48 hours. Contractor order number and order due date must be sent to the OCIO within 5 business days. Describe how the solution meets this requirement.
Bidder Response:		Comply: HPN will acknowledge all requests for order activity in writing (electronically) within 48 hours. Contractor order number and order due date will be sent electronically to the OCIO within 5 business days.

BR-7	With the exception of those orders that incur porting delays, all order activity must be completed by the Contractor within 14 calendar days. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** HPN will complete all order activity within 14 calendar days
BR-8	When requested by the State, the Contractor must provide reports including VOIP Line inventory and physical addresses. The State prefers access to the above information through an on-line, near real time system via the Internet at no additional cost. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** HPN is not proposing trunking to the system. The Mitel system proposed by HPN provides an inventory of all "VoIP Line" (i.e. extensions) of the system and is accessible via the configuration portal from a browser. Access to the browser based configuration portal will be provided to authorized State personnel.
BR-9	The State and the Contractor will work in partnership to ensure the services provided under this contract will be refreshed as technologies evolve and user needs grow. This technology refreshment clause will be a required condition of the contract. At a minimum the State and the Contractor will conduct yearly reviews during the term of the contract to review service offerings and pricing. These reviews may result in expanding the services offered by the Contractor to include new optional pricing elements or pricing reductions associated with improved economies of scale and/or technological innovations. Changes in the industry related to regulation and/or pricing mechanisms may also result in modification of rates identified in the services offered by the Contractor. Describe how the solution meets this requirement.
Bidder Response:	**Comply:** HPN agrees to meet with the State at a minimum of once per year (HPN suggests meeting at least twice per year to review the above items). Furthermore. HPN agrees that changes afforded by technology and economies of scale may result in pricing adjustments.
BR-10	Bidder must submit a Change Management Plan with their bid response detailing the change management process and approach.
Bidder Response:	**Comply:** ***Project Changes*** : High Point Networks recognizes that business requirements may dictate changes to the project. Changes that materially affect the project's scope, hardware / software configurations, technical resources or have a financial impact will adhere to the following guidelines: 1. Changes can be initiated by either the State or High Point Networks project manager. 2. Changes will be documented on a High Point Networks-provided Change Management Form. 3. Changes will be reviewed with all affected parties. 4. After review by both organizations, both the State's representative and the High Point Networks' project manager will accept/decline the proposed change. 5. Each party will be expected to secure the proper management level approvals as required. ***System Management Change:*** Any changes that impact a significant number of end users will go through the following process: 1. Proposed change will be documented and reviewed with the State and its affected stakeholders (a contingency or rollback plan will be provided if required by the State). 2. Change will be approved by the State. 3. Change will be mutually scheduled between the State, its affected Stakeholders and HPN. 4. Change will be implemented. ***Emergency Changes:*** In the event a change requires immediate implementation, High Point Networks will request approval from authorized personnel at the State to proceed bypassing the documentation and review process. Documentation of the work will be provided subsequently.

Project Planning and Management

Supported

OCIO-Hosted Solution

PP-1	Bidder must describe in the proposal each of the steps they will take during discovery, network assessment, individual site assessment, and install. Bidder must provide a draft Project Management Plan with their proposal.
Bidder Response:	**Comply:** Please see Section VI. Proposal Instructions, A. Proposal Submission, 3. Technical Approach, e. Detailed project work plan for this narrative.

e. Detailed project work plan

High Point Networks' experience providing VoIP solutions for customers has allowed us to develop a project methodology to complete projects on time and within budget. The methodology or project work plan has five (5) phases:

1. **Planning Phase** - A significant amount of time is dedicated to this phase. This ensures that the installed system matches as closely as possible with the State's requirements upon installation, not after the fact. The planning phase is broken into two (2) sections:
   a. **Overall planning** - In this section, items that impact the overall system deployment are discussed.
      i. Establishment of project teams from OCIO and HPN
      ii. Roles and responsibilities of project teams
      iii. Voice system infrastructure standards and naming conventions
      iv. State network standards
      v. State network readiness for VoIP
      vi. Structured Cabling review
      vii. Datacenter review (rack space / power / IP networking / environmental / physical access, etc.)
      viii. SIP PSTN carrier selection
      ix. Vendor remote access
      x. OCIO personnel education and training
      xi. Prioritization of business unit / site deployments
      xii. Project timeline

   b. **Individual site planning** – In this section, the unique requirements of each business unit/site are discovered and documented. This will be accomplished collaboratively between HPN and OCIO and business unit/site stakeholders. This will be replicated as each business unit / site is brought online:
      i. Phone extension requirements (extension numbering plan / hunt groups / ring groups / 9-1-1 requirements)
      ii. Voicemail and auto attendant requirements (voicemail-to-email / day-night service / special call handling requirements for certain numbers, etc.)
      iii. Telephone button programming requirements (process for end-user requested customization, etc.)
      iv. Porting of numbers from current Centrex / telco provider
      v. Other system feature requirements (paging / analog station / features to be allowed / disallowed etc.)
      vi. Installation scheduling requirements (Site access for installation personal / requested dates for deployment and dates to avoid)

2. **Central Systems Deployment Phase** – Using the information from the planning phase as a blueprint, HPN engineers complete the following tasks.
   a. Pre-stage of servers and switches in HPN lab
      i. Ensure hardware operation – turn up and burn in
      ii. Install virtualization software, operating system software and applications
      iii. Apply updates to all software

      iv. License all systems
      v. Configure voice infrastructure network(s)
      vi. Perform initial failover / failback testing
      vii. Document voice infrastructure network (as-built)

b. Install physical server and switching hardware in both datacenters
c. Connect voice infrastructure network to State IP network and SIP PSTN network
d. Perform failover / failback testing
      i. Phone set failover / failback
      ii. SIP PSTN trunk failover / failback
      iii. Document testing results
e. Update initial documentation of voice infrastructure network (as-built)
f. State acceptance of core infrastructure readiness

3. **Individual Site Deployment Phase** – Once the centralized systems are in place, business units / sites will start to be deployed. These will be done in the order prioritized by the OCIO. Significant events in this phase are:
    a. Individual site planning – see phase 1. b. above
    b. Configuration information for the business unit / site will be programmed in the system (some call this database programming phase)
        i. HPN engineers will use various programming tools and methods to automate this process where possible to streamline the process
    c. Upon completion of the programming, phone sets can be deployed
        i. Phone set assembly
        ii. Phone set placement on end user location
        iii. Phone set connection to IP network
        iv. Phone set registration to Mitel voice system
        v. Phone set testing

4. **Cutover Phase** - Because of the work done in the phases above, this is usually a non-eventful task.
    a. Coordination between existing Centrex / telco provider, OCIO, business unit / site, and HPN to establish an agreed upon date and time for number porting (this has been started as part of individual business unit / site planning phase 1. b. IV. above)
    b. End User Classroom training if optionally selected
    c. Participation in business unit / site cutover number porting cutover with OCIO and SIP PSTN provider
    d. Testing and validation of:
        i. Inbound calls
        ii. Outbound calls
        iii. Internal extension-to-extension calls
        iv. 911 emergency calls

5. **Handoff to ongoing support** - Once the cutover phase has been completed and all outstanding issues have been addressed, the business unit / site is ready to move to the HPN support structure.

f. Deliverables and due dates

The following deliverables will be provided by High Point Networks:

- Fully tested, redundant core voice systems that supports the features and functions outlined in 'Option A Requirements' and '5885 Z1 Attachment A Option A Requirements'
- Up to 10,634 Mitel 6920 IP Telephone Sets
- Up to 150 Mitel Terminal Adapters for analog station accommodation
- Mitel IP Paging Units for "a limited number of sites with overhead paging". HPN reserves the right to cap this at 10 sites
- Professional services to:
  o Design, configure, install, and test centralized systems
  o Program systems based on business unit / site requirements
  o Assist OCIO during number porting
  o Problem determination, diagnostics and resolution
  o Project management
  o End user training tools and materials (optional classroom training if purchased)
  o Ongoing maintenance and support of the enterprise
  o User additions, deletions and changes to the system
- Systems monitoring and reporting

Due Dates to be developed working collaboratively with the OCIO and HPN project team

6920 IP Phone Set

MiVoice 6920 IP Phone

Designed for the enterprise user who requires flexibility & reliability

Key Features

- 3.5" QVGA (320x240 pixel) color display
- Speech optimized handset
- High quality full-duplex speakerphone
- Programmable personal and Context sensitive soft keys
- Native EHS/DHSG analog headset support
- USB port for headsets and accessories

The MiVoice 6920 is designed for power users who demand not only a modern design but also a phone that is flexible and delivers a high quality communications experience. The MiVoice 6920 is designed from the ground up to provide an exceptional HD audio experience via its unique speech optimized handset, high quality full-duplex speakerphone and support for USB, EHS/DHSH & Analog headsets. The MiVoice 6920 offers an intuitive user experience via its crisp high resolution 3.5" color LCD display, programmable personal and context-sensitive soft keys.

Remarkable Audio

MiVoice 6920 IP Phone features Mitel's high definition HI-Q audio technology to deliver exceptional voice clarity. The 6920 handset provides speech optimized audio that delivers clearly discernable speech in all types of environments from the office cubical to the shop floor. Integrating HD wideband audio codecs, advanced audio processing, the 6920 offers a superior voice experience for crystal clear conversations.

Large Color Screen Display

Featuring a high resolution 3.5" QVGA color backlit LCD display that will deliver a rich visual presentation to maximize productivity. This large color display, combined with icon based navigation menus and intuitive user interfaces, makes the many powerful telephony features of the 6920 instinctively easy to use.

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Feature Keys

- *Programmable Personal keys for access to Lines, Speed Dials and Telephony functions*
- *Context Sensitive soft keys*
- *4-way navigation key*
- *11 dedicated feature keys plus dial pad*

Audio and Codecs

- *Mitel Hi-Q Audio Technology*
- *Speech optimized handset*
- *Hearing aid compatible (HAC) handset*
- *Full-duplex quality speakerphone*
- *Codecs (not all codecs supported by MiNet and SIP firmware):*
    - *G.711, G.729, G.722*
    - *G.722.1 (MiNet only);*
    - *G.726, iLBC AMR, AMR-WB (G.722.2) (SIP only)*
- *Headset connection interfaces – USB and Analog EHS/DHSG port*

Flexible Headset Options

The MiVoice 6920 IP Phone offers USB headset support and features an innovative analog headset port that uniquely provides dual support for EHS/DHSG and modular 4-pin headset connections. Users with wireless headsets that support EHS/DHSG can connect directly to the 6920 using standard third party cables.

Display and Indicators

- *3.5" QVGA (320x240 pixel) color display*
- *Intuitive graphical user interface and navigation menus*
- *Adjustable screen brightness for user comfort in different lighting environments*
- *Dedicated LED for call and message waiting*

Protocol Support

- *Mitel IP (MiNet) protocol support*
- *SIP (Session Initiation Protocol) support*

System Software Requirements

- *MiVoice Business, Release 8*
- *MiVoice Office R5.0*
- *MiVoice 5000 R6 4*
- *MiVoice MX-ONE R6.3*
- *MiVoice Border Gateway (teleworker), Release 9.4*
- *MiCollab Client, Release 7.2.2*

Integration and Connectivity

- *Dual 10/100/1000 Mbps Ethernet ports (LAN/PC)*
- *Support for Mitel Teleworker Solution, Automatic Call Distribution (ACD) agent and supervisor, hot desking, and resiliency*
- *Support for use with Mitel MiCollab Client*
- *Multiple-languages support: English, French, German, Italian, Portuguese, Spanish and Dutch (downloadable language packs for SIP)*
- *Secure encrypted voice communication*
- *Quality of Service support – IEEE 802.1 p/Q VLAN and priority tagging*
- *IEEE 802.1x authentication support*
- *Powered USB 2.0 Host port (100mA)*
- *Sidecar expansion port*
- *Dedicated 4-pin modular headset port convertible to EHS/DHSG capable headset port*

Powering

- *Idle 1.3w, Typical 3.4w*

Environmental / Regulatory Standards

- Operational:
    - *Operational +4°C to +49°C*
    - *Humidity 34% at +49°C 95% at*

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+29°C

- Storage:

  » Operational -40°C to +70°C

  » Humidity 15% at +70°C 95% at

  +29°C

EMC

- *Canada: ICES-003 (Class B)*
  - o *Rss-247*
- *USA: CFR Title 47, Part 15 (Class B)*
  - o *FCC Part 15 Subpart C*
- *European Union: EN55024 (EU)*
  - o *EN55032 (Class B)*
  - o *EN 301-489-1-17*
  - o *EN300 328*
  - o *EN 50360*
- *Australia / New Zealand: AS / NZS CISPR 22*

