

TALUS 360

SCIENCE · WEB · TECHNOLOGY

Executive Summary for the

ABHC/SELF Development and Sustainment



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EXECUTIVE SUMMARY

1. HISTORY OF ABHC DEVELOPMENT

The Automated Behavioral Health Clinic (ABHC) was initially developed in 2005 by the Army's Behavioral Health Technology Office. In 2008/2009 responsibility for ongoing sustainment and development of the ABHC, for use within the Army, was transferred to the Army Medical Department Behavioral Health Proponency office. The ABHC was then supplemented to support the Soldier Evaluation For Life Fitness (SELF) program (then known as SWAPP), an implementation of a Department of Defense (DOD) mandated program and funded by MEDCOM.

The ABHC/SELF Supplement is currently in use at Madigan Army Medical Center (MAMC) located at I Corps, U.S. Army Garrison, Fort Lewis, WA; Tripler Army Medical Center (TAMC) located at MEDCOM, Hawaii; and the USA MEDDAC-AK in Fort Richardson and Fort Wainwright, Alaska. The SELF program was previously known as both SWAPP and SWAP. The SELF and SWAP names are often used interchangeably, this document will refer to the program as SELF.

2. TALUS360 STAFF AND THE ABHC

The technical staff of Talus360 has been the architecture, development, maintenance, and support team for the ABHC since its inception. Our programmers have touched every piece of code in the application and are experts in all the technologies employed in the ABHC. The Talus 360 technical team has developed and delivered each and every version of the ABHC in active use.

Our key technical staff has been through each stage of the ABHC's development, and has worked within each and every ABHC contracting and funding vehicle up to this point.

Original development work was done by directly contracting through the Madigan ABHTO office. In 2006/2007, the team was subcontracted through a primary contractor and/or hired as GS employees. In 2008/2009, the technical team partnered with DJW and Associates (a project management company) to bid and win a 3-year (1 year plus 2 option years) development contract. Our team received the highest marks during our first-year contract review.

In late 2008 the team analyzed, planned, budgeted and were awarded the 2nd option year of the 2008/2009 contract as well as doing the analysis,



planning, and budgeting for a set of requested contract-mods consisting of nearly twice the scope of year 2. Year 2 development was in progress and the “mods” were in the process of approval when the development contract was cancelled due to a lack of internal Defense Business Transformation (DBT) certification.

In 2010, the technical team officially formed under a new company, Talus360, and were awarded a sustainment and maintenance contract for the ABHC. Talus360 is currently executing that contract while the ABHC Proponency Office pursues DBT certification and the goes through the Defense Information Assurance Certification and Accreditation Process (DIACAP).

After DBT certification, we expect ABHC development to restart in earnest and Talus360 is firmly committed to continue to pursue a significant role in that ongoing development effort.

ABOUT THE KEY STAFF

ABOUT GARY AFFONSO, CHIEF TECHNICAL OFFICER



ABHC INVOLVEMENT

Gary Affonso serves as the Technical Manager for the Talus360 programming team as well as the Senior Java Architect/Analyst and Senior Database Architect/Analyst for the ABHC. His responsibilities include oversight, analysis, architecture, and review for all technical aspects of the project. Gary provides technical management for the project as well as technical support to the customer, including maintaining the Scrum repository, monitoring Scrum tasks, and managing the Scrum process.

GENERAL EXPERIENCE

Gary has over 12 years of experience as a senior technical lead/architect for hundreds of database-driven applications. He has focused exclusively over the past 7 years on FOSS Java-based projects using lightweight J2EE solutions (Spring, Hibernate, WebWork, etc.) coupled with powerful backend databases.

Gary Affonso has over twenty years of professional experience in advanced software and web application architecture including three years of leading the SELF/SWAP programming team for the ABHC (Automated Behavioral Health Clinic), as well as the ASER (Army Suicide Event Report) and a key element in supporting HERMES-based SWAPP events.

Prior to the ABHC, Gary led the programming team for the HSRG (Hatchery Scientific Review Group), an independent scientific panel established and funded by Congress to provide an independent, science-based evaluation of hatchery reform as part of the Puget Sound and Coastal Washington Hatchery Reform Project. Gary was the architect and built a scalable web-application that acted as a data repository for the volumes of hatchery-related data collected during the review process. A full lightweight J2EE FOSS technology stack was used for this project (Spring,

Struts 2, Hibernate, etc.) with the OpenSource PostgreSQL database for a back-end.

