

STATEMENT OF WORK

[Peak XV Networks]
Statement of Work #PN-MD-KM-541992
Fixed Cost

THIS Statement of Work ("SOW") is made effective as of the 1 day of MAY 2002 effective date, by and between CLIENT OPERATIONS OF THE MID-ATLANTIC INC., a Delaware corporation with a place of business at 593 Herndon Parkway, Herndon, VA 22070 ("Client"), and Peak XV Networks INC., a California corporation, with a place of business located 2527 Camino Ramon, Suite 340 san Ramon ca. 94583, ("Peak XV or VENDOR "), and is governed by the [Packet data Network Containment], between CLIENT and Peak XV networks dated January 4th, 2002. In the event of any conflict between the terms of this SOW and the Agreement, the Agreement shall control.

1. Business Case –

Client Sponsoring Organization: **National Network Services**
 Vice President of Organization: **X**
 Client Manager for this engagement: **V**

Vendor POC	
Contact Name	Philip Marasco
Mobile Number	703-575-1776
Fax # to send PO	

The Packet Data Network currently has a number of blind spots, which present an inherent risk to service outage or degradation. In order to bring management of the network to a satisfactory level, additional expertise in the area of network management systems development and integration in a mobile IP network is required. Also, current Client resources do not have the necessary bandwidth to complete such an initiative in a timely manner, thus requiring additional resources to successfully complete this effort.

2. Scope

To achieve required outcomes of the Business Case, the following is a summary of the services and desired outcomes . . .

- Inventory of network elements and management systems
- Research network management capabilities of all
- Develop a standard naming convention for all Packet Data network elements
- Define and document business rule sets for NNOC and NTS
- Develop project plan for implementation
- Define NOC training requirements

- Document process for integrating new network elements into the Network Management system
- Develop and document Network Management framework for new network elements

3. Services or Detailed Task/Work Requirements

SCOPE OF WORK

Peak XV's *Technology Solutions Group*[™] will provide Client with qualified individuals to help document and develop an integrated cross-platform monitoring view with appropriate standards, documentation and processes to enable comprehensive network monitoring. Peak XV's *Technology Solutions Group*[™] are tailored to meet the specific needs of Client so that the proper expertise level can be provided to guide the conversations and the result of the engagement provides a clearly defined roadmap for improved network monitoring and alert notification processes as the output.

Peak XV will provide Client with experts with extensive experience in the following areas: Network and Operations Management, Process and Procedure Development. This will be a virtual group of individuals so as to best provide the best talent to integrate each component. This group will be focused by a Project Lead, specifically a Senior Program Manager from Peak XV with a technical discipline in IP engineering. This individual will have access to all the resources of Peak XV and direct the engagement to produce the highest level of results. The Program Manager will lead the development of all cross-platform process and procedures and guide the discussions with a lead within each group of Client employees. The objective of this engagement is to work with Client engineers that can provide detailed information on departmental functions, objectives, and immediate "get-well" issues over 3-month period. Peak XV will generate a clear and concise set of business rules for process and procedures relating to monitoring and alert notification on the primary elements of Client's packet data Network.

Many of the recommendations outlined are logical and appear to be simple and apparent; however, for various reasons have not been implemented within the Client environment to date. The lack of implementing the more obvious issues is primarily due to the lack of communication between groups, lack of resources to perform proactive activities, and lack of knowledge of the capabilities of devices and/or management tools. A significant amount of research and planning must be performed to adequately implement the functionalities of the devices and of the Network Management Systems that Client has in place. Two underlying assumptions, based on feedback from each organization, create critical dependencies for the success of this project: (1) Client has the IT resources to properly implement the recommendations made in this document and (2) Client is committed to the changes necessary to improve the operational effectiveness and efficiencies of the organization.

Network Visibility

The initial steps are to ensure Client Network Operation Center and Tech Services has total visibility of the Packet Data Network using Netcool as a centralized monitoring view of all elements. An aggressive plan has been outlined that assumes Client will make the appropriate resource commitments to implement each recommendation.