Safety

- *Canada: CSA C22.2 NO. 60950-1*
- *USA: UL 60950-1*
- *European Union: EN 60950-1*
- *Australia / New Zealand: AS / NZS 60950 - 1*

Safety

- *Canada: CS03 Part V (Hearing Aid Compatible)*
- *USA: FCC part 68 (CFR 47) (Hearing Aid Compatible)*
- *Australia / New Zealand: PTC220, AS/CA S004, AS/ACIF S040*
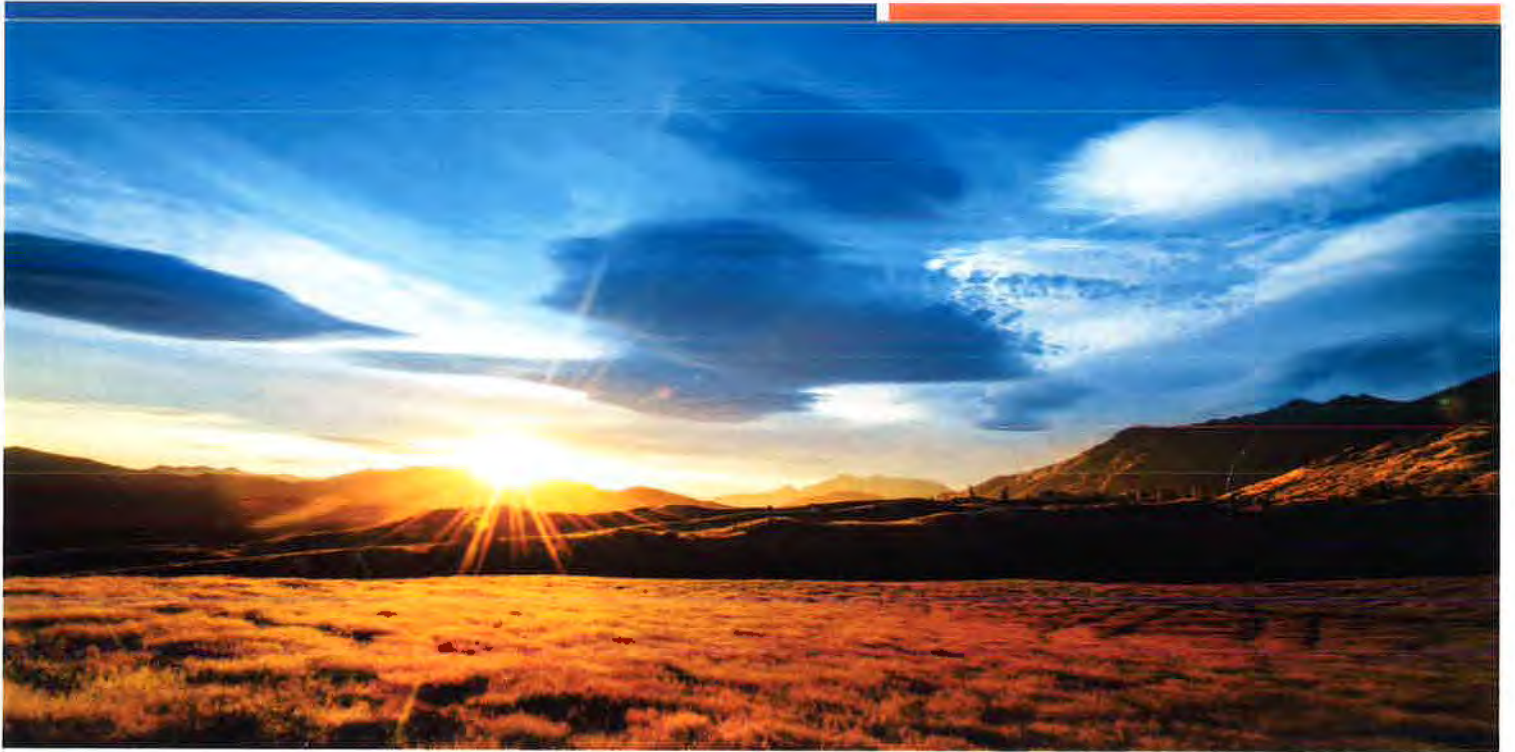
Other

- *MTBF Rate: 40 years*
- *Size (L x W x H): 8.9 in x 5.9in x 7.5 in (22.5cm x 15cm x 19cm)*
- *Weight: 2.2 lbs or 0.98 kg*

Voice Infrastructure Network

Mitel MiVoice Business

A cloud-ready communications solution that you
can deploy and adapt your way

Today's world of business is increasingly fast-paced, highly competitive, and global in nature.

Mitel understands that having the right business communications solution for your business is critical to business success. Mitel's MiVoice Business communications solution provides businesses like yours with the foundation to building a real-time communications landscape that allows employees to remain connected with colleagues and clients - no matter where their day takes them and no matter what device they choose to use.

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While there are numerous ways that businesses and their clients can connect with each other, voice remains at the core of a business unified communications solution.

Key Benefits

- Rich unified communications experience
- Single, cloud-ready software stream
- An in-office experience anywhere
- Freedom from a walled garden architecture
- Business Continuity

Rich Unified Communications Experience

From the demand for more freedom in the way employees can work to the ability to bring their own devices, it is becoming increasing difficult for businesses to stay ahead of the game.

Mitel has helped over 60 million businesses respond to real-world business challenges with unified communications solutions that drive productivity, improve performance, and reduce costs.

MiVoice Business is the foundation to a real-time communications solution that delivers the seamless integration of voice, email, unified messaging, mobility, presence, conferencing, contact center applications, and more – enabling faster, more effective communication.

MiVoice Business can help your business with addressing communications-based solutions tailored to the different needs of your employees. Whether it's related to job roles, varying levels of mobility within or outside of the business, or daily use of industry frameworks, Mitel MiVoice Business has your business covered. With integration to many of today's commonly used services, such as Google, Microsoft and Salesforce and support for unified communications clients for mobile operating systems, such as iOS, Android and BlackBerry, MiVoice Business helps provide communications efficiencies directly within the service or device allowing your employees to remain connected - no matter where their day takes them.

Freedom From Walled Garden Architectures

Organizations can no longer afford to be trapped in closed, single-vendor network architectures. They need the flexibility to make decisions based on business objectives; rather than based upon limitations imposed by their technology infrastructure.

An open network architecture can help minimize long-term costs, optimize productivity and provide the ability to leverage investments you may have already made in existing infrastructure & business frameworks.

MiVoice Business is based on an open, fully modular architecture that makes it agnostic when it comes to data infrastructure and UC components from other vendors, allowing MiVoice Business to be deployed on industry standard hardware and in fit within a wide range of data network architectures.

Furthermore Mitel provides integration with most of the industry's most widely deployed back office applications, including email, presence and instant messaging (IM) engines, and customer relationship management (CRM) solutions, such as Salesforce.

With Mitel and MiVoice Business you can freely change your network infrastructure to suit your business objectives, and your Mitel communications solution can evolve with you.

Business Continuity = Peace of Mind

If your business communications solution became inoperable how long would it be until it impacted your business? Business communications is a vital part of the success for almost every business and therefore it is important that it delivers reliability, resiliency, and availability in order to minimize any possible negative impact on the success of your business.

MiVoice Business's flexible architecture offers business continuity via resiliency and reliability options in the event of a network outage or hardware failure. The MiVoice Business communications software is certified on Stratus® servers, which deliver processor redundancy, RAID-protected hard drives, dual hot-swappable power supplies & fans, and redundant network connections – offering the highest level of business communications survivability.

In addition, the MiVoice Business software can also be deployed within VMware® vSphere virtual environments further enabling your business continuity advantages through VMware's High Availability options– such as the ability to perform an automatic restart of virtual machines on alternate servers when a server failure happens.

With MiVoice Business your organization can obtain communications peace of mind through reliable, resilient communications, so that your business remains connected.

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Single Cloud-Ready Software Stream

The right communications solution can not only make all the difference in increasing organizational productivity, but can also help your business respond to the ever changing business environment.

"Do more with less" has become the mantra for many businesses today. At the same time, IT organizations are being asked to focus on more strategic objectives that can help drive competitive advantage and tangible value for the business

This is why solution/ server deployment technologies like virtualization and solution delivery models, such as private/ public cloud have gained momentum in the business landscape.

MiVoice Business is a single, cloud-ready software stream that supports a range of deployment models: distributed, centralized, private cloud, public cloud, or even a hybrid public/ private model to best fit your IT strategy.

In fact, with MiVoice Business as your organization's IT strategy evolves (for example: from distributed servers in multiple sites to a single, virtualized datacenter) it to can evolve with your business — delivering a strong and futureproof total cost of ownership (TCO) for your business's unified communications investment.

An In-Office Experience Anywhere

The reality of the current business landscape is that work often takes employees away from their desks, and their desk phone. To counter this, most client facing employees often have a mobile phone so that they can remain reachable wherever they go.

The problem that often results from this is how to make that mobile device more integrated with the business, so that it is simply not just a 'bolt on' remedy.

With MiVoice Business mobility is a core element — instead of an add-on piece - ensuring client facing employees don't miss important customer calls and allowing external mobile devices to become more integrated within the business.

Through MiVoice Business your business can benefit from native mobility support for capabilities, such as desk phone twinning, active call hand-off between a desk phone and mobile device, single number identity, and hot desking into external communications devices, so that it acts like their business desk phone.

With MiVoice Business employees are provided with the freedom to communicate from wherever their workday takes them, without the burden of escalating mobility costs for your business.

Comprehensive portfolio that delivers world class customer experience

MEDIA DISTRIBUTION

- Inbound/Outbound Voice
- Email
- Fax
- Web Chat
- Voicemail
- SMS text
- Social Media
- Open Media

ARCHITECTURES

- Single-site
- Multi-site
- Distributed
- Virtual
- Work-at-Home
- Resilient
- High Availability
- Business Continuity
- Disaster Recovery

ROUTING OPTIONS

- Queue Priority
- Predictive
- Scheduled
- Overflow

IVR

- Customer Profiling
- CRM dips
- Pre-Recorded Announcements
- Intelligent Messaging
- Dial out of Queue
- Self-Service
- Customer Callbacks
- Automatic Speech Recognition
- Text-to-Speech

AGENT PRODUCTIVITY

- Omnichannel interface
- Case Management
- Agent Hot Desking
- Real-Time Display
- Enterprise Presence and Chat
- Softphone
- Agent Greetings
- Screen-pop

OUTBOUND DIALING

- Preview
- Progressive
- Predictive

REPORTING AND MONITORING

- Historical Reports
- Real-Time Monitoring
- Traffic Analysis
- Custom Report Designer
- Call Costing
- Real-Time Agent & Queue
- Silent Monitoring

WORKFORCE OPTIMIZATION

- Call Recording
- Quality Monitoring
- Workforce Management
- Forecasting, Scheduling, and Adherence
- E-Learning / Coaching
- Speech Analytics
- Intraday management
- Employee empowerment
- Payroll integration
- Staff budgeting
- Gamification

PROFESSIONAL SERVICES

- Business Consulting
- Solution Consulting & Design
- Custom Development
- Implementation Services
- Health Check

TRAINING

- Leader-led
- Web-based

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Mitel MiCollab Advanced Messaging

Achieve High Availability and Disaster Recovery

Key Features

Multi-Server Deployment

- Survivability achieved using port distribution across multiple survivable call servers
- Built-in fault tolerance: each call server can function independently
- No loss of MiCollab Advanced Messaging application functionality

Multi-Server with Neverfail HA

- Fully-synchronized, uninterrupted hot standby
- Predicts issues and corrects them before they have impact through proactive realtime monitoring of hardware, software, and networking environments
- Automatic failover keeps users seamlessly connected without human intervention
- Multi-Server with neverfail disaster recovery
- Remote tertiary system server

With unmatched reliability, MiCollab Advanced Messaging is the unified messaging solution you can depend on.

Mitel products are known for delivering the highest levels of reliability. MiCollab Advanced Messaging continues the tradition by protecting your most mission critical communication applications 24 X 7 through a robust multi-server architecture. MiCollab Advanced Messaging helps businesses avoid downtime, keeps users connected and gives administrators confidence in the health of their IT system.

MiCollab Advanced Messaging offers a variety of deployment options that support many different emergency preparedness and business continuity initiatives.

