Helping Customers Solve Business Problems through Technology

Cisco Router/Firewall equipment Installation

Proposal and Statement of Work (SOW)
DIR-SDD-1366

Prepared for:

Fort Bend County

- 2/26/14
- David Mercuri
- Solutions Architect

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Proposal Summary

Project overview:

- Install and configure Cisco routers and firewalls to accommodate a new redundant Internet circuit for BGP roll out.

Solution Technologies:

- Routing and Security
  - Cisco Router 3925E/3945E
  - Cisco Firewalls (2) ASA 5525

- Professional services for Installation and configuration of the system

Statement of Work (SOW)

Scope Summary

Customer currently has an AT&T 100MB Internet circuit at their Jane Long facility in Richmond, Texas which is the County IT Hub. In the future this circuit could run up to 200 MB. The Jane Long facility currently feeds their remote locations. As part of a project to build out additional redundancy they will have a 2nd ISP located at their EOC building. This circuit will be provided by Phonoscope and will run at 50MB. Both circuits when will have BGP routing enabled. Both circuits will run in High Availability mode with the AT&T circuit being the PRI connection and the Phonoscope acting as the Secondary if the PRI fails. They will not be load balanced. Both the EOC and the Jane Long are connected on the FBC internal network. FBC has a Cisco switched network at both locations.

The Jane Long building currently has a Cisco ASA 5540 for a FW which will be used strictly for VPN access after this project. NWN will assist customer with configuring the existing ASA 5540's to a VPN only access. The Firewall/Internet facing functionality will be moved from the ASA 5540's to the ASA 5525's. The ASA 5540's will remain at the Jane Long building. A one day effort (8 hours) will be planned for the ASA 5540 changes. Any time more than 8 hours may constitute a change order.

As part of this project NWN will install a new Cisco 3945E router which will terminate the existing AT&T circuit. NWN will also install a new Cisco ASA 5525 Firewall for the Jane Long building which will replace the existing ASA5540.

Customer will keep the existing ASA 5540 for the Jane Long building for VPN access only as mentioned above.

NWN will also install a new Cisco 3925E router and a Cisco ASA 5525 Firewall for the Phonoscope circuit at the EOC location.

This SOW is associated with the following Bill of Materials (BOM) list:

FortBendCounty_OP83682_BGP_Richmond-TX-Dual ISP-Redundancy-RTR-FW

Project Success Measures

The following points are captured as the customer's measures as indicators of a successful project:

- (1) Cisco 3945E and (1) 3925E router and (2) ASA 5525 firewalls installed and functioning
- Equipment mentioned above is properly configured allowing all Fort Bend County sites to utilize the AT&T and Phonoscope Internet circuits for inbound and outbound traffic.
- Ensure existing ASA 5540 is operating as VPN

Project Management Methodology

An NWN Project Manager will be assigned to this project, utilizing the NWN project methodology, to ensure the successful delivery of this initiative as defined in this scope. The following outlines the roles and responsibilities of the NWN Project Manager:

- Act as a single point-of-contact between Fort Bend County and NWN
- Conduct project kick-off and ensure thorough project communication with project stakeholders and team members
- Develop & maintain detailed project plan, task plan, schedule & communications plan

- Prepare, distribute & communicate regular status, action item & related project reports
- Manage project scope and respond to change requests by initiating the Project Change Request (PCR) process to identify the needed change and effects it will have on the project along with funding that may be needed to complete the change. This PCR will be reviewed and agreed to by NWN and client prior to the change being implemented.
- Define and manage the escalation process
- Review all Project Documentation and Deliverables
- Oversee knowledge transfer
- In the event of a change of scope, NWN Project Management will work with Customer project manager/sponsor to agree on next steps and execute a Project Change Request (PCR).
- Each project deliverable/milestone requires mutual acceptance in the form of an executed M/DA. This will initiate a billing event while authorizing the projects team to proceed through the agreed upon project plan.
- At the conclusion of this engagement, you will be solicited directly via phone by a member of the post-delivery team or asked to complete a Customer Satisfaction survey online. We look forward to gaining a more detailed understanding of your experience. This feedback is greatly appreciated and valued by the NWN team