Previous to this, Gary has developed a wide variety of increasingly complex web application including e-commerce sites for Pearl Jam, Cameron Crowe, and Expedition Tea Company. He also led the development of Salmon Restoration and Preservation tools (EDT, APRE, HGMP, and AHA web applications) for various management organizations in the Pacific Northwest including Native American tribes, local municipalities, county governments and Federal agencies such as NOAA.

Gary has also taught Internet Programming, Web Database and e-commerce Programming, and Java Web Development Programming at the University of Washington for seven years in addition to his project work.

ABOUT JUSTIN BAKER, SENIOR JAVA DEVELOPER/SENIOR DATABASE DEVELOPER



ABHC INVOLVEMENT

Justin Baker has been a key member of the ABHC development team since the project's beginning in 2004. He was the original technical POC and co-designed the system with two other developers who have since left the project. Justin is the only person who has been involved with the ABHC through all of its stages.

The ABHC went live in 2005 with the web application supporting kiosks in Madigan's Behavioral Health Clinic. The system originally automated the hospital's SCORS measure and generated reports for providers. Security, at that time, was provided by utilizing the NTLM authentication system in the hospital's network and blocking access to computers outside of the hospital. This required the integration of a variety of software technologies including Struts to manage kiosk and user web sessions, Hibernate to map data between the application and the Oracle database, JasperReports for printable report generation and many others.

Justin has been involved in the design and development of all features and enhancements to the ABHC to date. Shortly after use of the system began at Madigan, functionality was expanded to include many more questions grouped as modules and delivered to patients at kiosks based on complex criteria with new reports to make it easy for behavioral health providers to find the information they needed. Then a web service interface was added to allow the ABHC to communicate with external systems so that it could become the reporting piece for the Soldier Wellness Assessment Program.

The ability to manage and differentiate data for multiple clinics was added, and ABHC use spread beyond Madigan necessitating improvements to the system's security. To allow better management of numerous clinics, administrative functionality was added to the ABHC allowing users to be added and managed through the program's web interface. The expanding use and

scope of ABHC is requiring redesign for scalability. The UberQ questionnaire framework was a response to this need and is a major improvement over the earlier questionnaire engine.

Since joining the Talus360 team, Justin has continued to provide tech support to users of the ABHC as well as maintaining the code and the servers. His deep knowledge of the design and history of the system is a valuable resource for new feature design and team member training.

In addition to his experience with the ABHC, Justin has a master's degree in Computing and Software Systems from the University of Washington. He also has a certificate in Data and Internet Security from the University of Washington Extension. In the course of his graduate work, he also did special study in the areas of artificial intelligence and digital signal processing.

ABOUT BILL CURRIER, SENIOR DATABASE ADMINISTRATOR/SYSTEM ADMINISTRATOR



ABHC INVOLVEMENT

Bill Currier began working on the ABHC project in 2008. He serves as the systems engineer responsible for designing the new server environment. His design has increased the scalability of the system to handle hundred of clinics and many thousands of soldier surveys simultaneously, as well as a corresponding increase in clinicians, providers and administrators.

To date, Bill has implemented the following components of the new ABHC system: assembled and configured all of the rack and modular hardware necessary to achieve the expanded capacity; configured and tested the server-to-server and server-to-datastore communication fabric that significantly improves the responsiveness and fault tolerance of the system; installed and configured the virtualization layer which hosts the individual virtual machines and provides for flexible management and provisioning of operating systems across the server blades; deployed and configured the operating system instances necessary to manage the entire system securely and remotely.

Currently Bill is implementing the following components of the new ABHC system: building and configuring the operating system instances necessary to run the initial one-for-one migration from the old server environment; migrating and verifying the data from the old server environment onto the new system; installing and configuring the upgraded web application and the database application software; planning the installation and configuration of the clustered server environment that will allow the system to serve significantly more locations and users. In addition, Bill also provides ongoing technical support to the ABHC developers to ensure smooth and timely software deployments and sustainment.

GENERAL APPLICABLE EXPERIENCE

Bill has over 30 years of experience designing, implementing and supporting server and network environments, both hardware and software. He has installed or upgraded dozens of mission-class

systems for government, corporate, education and health care clients.