MiCollab Advanced Messaging implementation provides you:

- Multi-server distributed architecture
- Multi-server with Neverfail® high availability and/or disaster recovery
- Redundant server components
- Built-in system reliability

Multi-Server Deployment

Warm Standby

Call server

Call server

System server

A MiCollab Advanced Messaging multi-server system deployment minimizes single points of failure Deployment of a single MiCollab Advanced Messaging system across multiple physical MiCollab Advanced Messaging servers offers a built in fault tolerance, as each call server can function independently. MiCollab Advanced Messaging is implemented using a mixture of two basic component types: a system server and up to twenty call servers. The system server acts as the brain and contains all of the processes and components that need to be centralized in order for the distributed system to function as a single voicemail system The call servers act as the workhorses and handle the real-time functions on the MiCollab Advanced Messaging system such as answering calls, recording messages, and performing call processing tasks In such a system, if any of the call servers fail, capacity is reduced without the loss of MiCollab Advanced Messaging application functionality For example, if an organization uses the multi-server deployment and they happen to be adding capacity to their MiCollab Advanced Messaging system, installing an application or OS update, or experiencing a hardware failure, MiCollab Advanced Messaging will continue to answer the phone, transfer calls, and take messages, providing a seamless experience to your customers.

Multi-Server with Neverfail High Availability Hot-Standby Deployment

When system downtime simply can't be afforded, then the MiCollab Advanced Messaging multi-server architecture with Neverfail High Availability is the right solution. MiCollab Advanced Messaging with Neverfail High Availability offers a secondary, fully synchronized, uninterrupted hot standby system server to achieve the high availability The secondary system server contains an up-to-date copy of the database from the primary system server All changes made to MiCollab Advanced Messaging on the primary system server are replicated in real time to the secondary system server, including application configuration changes, user messages, recorded names, greetings, announcements, and more Neverfail continuously monitors the health of the primary system server and immediately takes over upon identification of failure Neverfail always has an up-to-date copy of everything that was on the primary system server, resulting in zero loss of functionality

Multi-Server with Neverfail Disaster Recovery Deployment

Hurricane, fire, power outage – more and more organizations are implementing precautions so the effects of a disaster will be minimized. MiCollab Advanced Messaging, together with the Neverfail Disaster Recovery solution, provides a rapid recovery in the event of a local disaster Adding a warm standby tertiary system server at a remote location ensures your organization can quickly resume mission-critical business operations.

Buit-in System Reliability

MiCollab Advanced Messaging maintains a high level of reliability by utilizing a comprehensive set of server and processing monitoring tools to check the current health and status of the system It is monitoring all of the critical system processes to alert you of issues before they cause problems. MiCollab Advanced Messaging keeps system administrators abreast of the status of their MiCollab Advanced Messaging system through administrative alerts via SNMP or e-mail

Mitel MiVoice Border Gateway

Creating Secure Workspaces for Mobile And Remote Employees

Enable an in-office communications experience without being physically in the office.

The traditional workplace has transformed. Employees require the workplace to be flexible, to enable them to be mobile and work from remote locations and on different devices whenever they need to.

Easily build upon your Mitel® communications investment and extend unified communications capabilities to remote workers whether it's via IP phones, soft phones, or Wi-Fi / dual-mode phones easily with the Mitel MiVoice Border Gateway - the

session border controller built specifically for your Mitel communications infrastructure.

Designed to help ensure the productivity of your workforce, while maintaining the security of your business, MiVoice Border Gateway provides remote or mobile employees with a secure, encrypted voice connection to your company's internal network enabling them to easily connect from anywhere (hotspots, hotels, or home offices), at any time.

Mitel
Powering connections

When You Need More, Mitel Delivers

To deploy secure internal and external workspaces, the MiVoice Border Gateway ensures superior voice quality and provides comprehensive threat protection, strict access control, and privacy in a single consolidated server MiVoice Border Gateway allows remote employees to work and collaborate securely by facilitating a complete in-office unified communications experience without being physically located in the office.

MiVoice Border Gateway delivers the following co-resident services on a single platform:

- Teleworker Service – Turns Mitel MiVoice IP phones or soft phones into teleworker communications devices

- SIP Trunk Proxy Service – Can serve as a SIPaware firewall at the edge of the company network and eliminates the need for third-party firewall devices, simplifying configuration and deployment

- Application Web Proxy Service – Enables trusted connectivity between the company LAN and the public Internet to provide secure access for Mitel unified communications applications

- Secure Recording Connector – Allows both Mitel and third-party call recording solutions to securely record IP endpoint and teleworker extensions

- WebRTC Gateway - Provides a WebRTC to SIP gateway connection for Mitel IP-PBXs allowing you to provide both anonymous and subscribed connections to your Mitel call managers through WebRTC-enabled browsers

- Remote Management Service – Permits system administrators of Mitel solutions to access Mitel web management interfaces from outside the organization's corporate LAN

Secure, Reliable Remote Workspaces

MiVoice Border Gateway enables your organization to extend the voice network to virtually any location through its Teleworker service* that creates secure external voice connections using high-grade 128 bit AES security for all communications signaling and media authentication, all without requiring an additional VPN service

The Teleworker service can be implemented quickly and easily supporting a range of MiVoice IP phones that when once set up and plugged into a broadband connection, automatically register with the communications system as an office extension. Furthermore, large adaptive jitter buffers built into Mitel MiVoice IP phones help ensure a superior voice quality experience And for those users who prefer a softphone, the Teleworker service can be used with Mitel's MiCollab and MiContact Center softphones or Counterpath's® Bria SIP soft client

With support for a fully meshed cluster of nodes, (which serve as a single, large teleworker server), up to 50,000 devices in total, and high availability (with up to 10,000 users per server in a cluster of up to five active servers, and another server for redundancy/fail over) MiVoice Border Gateway delivers the core underlying infrastructure for a reliable, scalable, secure network with continuous availability.

*Supported by MiVoice MX-ONE, MiVoice Business, MiVoice 5000, and MiVoice Office (250 & 400) platforms

Trusted Application Connections

MiVoice Border Gateway's Application Web Proxy service connects corporate LANs and the public Internet to provide trusted access for Mitel unified communications applications. For example, to allow employees to collaborate with external colleagues and customers using Mitel's MiCollab audio, web and video conferencing service through a secure, controlled internal LAN connection

MiVoice Analytics

Track, monitor and control telecommunication usage and cost

Mitel
Powering connections

MiVoice Analytics

A telecom infrastructure is at the core of any organization, allowing you to interact with your most valuable assets - your employees and your customers. A comprehensive call management solution gives businesses the edge they need by increasing employee productivity, reducing costs, and optimizing telecom setup.

Call management requirements

- Optimize the use of both employees and system resources
- Efficiently route incoming calls to your business
- Monitor telephony use and performance and identify opportunities for improvement
- Proactively monitor telecom costs and identify opportunities for cost savings
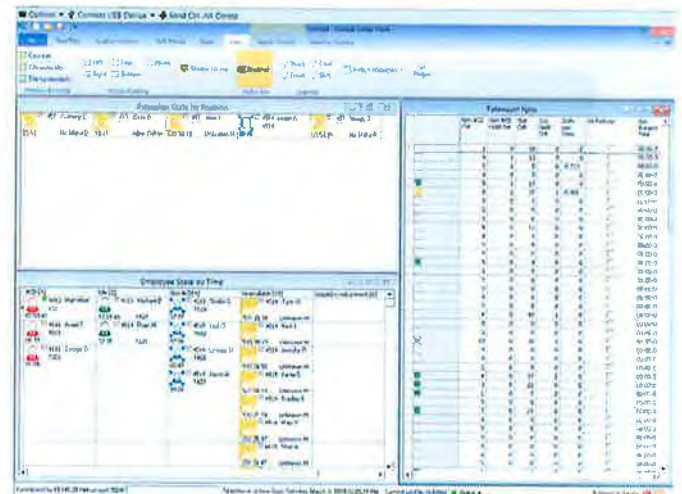
The solution? MiVoice Analytics!

MiVoice Analytics is a comprehensive general business reporting, management, and call costing solution for the MiVoice Business platform that is available as either a single or multi-site solution, on-premises or in the cloud, and can optionally be integrated with MiContact Center Business.

MiVoice Analytics is available to MiVoice Business customers in two licensable bundles:

- *Call Accounting – for historical call costing, subscriber services, and traffic analysis reporting*
- *Business Reporter – for general business extension reporting (includes Call Accounting)*

MiVoice Analytics is also included out-of-the-box with MiContact Center Business.

Get the complete picture

When you need to know how incoming and outgoing calls are handled by the employees in your business, MiVoice Analytics reports can provide you with all of the historical analytics you need In addition to this, MiVoice Analytic' Business Reporter option enables you to proactively monitor employee and extension telephony use in real time. Whether it's an overview of call activity or a specific call record. the MiVoice Analytics real-time and historical reporting capabilities can help you track, understand, and predict employee call patterns, so that you can efficiently and effectively manage your telecom use and make changes to optimize the system Want to know who made a particular call? MiVoice Call Accounting and Business Reporter reports and data mining tools aid the search for specific call records This helps you determine who called whom, where callers were transferred, the phone number dialed the caller dialed, and more

Optimize the caller experience

You don't have to be a full-fledged contact center to handle calls promptly! With MiVoice Analytics' Business Reporter capabilities, you can route calls using ring group functionality, ensuring that no call goes unanswered, and that calls are answered promptly. Using MiVoice Analytics reports, IT specialists can familiarize themselves with call patterns and use that knowledge to identify trunk lines, system infrastructure, and personnel resources that are overwhelmed or underused. By adjusting trunk usage and personnel resources, businesses can even out the peaks and valleys of telecom activity, realize cost efficiencies, and ultimately, provide better service to customers

Detect telecom misuse

The FBI and FCC estimate that over U.S. $4 billion in losses due to toll fraud occurs each year. MiVoice Analytics' Call Accounting reports help you detect telecom misuse so it can be stopped before it amounts to significant revenue loss. Using historical reports, you can monitor employee call activity, and by adding Business Reporter for real-time call costing capabilities, you can detect if misuse is occurring in real time and quickly take action.

Recover costs

With MiVoice Analytics Call Accounting option, you have access to a wide range of subscriber services reporting capabilities. This allows you to identify and determine the cost of calls made by each user/department, so you can accurately bill back the users/departments. With Call Accounting's subscriber services features, billing options can be including in reports and cost can be easily marked up or discounted either by a percentage or by a flat rate.

Increase profits

Gartner estimates that 10 percent of telecom invoices are incorrect, usually to the advantage of the carrier. With MiVoice Analytics' call costing tools, you can easily discover and identify billing errors. With sophisticated tools to improve visibility and control of your telecom usage, you can drive significant cost savings.

Enjoy continuous service

Even minor, unplanned outages can have a negative impact on business operations. When a controller or network failure occurs, the MiVoice Analytics resiliency option gives your business network the ability to maintain calls in progress and handle new incoming and outgoing calls

MiVoice Analytics enables you to:

- Route calls using ring group routing algorithms
- Monitor usage and establish call patterns for departments and work groups
- Control telecommunication costs with real-time and historical tracking and reporting
- Recover costs through carrier bill reconciliation
- Control and reduce the costs of employees sharing toll free lines, calling restricted numbers, or calling their friends long distance
- Charge back departments, employees, and customers using markup or discount pricing
- Control and reduce costs by analyzing the efficiency of your incoming, outgoing, and bi-directional trunks

The benefits of MiVoice Analytics include:

- Incorporate data from multiple telephone systems to get the "big picture"
- Manage call flow and schedule employees when they are needed
- Know the distribution of telecommunication costs across departments and work groups, and verify carrier bills
- Know the availability of your employees, who they are speaking with, and how long they have been talking
- Resolve misuse of the telephone system
- Produce flexible rate tables that are tailored to the organization

MiVoice Analytics licensing

NOTE: MiContact Center Business' Workgroup and Contact Center Starter Packs both include MiVoice Analytics out of the box.
All parts are included in starter packs except for Business Reporter Client which is optional

	Call Accounting	Business Reporter
	Call Accounting Extensions	Business Reporter Extensions
Call costing	•	•
Subscriber services	•	•
Historical reporting	•	•
Real-time monitoring		•
Ring group support		•
Real-time call costing		•
Report distribution	•	•
	•	•
Attendant consoles	•	•
Trunk reports	•	•
2 System admins	•	•
	•	•
	•	•

Available to Business Reporter only (optional)

Business Reporter Client   •
- *Phone set manager*
- *General business screen-pop (CCC)*

Securely Record IP Devices

Call recording is becoming more important globally. Businesses across many sectors are required to record calls for a variety of reasons, including:

- Government regulation and compliance mandates
- Business protection from litigation
- Customer service agent performance monitoring and management

MiVoice Border Gateway integrates with MiVoice Call Recording, and with a wide range of third-party call recording solutions to provide secure recording of MiVoice IP phones and Teleworker extensions associated with the MiVoice Business and MiVoice MX-ONE platforms.