Client NOC Visibility- Phase I Project

1.0 Kick-off Meeting

1.1 Define and Document Project Plan and Resource Requirements

- Creation of initial Project Plan in MS Project
- Joint kick-off meeting
- Update project plan in MS Project
- Distribute updated project plan

- Total (24 man Hrs.)

2.0 Finalize Element Definition List

2.1 Element Definition Meetings

2.1.1 Internal element project planning

- Analyze/document currently avail. Info.
- Document/create final element tracking worksheet

2.1.2 Meet w/ Tech Services for agreement

2.1.2a Collect Element Information

- Collect element device model name
- Collect code version of each element
- Collect IP Address of each device

2.1.2b Conference call w/ Atlanta Data Center

- ID data center infrastructure topology
- ID all uplink components

2.1.3 Meet w/ NNOC for agreement

2.1.4 Meet w/ IT development org. for agreement

- Validate collected info from NNOC & Tech Services

2.1.5 Finalize internal element project planning

- Analyze/document currently avail. Info.
- Document final element tracking worksheet
- Finalize project plan documentation
- Present final elements plan to Client Project lead for approval

- Total (158 man Hrs.)

3.0 Document Current Network Monitoring Processes and Procedures. Identify what is working for each group today and what they believe would make them more effective.

3.1 Information gathering meeting with Tech Services (data)

- Collect information on which tools are being used to gather statistics and review events for each Elements finalized in item 2.
- Collect information on which tools are used to access the devices directly for troubleshooting.
- Collect any business rules the Tech Services group is aware of and identify current processes used to monitor and manage the data network elements
- Review the use and effectiveness of Online Advisor for the Tech Services Group
- Discuss impact on organization if the NNOC starts to pickup more of the Tier 2 responsibilities

3.2 Information gathering meeting with Data NNOC

- Collect information on which tools are being used to monitor each of the Elements finalized in item 2.
- Collect information on which tools are used to access the devices directly for troubleshooting. What tools are needed for the NNOC to begin to act more as a Tier 2 organization.

- Collect any business rules the NNOC is aware of and identify current processes used to monitor and manage the data network elements
- Review the use and effectiveness of Online Advisor
- Evaluate the level of training that is required to monitor and manage the data network elements effectively

- Total (16 man Hrs.)

4.0 Define Infrastructure for Monitoring All Network Elements through a limited set of monitoring tools (specifically focusing on Netcool) for up/down status, and severe degradation of device's capability to provide service. Focus on existing devices and code only.

4.1 Research & document fault management capabilities

4.1.1 Documentation of OID & SNMP Information for Each Element

- Finalize lead research team
- Research vendor availability of MIB information
- Collection of OID & SNMP info for each element
- Create OID & SNMP worksheet for each element

4.1.2 Document capabilities of downstream monitoring messaging devices

- Finalize lead research team
- Research vendor availability of capabilities information
- Collection of vendor capabilities information
- Create capabilities matrix for downstream monitoring messaging devices

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4.1.3 Document the accuracy of the Online Advisory

- Correlate network event messages to the Online Advisory information and directives

- Total (46 man Hrs.)

5.0 Define Processes, Business Rules/Threshold Monitoring Standards

- 5.1

5.1 Define rule sets for Data NNOC

- Analyze & recommend revised rule sets for business rules and processes used to monitor and manage critical device events.
- Analyze & recommend revised rule sets for current process for requesting changes to monitoring system for data for critical network and device events.
- Analyze & recommend definitions for the Online Advisory that support a Tier 2 operations group

- Total (180 man Hrs.)

6.0 Define Automated Process Requirements

6.1 Create NMS operation dashboard format

- Document dashboard use and functionality for operations organization

6.2 Establish info access strategy for operational organization

- Netcool views
- Clarify standard report views

6.3 Create NNOC Data group reports

- Document reports/applications by operational organization & NOC

6.4 Define requirements for additional fields in Clarify

- Define additional fields w/in Clarify that are required to support device specific trending and reporting
- Document use of additional fields for operations organization

6.5 Present to Client project lead, leads from NNOC, and Tech Services

- Total (160 man Hrs.)