Bill is a Certified Network Engineer with both Novell and Microsoft credentials. He has a strong Cisco and Linux background. He has taught a wide variety of Novell, Microsoft, Linux and Cisco courses for thousands of students over the years, and continues to teach on a limited basis.

ABOUT CHRIS DOW, SENIOR JAVA DEVELOPER/SENIOR DATABASE DEVELOPER



ABHC INVOLVEMENT

Chris Dow joined the ABHC team in 2008. He wrote the CAC authentication mechanism used for administrative users, and has been heavily involved in the development of the administrative area of the ABHC. He has been primarily responsible for providing an interface, and using the Hibernate database framework to map data between the ABHC and multiple Oracle databases in a way that ensures transactional consistency between all databases.

GENERAL APPLICABLE EXPERIENCE

Chris spent a year rewriting the DoDSER (Department of Defense Suicide Event Reporting) project. This government funded web application is used to collect information about suicides and suicide attempts by members of the armed forces. Chris worked primarily on the database architecture and the application interaction with the database which used the Hibernate framework to map data into an Oracle database and Spring to connect interactions between the user interface and the database. He wrote the CAC based authentication and authorization mechanisms used in the DoDSER project. He also had some involvement in the creation of the user interface which utilized the Struts for web session management and YUI for the graphical interface.

Chris has a BA in Electrical Engineering from the University of Washington with an emphasis on digital signal processing. He previously worked developing tools for integrated circuit failure analysis. He is also interested in programming language design, operating system design and computational complexity theory.

ABOUT T. ELIZABETH ATTEBERRY, CHIEF EXECUTIVE OFFICER



ABHC INVOLVEMENT

Liz Atteberry functions as the Senior Project Manager for the ABHC project, leads the governmental affairs efforts, and serves as the primary contact between the project team (in coordination with the Technical Manager) and the customer. Liz ensures proper coordination of all project elements, clear communications between Talus360 and the customer, and timely delivery of all work products within the proposed schedule and budget. In cooperation with Gary Affonso, the Technical Manager, Liz addresses any scope changes and is also the point-of-contact for the

client on issues involving functionality and schedules, providing updates and status reports, and providing most support and training to end- users as appropriate.

GENERAL EXPERIENCE

Liz Atteberry has over twenty-five years of professional experience in managing technical projects including over 10 years managing increasingly complex web application and e-commerce development projects, including sites for customers as diverse as Pearl Jam, Avocent, and DHL Global, as well as speaking at industry conferences, writing articles, user guides, online course material, and video scripts. She recently co-authored the Adobe InDesign Classroom in a Book.

Liz has extensive experience in communication and personnel supervision and managing interdisciplinary planning and project teams. She has also had extensive experience with “high visibility” projects requiring coordination with numerous agencies, stakeholders, and the public.

ABOUT MARTI WAGNER, CHIEF SALES AND MARKETING OFFICER



ABHC INVOLVEMENT

Marti Wagner serves as the Enterprise Sales Executive and Government Affairs Liaison tasked with ensuring that Talus360 continues to be positioned to win Department of Defense contracts, especially as the contracting environment changes and evolves.

GENERAL EXPERIENCE

Marti brings more than 25 years of management and sales experience as well as a wealth of business leadership, sales and customer service excellence initiatives to Talus360.

Marti’s career includes a wide range of experience in strategic planning and implementing successful sales and integration strategies within the e-commerce and the insurance industry.

Prior to joining Talus360, Marti served as Vice President of Enterprise Sales at Prepared Response, a Crisis Management technology company that provided data analysis tools to first responders across the country. She served as Director of Supply Chain Sales for EssentialMarkets, an e-commerce company. She managed a team of supply-chain sales personnel that provided electronic commerce services for prestigious customers such as Deutsche Bank, Cargill, and Paccar. Marti also had oversight responsibility as Sales Manager for a leading health care company. Within a two year time frame, Marti and her sales team developed a “new market” book of business that represented \$25 million dollars/ annually in insurance premiums.