Initiate	Assess	Design	Prepare	Execute	Transition
• Discovery • Define project scope • Form project team • Project Kickoff • Create project package	• Collect data • Perform site visits • Document environment • Conduct scans/ assessments • Review findings • Data validation	• Design sessions • Configuration guides • Integration plan • Test plan **GATE REVIEW** Design Sign off	• Staging • Build Lab • Proof of Concept • Pre-production integration • 1st Unit build	• Train users • Phased deployment • Production integrations • Phased cutover **GATE REVIEW** Functional Sign off	• Day 2 support • Knowledge transfer • Maintenance contract activation • Solution orientation • Transfer to customer support • Activate NCare • Review project success

Initiate Phase

The initiate phase of the project is critical to establishing a firm foundation for the launch and delivery of the project. Activities in this phase of the project include:

- Internal kickoff meeting – this meeting involves the NWN Sales Team and the NWN Implementation Team. At this meeting, the entire NWN team is made aware of the Customer's expectations that were set during the Sales process to ensure all communication is translated to the Implementation Team for the on-site work effort.
- External kickoff meeting – this meeting involves the NWN Team and the Customer's Team and usually takes place at the Customer's site. During this meeting, all aspects of the project will be reviewed and established. This includes, but is not limited to: logistics management, roles and responsibilities of all project team members, draft schedule, task plan and work breakdown structure (WBS), communications plan and design and implementation approaches.

- Scheduling for Design Meeting – Initial timeline will be set for overall project. NWN and Customer will work together to identify resources for project and coordinate schedules to complete the Design Phase.
- Create project plan package – the NWN Project Manager will work with the overall team to create a project plan package, schedule, communications plan, project documents and protocols.

Deliverables:
- Kick off meetings and follow up communications
- Project plan package
- Project work schedule and related meetings (design, discovery, status)

Assess Phase (if applicable)

Activities in this phase of the project include:
- Site visits – The NWN team will conduct site walk through or through phone conversations, sessions to collect data on the current state and installation of the in scope locations. Site visit data collection includes: data rooms, communications closets, switch rooms, etc.
- Document Environmentals – NWN will compile a findings document and related recommendations based on the project scope and the site visit findings. This document will be presented and reviewed with the customer as the basis for the detailed design activities.
- Not applicable-Conduct scans &/or assessments – NWN will perform scans/ assessments to collect and analyze the customer's environment as follows:

- Review findings – NWN will review the results of the site visits and findings/ scans/ assessments for validation with the customer and as the basis for the detailed design activities.
- Perform data validation – NWN will revise the findings reports from this phase based on any data validation or revisions provided by the customer.

Deliverables:(if applicable)
Design Session will capture the information needed
- Phone conversations or Site visits and walk through sessions
- Environment and findings report
- Initial scan/ assessment findings report
- Data validation meeting

Design Phase

Activities in this phase of the project include:
- Design Meeting – After the kick-off meeting, NWN has a design meeting to discuss the technical aspects of the configuration for the BGP project. This will encompass everything from installing the equipment to assisting customer with proper ISP configurations. At the end of this Design meeting, NWN has gathered enough information to create a design document for the installation of the equipment. The design document will include configuration parameters for all the equipment and the requirements by the Customer's IT Staff in order to prepare for the installation. A project time frame (including specific dates) will be created at the end of the Design meeting.
- Functionality testing procedures – NWN and the customer will prepare a testing document that is the basis for verifying the in scope functionality of this solution. This will be used during the Execute Phase of the project.

- GATE REVIEW: Design Acceptance – NWN will conduct a design review and acceptance session with the customer to review the design details prior to initiating any production implementation or changes. The customer's acceptance of the design is the approval to move forward in the project.
- Design Session detailing the current configurations of switches that need to change as a result of this project.
- Design Session detailing the proper configurations of the new equipment to accommodate the ISP circuit.
- Design Session detailing the proper configurations of the new firewalls.

