DEPARTMENT OF HEALTH ADMINISTRATIVE SERVICES DIVISION (ASD) – NETWORK INFRASTRUCTURE UPGRADE

- Date: July 27, 2016
- Presenters: Rod Skiver – Chief, Production Services Bureau
  Gina Romero – Project Manager
- Certification Phase: Implementation
Project Background

Problem
The New Mexico Department of Health implemented a Wide Area Network (WAN) infrastructure in FY 1998. The system over several years has been enhanced/improved/expanded in a piecemeal fashion to support ever increasing program area needs. NMDOH, has been unable to adequately keep pace with technological advances in a holistic manner, primarily due to lack of a true and dedicated IT budget. A network assessment was performed by Advanced Network Management, with assistance from Cisco, in January of calendar year 2015. Their findings indicated there were at least, 137 network devices that are, or will be, End Of Life (EOL) or unsupported within 24 months of the assessment date. Remaining status quo will continue to severely compromise agency operations by limiting how staff is able to respond to the critical and often time life-saving care of clients and patients.

Solution
NMDOH will follow a multi-year, phased project to upgrade the network infrastructure, deploying remediation elements on a regular basis throughout the project to ensure best practices and outcomes. Phases will be defined on a state fiscal year basis, based on actual funding.
Justification, Objectives and Impacts

- This project will provide an integrated IT system to meet NMDOH program needs now and the future - Eliminate disparate technology silos. Facilitate efficient and timely data sharing. Support data integrity. Reduce operational support, maintenance and downtime that negatively impacts internal and external users.

- Will improve delivery of services through common and consistent technologies - Provide a common method of data transport for NMDOH services. Staff can perform duties in the field more effectively, efficiently, accurately and securely by accessing the system via the more consistent infrastructure.

- Improve software development - Allow for quicker turnaround time from development to deployment. This will enable NMDOH to keep pace with emerging federal, state and local government data reporting requirements.

- Increase information exchange with external entities - Enable other agencies to gain more secure and efficient access to NMDOH services and allows providers to directly enter services in a more timely fashion.
Phase 1 Project Accomplishments

- Project Kick-off
- NMDOH Requirements Defined
- Budget Plan
- WBS
- RASIC Matrix
Execute vendor contract to acquire assistance with the application submission process for creating a consortium of NMDOH sites within the Rural Healthcare Program: Healthcare Connect Fund Program (HCF). The purpose of this consortium is to apply and utilize federal monetary assistance to establish improved Wide Area Network (WAN) connectivity at the individual rural sites identified for the initial consortium, with more sites to be added to the consortium over the next project phases.

Perform a deeper analysis of the entire NMDOH data network architecture to identify existing bottlenecks, equipment configuration problems, single points of failure, end-of-life and end-of-support for hardware and software to determine performance and reliability capabilities of the current system.

Refresh requirements based on Network Analysis as referenced above.

Triage regional targeted sites based on procurement resource schedule and additional consortium funding acquired to refresh existing NMDOH infrastructure.

Implement secure, wireless network connectivity where required.

Procure and implement an infrastructure management system that includes asset management.

Implement security and management tools including Active Directory (AD) re-design.
Risk: C2 Funding not released. This scenario poses the greatest risk to the overall project. Impacts from a status quo infrastructure system will invariably result in network outages and downtime with catastrophic effects related to public health services not provided to NMDOH agencies and New Mexico citizens, often time resulting in possible negative health consequences.

Mitigation: Continue to patch and maintain infrastructure when possible on an ad hoc basis with existing maintenance and support general funding. Hardware failure, poses the greatest risk for replacement cost under this scenario.

Risk: C2 Fund grant, less than requested amount. The original C2 Funding request was for $1,320,000, but only $500,000 was granted, which poses risk for meeting planned scope, schedule and budget.

Mitigation: Scope and Schedule were re-baselined for 1st Phase. Percentage of estimated work to be completed during Phase 1 (YR-1) was estimated originally at 22.54% (based on a $5,855,000 five year aggregate assumption of C2 Funds granted, for total project completion spanning five years), now will be reduced to 8.53% of work to be completed during Phase 1.
Risk: C2 Funding requests will not guarantee amount requested, if granted at all. Therefore, the project will require supplemental funding to augment C2 Funds received and will also seek alternative funding sources throughout the project. Without additional funding, scope and schedule may be at risk during latter phases.

Mitigation: NMDOH will apply for Federal Funding from the Federal Communications Commission (FCC), through the Universal Service Administration Company (USAC) Rural Healthcare Program, to augment State funding with Federal funding and will seek alternative funding sources throughout the project.

Risk: Scheduled Implementation may be at risk due to 3rd party resource dependencies (Telco, HD/SW availability, procurement timing).

Mitigation: A Project Schedule re-baseline may be needed for Phase 1.
Estimated Annual Timeline For C2 Network Infrastructure Upgrade
Phase 1 Emphasis

This Project Will Consist Of Five Total Iterative Phases
Corresponding To Each Project Year To Be Determined Contingent
On Project Funding

New Mexico Department of Health
## Budget Estimate – Phase 1

<table>
<thead>
<tr>
<th>Hardware Type</th>
<th># of Units</th>
<th>Estimate</th>
<th>Funding Source</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cisco 2921 (router combo switch)</td>
<td>18</td>
<td>135,000.00</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td>WAPS (wireless access points)</td>
<td>90</td>
<td>99,000.00</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td>Cabling (CAT 6)</td>
<td>Thousands of feet</td>
<td>101,981.31</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td></td>
<td><strong>335,981.31</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software Type</th>
<th># of Units</th>
<th>Estimate</th>
<th>Funding Source</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airwatch (mobile device management)</td>
<td></td>
<td>38,000.00</td>
<td>C2 Funds</td>
<td>Licenses</td>
</tr>
<tr>
<td>Splunk (data collection and monitoring)</td>
<td></td>
<td>50,000.00</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td>NAC (network access control)</td>
<td></td>
<td>50,000.00</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td></td>
<td><strong>138,000.00</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vendor (Form 460)</th>
<th></th>
<th></th>
<th>Funding Source</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>eFinity/Acro</td>
<td>Sub-Total</td>
<td>26,018.69</td>
<td>C2 Funds</td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td><strong>500,000.00</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>