Add The Flexibility of WebRTC

MiVoice Border Gateway acts as a WebRTC* to SIP gateway, allowing calls that originate from WebRTC browsers to be handled by Mitel communications platforms just like any other SIP call. Mitel also offers a software development kit (SDK) that enables customers to build WebRTC functionality into their websites. It can be used to allow anonymous users – such as a customer visiting a website who want to talk to someone before purchasing – to click on a button and

talk to a representative using their computer's microphone and speakers. These calls can be managed through MiContact Center just like any other customer interaction.

Additionally, the MiVoice Border Gateway can allow named subscribers to use a browser like a Teleworker, allowing them to access the corporate phone system remotely from any computer.

MiVoice Border Gateway WebRTC subscriber mode is supported on all MiVoice platforms except MiVoice Office 250 and MiVoice Connect; anonymous mode is supported on MiVoice MX-ONE, MiVoice Business and MiVoice 5000.

Secure Management Access

MiVoice Border Gateway's Remote Management Service allows Mitel system administrators to remotely perform routine functions on Mitel solutions. This not only means quicker service for the business, but lower costs associated with maintenance and management.

Access is controlled by the end customer and restricts remote administration access to Mitel web management interfaces.

MiVoice Border Gateway supports remote access to MiCollab, and Mitel IP-PBX web management interfaces of the MiVoice Business platform via the Remote Management Service.

mitel.com

**Hewlett Packard
Enterprise**

HPE ProLiant DL380 Gen10 Server

ProLiant DL Servers

What's new

- Security through firmware and optional chassis intrusion options
- HPE performance leadership with Persistent Memory
- HPE innovation with Intelligent System Tuning
- Modular chassis with greater drive capacity and flexibility
- Supports Intel® Xeon® Processor Scalable Family

Overview

What is your server bottleneck...storage, compute, expansion?

The world's best-selling server [1] just got better. The HPE ProLiant DL380 Gen10 Server delivers the latest in security, performance and expandability. While backed by a comprehensive warranty, makes it ideal for any server environment. Standardize on the industry's most trusted compute platform.

The HPE ProLiant DL380 Gen10 Server is securely designed to reduce costs and complexity, the Intel® Xeon® Processor Scalable

- New SMB focused offers regionally released as "Smart Buy Express" in the U.S. and Canada, "Top Value" in Europe, and "Intelligent Buy" in Asia Pacific and Japan

Family with up to a 71% performance gain and 27% increase in cores [2], plus the HPE 2666 MT/s DDR4 SmartMemory supporting 3.0 TB [6] and up to 11% [3] faster than 2400 MT/s. It supports 12 Gb/s SAS, and up to 20 NVMe drive plus a broad range of compute options. HPE Persistent Memory, optimized on HPE ProLiant Servers, offers unprecedented levels of performance for databases and analytic workloads. Run everything from the most basic to mission critical applications, and deploy with confidence.

Features

Flexible Design Making Your Investment Expand As Your Business Needs Grow

The HPE ProLiant DL380 Gen10 Server has an adaptable chassis, including new HPE modular drive bay configuration options with up to 30 SFF, up to 19 LFF or up to 20 NVMe drive options along with support for up to 3 double wide GPU options.

HPE Persistent Memory, delivers unprecedented levels of performance and data resiliency for databases and analytic workloads. With up to 27x faster [4] application checkpoint operations and 20x faster [5] restores, HPE delivers the fastest persistent memory in the market at TB-scale.

In conjunction with the embedded SATA HPE Dynamic Smart Array S100i Controller for boot, data and media needs, the redesigned HPE Smart Array Controllers allow you the flexibility to choose the optimal 12 Gb/s controller most suited to your environment, and operate in both SAS and HBA mode.

Along with an embedded 4x1GbE, you have a choice of HPE FlexibleLOM or PCIe standup adapters which offer a choice of networking bandwidth (1GbE to 40GbE) and fabric so you can adapt and grow to changing business needs.

Supporting a wide range of operating environments from Azure to Docker to ClearOS in addition to traditional OSes.

Security Innovations

Only Hewlett Packard Enterprise offers industry standard servers with major firmware anchored directly into the silicon. With security protection built in across the server life-cycle starting with Silicon Root of Trust.

Millions of lines of firmware code run before server operating system boots and with Run-Time Firmware Validation, enabled by HPE iLO Advanced Premium Security Edition, the server firmware is checked every 24 hours verifying validity and credibility of essential system firmware.

Secure Recovery allows server firmware to roll back to the last known good state or factory settings after detection of compromised code.

Additional security options are available with Trusted Platform Module (TPM) to prevent unauthorized access to the server and securely store artifacts used to authenticate the server platforms while the Intrusion Detection kit logs and alerts when the server hood is removed.

World-Class Performance

HPE innovation with Intelligent System Tuning optimizes workload performance using customized profiles to tune internal resources, with improved throughput for all workloads including latency-sensitive workloads such as high-frequency trading with jitter smoothing.

The HPE ProLiant DL380 Gen10 Server supports industry standard technology leveraging the latest Intel® Xeon® Processor Scalable Family with up to 28 cores, 12 Gb SAS and 3.0 TB [6] of HPE DDR4 SmartMemory.

The HPE ProLiant DL380 Gen10 server supports up to three double wide or five single wide GPUs for workload acceleration.

Industry Leading Services and Ease of Deployment

The HPE ProLiant DL380 Gen10 Server comes with a complete set of HPE Technology Services, delivering confidence, reducing risk and helping customers realize agility and stability.

HPE Pointnext Services simplifies all stages of the IT journey. Advisory and Transformation Services professionals understand customer challenges and design an optimal solution. Professional Services enables rapid deployment of solutions and Operational Services provides ongoing support.

Services provided under Operational Services include: Flexible Capacity, Datacenter Care, Infrastructure Automation, Campus Care, Proactive Services and Multi-vendor coverage.

HPE IT investment solutions help you transform to a digital business with IT economics that align to your business goals.

Technical specifications

HPE ProLiant DL380 Gen10 Server

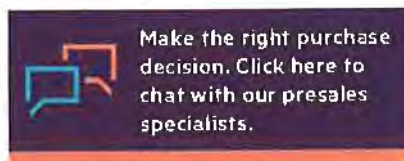|	
Processor family	Intel® Xeon® Scalable 8100 series Intel® Xeon® Scalable 6100 series Intel® Xeon® Scalable 5100 series Intel® Xeon® Scalable 4100 series Intel® Xeon® Scalable 3100 series
Number of processors	1 or 2
Processor core available	28 or 26 or 24 or 22 or 20 or 18 or 16 or 14 or 12 or 10 or 6 or 4
Processor cache	8.25 MB L3 11.00 MB L3 13.75 MB L3 16.50 MB L3 19.25 MB L3 22.00 MB L3 24.75 MB L3 27.50 MB L3 30.25 MB L3 33.00 MB L3 35.75 MB L3 38.50 MB L3
Processor speed	3.6 GHz, maximum depending on processor
Power supply type	2 Flexible Slot power supplies, maximum depending on model
Expansion slots	8, for detail descriptions reference the QuickSpecs
Maximum memory	3.0 TB with 128 GB DDR4 [6]
Memory slots	24 DIMM slots
Memory type	HPE DDR4 SmartMemory
System fan features	Hot-plug redundant fans, standard
Network controller	HPE 1 Gb 331i Ethernet adapter 4-ports per controller and/or optional FlexibleLOM, depending on model
Storage controller	1 HPE Smart Array S100i and/or 1 HPE Smart Array P408i-a and/or 1 HPE Smart Array P816i-a and/or 1 HPE Smart Array E208i-a, depending on model
Minimum dimensions (W x D x H)	44.55 x 73.03 x 8.74 cm
Weight	14.76 kg
Infrastructure management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download) (standard) HPE iLO Advanced, HPE iLO Advanced Premium Security Edition, and HPE OneView Advanced (optional)
Warranty	3/3/3 - Server Warranty includes three years of parts, three years of labor, three years of onsite support coverage. Additional information regarding worldwide limited warranty and technical support is available at: http://h20564.www2.hpe.com/hpsc/wc/public/home. Additional HPE support and service coverage for your product can be purchased locally. For information on availability of service upgrades and the cost for these service upgrades, refer to the HPE website at http://www.hpe.com/support

Additional resources

QuickSpecs

hpe.com/h20195/v2/GetDocument.aspx?

docname=a00008180enus

HPE Pointnext

HPE Pointnext leverages our breadth and depth of technical expertise and innovation to help to accelerate digital transformation. A comprehensive portfolio that includes—Advisory, Professional, and Operational Services is designed to help you evolve and grow today and into the future.

Operational Services

- **HPE Flexible Capacity** is a new consumption model to manage on-demand capacity, combining the agility and economics of public cloud with the security and performance of on-premises IT.
- **HPE Datacenter Care** offers a tailored operational support solution built on core deliverables. It includes hardware and software support, a team of experts to help personalize deliverables and share best practices, as well as optional building blocks to address specific IT and business needs.
- **HPE Proactive Care** is an integrated set of hardware and software support including an enhanced call experience with start to finish case management helping resolve incidents quickly and keeping IT reliable and stable.
- **HPE Foundation Care** helps when there is a hardware or software problem offering several response levels dependent on IT and business requirements.

Advisory Services includes design, strategy, road map, and other services to help enable the digital transformation journey, tuned to IT and business needs. Advisory Services helps customers on their journey to Hybrid IT, Big Data, and the Intelligent Edge.

Professional Services helps integrate the new solution with project management, installation and startup, relocation services, and more. We help mitigate risk to the business so there is no interruption when new technology is being integrated in the existing IT environment.

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atId=1010026818&catlevelmulti=15351_3

328412_241475_1010026818&country=u

s&locale=en

Make the right purchase decision. Click here to chat with our presales specialists.

[1] With one HPE ProLiant Server shipping every 14.6 seconds and more than 39.5 million sold, HPE ProLiant Servers are the undisputed market share leader. CQ3'16 IDC Server Tracker

[2] Intel® measurements. Up to 71% performance increase of Intel Xeon Platinum vs. previous generation E5 v4 average performance based on key industry-standard benchmark calculations submitted by OEMs comparing 2-socket Intel Xeon Platinum 8180 to E5-2699 v4 family processors. Any difference in system hardware or software design or configuration may affect actual performance. May 2017. Up to 27% performance increase of Intel Xeon Platinum vs. previous generation comparing 2-socket Intel Xeon Platinum 8180 (28 cores) to E5-2699 v4 (22 cores). Calculation 28 cores/22 cores= 1.27 - 27% May 2017

[3] The Gen10 2666 MT/s memory speed is 11% faster than that of Gen9 2400 MT/s, enabling faster server performance

[4] TPC-C Benchmark Throughput with Checkpoint (trans/sec). Calculated Time to Checkpoint and Restore a Docker Container running MySQL, compare Persistent memory vs SSD, November 2016

[5] HPE Internal Labs test HPE Scalable Persistent Memory, restarting 1000 GB Hekaton Database is as fast as restarting 200 GB database or 20x, March 31, 2017

[6] Coming in second half of 2017

Sign up for updates

Hewlett Packard Enterprise

Hewlett Packard Enterprise

HPE ProLiant DL360 Gen10 Server

ProLiant DL Servers

What's new

- Innovative design with greater flexibility to mix and match storage within a single chassis and capacity to support most dynamic workloads.
- HPE performance leadership with HPE Persistent Memory, which harnesses the speed of memory and combines it with the persistence of storage.
- Protect, detect, and remove with built-in security features such as Silicon Root of

Overview

Does your data center need a secure, performance driven dense server that you can confidently deploy for virtualization, database, or high-performance computing?

The HPE ProLiant DL360 Gen10 server delivers security, agility and flexibility without compromise. It supports the Intel® Xeon® Scalable processor with up to a 71% performance gain and 27% increase in cores [1], along with 2666 MT/s HPE DDR4 SmartMemory supporting up to 3.0 TB [2] with an increase in performance of up to 66% [3]. With the added performance that 12 NVDIMMs and 10 NVMe bring, the HPE ProLiant DL360

- Trust, Runtime Firmware Validation, and Secure Recovery.
- Supports Intel® Xeon® Scalable processor with up to 28 cores and memory speeds of up to 2666 MT/s.
- New SMB focused offers regionally released as "Smart Buy Express" in the U.S. and Canada, "Top Value" in Europe, and "Intelligent Buy" in Asia Pacific and Japan.

Gen10 means business. Deploy, update, monitor and maintain with ease by automating essential server life cycle management tasks with HPE OneView and HPE iLO 5. Deploy this 2P secure platform for diverse workloads in space constrained environments.

Features

Industry-leading Performance with Versatile Compute

HPE ProLiant DL360 Gen10 Server supports industry-standard technology leveraging the Intel Xeon Scalable processor with up to 28 cores, 12G SAS and 3.0 TB of 2666 MT/s HPE DDR4 SmartMemory.