7.0 Define training curriculum

7.1 Document & recommend training that is required to effectively monitor each data element by expanding existing training material. Primary purpose is to update existing training materials that allow the NNOC and Tech Services group to leverage the enhancements above. It also will be focused on enhancing the NNOC into more of a Tier 2 Support organization. Training will focus on troubleshooting, root cause analysis and using the existing tools. Training will not include in-depth technical training for the products in the Client network or on administrating changes to the monitoring and management systems.

- Total (114 man Hrs.)

<p>3.1 Task Area 1 – Acceptance Request and Status Report</p> <ul style="list-style-type: none"> To obtain approval for deliverables to invoice Client, services or labor must be accepted as complete and satisfactory to Client to create a payment obligation on the part of Client. The Acceptance Request shall facilitate this process. Also, status reports shall be given to the Client Manager assigned to manage the business objectives of this engagement and shall be presented in the media, format and frequency requested by Client.
<p>Acceptance Request – Due upon completion of Deliverable or Monthly</p> <ul style="list-style-type: none"> Report shall establish that the deliverable(s) being presented for acceptance is fully compliant with all of the requested methodologies, outcomes, functionality, specifications and fully addresses the scope as delineated in this SOW. EACH REPORT MUST BE SIGNED-OFF ON OR ACCEPTED BY E-MAIL, FAX OR IN ORIGINAL WRITING ON ANY MEDIA REASONABLY REQUESTED BY THE CLIENT MANAGER, SIGNIFYING ACCEPTANCE BY CLIENT OF THE REPORT AND THE DELIVERABLES PRESENTED. SUCH SIGN-OFF OR ACCEPTANCE IS TO VERIFY THAT THE DELIVERABLE(S) AND/OR SERVICES HAVE BEEN PROVIDED IN ACCORDANCE WITH THE REQUESTED METHODOLOGIES, OUTCOMES, FUNCTIONALITY, SPECIFICATIONS AND ADDRESSES THE SCOPE AS DELINEATED IN THIS SOW, GIVING RISE TO A PAYMENT OBLIGATION ON THE PART OF CLIENT. <p>Status Report & Project Plan – Unless otherwise agreed; Due Weekly by Close of Business each Friday and shall provide;</p> <ul style="list-style-type: none"> An initial Project Plan outlining deliverable timelines, interdependencies and overall schedule. Status of each task. Dollar cost incurred to date per deliverable or process track (i.e. task 1, 2, 3). Changes made or anticipated to be made for all deadlines. Foreseeable obstacles identified and mitigation strategies proposed. Other _____ THIS OBLIGATION SHALL NOT REPLACE ANY OTHER REQUESTED AD HOC REPORTING OBLIGATIONS OR REASONABLE JUDGEMENT OF VENDOR TO INITIATE NECESSARY MEETINGS, PHONE CALLS OR WRITTEN UPDATES TO INSURE COMPLIANCE WITH SOW.

Submit to: _____

4. Milestones Deliverables and Cost

Generate a short summary of all task area deliverables, due dates and cost. The deliverable should be defined with a short paragraph giving the character of the size of the effort and expertise (title of consultant) to define the deliverable. SOWs that are for

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Task Area	Deliverable Description	# of work days	Acceptance Date	Milestone/D eliverable Payment
Task Area 1	Scope of work Section 1, 2, 3	*	September	\$30,480.00
Task Area 2	Scope of work Section 4.0		ongoing	\$53,085.00
Task Area 3	Scope of work Section 5, 6	*	ongoing	\$49,650.00
Task Area 4	Scope of work Section 7	*	ongoing	\$32,625.00
	Total Fixed Fee			\$165,840.00
	Total Estimated Expenses:			\$16,584.00
	Total not to exceed			\$182,424.00

The Total Fixed Firm Fee represents the total fee that can be charged for services under this engagement. Any other fees or expenses not enumerated herein and accounted for above in this SOW will not be invoiced to Client, and if invoiced, VENDOR expects and will receive no remuneration for such charges.