6. ABHC GOING FORWARD

Future ABHC development projects that have been discussed include:

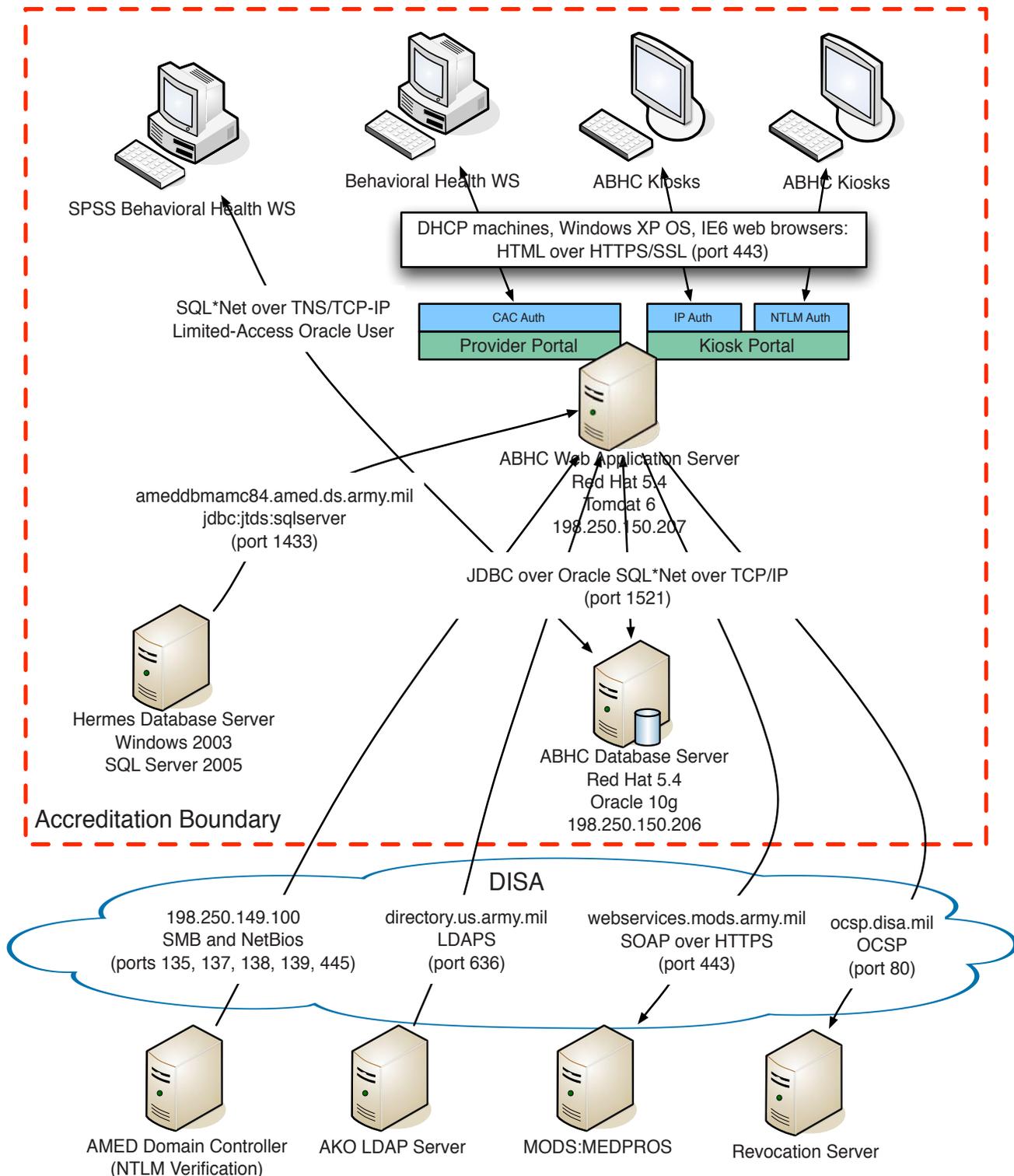
- Refactor the ABHC for Cluster Compatibility and Enterprise Scalability
- Deploy a Clustered Hosting Environment
- SELF Q: Refinements: Validation and Warnings; Revamp unit handling; Customize UI with unit logos and site name; additional questionnaires (children questionnaire, etc.)
- SELF: Formalize Internal Policies/Procedures
- ABHC AHLTA Integration
- Data Mining Interface
- Revamped Data Collection & Dissemination Framework
- Enhance CAC Authorization Support
- Collateral Data Repository
- Customizable Questionnaires
- Persist Provider Assignments
- Provider teams for a patient - HIGH PRIORITY
- Module assignment by Provider - HIGH PRIORITY
- Patient Detail Page Revision
- Refactor Provider Report
- Kiosk use through public internet
- Refactor Clinic Management Functionality
- Create and Support a central ABHC OpenSource web-site
- Enterprise Documentation and Certification
- Rollout and Stand-Up at Clinics throughout the Army
- Flash Based Questionnaire UI
- New ABHC Skin
- ETL Data Migration of ABHC Legacy Data to ABHC 4.0