With support for up to 12 NVDIMMs per chassis and 2X capacity of first-generation HPE NVDIMMs, HPE ProLiant DL360 Gen10 Server delivers up to 192 GB per system.

Achieve greater capacity with flexible drive configurations with up to 10 SFF and four LFF drives along with an option to support up to 10 NVMe PCIe SSDs delivering enhanced performance, capacity, and reliability to meet various customer segments and workload requirements at the right economics.

HPE Persistent Memory, the world's first non-volatile DIMM (NVDIMM) optimized on HPE ProLiant [5], offers up to 20X reduction in database restart time preserving maximum uptime. [4]

Innovative Design for Flexibility and Choice

The premium 10 SFF NVMe chassis backplane provides the ability to mix and match SAS/SATA and NVMe within the same chassis along with 8 + 2 SFF and 4 LFF chassis that supports new uFF and M.2 storage options.

Embedded 4x 1GbE along with HPE FlexibleLOM or PCIe standup 1GbE, 10GbE, or 25GbE adapters provides flexibility of networking bandwidth and fabric so you can adapt and grow to changing business needs.

Unmatched expandability is packed in a dense 1U rack design with up to three PCIe 3.0 slots.

Security Innovations

HPE iLO 5 enables the world's most secure industry standard servers with HPE Silicon Root of Trust technology to protect your servers from attacks, detect potential intrusions and recover your essential server firmware securely.

Millions of lines of firmware code run before the server OS boots and with Runtime Firmware Verification, enabled by HPE iLO Advanced Premium Security Edition, the server firmware is checked every 24 hours verifying validity and credibility of essential system firmware.

Secure Recovery allows server firmware to roll back to the last known good state or factory settings after detection of compromised code.

Additional security options are available with Trusted Platform Module (TPM) to prevent unauthorized access to server and securely stores artifacts used to authenticate the server platforms while the Intrusion Detection Kit logs and alerts when the server hood is removed.

Industry-Leading Serviceability and Deployment

HPE ProLiant DL360 Gen10 Server comes with a complete set of services offered by HPE Pointnext, delivering confidence, reducing risk, and helping customers realize agility and stability.

Services from HPE Pointnext simplifies the stages of the IT journey. Advisory and Transformation Services professionals understand customer challenges and design an enhanced solution. Professional Services enables rapid deployment of solutions and Operational Services provides ongoing support.

Services provided under Operational Services include - HPE Flexible Capacity, HPE Datacenter Care, HPE Infrastructure Automation, HPE Campus Care, HPE Proactive Services and multi-vendor coverage.

HPE IT investment solutions help you transform to a digital business with IT economics that align to your business goals.

Technical specifications

HPE ProLiant DL360 Gen10 Server

Processor	Intel
Processor family	Intel® Xeon® Scalable 8100 series Intel® Xeon® Scalable 6100 series Intel® Xeon® Scalable 5100 series Intel® Xeon® Scalable 4100 series Intel® Xeon® Scalable 3100 series
Number of processors	2, maximum depending on model
Processor core available	28 or 26 or 24 or 22 or 20 or 18 or 16 or 14 or 12 or 10 or 8 or 6 or 4, depending on model
Processor cache	8.25 MB L3 11.00 MB L3 13.75 MB L3 16.50 MB L3 19.25 MB L3 22.00 MB L3 24.75 MB L3 27.50 MB L3 30.25 MB L3 33.00 MB L3 35.75 MB L3 38.50 MB L3
Processor speed	3.6 GHz
Power supply type	2 Flex Slot
Expansion slots	3, for detailed descriptions refer to the QuickSpecs
Maximum memory	3.0 TB with 128 GB DDR4
Memory slots	24 DIMM slots
Memory type	HPE DDR4 SmartMemory
System fan features	Hot-plug redundant standard
Network controller	HPE 1 Gb 331i Ethernet adapter 4-ports per controller and/or optional HPE FlexibleLOM, depending on model
Storage controller	1 of the following, depending on model HPE Smart Array P408i-a SR Gen10 Controller or HPE Smart Array P816i-a SR Gen10 Controller or HPE Smart Array E208i-a SR Gen10 Controller
Minimum dimensions (W x D x H)	43.46 x 70.7 x 4.29 cm
Weight	13.04 kg minimum 16.27 kg maximum
Infrastructure management	HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download) HPE iLO Advanced, HPE iLO Advanced Premium Security Edition and HPE OneView Advanced (require licenses)
Warranty	3/3/3 - Server Warranty includes three years of parts, three years of labor, three years of onsite support coverage. Additional information regarding worldwide limited warranty and technical support is available at: http://h20564.www2.hpe.com/hpsc/wc/public/home. Additional HPE support and service coverage for your product can be purchased locally. For information on availability of service upgrades and the cost for these service upgrades, refer to the HPE website at http://www.hpe.com/support

HPE Pointnext

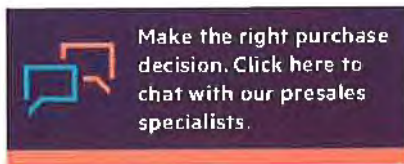**HPE Pointnext** leverages our breadth and depth of technical expertise and innovation to help to accelerate digital transformation. A comprehensive portfolio that includes—Advisory, Professional, and Operational Services is designed to help you evolve and grow today and into the future.

Operational Services

- **HPE Flexible Capacity** is a new consumption model to manage on-demand capacity, combining the agility and economics of public cloud with the security and performance of on-premises IT.

- **HPE Datacenter Care** offers a tailored operational support solution built on core deliverables. It includes hardware and software support, a team of experts to help personalize deliverables and share best practices, as well as optional building blocks to address specific IT and business needs.

- **HPE Proactive Care** is an integrated set of hardware and software support including an enhanced call experience with start to finish case management helping resolve incidents quickly and keeping IT reliable and stable.

- **HPE Foundation Care** helps when there is a hardware or software problem offering several response levels dependent on IT and business requirements.

Advisory Services includes design, strategy, road map, and other services to help enable the digital transformation journey, tuned to IT and business needs. Advisory Services helps customers on their journey to Hybrid IT, Big Data, and the Intelligent Edge.

Professional Services helps integrate the new solution with project management, installation and startup, relocation services, and more. We help mitigate risk to the business so there is no interruption when new technology is being integrated in the existing IT environment.

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[1] Intel measurements: Up to 71% performance increase of Intel Xeon Platinum vs. previous generation E5 v4 average performance based on key industry-standard benchmark calculations submitted by OEMs comparing 2-socket Intel Xeon Platinum 8180 to E5-2699 v4 Family processors. Any difference in system hardware or software design or configuration may affect actual performance. May 2017. Up to 27% performance increase of Intel Xeon Platinum versus previous generation comparing 2-socket Intel Xeon Platinum 8180 (28 cores) to E5-2699 v4 (22 cores). Calculation 28 cores / 22 cores = 1.27 = 27% May 2017

[2] Comparing 8 GB NVDIMM to 16 GB NVDIMM equals 2X capacity increase, July 2017

[3] Percentage compare Gen10 vs Gen9: Gen10 = 12 Channels x 2666 data rate x 8 bytes = 256 GB/sec. Gen 9 = 8 channels x 2400 x 8 bytes = 154 GB/Sec. 256/154 = 1.66 or Gen10 is 66% greater bandwidth, July 2017

[4] HPE Internal Labs test HPE Scalable Persistent Memory, restarting 1000 GB Hekaton Database is as fast as restarting 200 GB database or 20x, March 31, 2017

[5] HPE 8 GB and 16 GB NVDIMMs are the first NVDIMMs supported on HPE ProLiant Gen9 and Gen10 servers

Hewlett Packard Enterprise

ARUBA 2930F SWITCH SERIES

PRODUCT OVERVIEW

The Aruba 2930F Switch Series is designed for customers creating digital workplaces that are optimized for mobile users with an integrated wired and wireless approach. These Layer 3 access switches are easy to deploy and manage with advanced security and network management tools like Aruba ClearPass Policy Manager and Aruba AirWave. With support from Aruba Central, you can quickly set up remote branch sites with little or no IT support. A powerful Aruba ProVision ASIC delivers performance and flexibility to meet the needs of today and tomorrow's network programmability and automation requirements. Stacking with Virtual Switching Framework (VSF) provides simplicity and scalability. The 2930F supports built-in 1GbE or 10GbE uplinks, PoE+, Access OSPF routing, Dynamic Segmentation, robust QoS, RIP routing, and IPv6 with no software licensing required.

The Aruba 2930F Switch Series provides a convenient and cost-effective access switch solution that can be quickly set up with Zero Touch Provisioning and built-in 10GbE uplinks. The robust Layer 3 feature set includes a limited lifetime warranty.

KEY FEATURES

- Aruba Layer 3 switch series with VSF stacking, static, Rip and Access OSPF Routing, Dynamic Segmentation, ACLs, and robust QoS
- Consistent wired/wireless experience with Aruba AirWave and Aruba ClearPass Policy Manager
- Convenient built-in 1GbE or 10GbE uplinks and up to 740 W PoE+
- Ready for the software defined network with REST APIs and OpenFlow support
- Simple deployment with Zero Touch Provisioning and cloud-based Aruba Central support

FEATURES AND BENEFITS

Unified Wired and Wireless

- Aruba ClearPass Policy Manager supports unified wired and wireless policies using Aruba ClearPass Policy Manager
- Switch auto-configuration automatically configures switch for different settings such as VLAN, CoS, PoE max. power, and PoE priority when an Aruba access point is detected
- User Role defines a set of switch-based policies in areas such as security, authentication, and QoS. A user role can be assigned to a group of users or devices, using switch-based local user role or download from ClearPass
- Dynamic Segmentation provides a secure tunnel that transports network traffic on a per-port or per-user role basis to an Aruba Controller. In a per-user role Tunnel Node, users are authenticated by the ClearPass Policy Manager which directs traffic to be tunneled to an Aruba controller or switch locally
- HTTP redirect function supports HPE Intelligent Management Center (IMC) bring your own device (BYOD) solution
- Static IP visibility allows ClearPass to do accounting for clients with static IP address

Software-defined networks

- Supports multiple programmatic interfaces, including REST APIs and Openflow 1.0 and 1.3, to enable automation of network operations, monitoring, and troubleshooting

Quality of Service (QoS)

- Traffic prioritization (IEEE 802.1p) Allows real-time traffic classification into eight priority levels mapped to eight queues
- Layer 4 prioritization enables prioritization based on TCP/UDP port numbers
- Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
- Rate limiting sets per-port ingress enforced maximums and per-port, per-queue minimums
- Large buffers provide graceful congestion management
- Unknown Unicast Rate Limiting throttles unicast packets with unknown destination addresses and limits flooding on the VLAN

Connectivity

- Flexible 10 Gb/s Ethernet connectivity four fixed 10 Gigabit ports (SFP+) available
- Auto-MDIX provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- IEEE 802.3at Power over Ethernet (PoE+) provides up to 30 W per port that allows support of the latest PoE+·capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device; eliminates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments
- Pre-standard PoE support detects and provides power to pre-standard PoE devices
- IPv6
  - IPv6 host enables switches to be managed in an IPv6 network
  - Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols
  - MLD snooping forwards IPv6 multicast traffic to the appropriate interface
  - IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
  - IPv6 routing supports static and RIPng protocols
  - Security provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping

Performance

- Energy-efficient design
  - 80 PLUS Silver Certified power supply increases power efficiency and savings
  - Energy-efficient Ethernet (EEE) support reduces power consumption in accordance with IEEE 802.3az
- Aruba Provision ASIC architecture is designed with the latest ProVision ASIC, providing very low latency, increased packet buffering, and adaptive power consumption
- Selectable queue configurations allows for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications

Convergence

- IP multicast snooping and data-driven IGMP automatically prevents flooding of IP multicast traffic
- LLDP-MED (Media Endpoint Discovery) defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP) facilitates easy mapping using network management applications with LLDP automated device discovery protocol
- PoE and PoE+ allocations support multiple methods (automatic, IEEE 802.3at dynamic, LLDP-MED fine grain, IEEE 802.3af device class, or user-specified) to allocate and manage PoE/PoE+ power for more efficient energy savings
- Local MAC Authentication assigns attributes such as VLAN and QoS using locally configured profile that can be a list of MAC prefixes
- IP multicast routing includes PIM Sparse and Dense modes to route IP multicast traffic (limited to 16 interfaces)
- Protocol Independent Multicast for IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv6 networks

Resiliency and high availability

- Virtual Switching Framework (VSF) creates one virtual resilient switch from up to eight* switches; servers or switches can be attached using standard LACP for automatic load balancing and high availability; simplify network operation by reduce the need for complex protocols like Spanning Tree Protocol (STP), Equal-Cost Multipath (ECMP), and VRRP
- IEEE 802.1s Multiple Spanning Tree provides high link availability in multiple VLAN environments by allowing Multiple Spanning Trees; provides legacy support for IEEE 802.1d and IEEE 802.1w
- Virtual Router Redundancy Protocol (VRRP) allows groups of two routers to dynamically back each other up to create highly available routed environments for IPv4 and IPv6 networks (limited to 128 VRs)
- IEEE 802.3ad link aggregation control protocol (LACP) and port trunking support up to 128 static, dynamic, or distributed trunks active across a stack, with each trunk having up to eight links (ports) per static trunk; and offer support for trunking across stack members
- SmartLink provides easy-to-configure link redundancy of active and standby links

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*Requires ArubaOS-Switch 16.06 software.