Deliverables:
- Design development meetings
- Test and acceptance procedures
- Detailed design documents
- Design acceptance meeting

Prepare Phase

Activities in this phase of the project include:

- Staging –
  - Equipment Hardware Testing – NWN will stage the new Cisco 3925E/3945E routers and the Cisco ASA 5525 Firewalls at the NWN facility to ensure there are no problems with the equipment that was shipped from the Manufacturers. Once all the equipment is un-boxed and assembled, NWN will perform burn-in testing to ensure all equipment operates for a set amount of time. If any equipment is found to be faulty, then NWN will return to the equipment to the manufacturer and receive replacement equipment prior to shipping any equipment to the Customer site.
  - Configuration Staging – NWN will initially configure all of the equipment and test the configurations of the equipment at the NWN facility. Once all the equipment has been tested, NWN will re-package all of the equipment for shipment to the Customer site and furnish Customer with a packing slip.
- Lab build out - (If a selected scope item) NWN will construct a LAB environment utilizing components of the total project equipment list to demonstrate the functionality of the project solution to verify non-production integration points, conduct functionality test plans and review preparedness to move to production deployments.
- Proof of Concept – (If a selected scope items) NWN will prepare a functional implementation in parallel to the existing customer's (network, server, storage, etc.) to demonstrate functionality and validate the concept of the solution in the customer's environment. NWN and the customer will perform the test and acceptance plan developed during the Prepare Phase of the project.
- Pre-production integration – NWN will configure, test and integrate the in scope solution to the point of production impacting cutover or placement into service. NWN will demonstrate to the customer the functionality of the system to the point possible prior to integrating the solution into the customer's production systems.
- First Unit build – (If a selected scope item) NWN will prepare the in scope solution to the point of First Unit build to demonstrate complete functionality and capabilities. This is intended to demonstrate all features and services defined in scope and in the detailed design specifications, and satisfy the functionality testing requirements developed in the Design Phase.
- Receipt and inventory the (1) 3925E / (1) 3945E router and (2) ASA 5525 firewalls.
- Stage and build routers and firewalls.
- Insure all equipment is upgraded to latest stable software release.

Deliverables:

- Equipment staged at (NWN or Customer-indicate where) location

Execute Phase

Activities in this phase of the project include:

- Hardware Installation – NWN will un-box the (2) (3925E/3945E) routers and the (2) ASA 5525 firewalls at the Customer site and proceed to install the equipment in the specified areas. Once the equipment is physically installed, NWN and the Customer IT Staff will fully test the configurations for each device prior the user migration to the new equipment.
- Phased implementation – NWN, working with the customer's technical team, will implement the new solution in phases per the Design Document as follows:
    - Stage 1 integration: Jane Long Router/Firewall install
    - Stage 2 integration: EOC Router/Firewall install

  It is assumed that the Jane Long and EOC installs will happen within a contiguous time frame. This SOW assumes no more than a week gap between locations.

- Not applicable-Configuration Testing and User Migration – Once configurations are tested and verified, NWN and the Customer IT Staff will move a set amount of users over to the new equipment and ensure the new design is functioning. This process will continue on the set schedule that was mutually agreed upon through the established project plan.
- User training – NWN will perform user/admin training as follows:
    - Training will just be in the form of admin knowledge transfer lasting no more than 2 hours. This will be done in the Transition phase
- GATE REVIEW: Production readiness acceptance – NWN will review the production cutover and implementation with the customer to verify that the solution is functioning in their environment as presented in this scope and the detailed design from the earlier Gate Review.
- Install new router and firewall equipment at Justice Center then test.
- Install new router at Jane Long then test.
- Configure existing Core switches at Jane Long and Justice Center.
- System Connectivity testing

Deliverables:

- Equipment delivery and installation
- Training sessions
- Production implementation of the solution (cutover date or Phased implementation)
- Implementation milestones:
    - Jane Long Router/Firewall install
    - EOC Router/Firewall install

- Gate Review- production implementation acceptance by customer

Transition Phase

Activities in this phase of the project include:

- Day 2 Support – NWN will remain on site for help address and diagnose any problems that arise due to the migration to the new equipment. NWN will be able to troubleshoot any new equipment issues and the Customer needs to provide a resource with troubleshooting knowledge for the Customer's software applications and end user devices. Once the

new equipment is agreed to be stable by NWN and the Customer IT Staff, NWN will start to finalize the documentation for the project.

