

United States

Department of Veterans Affairs

Internet Protocol version 6 (IPv6)

Progress Report

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IPv6 Transition Team
Telecommunications Operations Management Service (TOMS)
Office of Information and Technology

1. Abstract

The U.S. Department of Veterans Affairs (VA) has established a transition team and point of contact to oversee in the IPv6 transition process. Extensive documents and guidance are in development and will continue to be refined due to the broad nature of this effort. As transition milestones near and discoveries made, many on-going modifications are anticipated.

A Steering Committee has been established for VA comprised of four subgroups created for the sole purpose of facilitating the department wide transition in a seamless, mobile, and completely transparent manner. Maintaining communications and networks support to all customers is integral in achieving our mission to provide the best care possible to the Veterans and family survivors we are here to serve.

A transition of such magnitude will require the continued support from the Department Secretary and all levels of management. Additionally, training from the bottom up with all communications, information technology, and network administration and support personnel is necessary.

2. Executive Summary

The Department of Veterans Affairs' (VA) Office of the Chief Information Officer (CIO) continues to make measured progress with IPv6 transition. Planning activities concerning address space, transition and training are underway and are being conducted on a weekly basis. Drafts of various planning documents, including an IPv6 Transition Approach, an IPv6 Implementation Plan and a Migration Strategy for the VA core wide area network, have been initiated and circulated for review and revision among IPv6 transition team members. Communication by the IPv6 transition team with other VA staff continues to slowly build awareness of IPv6 across the agency.

Consistent with the Office of Management and Budget (OMB) information reporting requirements for the June 2006 deliverable, the VA will focus its second inventory capture on the logical components of the VA Wide Area Network "backbone" infrastructure. These include the routing/addressing protocols used, domain name servers (DNS), network management and reporting devices, Internet gateways and security servers.

Within the next 30 days, the VA IPv6 steering committee will also initiate with the assistance of outside contractor support the required risk analysis. The objective of this analysis is to establish a baseline of known-known risks that the VA will need to address as it moves forward with fielding, securing and test-bedding its IPv6-enabled backbone, sequencing its technology refresh and insertion projects and developing applications that run in native IPv6 mode. VA recognizes that this will be an iterative process and will be refined as new information is gathered and new risks are identified.

The VA approach toward both the above identified task will be “best effort”. The VA IPv6 transition team does not have the financial or human resources to accomplish this task by itself. It must rely on other VA staff to respond to the various data gathering requests on a “best effort” basis. The IPv6 transition team will do its best to explain the rationale for these tasks and look forward to a positive response from those who are asked to assist.

3. Background

The IPv6 transition implementation by VA is going to significantly and/or directly impact the following key areas:

1st Facilitation of information, medical records and document access used in providing health care and services to each Veteran served. Every effort of integration needs to be consistent with the FY 2003 – 2008 Strategic Plan, organizational realignment, and funding, among other things.

2nd Continual information access and communication from the current infrastructure to the resulting infrastructure effected by changes, additions, and various technology methods.

3rd Expenditures of life cycle acquisitions currently in place will require a shift in funding to meet the security and technical issues throughout the gradual transition process. The funding status will significantly impact this Department and the final outcome should accommodate for a stable and scalable infrastructure capable of providing access methodologies for a minimum estimated three to seven years, proceeding life-cycle replacements. Annual maintenance costs must also be considered and incorporated into budget plans.

Additionally, security compliance, such as HIPAA, Privacy Act, and other sensitive data protection, is essential and will be adhered to within each phase. VA currently has an aging infrastructure that originated well over twenty-five years ago with technology developed and appropriate for that era. VA’s transition to new technologies will provide a means to ensure that information and access is secure, available, and reliable when and where needed.

4. Scope

The transition migration will be gradual for all VA including, the Veterans Health Administration (VHA), the Veterans Benefits Administration (VBA), the National Cemetery Administration (NCA), as well as all VA System Administrators, Information Security Officers (ISOs), and all other individuals, groups or functions involved in achieving a transition to the IPv6 environment. This will pertain to connections and access in VA, connectivity to other Government Departments and Agencies, private

LANs and WAN connections, and any other means of connectivity to information. In addition to existing infrastructure, this transition will be applicable for any and all ADP Equipment, Systems, Interface, Software, Tools, development, services or other integration solution purchased or acquired after July 2005. A mitigation plan for full IPv6 capability will otherwise be developed. The totality of this VA implementation plan will consist of at least three different phases of funding; noting that these expenditures will be incorporated into budget plans for each fiscal year from FY06 to an unforeseen time in the future.

5. Milestones

The VA IPv6 transition team developed strategic milestones for transitioning the Department's backbone. Three of the IPv6 subgroups have drafted estimated milestones incorporated into the overall schematic. **(See Attachment B for expanded version)** Four basic phases were identified with the following milestones:

- **Phase I – *Initiation/Strategy*** (Sept 05 to July 06):
The time period anticipated for strategic issues, research, and analysis:
 - Establishing Transition Office
 - Analysis
 - Inventory
 - Addressing

- **Phase II – *Planning*** (July 06 to Aug 07)
The time period anticipated for developing specific action plans and resolving issues:
 - Transition Approach
 - Communication Plan
 - Procurement/Acquisition Planning
 - Contingency Plan
 - Policy and Enforcement
 - Security
 - Addressing
 - Applications
 - Training
 - Testing Plan
 - Deployment Plan

- **Phase III – *Implementing/Testing*** (Aug 07 to Jan 08)
The time period anticipated for testing strategies and transitioning the sequence of events to evaluate readiness of all backbone components. We anticipate the milestones to be refined during this phase.

- **Phase IV – *Deployment with Phased Approach*** (Jan 08 to June 08)

The final transition of all VA backbone components:

- Stage 1- Enable backbone support systems
- Stage 2- Transition Core & Distribution layers
- Stage 3- Transition Data Centers & Firewalls
- Stage 4- Enable Enterprise Internet Gateways

6. Subgroups*

- **Steering Committee** – Serving as a bridge between VA, this committee is the focal point for IPv6 transition through coordination of overlapping initiatives between geographic and structural barriers. Guidance is provided by the committee to all other subgroups within the IPv6 transition, with Steve Pirzchalski acting as IPv6 liaison.
- **Enterprise Strategy**- This subgroup is in the process of developing a VA IPv6 implementation plan that will integrate with VA Enterprise Architecture strategy.
- **Transition**- With a focus on planning and inventory analysis, the Transition Group continues to document deliverables and provide milestones and supporting documentation. Security and certification continue to be on the forefront. Development of a risk assessment and potential transitional issues include: VA TMP efforts, VA 2003/2008 strategic plan, VA reorganization, funding, MyHealthVet redesign, the Telecom modernization plan, and continual efforts in the development of Electronic Medical Records (EMR).
- **Registry**- Members of the Registry subgroup have used the American Registry for Internet Numbers (ARIN) as a guide to develop IPv6 addressing requirements for VA and have agreed upon a /32 address schematic; this will provide one internet equivalent (4.3 billion networks). This subgroup has also drafted a request for an IPv6 range to go forward to ARIN.
- **Training**- This subgroup has conducted a survey to all IPv6 group members to determine the necessary training (i.e., who needs to be trained, what classes/topics are needed, when training will take place) that will be required for the transitional period. The group is also researching available commercial training products and other agency training plans.
- **Inventory**- This group is to be established for the second inventory due 30 June 2006 to assist in the major integrated effort of gathering the pertinent information.

***See Attachment C for Subgroup Team lists; see Attachment D for Subgroup Minutes.**