- Secure shell encrypts all transmitted data for secure remote CLI access over IP networks
- Secure Sockets Layer (SSL) encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- Port security allows access only to specified MAC addresses, which can be learned or specified by the administrator
- MAC address lockout prevents particular configured MAC addresses from connecting to the network
- Secure FTP allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- Switch management logon security helps secure switch CLI logon by optionally requiring either RADIUS or TACACS+ authentication
- Custom banner displays security policy when users log in to the switch
- STP BPDU port protection blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- Dynamic ARP protection blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- STP root guard protects the root bridge from malicious attacks or configuration mistakes
- Identity-driven ACL enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- Per-port broadcast throttling configures broadcast control selectively on heavy traffic port uplinks
- Private VLAN provides network security by restricting peer-to-peer communication to prevent a variety of malicious attacks; typically a switch port can only communicate with other ports in the same community and/or an uplink port, regardless of VLAN ID or destination MAC address
- Open Authentication Role simplifies first-time deployment of AAA in brownfield deployments by allowing full network access for failed clients and provides instant connectivity as soon as a client is plugged-in
- Critical Authentication Role ensures that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server
- MAC Pinning allows non-chatty legacy devices to stay authenticated by pinning client MAC addresses to the port until the clients logoff or get disconnected

Monitor and diagnostics
- Digital optical monitoring of SFP+ and 1000BASE-T transceivers allows detailed monitoring of the transceiver settings and parameters

Warranty and support
- Limited Lifetime Warranty: See www.hpe.com/networking/warrantysummary for warranty and support information included with your product purchase.
- Software releases: To find software for your product, refer to www.hpe.com/networking/support; for details on the software releases available with your product purchase, refer to www.hpe.com/networking/warrantysummary

Management

- SNMPv1, v2, and v3 provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption
- Aruba Central cloud-based management platform offers a simple, secure and cost-effective way to manage switches
- Zero Touch Provisioning (ZTP) simplifies installation of the switch infrastructure using the Aruba Activate-based or a DHCP-based process with AirWave Network Management
- Supports multiple programmatic interfaces, including REST APIs and Openflow 1.0 and 1.3, to enable automation of network operations, monitoring, and troubleshooting.

Manageability

- Dual flash images provide independent primary and secondary operating system files for backup while upgrading
- Friendly port names allow assignment of descriptive names to ports
- Find-Fix-Inform finds and fixes common network problems automatically, then informs administrator
- Multiple configuration files allow multiple configuration files to be stored to a flash image
- Software updates free downloads from the Web
- RMON, XRMON, and sFlow® provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- Troubleshooting ingress and egress port monitoring enable network problem solving
- Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices
- IP SLA for Voice monitors quality of voice traffic using the UDP Jitter and UDP Jitter for VoIP tests

Layer 2 switching

- VLAN support and tagging support IEEE 802.1Q (4,094 VLAN IDs) and 2K VLANs simultaneously
- Jumbo packet support improves the performance of large data transfers; supports frame size of up to 9,220 bytes
- IEEE 802.1v protocol VLANs isolate select non-IPv4 protocols automatically into their own VLANs
- Rapid Per-VLAN Spanning Tree (RPVST+) allows each VLAN to build a separate spanning tree to improve link bandwidth usage; is compatible with PVST+
- GVRP and MVRP allows automatic learning and dynamic assignment of VLANs

- VxLAN encapsulation (tunneling) protocol for overlay network that enables a more scalable virtual network deployment

Layer 3 services

- DHCP server centralizes and reduces the cost of IPv4 address management

Layer 3 routing

- Static IP routing provides manually configured routing; includes ECMP capability
- 256 static and 10,000 RIP routes facilitate segregation of user data, without adding external hardware
- Routing Information Protocol (RIP) provides RIPv1, RIPv2, and RIPng routing
- Access OSPF
  - Provide OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN. Only one OSPF area and up to 8 interfaces are supported.
- Policy-based routing uses a classifier to select traffic that can be forwarded based on policy set by the network administrator (limited to 16 next hop routes)

Security

- Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks
- Multiple user authentication methods
  - IEEE 802.1X uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
  - Web-based authentication provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support the IEEE 802.1X supplicant
  - MAC-based authentication authenticates the client with the RADIUS server based on the client's MAC address
- Authentication flexibility
  - Multiple IEEE 802.1X users per port provides authentication of multiple IEEE 802.1X users per port; prevents a user from "piggybacking" on another user's IEEE 802.1X authentication
  - Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port switch port will accept up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
- Access control lists (ACLs) provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- Source-port filtering allows only specified ports to communicate with each other
- RADIUS/TACACS+ eases switch management security administration by using a password authentication server

SPECIFICATIONS

	Aruba 2930F 48G 4SFP Switch (JL260A)	Aruba 2930F 24G PoE+ 4SFP Switch (JL261A)	Aruba 2930F 48G PoE+ 4SFP Switch (JL262A)
Electrical characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
80plus.org Certification		Silver	Silver
Maximum heat dissipation	100.0 BTU/hr (105.5 kJ/hr)	258.0 BTU/hr (272.2 kJ/hr)	293.0 BTU/hr (309.1 kJ/hr)
Voltage	100 - 127 / 200 - 240 VAC, rated	100 - 127 / 200 - 240 VAC, rated	100 - 127 / 200 - 240 VAC, rated
Current	0.9/0.6 A	4.9/2.4 A	5.1/2.5 A
Maximum power rating	46.6 W	445 W	459 W
Idle power	32.7 W	36.8 W	48.6 W
PoE power		370 W PoE+	370 W PoE+
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety			
	UL 69050-1: 2nd Edition; EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; CSA 22.2 No. 60950-1-07 2nd; EN 60825-1:2014 / IEC 60825-1:2014 Class 1	UL 69050-1: 2nd Edition; EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; CSA 22.2 No. 60950-1-07 2nd; EN 60825-1:2014 / IEC 60825-1:2014 Class 1	UL 69050-1: 2nd Edition; EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; CSA 22.2 No. 60950-1-07 2nd; EN 60825-1:2014 / IEC 60825-1:2014 Class 1
Emissions			
	EN 55032:2012/CISPR 32 Class A; FCC CFR 47 Part 15 Class A; VCCI Class A; ICES-003 Class A; CNS 13438	EN 55032:2012/CISPR 32 Class A; FCC CFR 47 Part 15 Class A; VCCI Class A; ICES-003 Class A; CNS 13438	EN 55032:2012/CISPR 32 Class A; FCC CFR 47 Part 15 Class A; VCCI Class A; ICES-003 Class A; CNS 13438
Immunity			
Generic	EN 55024:2010/CISPR 24	EN 55024:2010/CISPR 24	EN 55024:2010/CISPR 24
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and Interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC/EN 61000-3-2	IEC/EN 61000-3-2	IEC/EN 61000-3-2
Flicker	IEC/EN 61000-3-3	IEC/EN 61000-3-3	IEC/EN 61000-3-3

STANDARDS AND PROTOCOLS
(APPLIES TO ALL PRODUCTS IN SERIES)

Denial of service protection
- CPU DoS Protection

Device management
- RFC 1155 Structure and Management Information (SMIv1)
- RFC 1157 SNMPv1/v2c
- RFC 1591 DNS (client)
- RFC 1901 (Community based SNMPv2)
- RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II
- RFC 1908 (SNMPv1/v2 Coexistence)
- RFC 2576 (Coexistence between SNMPv1, v2, v3)
- RFC 2578-2580 SMIv2
- RFC 2579 (SMIv2 Text Conventions)
- RFC 2580 (SMIv2 Conformance)
- RFC 2819 (RMON groups Alarm, Event, History, and Statistics only)
- RFC 3416 (SNMP Protocol Operations v2)
- RFC 3417 (SNMP Transport Mappings)
- HTML and Telnet management
- HTTP, SSHv1, and Telnet
- Multiple Configuration Files
- Multiple Software Images
- SNMPv3 and RMON RFC support
- SSHv1/SSHv2 Secure Shell
- TACACS/TACACS+
- Web UI

General protocols
- IEEE 802.1AX-2008 Link Aggregation
- IEEE 802.1d MAC Bridges
- IEEE 802.1p Priority
- IEEE 802.1Q VLANs
- IEEE 802.1s Multiple Spanning Trees
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at PoE+
- IEEE 802.3az Energy Efficient Ethernet
- IEEE 802.3x Flow Control
- RFC 768 UDP
- RFC 783 TFTP Protocol (revision 2)
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 TELNET
- RFC 868 Time Protocol
- RFC 951 BOOTP

- RFC 1058 RIPv1
- RFC 1256 ICMP Router Discovery Protocol (IRDP)
- RFC 1350 TFTP Protocol (revision 2)
- IEEE 802.1v VLAN classification by Protocol and Port
- RFC 1519 CIDR IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- RFC 1542 BOOTP Extensions IEEE 802.3ab 1000BASE-T
- RFC 1918 Address Allocation for Private Internet
- RFC 2030 Simple Network Time Protocol (SNTP) v4
- RFC 2131 DHCP
- RFC 2236 IGMP Snooping
- RFC 2453 RIPv2
- RFC 2865 Remote Authentication Dial In User Service (RADIUS)
- RFC 2866 RADIUS Accounting
- RFC 3046 DHCP Relay Agent Information Option
- RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
- RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
- RFC 3413 Simple Network Management Protocol (SNMP) Applications
- RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
- RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
- RFC 3416 Protocol Operations for SNMP
- RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)
- RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
- RFC 3575 IANA Considerations for RADIUS
- RFC 3576 Ext to RADIUS (CoA only)
- RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
- RFC 4675 RADIUS VLAN & Priority
- RFC 4861 Neighbor Discovery for IP version 6 (IPv6)
- RFC 4862 IPv6 Stateless Address Autoconfiguration
- RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification
- UDLD (Uni-directional Link Detection)

IP multicast

- RFC 1112 IGMP
- RFC 2236 IGMPv2
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 3376 IGMPv3
- RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches

IPv6

- RFC 1981 IPv6 Path MTU Discovery
- RFC 2080 RIPng for IPv6
- Protocol Applicability Statement
- RFC 2082 RIP-2 MD5
- RFC 2460 IPv6 Specification
- RFC 2464 Transmission of IPv6 over Ethernet Networks
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)
- RFC 2925 Remote Operations MIB (Ping only)
- RFC 3019 MLDv1 MIB
- RFC 3315 DHCPv6 (client and relay)
- RFC 3484 Default Address Selection for IPv6
- RFC 3513 IPv6 Addressing Architecture
- RFC 3596 DNS Extension for IPv6
- RFC 3810 MLDv2 for IPv6
- RFC 4022 MIB for TCP
- RFC 4113 MIB for UDP
- RFC 4251 SSHv6 Architecture
- RFC 4252 SSHv6 Authentication
- RFC 4253 SSHv6 Transport Layer
- RFC 4254 SSHv6 Connection
- RFC 4291 IP Version 6 Addressing Architecture
- RFC 4293 MIB for IP
- RFC 4419 Key Exchange for SSH
- RFC 4443 ICMPv6
- RFC 4541 IGMP & MLD Snooping Switch
- RFC 4861 IPv6 Neighbor Discovery
- RFC 4862 IPv6 Stateless Address Auto-configuration
- RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
- RFC 6620 FCFS SAVI
- draft-ietf-savi-mix