- Knowledge Transfer – NWN's technical team on the project will conduct a solution orientation session and knowledge transfer with the customer's designated staff. This does not replace manufacturer specific technical training on the specific equipment, but provides a solid overview of how NWN has integrated the solution into the customer's environment. Details of this session are:
  - 1 session(s) up to two hours with up to eight customer technical staff members at the customer's site/ NWN site.

- Maintenance contract activation – NWN will review any manufacture's maintenance contracts purchased as part of this project and ensure those contracts are properly activated.
- Transfer to customer support – NWN will provide final AS Built documentation to the customer on the solution implementation and transition the project to the customer's technical support staff
- Activate the NCare support contract – (If in scope and an Ncare contract is part of this SOW) The NWN Ncare team will transition into their Enablement Service and activate the customer's Ncare support agreement to provide support services on this solution as defined by the detailed scope contract for those managed services.
  - Reference the Ncare SOW document here
- Project closure meeting – NWN will conduct a project review, acceptance and closure meeting to close out the project, This will include a review of the scope for completion, BOM deliverables, final documents and customer acceptance and survey documents.

Deliverables:

- Knowledge transfer sessions
- Maintenance contract activation and related documents
- Ncare services initiated (if applicable)
- Project closure meeting

Out of Scope

Any area not specifically presented in the Scope section of this proposal is considered outside the scope of this project. Changes to the scope as detailed in this proposal require an estimate review and must be approved by mutual agreement. Additional (or lower) charges may apply to incorporate the requested changes. Changes will not become effective until agreed upon in writing by both the Customer and NWN.

Customer requirements & assumptions

Technical/Operational Requirements/Assumptions:

General Assumptions:

1. This Proposal is only valid for 30 days. At the end of the 30 period, NWN will need to refresh the pricing in this proposal before the Customer decides to execute this contract.
2. The work effort in this proposal assumes a continuous work effort that is established at the beginning of the project based on a project plan. If delays occur in the installation process due to Customer related issues, then a change order will need to address any additional costs that arise due to this delay.
3. NWN is not responsible for configuration changes on any equipment not specifically stated in the above Statement of Work.
4. All NWN work effort will occur during normal business hours (M-F, 9-5). Except where noted, additional charges will apply if there is after-hours work that needs to occur.

5. Customer assumes all responsibility for providing the appropriate power for all installed equipment in this proposal. NWN can provide the plug type and desired power connection for each piece of equipment in the proposal.
6. Customer is responsible for all rack or cabinet hardware (including rack mounting hardware) that is needed to install the new equipment.
7. Customer assumes all responsibility for ensuring enough contiguous rack space for the new equipment to be installed during this project.
8. Customer needs to provide all Fiber Patch Cables between the new network equipment and the fiber patch panels in each network closet. NWN can provide the appropriate connector type for each patch cable if desired by the Customer.
9. Customer needs to provide all Copper Patch Cables between the new network equipment and the copper patch panels in each network closet. NWN assumes RJ45 connectivity for all copper patch cables needed.
10. Customer is responsible for providing all Cable Management (Vertical and Horizontal) in order to correctly route each patch cable from the newly installed network equipment to the appropriate patch panel.
11. Customer must provide access along with safety, security & emergency protocols for NWN staff for all the appropriate areas in the facility in order to complete the work effort included in this proposal.
12. Customer is responsible for all environmental concerns in each network closet that NWN will install new equipment. If equipment problems arise due to excessive heat or water in the network closets, then the Customer is responsible for all equipment replacement costs.
13. Customer must provide free and clear access to the network equipment racks in each network closet.
14. Customer must provide a work area large enough for receipt of all new equipment for this project.
15. Customer must provide outside phone and Internet access for all NWN staff when onsite.
16. Customer must provide a dedicated point of contact for the entirety of this project. This Contact must be available during major steps in the installation process. If the Customer contact is not available during the process and schedules slide due to Customer unavailability, then Customer costs may arise to the delayed schedule.
17. Customer and NWN will mutually agree upon downtime prior to any installation and ensure this downtime is scheduled in advance so the Customer can make appropriate preparations at the facility.
18. Customer must obtain all necessary work permits.
19. Customer must provide adequate parking for the NWN project team at no additional charge to NWN.
20. Customer's responsible for removal of shipping packaging once all the equipment is received at the Customer site.