ABHC SCHEMATICS

- A. Network Architecture Diagram**
- B. External Diagram**
- C. Client Diagram**
- D. Rack Diagram**

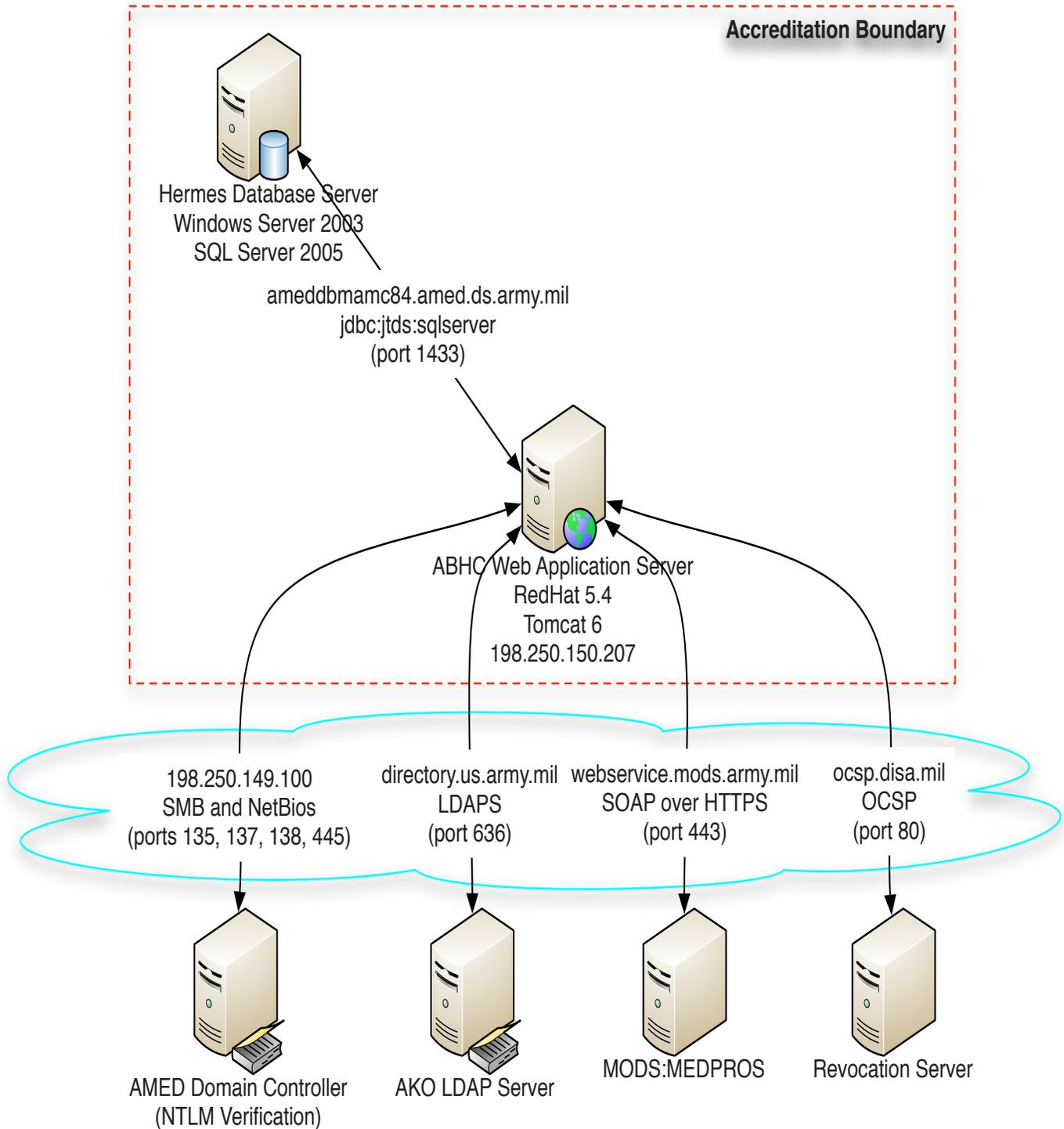
A. NETWORK ARCHITECTURE DIAGRAM

This diagram is a high level overview of the ABHC.