MIBs

- IEEE 802.1ap (MSTP and STP MIB's only)
- IEEE 8021-Bridge-MIB (2008)
- IEEE 8021-Q-Bridge-MIB (2008)
- RFC 1155 Structure & ID of Management Information for TCP/IP Internets
- RFC 1156 (TCP/IP MIB)
- RFC 1157 A Simple Network Management Protocol (SNMP)
- RFC 1213 MIB II
- RFC 1493 Bridge MIB
- RFC 1724 RIPv2 MIB
- RFC 2021 RMONv2 MIB
- RFC 2578 Structure of Management Information Version 2 (SMIv2)
- RFC 2579 Textual Conventions for SMIv2
- RFC 2580 Conformance Statements for SMIv2
- RFC 2613 SMON MIB
- RFC 2618 RADIUS Client MIB
- RFC 2620 RADIUS Accounting MIB
- RFC 2665 Ethernet-Like-MIB
- RFC 2668 802.3 MAU MIB
- RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
- RFC 2737 Entity MIB (version 2)
- RFC 2819 RMON MIB
- RFC 2863 The Interfaces Group MIB
- RFC 2925 Ping MIB
- RFC 2932 IP (Multicast Routing MIB)
- RFC 2933 IGMP MIB
- RFC 3414 SNMP-User based-SM MIB
- RFC 3415 SNMP-View based-ACM MIB
- RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks
- RFC 3418 MIB for SNMPv3
- RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)

Network management

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- RFC 1155 Structure of Management Information
- RFC 1157 SNMPv1
- RFC 2021 Remote Network Monitoring Management Information Base version 2 using SMIv2
- RFC 2576 Coexistence between SNMP versions
- RFC 2578 Structure of Management Information Version 2 (SMIv2)
- RFC 2579 Textual Conventions for SMIv2
- RFC 2580 Conformance Statements for SMIv2
- RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)
- RFC 2819 Remote Network Monitoring Management Information Base
- RFC 2856 Textual Conventions for Additional High Capacity Data Types
- RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operationsn Applications
- RFC 3164 BSD syslog Protocol
- RFC 3176 sFlow
- RFC 3411 SNMP Management Frameworks
- RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
- RFC 3413 Simple Network Management Protocol (SNMP) Applications
- RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
- RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
- RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
- RFC 5424 Syslog Protocol
- ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
- SNMPv1/v2c/v3 XRMON

QoS/CoS

- IEEE 802.1p (CoS)
- RFC 2474 DiffServ Precedence, including 8 queues/port
- RFC 2475 DiffServ Architecture
- RFC 2597 DiffServ Assured Forwarding (AF)
- RFC 2598 DiffServ Expedited Forwarding (EF)
- Ingress Rate Limiting

Security

- IEEE 802.1X Port Based Network Access Control
- RFC 1321 The MD5 Message-Digest Algorithm
- RFC 1334 PPP Authentication Protocols (PAP)
- RFC 1492 An Access Control Protocol, Sometimes Called TACACS
- RFC 1492 TACACS+
- RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
- RFC 2082 RIP-2 MD5 Authentication
- RFC 2104 Keyed-Hashing for Message Authentication
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Accounting
- RFC 2246 Transport Layer Security (TLS)
- RFC 2548 Microsoft® Vendor-specific RADIUS Attributes
- RFC 2618 RADIUS Authentication Client MIB
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2698 A Two Rate Three Color Marker
- RFC 2716 PPP EAP TLS Authentication Protocol
- RFC 2818 HTTP Over TLS
- RFC 2865 RADIUS (client only)
- RFC 2865 RADIUS Authentication
- RFC 2866 RADIUS Accounting
- RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
- RFC 2868 RADIUS Attributes for Tunnel Protocol Support
- RFC 2869 RADIUS Extensions
- RFC 2882 NAS Requirements: Extended RADIUS Practices
- RFC 3162 RADIUS and IPv6
- RFC 3576 Dynamic Authorization Extensions to RADIUS
- RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
- RFC 3580 IEEE 802.1X RADIUS
- RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines
- RFC 4576 RADIUS Attributes Access Control Lists (ACLs)
- draft-grant-tacacs-02 (TACACS)
- Guest VLAN for 802.1X
- MAC Authentication
- MAC Lockdown
- MAC Lockout
- Port Security
- RFC Secure Sockets Layer (SSL)
- SSHv2 Secure Shell
- Web Authentication

Optional Products

MiContact Center Business

For the MiVoice Business Platform

Today's customer is omnichannel – are you?

One-third of the population is comprised of millennials and there are now almost 5 Billion mobile phone users in the world. These shifts have brought new challenges to the way your business delivers customer experience. 90 percent of consumers check your website before interacting with your company, and most customers would rather interact through digital channels like email, chat, and social media. Mitel's MiContact Center Business platform is designed to give your customers the freedom to interact with you on their preferred device, using the media that works best for them while giving agents and supervisors the tools to manage today's omnichannel customer journeys.

Powering connections

Engage customers on their terms

- Serve your customers the way they prefer, on the channel and device of their choice

- Provide employees with a complete view of the customer's omnichannel journey

- Eliminate the need for customers to "start over" every time they contact you by knowing where they are in their journey

The payoff

An omnichannel customer experience is a competitive differentiator that keeps existing customers satisfied and attracts new ones. Engaged customers have been proven to spend more money and spend more frequently.

Empower your customers

GIVE CUSTOMERS CHOICE ON HOW THEY COMMUNICATE

Customers want options on how they communicate with you. Voice, email, Web chat, SMS text, fax, and social media are all desired means of serving your customers. MiContact Center Business is built to manage service levels across all the channels your customers choose to use. With open media routing, businesses can route non-traditional media using an open API routing engine, extending the capabilities of the system to non-traditional media types like Internet-of-Things (IoT) alarms, WebRTC video, and social media messaging applications.

MANAGE CUSTOMER EXPECTATIONS

Managing customer expectations is the key to acquiring and retaining customers. Customers expect quick and effective resolution to their inquiries across any channel they choose to use.

With MiContact Center Business, your customers can see the real-time estimated wait times for all channels right on your website - allowing them to make informed decisions about how to reach you. Customers are also given flexible alternatives to waiting on hold, including having someone call or email them back, and self-service options.

PROFILE CUSTOMERS FOR THE BIGGEST RETURN

The often-quoted rule still stands – 20 percent of your customers generate 80 percent of your revenue. So it makes sense that you deliver a superior level of service to your top tier customers. MiContact Center Business allows you to profile your customers, regardless of the way they contact you, so you can easily identify top tier customers and prioritize their position in queue, or ensure they are handled by your top agents.

Drive agent and supervisor productivity

GIVE AGENTS AND SUPERVISORS TOOLS FOR SUCCESS

MiContact Center Business delivers productivity tools that enable agents and supervisors to make informed decisions and provide prompt service. Supervisors can see and manage who is available to answer calls and how queues are performing. Supervisors can be alerted via pop-up, ring tone, or email when service levels are low or if contacts have been waiting too long to be serviced.

Agents can efficiently handle voice and digital media contacts from a "single pane of glass" – handling phone, email, Web chat, SMS, and social media contacts using fewer steps and reduced errors in interaction handling for an optimized customer experience.

Both agents and supervisors benefit from mobile contact center capabilities. With MiContact Center Business, they can work remotely, from home or anywhere with an Internet connection, just as if they were in the office. Supervisors also benefit from having access to real-time monitoring and reporting capabilities on both PCs and Tablets.

PUT CUSTOMER INFORMATION AT YOUR AGENTS' FINGER TIPS

Mitel's seamless integration with customer relationship management (CRM) systems, presents agents with historical customer data as contacts arrive so agents will know where customers are in their journey. Armed with the map of the customer's journey, agents quickly and efficiently resolve customer inquiries without having to ask the customer to start from the beginning.

MiContact Center Business provides agents with customer contact data for all channels the customer has used to interact with you. Agents can be talking to a customer on the phone and then offer to email them a quote or text them a trouble ticket with the click of a button.

RESOLVE CUSTOMER INQUIRIES – THE FIRST TIME

Mitel's ability to unify communications between contact center agents and back-office employees means agents can instantly locate, message, or conference in subject matter experts to obtain immediate answers. With customer profiling, intelligent contact routing, and enterprise presence, Mitel applications help agents answer customer inquiries in a single transaction.

Streamline your operations

SEE THE COMPLETE PICTURE

With omnichannel case management capabilities, agents and supervisors can not only see the performance of the entire center, they can see the status of each case and the individual interaction performance of each agent. Real-time reporting allows you to respond instantly to changing traffic volumes and ensure service levels are maintained. With historical reporting you can measure contact center performance against service level objectives, review a play-by-play account of contact center events, and identify ways to improve business processes.

MANAGE YOUR WORKFORCE

MiContact Center Business includes sophisticated workforce management, agent forecasting, and scheduling tools that allow managers to accurately match resources to expected contact volumes as well as measure, manage, and drive contact center performance which is key to controlling costs.

ENSURE BUSINESS CONTINUITY

Business continuity is ensured with a robust and highly resilient solution that is designed to provide seamless and uninterrupted service, with no loss of reporting or real-time capabilities in the event of a hardware failure or network outage.

To achieve business continuity, MiContact Center Business offers two options. The first option is to run the software in virtual environments leveraging VMware, Microsoft Hyper-V, and Citrix. The second option is to run the software in local High Availability mode, Disaster Recovery mode, or a combination of the two using Neverfail HA solutions. With MiContact Center Business High Availability, powered by Neverfail, your business can achieve 4x9s application uptime, ensuring that your customers receive continuous service and your employees achieve optimal productivity.

LEVERAGE YOUR EXISTING INFRASTRUCTURE

MiContact Center Business reduces the cost and complexity of deployment by leveraging your existing infrastructure. Mitel has partnered with several third-party companies, giving you have easy access to pre-integrated, best-in-class solutions, including:

- Social media monitoring
- Customer Relationship Management (CRM)
- Workforce Management (WFM)
- Quality Monitoring (QM)
- Call and screen recording
- Outbound dialing & campaign management
- Presence and chat engines
- Application level high availability, disaster recovery, and business continuity

Business value that scales as you grow

Mitel recognizes contact center requirements can vary greatly depending on the size and needs of your business. That's why MiContact Center Business offers two license levels:

Workgroup (up to 100 agents, single site) and Contact Center (+100 agents, multi-site). Advanced IVR and digital interaction capabilities (email, SMS, Web chat, fax, and social) are available as add-ons in both license levels.

For companies that only need to respond to digital contacts, MiContact Center Business can be shipped as a digital contact center without voice.

MiContact Center Business comprises the following applications and tools:

MANAGEMENT AND REPORTING

Contact Center Management -- provides browser-based tools for forecasting, reporting on all agents and queues, managing contact center performance, and traffic analysis.

Interactive Contact Center and Interactive Visual Queue – tools to change agent and queue states instantly, as contact volumes change. Also provides contact recognition and prioritization to ensure priority calls are answered first.

Workforce Scheduling and Schedule Adherence – standard workforce management, forecasting, and monitoring tools built in with an option to upgrade to an advanced WFM solution.

MEDIA DISTRIBUTION AND ROUTING

Automatic Call Distribution (ACD) – routes calls to the most appropriate group, based on the type of service required by the caller, and ensures calls are appropriately distributed within a group according to the caller's priority, the agent they last spoke to, the agent's skill level or idle time. Calls can be automatically re-routed, or agent availability can be changed, based on dynamic queue conditions.

IVR Routing – advanced Interactive Voice Response (IVR) routing intelligently manages callers and their expectations by providing options for self-service, and delivering announcements to callers in queue, such as expected wait time and position in queue. An intuitive drag and drop graphical user interface allows you to quickly and easily build and manage call flows. Speech-enabled IVR functionality (powered by Nuance™), such as Text-to-Speech and Automatic Speech Recognition, are optionally available.

Multimedia Contact Center – maintain service levels across all channels (voice, email, Web chat, SMS text, fax, and social media). Assign each interaction to a new or existing omnichannel case and easily pivot from one channel to another while working on a case. Customer data and contact history is stored for quick and easy retrieval by agents for proactive service. Also includes open media capabilities to support non-traditional contact center media types like WebRTC video, IoT alarms, and social media messaging – all routed through the same workflow engine and delivered to the same, familiar agent interface as native media types.

AGENT AND SUPERVISOR PRODUCTIVITY

Softphone and PhoneSet Manager – Integrate the agent interface with desktop phones or use softphones with point-and-click functionality for common agent actions and deliver customer information such as caller ID and DNIS.

Screen Pop – a pop-up application provides agents with customer information using data pulled from your customer database. Integrations are available for most market leading CRM solutions.

Predefined Response Templates – dramatically improve agent response times and consistency.

Outbound Dialing – automated dialing that delivers calls directly to agents for outbound marketing campaigns and sales follow-ups.

Remote Agents – Teleworker and External Hotdesking Agent features extend full voice and data to remote agents.

MiContact Center Training

Accelerate your return on investment

Mitel offers training courses for technicians, system engineers, system administrators, supervisors, and agents using MiContact Center, IVR Routing, and MiVoice Business Reporter applications. Each course provides a consistent, high-quality experience and delivers the depth of knowledge required to increase productivity and return on investment. To meet your business needs, we provide flexible scheduling options, on-site leader led instruction, self paced learning, and virtual classrooms for a hands-on experience.