LAN/Security Assumptions where applicable:

21. Customer has given NWN the approximate distances for all fiber that will be used for connectivity in this scope of work. If the Fiber Optic connectors (1Gig or 10Gig) that NWN has quoted in the Bill of Materials for device connectivity need to change based on incorrect distances, then the Customer is responsible for equipment replacement costs.
22. NWN assumes that all the spare fiber that is not currently in use at the Customer facility is terminated and tested for to meet Ethernet specifications. If problems arise due to bad fiber connections, the Customer will assume all costs for correcting the fiber connectivity problem.
23. For new router installations, Telco Circuit Delivery should not affect the scheduling of router installation. If delays occur due to delayed Circuit Delivery, then Customer assumes all related costs or delays in scheduling due to the impacted schedule.
24. All Cat5 or Cat6 LAN cabling will installed according to BICSI best practices including permanent horizontal cabling specifications.
25. Customer is responsible for defining the air-flow (hot and cold row) requirements for the data center prior to NWN installing any network equipment in the data center. If air-flow requirements change the type of equipment that is required, then the Customer will be responsible for the additional equipment costs.
26. Customer must have ACTIVE Cisco Smartnet contracts on any existing equipment that NWN will be upgrading or updating during this work effort.

27. Customer is responsible for obtaining a valid SSL Certificate Authority for any equipment that is required during the installation work effort.
28. Customer has provided an accurate end-point count for any licensing requirements in the attached Bill of Materials. If there are additional licenses that are required, then there will be an additional cost to the Customer.
29. Circuit provisioning & coordination (if necessary) is the responsibility of the customer with the provisioning 3rd party.
30. Customer is responsible for all switch, firewall and router configuration work effort to establish proper connectivity in this scope of work.

31. Customer must provide accurate floor plans in electronic format for Wireless Control System (WCS) AP mapping.
32. Customer must provide all switch ports as necessary for the necessary equipment connectivity.
33. Customer is responsible for all cabling work effort between the AP and the appropriate network closet.
34. Customer must provide the best possible information related to building construction, available mechanical rooms, location of equipment, etc.
35. Customer must have ACTIVE Cisco Smartnet contracts on any existing equipment that NWN will be upgrading or updating during this work effort.
36. Customer is responsible for obtaining a valid SSL Certificate Authority for any equipment that is required during the installation work effort.
37. Customer has provided an accurate end-point count for any licensing requirements in the attached Bill of Materials. If there are additional licenses that are required, then there will be an additional cost to the Customer.
38. Customer has given NWN the approximate distances for all fiber that will be used for connectivity in this scope of work. If the Fiber Optic connectors (1Gig or 10Gig) that NWN has quoted in the Bill of Materials for device connectivity need to change based on incorrect distances, then the Customer is responsible for equipment replacement costs.
39. Customer is responsible for all switch, firewall and router configuration work effort to establish proper connectivity in this scope of work.

Project Services Financials

NWN is pleased to present the following pricing summary for this project.

Professional Services – Fixed Price	$26,789.00
Total Services Project Investment	$26,789.00

Billing Terms

Fixed Price Professional Services Billing Milestones:

Milestone/ Phase one-Initiate/Design/Prepare	$4076.00
Milestone/ Phase two-Execute/	$18,850.00
Milestone / Phase Three Transition	$3863.00
Total Professional Services	$26,789.00

This Statement of Work ("**SOW**") is entered into and effective as of the date last executed below (the "**SOW Effective Date**") and is by and between **NWN Corporation**, a Delaware corporation, having its principal place of business at 4802 N. Sam Houston Parkway W. Suite 500, Houston, Texas 77086 ("**NWN**") and **Fort Bend County,** having its principal place of business at **500 Liberty St, Richmond, Texas 77469** ("**Customer**")

Accepted and Agreed by:

Fort Bend County	**NWN Corporation, Inc.**
Signature	*Signature*
Name Robert E. Hebert	*Name* Shearrad Thomas
Title County Judge	*Title* Enterprise Account Executive
Date March 25, 2014	*Date* 2/26/2014

Approved by Commissioners Court on March 11, 2014