THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

MAY 22 2007

The Honorable Carl Levin
Chairman, Committee on Armed Services
United States Senate
Washington, DC 20510-6050

Dear Mr. Chairman:

I am pleased to forward the enclosed report, as requested by the Military Quality of Life and Veterans Affairs, and Related Agencies Appropriations Bill for Fiscal Year 2007 and House Report 109-464, addressing the Committee's concerns regarding the Department of Defense's plan for upgrading, replacing, and consolidating information technology hardware.

The report describes how the Enterprise Blade Server (EBS) program offers the Military Health System (MHS) an advanced commercial-off-the-shelf server platform to support current military treatment facility hosted systems as well as future MHS applications.

The MHS is coordinating with the Services on support and use of the EBS platform. As a result, the Services will be able to utilize the MHS EBS platform for Service specific medical applications without having to deploy and support their own application server platforms.

Thank you for your continued support of the Military Health System.

Sincerely,

S. Ward Casscells, MD

Enclosure:
As stated

cc:
The Honorable John McCain
Ranking Member

Report to Congress

Report on Military Health System Information Technology Server Consolidation

Requested by:

House Report 109-464

Military Quality Of Life, Veterans Affairs and Related Agencies Appropriations Bill, Fiscal Year 2007

Table of Contents i

Background ii

Requested by Fiscal Year 2007 Military Quality of Life and Veterans Affairs, and Related Agencies Appropriations Bill, House Report 109-464

Executive Summary ii

The Military Health System (MHS) Enterprise Blade Server (EBS) Program 1

Providing globally accessible health and business information 1

Enterprise Blade Server Concept 1

MHS Enterprise Blade Server Program Description 2

MHS Enterprise Blade Server Program Deployment Plan 2

MHS *Enterprise Blade Server Benefits* 3

MHS Enterprise Blade Server Integration with the Services 3

Summary 4

Acronym List 5

Background

House Report 109-464 MILITARY QUALITY OF LIFE, VETERANS AFFAIRS AND RELATED AGENCIES APPROPRIATIONS BILL, 2007

"The Committee has included funding to continue the protected health information initiative and the Air Force general server consolidation program. The Committee believes that in future years, these programs should be integrated into an overall Defense-wide plan for upgrading and consolidating information technology hardware and developing data standards. The Committee directs the Department to report back to the Committee on its plan for upgrading, replacement, and consolidation of information technology hardware by March 1, 2007."

Executive Summary

One of our key Military Health System (MHS) goals is to provide globally accessible health and business information to enhance mission effectiveness through a MHS-wide integrated information network. As one information technology (IT) component of our integrated information network, the MHS has established the Enterprise Blade Server (EBS) Program as its plan for upgrading, replacing and consolidating information technology server hardware at fixed military treatment facility (MTF) computer rooms. Enterprise blade server technology combines multi-processor server chassis with remote site management.

The EBS program provides the MHS an advanced commercial-off-the-shelf (COTS) server platform to support current MTF hosted programs such as the TRICARE Online (TOL), Third Party Outpatient Collections (TPOCs), and Business Objects, as well as future MHS and Service specific medical applications that may be developed from programs such as the Protected Health Information Initiative.

The MHS Enterprise Blade Server Program

Providing globally accessible health and business information

The core business of the Military Health System (MHS) is to provide medical support to Department of Defense (DoD) beneficiaries. In doing so, we deploy systems that can provide globally accessible information about the health of Service members, other beneficiaries and entire communities. For instance, the MHS is currently deploying the most advanced electronic health record in the world along with human resources, financial, logistics and other systems to create an integrated information network for the entire enterprise. This system enables early detection of medical threats by identifying patterns of symptoms before they are identified as a disease and provides real time evidence-based decision support for our providers. Collectively, our systems provide readiness, clinical, business, customer, financial and other performance information to support performance-based management and continuous process improvement.

Enterprise Blade Server Concept

Enterprise Blade Server (EBS) is one component of the IT infrastructure needed to support our integrated information network. While MTFs have used computer servers to support medical applications for many years, blade servers are the next generation of server technology. Blade servers are simply individual servers configured into "blades" that plug into a common chassis. While under single server architecture an application is limited to the processing power of the server supporting it regardless if another server physically located right next to it is idle. – Multiple applications hosted on a Blade server can gain efficiencies by leveraging the resources of that Blade. Thus fewer servers are required because the blade server processing power is more efficiently utilized. On another level, a way to improve server management efficiency is to add remote system management capabilities to the blade server platforms. Blade servers can then be maintained and managed in concert across multiple sites and are termed "enterprise blade servers". Because of the processor and multiple site management capabilities, the enterprise blade server technology provides a more efficient and manageable alternative to current single processor servers.

