INNOVATION CELL

ENTERPRISE CHALLENGE: Campus Network Architecture

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DESCRIPTION OF NEED/PROBLEM

The Navy has engaged industry regarding technology refresh initiatives in a very tactical approach; adding new capabilities at the various network layers during the refresh of specific components. The Navy needs industry concepts on how to deliver network services in a more cost effective manner.

At any Navy Marine Corp Intranet (NMCI) site, the NMCI Base Area Network (BAN) solution connects a group of buildings and consists of a three-tier hierarchical approach; access, distribution, and core layers. In turn, the NMCI Wide Area Network (WAN) solution connects multiple BANs, thereby creating the NMCI network. The implementation of this BAN and WAN architecture has been successfully used since the inception of the NMCI contract. The Navy is now looking to improve its campus network architecture to adapt to current needs.

CAMPUS NETWORK ARCHITECTURE CHALLENGE

Provide modernized WAN/BAN solutions which improve capability while reducing total ownership costs.

Characteristics of a high level solution include the following:

- Provides support for Unified Capability Requirements (UCR), campus networks such as 802.1x, Quality of Service (QoS), and delivery of voice/video/data services to end user workstations

- Aligns to strategic goals and objectives such as Unified Capabilities, the Joint Information Environment (JIE), and the Mission Partner Environment (MPE)
- Minimizes packet loss, jitter, and latency
- Supports Navy security requirements
- Must conform to relevant standards from the Federal Information Security Act (FISMA), DoDI 8500, Security Technical Implementation Guide (STIG), and Unified Capability Requirements (UCR)
- Must be interoperable with existing technologies and capabilities (e.g. Network Access Control)

CONSIDERATIONS

The Navy is considering new products/architecture approaches as well as optimizations and improvements on current architectures. Some of the considerations on optimizing current architecture include identifying opportunities for cost effective network communications and the ability to collect end-to-end performance metrics.

REFERENCES

JIE Specifications/Capabilities documents (ICAN)

UCR 2013

Budget forecast document (showing planned spend at BAN layer across enterprise)

TO RESPOND TO THIS ENTERPRISE CHALLENGE

1. Go to **www.public.navy.mil/spawar/PEOEIS/InnovationCell**
2. Download and complete the **"Respond to an Enterprise Challenge" pdf form,** then submit it via email to **PEOEISInnovationCell@navy.mil**