

Audit Report 12-11

Information Management Resources, Inc. (IMRI) Network Discovery and Assessment

Information Management Resources, Inc. (IMRI), in partnership with Madison solutions, submitted an assessment in response to the National Archives and Records Administration (NARA) Request for Quote for Network Assessment Support Services (NAMA-11-Q-0064). The overall objective of the audit was to assess NARA's current and planned network architecture and design and provide recommendations to improve performance, security, and efficiency of the network. The following is a brief summary of IMRI's assessment.

Overall, the assessment found that the NARA network is running on borrowed time and without modular design and more forward thinking strategic planning, the future of NARA's network services is bleak. The current network architecture jeopardizes the NARA mission due to fundamental design flaws which impact the performance, security, and efficiency of the network. With the continued growth of digitization, the increased throughput on NARANet is expected to be significant and the current network topology, security, and general philosophy of managing the network infrastructure must change in order for NARA to effectively deliver services to both internal and external customers.

The current architecture does not adhere to vendor design best practices and the flat network topology directly results in higher risk of significant outages and ongoing performance issues affecting the productivity of NARANet users. Deficiencies identified with the network architecture include:

- NARA's topology has been deployed in a flat, non-hierarchical design based on a history of short term, tactical implementation of network solutions instead of a long term, strategic view toward network design. Without a modular design, NARANet lacks scalability and stability to meet its current and future needs.
- Security weaknesses were identified.
- Large amounts of network bandwidth are being consumed during critical business hours to run backup services and for users accessing Facebook and streaming video and audio files. This negatively impacts the performance of business critical applications that rely on the network.
- Single points of failure exist within the NARA network that can be easily mitigated via proper design strategies. Unless addressed, these single points of failure put the network at risk of extended outages.
- Documentation for the existing network architecture, which is necessary for effective day-to-day management of the network as well as strategic planning for network redesign and growth, does not exist.

Many of these weaknesses result from the lack of strategic planning with regard to the

redundancy and resiliency and overall design of the network. These issues not only allow for security and performance problems, but they inhibit NARA IT management from effectively establishing a tactical and innovative strategy for the next generation of NARANet.

The network assessment also revealed opportunities for improvement within communication, contractor management and service level reporting. For example, the assessment found current contractor staff managing the network did not have the appropriate certifications or training to perform the needed support tasks or provide insight and guidance for future design updates and changes. Further, NARA Executives consistently indicated that they have limited or no visibility into contract and network infrastructure performance metrics. This impacts NARA Executives' ability to proactively influence the tactical and strategic direction of NARANet.

This report contained 51 recommendations that, when addressed, will position NARA to correct existing deficiencies, as well as implement a platform that will allow NARA executives to ensure that processes and technology are in place to support future NARA business initiatives. NARA management fully concurred with 32 of the recommendations, partially concurred with nine, did not concur with eight, and believed that one was overcome by events.