**** Extension Clause:**

Peak XV has outlined a clear timeline for each objective within the scope of work. In order to meet these timelines, Peak XV is dependent on Client in providing access to and time with key individuals, as specified in the scope of work. If Client is unable to fulfill its obligations according to the timelines agreed to, then project deliverables will be delayed and the efficient utilization of Peak XV’s engineering resources on the project will be negatively impacted.

Accordingly, for each day, or part thereof, of delay in the project that is caused by a dependency not met by Client, Client agrees to extend the deliverable timetable for one day, or part thereof.

Applicable Documents/Attachments

SUMMARY OF RESOURCE Qualifications –

Provide Resume or summary of relevant projects consultants had operational control and/or outcome responsibility. Describe nature of project, defined goals and outcomes achieved.

Attach any technical documents or specifications relevant to deliverables or services incorporated by reference HERE.

N/A

5. Scope Changes

Any and all changes in the cost, scope of services, deliverables and their delivery dates shall be introduced as a *Change Order* to this SOW that shall be executed by Client and by the vendor before such changes are binding. If there is no such execution, such changes are and may be held to be invalid by Client. In such case, any increased cost necessary to perform out of scope work under this SOW and the resultant deliverables shall be solely borne by the vendor.

All rates for the term of this statement of work and all change orders referencing this SOW shall not increase unless specifically addressed in a mutually agreed to extension or change order to this statement of work.

For all Client deliverables, unless specifically delineated herein, delays in providing any deliverables to vendor, including documentation, access to resources and program direction, shall not be deemed to incur any increased cost obligation beyond the amount noted in this SOW unless specifically agreed herein.

7. Acceptance

Client may only be invoiced and obligated to pay for the amount stated on this SOW after acceptance. The deliverables under this SOW, and any deliverables that might be developed in a subsequent project plan, are accepted when in Client's judgment a *deliverable or service* has been provided in accordance with the objectives and services described in this Statement of Work and any referenced documents or process.

Once a deliverable is submitted, Client will have a maximum of 30 days to evaluate any given deliverable. If VENDOR does not receive a written notice of acceptance as described in section 3.1 within the 30 day review period, the deliverable is not accepted.

After a revision process of three drafts (if needed), Client's Non-Acceptance of a Project Plan or similar document addressing development of scope, deliverables, dates, and cost, for the engagement hereunder shall immediately terminate this SOW, or any relevant portion thereof at Client's discretion.

If a deliverable is not accepted in accordance with this document, Client will have the option to refuse payment of invoices for such services, regardless of oral agreements or understandings to the contrary.

8. Place

Place of Performance. Note any anticipated travel.

All work shall be performed at either the McLean Va. Office and/or Reston Va. Office.

9. Expenses

Unless otherwise agreed to in writing, expenses for this SOW are included in the fixed cost.

10. Personnel

List of Consultants	Title	Estimated days for this project

11. Client Work Policies

- Client may terminate this Statement of Work at will and without notice.
- Vendor shall add any staff resources, support personnel and other required tangible resources to present in-scope deliverables for acceptance by the mutually agreed-to completion dates of Section 2 at the cost outlined in Section 4.
- VENDOR SHALL TRACK HOURS ACTUALLY WORKED FOR REPORTING TO SUPPLY CHAIN MANAGEMENT, SUBJECT TO VERIFICATION BY MANAGER.

12. Client Consultant Policies

1. Provide own computer workstation capable of connecting to Client's network that has been virus-checked prior to attachment to Client's data and hardware using a current year industry standard anti-virus program.
2. All Microsoft Office product versions should be checked with Management to verify version compatibility.
3. MS OFFICE SUITE including MS Project should be installed on all consultant machines.

For Client Internal Use Only
Requisition No.: _____
Amount: \$ _____

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

SERVICE PROVIDER:

Peak XV Networks, Inc.

By: _____

Name: John Plauche

Title: Vice President of Sales

Date: _____

CLIENT:

CLIENT OPERATIONS, INC.

By: _____

Name: _____

Title: _____

Date: _____