Accelerate Your Return On Investment

With our comprehensive training offerings you can give your employees the skills they need to best realize the full potential and value of our contact center, IVR, and call costing solutions.

- *Help increase the likelihood of first contact resolution*
- *Increase your team's productivity*
- *Take advantage of the full potential of your investment in Mitel solutions*
- *Ensure your business constantly delivers optimal customer experiences*

Training Offerings

Mitel offers three core training offerings: Basic "How To" Videos, Self-paced Learning, and Leader-led Learning.

You can register and access the MiContact Center self-paced training through our MiContact Center Learning Management System at:

https://gm1.geolearning.com/geonext/prairiefyre/.

Basic "How To" Videos

- *Simple, free training covering core product use*
- *Great to provide staff with an understanding of key contact center functionality*

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Self-paced Learning

- On demand
- Cost-effective means of training your staff
- Can be completed on your own time and does not need to be scheduled
- Great as a refresher for training experienced staff
- Reference material available with the purchase of any course

Leader-Led Learning

- Scheduled through our Training department
- Conducted by Contact Center Specialists with years of field experience with contact centers
- Includes consultation to extensively customize training and address your specific business challenges
- Up to seven attendees can participate in a session
- Can be delivered on-site at your location or through virtual classrooms
- Includes virtual software environments for a hands-on learning experience
- Reference material available with the purchase of any course

MiContact Center Training

Mitel Course Name	MAX PARTICIPANTS	HOURS ALLOCATED
LEADER-LED		
Supervising Your MiContact Center	7	4 Hours
Administering Your MiContact Center	7	4 Hours
MiVoice Business Reporter	7	4 Hours
Intelligent Queue Network Administrator	7	4 Hours
Multimedia Contact Center	10	2 Hours
Workforce Scheduling	7	8 x 2 Hours = 16 Hours
Utilizing PhoneSet Manager / Softphone	10	1 Hour
Creating Flexible Reports	7	2 Hours
Salesforce.com Connector	10	1.5 Hours
Supervising Your Lync Contact Center	7	3 Hours
Administering Your Lync Contact Center	7	4 Hours
Lync Client Training for Agents	10	1 Hour
SELF-PACED		
Supervising Your MiContact Center	1	2 Hours
Administering Your MiContact Center	1	2 Hours
Utilizing PhoneSet Manager / Softphone	5	30 Minutes
Creating Flexible Reporting	1	1 Hour
Salesforce.com Connector	5	30 Minutes
ADVANCED LEADER-LED		
MiContact Center Installation and Maintenance	6	40 Hours
Installing and Maintaining Your IVR	6	3 x 6 Hours = 18 Hours

MiVoice 6900 Series IP Phones

Versatile family of 'Mobile First' IP Phones designed for today's mobile work style

The Mitel 6900 series is a family of powerful 'Mobile First' IP phones offering advanced integration with mobile phone calls and applications. Mitel's Mobile Integration capability enables the user's mobile phone to pair directly with the 6900's Bluetooth interface to deliver access to mobile phone features from the desk phone allowing both cellphone and IP calls to be managed from a single device. Mobile Integration allows mobile phone users to leverage the exceptional HD audio and comfortable ergonomics of the 6900 series phones for both IP and cellphone calls. The 6900 phones deliver crystal clear audio through a unique corded or cordless voice optimized handset and high performance hands-free speakerphone. Unparalleled flexibility is achieved through a broad array of add-on user installable accessories that enable the phones to be tailored to specific user needs. The 6900 family provides the flexibility and capability needed to meet the demanding needs of today's users.

ᐂ Mitel
Powering connections

Mitel 6900 Series IP Phones

MiVoice 6920 IP Phone

The MiVoice 6920 IP phone is designed from the ground up for the enterprise user who requires an exceptional HD audio experience via its unique voice optimized handset. It offers a large color LCD display, dual GigE, programmable personal keys and context-sensitive soft keys, support for both USB & Analog headsets.

- 3.5" QVGA (320x240 pixel) color display
- Speech optimized corded handset
- Programmable personal and Context sensitive soft keys
- Native DUSG/EHS analog headset support
- USB port for headsets and accessories

MiVoice 6930 IP Phone

The MiVoice 6930 IP phone commands the desktop with its large 4.3" color display, powerful crystal clear HD audio through the voice optimized handset, programmable personal keys, Bluetooth 4.1 with Mobile Integration, mobile phone USB charging point and choice of expansion modules makes the 6930 the choice of power users.

- 4.3" (480x272 pixel) color display
- Bluetooth 4.1
- Mobile Integration
- USB Mobile phone charging point
- Programmable personal and Context sensitive soft keys
- Speech optimized corded handset
- Support for optional Cordless handset
- Enhanced full-duplex speakerphone
- Highly customizable via optional accessories

MiVoice 6940 IP Phone

The MiVoice 6940 IP Phone is designed for executive users who demand a lot from their phone. The 6940 offers a large 7" touch display, powerful crystal clear HD audio through a unique cordless Bluetooth voice optimized handset and programmable personal keys. Mobile Integration, Dual Gigabit Ethernet ports and the full-duplex speakerphone ensure the 6940 delivers a robust, productivity-enhancing executive desktop communication tool.

- 7" (800x480 pixel) color LCD Touch Display
- Bluetooth 4.1
- Mobile Integration
- Mobile phone charging point
- Cordless BT speech optimized handset
- Enhanced full-duplex speakerphone
- Programmable personal and Context sensitive soft keys
- Highly customizable via broad array of optional add-on accessories

Common features for all Mitel 6900 phones & Comparison Feature Matrix

System Software Requirements

- MiVoice Business, R8
- MiVoice Office 400 R5.0
- MiVoice 5000 R6.4
- MiVoice MX-One R6.3
- MiCollab Client, Release 7.2.2

Audio and Codec

- Mitel Hi-Q Audio Technology
- Voice optimized handsets
- Hearing Aid Compatible (HAC) handset
- High quality full-duplex speakerphone
- Codecs (not all codecs supported by MiNet and SIP firmware):
    - G.711, G.729, G.722
    - G.722.1 (MiNet only);
    - G.726, iLBC AMR, AMR-WB (G.722.2) (SIP only)
- Headset connection interfaces – USB, Analog DHSG/EHS port, Bluetooth 4.1 (standard on 6930/40)

Integration and Connectivity

- Mobile Integration (standard on 6930/40)
    - Mobile Call Audio via desk phone
    - Mobile Contact Sync

- Support for Mitel Teleworker Solution, Automatic Call Distribution (ACD) agent and supervisor, hot desking and resiliency
- Support for use with MiCollab Client
- Multiple-languages Support: English, French, German, Italian, Portuguese, Spanish and Dutch (downloadable language packs for SIP)
- Secure encrypted voice communication
- Quality of Service support – IEEE 802.1 p/Q VLAN and priority tagiing
- IEEE 802.1x authentication support
- Dual 10/100/1000 Mbps Ethernet ports (LAN/PC)
- Bluetooth 4.1 wireless interface (standard on 6930/40)
- Powered USB 2.0 Host port (100mA on 6920, 500mA on 6930/40)
- Sidecar expansion port
- Dedicated 4-pin modular headset port convertible to DHSG/EHS capable

Comparison Feature Matrix

	6920	6930	6940
Color LCD Display	3.5" (320x240) LCD	4.3" (480x272) LCD	7" (800x480) Touchscreen LCD
Mobile Integration	Yes via USB BT dongle	Yes	Yes
Dedicated LED for call, message waiting and Mobile Device Indication	Yes	Yes	Yes
Ethernet Ports	2 x GigE	2 x GigE	2 x GigE
Wideband Speakerphone	Yes	Yes	Yes
Bluetooth 4.1 Support	Future offering through BT USB dongle	Yes (built-in)	Yes (built-in)

Bluetooth Handset Support	Future offering through BT USB dongle	Yes (optional)	Yes (standard)
Wired Analog Headset Support	Yes	Yes	No
EHS Headset Support	Yes	Yes	No
USB Headset Support	Yes	Yes	Yes
Integrated DECT Headset	-	Yes (optional)	Yes (optional)
Detachable Keyboard Support	Yes	Yes	No (on screen keyboard)
Optional Wall Mount Support	Yes	Yes	Yes
LCD PKM Support	Yes (3 max)	Yes (3 max)	Yes (3 max)

Accessories

INTEGRATED DECT HEADSET

The Integrated DECT Headset delivers a range of up to 300 feet (100 meters) of personal area mobility, helping users avoid missed calls while stepping away to the printer, copier or colleagues' offices. Mitel's DECT Accessories are an ideal fit for all organizations and verticals including call centers, education, healthcare, hospitality and retail environments.

- DECT wireless technology – 300 foot (100 meter) range
- Premium mono-ear headset from Jabra
- Attaches to phone via phone's Expansion Por
- Powered directly by the IP phone
- Headset Call control buttons
- Supported on 6930 & 6940
- Available today for MiVoice Business. Q1 2018 for MiVoice Office 400, MiVoice 5000 and MiVoice MX-ONE

MiVoice S720 Bluetooth Speakerphone

The MiVoice S720 Bluetooth Speakerphone gives users the ability to untether themselves from their desk and take advantage of the added productivity that wireless communication delivers. Adding the benefit of completely hands-free communication, the MiVoice S720 enables users to work on their computers, handle documents, or take notes during conference calls. Making it the ideal fit for all organizations and verticals including office workers, education, healthcare, hospitality and retail environments.

- Battery powered with USB charging
- Dual connect – desk phone & mobile phone
- Ability to link two speakerphones together wirelessly
- Play stereo music from mobile
- Extend conference phone range
- Supported on the 6930 & 6940 IP Phone
- Available today for MiVoice Business. Q1 2018 for MiVoice Office 400, MiVoice 5000 and MiVoice MX-ONE

CORDLESS VOICE OPTIMIZED HANDSET

The cordless voice optimized handset allows users to enjoy clearly discernable conversations in a variety of environments without being physically tied to their desk phone. 6930 users can enjoy the freedom of cordless conversations for both IP and Mobile Integration calls by upgrading to the cordless handset.

- Supported on the 6930 (standard equipment on 6940)
- End user installable – 6930 comes standard with cordless handset charging contacts
- Answer/hang-up, mute and volume up/down buttons provided
- Ringtone played through handset while out of the phone cradle
- BT 4.1 Class 2 (10 meter / 30 feet range) wireless interface

WLAN ADAPTER

The WLAN Adapter delivers wireless 802.11 a/b/g/n dual band (2.4Ghz / 5Ghz) network connectivity to your 6900, 5300 or 6800 series phone. Wirelessly enable your IP Phone by simply connecting the WLAN Adapter to the Phone's network port via the supplied Ethernet cable and then configure the adapter to connect to your home office or enterprise wireless network. The WLAN Adapter supplies POE power to the connected phone for a clean and simple single wall adapter solution. The WLAN Adapter supports connection of a PC to the PC port of the connected phone with true 2x2 MIMO (300Mb/s) throughput. The WLAN Adapter delivers enterprise grade dual antenna connectivity and up to 802.1x security plus comes with a remote management application that allows administrators to remotely manage adapters deployed within their user community.

Features	Mitel WLAN Adapter
Wireless	802.11a/b/g/n (dual band 2.4 and 5 GHz)
Ethernet	10/100/1000
Security	WPA/WPA2 Personal Enterprise with 802.1x Authentication
Antenna	Two (internal)
MIMO	2x2 MIMO
Max Link Rate	MSC0 to MSC15 (300Mb/s)

Additional Software Security	Ethernet MAC Address Intrusion Alert
Config from Phone	Yes (Future)
MAC Address Transparency	Yes
Support PC plugged into Phone	Yes
POE+	Yes to power the phone + installed accessories
Remote Management	Yes via Remote Management Application
Bulk updates	Yes via Remote Management Application
Set Up	WPS, Remote Manager, Direct Config, Web

EXPANSION MODULES

The Mitel M695 can easily add 28 buttons to the existing Personal keys on a 6920, 6930 or 6940, enabling the MiVoice 6900 Series IP phones to become robust productivity enhancing desktop communication tools for users who need to monitor a large number of lines or Busy Lamp Fields. The M695 attaches easily to the 6900's sidecar expansion port which provides power to the attached PKM(s) for a clutter free desktop. Up to three modules can be daisy-chained together to provide up to 84 programmable keys that can be programmed with all of the same feature types available on the Personal keys of the base phone.

- Supported on the 6920, 6930 and 6940
- 28 programmable keys
- 4.3" 480x272 pixel color backlit LCD display
- Additional M695 PKM's can be daisy-chained for a combined total of up to 3 modules
- All attached PKM's powered by the phone – no separate power adapter required