MHS Enterprise Blade Server Program Description

The EBS program is a MHS-wide MTF hardware refresh, consolidation, and optimization effort. There are two components to the EBS Refresh initiative. First, MTF computer rooms will receive an EBS platform with the components and support below:

- Blade Servers
- Processing Area Network (PAN)
- Application virtualization
- Storage Area Network (SAN)
- Tape backup and recovery
- Remote management
- Blades Operations Center (BOC) Support

Using the remote management feature allows the MHS BOC to provide centralized, remote management of distributed applications and reduce the effort associated with local, on-site application maintenance. The MHS BOC manages and administers most of the activities that are currently performed on-site by local application support personnel, including operating system updates and patches, troubleshooting, configuration management, security management, and backup and recovery. Hardware installation and removal will continue to be performed on-site.

The second component of the MHS EBS initiative is the updating of MHS standard distributed applications with local servers, such as DMLSS, to the EBS server platform to take full advantage of the EBS application virtualization capabilities.

MHS Enterprise Blade Server Program Deployment Plan

The MHS plans to install EBS platforms at 100 MTFs worldwide. As of February 2006, the MHS has installed EBS at 34 sites. Additional systems slated for migration to the EBS platform include the Nutrition Management Information System (NMIS), Bidirectional Health Information Exchange (BHIE), , Enterprise-wide Scheduling – Registration (EWS-R), Coding Compliance and Editor (CCE), Composite Health Clinical System (CHCS) Cache´, Defense Medical Logistics Standard Support (DMLSS), and Defense Blood Standard System (DBSS).

MHS *Enterprise Blade Server Benefits*

The MHS EBS initiative not only will provide a high performance computer server platform for MHS and Service Medical applications, but is also intended to provide additional benefits including

Improved system availability and reliability. The MHS EBS architecture features down-time reducing capabilities such as a high capacity storage area network and tape backup for data storage and disaster recovery. Additionally, the MHS BOC provides remote monitoring of server status for quicker problem response.

Standardized server configuration management. The existing server architecture and hardware require significant "touch maintenance" for application updates, security patches, and operating system patches and updates. The BOC reduces on-site support requirements through remote management of application updates, operating system updates, and Information Assurance Vulnerability Assessment (IAVA) security software patches. Utilizing a standardized BOC production release enables improved configuration management and timely delivery of security-tested and approved releases, which minimizes site-to-site system variations and reduces dependence on MTF system administrators.

Avoiding new facility support costs. Some MTF computer rooms are reaching space, power, and cooling constraints. In these facilities with limited computer room space, without consolidation of existing hardware, rollout of future MHS applications will require expensive computer room expansion. Any facility computer room expansion could require significant capital investment and potentially redirect building space and resources from patient care delivery.

MHS Enterprise Blade Server Integration with the Services

The MHS is working with the Services on including Service specific medical applications to be integrated into the MHS EBS architecture. This will allow Service medical applications to take advantage of the EBS platform without having to install separate server platforms. The MHS is developing a Letter of Agreement (LOA) with the Services to delineate MHS and Service responsibilities in supporting the MHS EBS platform.

As an example of integration, the U.S. Air Force Office of the Surgeon General was also exploring the use of blade technology through their Server Consolidation Program and is now coordinating with the MHS.

Summary

The MHS must provide an integrated information network to meet our health care mission. The MHS Enterprise Blade Program upgrades a key component of the underlying MHS IT infrastructure needed to enhance our integrated information network capabilities. The MHS EBS offers many benefits including improved system reliability and availability while seeking to reduce overall support and infrastructure costs.

With the flexibility inherent in the EBS architecture, existing and new medical information systems, such as those that might derive from initiatives such as the Protected Health Initiative, will be able to take advantage of the MHS EBS platform.

In addition, the MHS is coordinating with the Services on support and use of the blade server platform. The Air Force, through their Server Consolidation program, is already in coordination with the MHS to take advantage of the MHS EBS initiative. The result is that the Air Force medical applications will utilize the MHS EBS platform without having to deploy and support their own application server platforms.

Acronym List

BHIE	Bidirectional Health Information Exchange
BOC	Blades Operations Center
CCE	Coding Compliance and Editor
COTS	Commercial-Off-The-Shelf
DoD	Department of Defense
EBS	Enterprise Blade Server
EWS-R	Enterprise-wide Scheduling – Registration
IAVA	Information Assurance Vulnerability Assessment
IT	Information Technology
LOA	Letter of Agreement
MHS	Military Health System
MTF	Military Treatment Facility
NMIS	Nutrition Management Information System
PAN	Processing Area Network
SAN	Storage Area Network
TPOCS	Third Party Outpatient Collection System