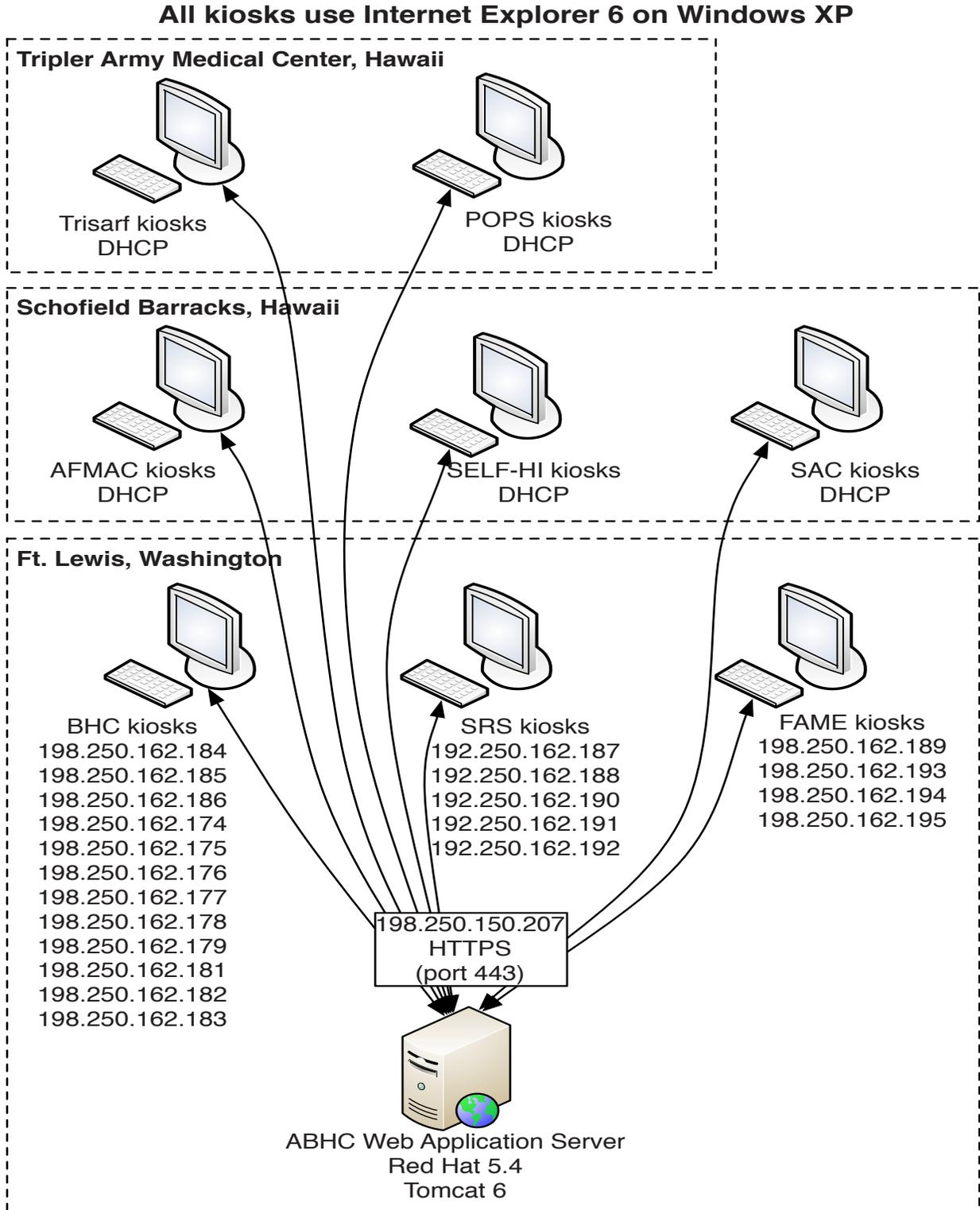
B. EXTERNAL DIAGRAM

This diagram provides greater detail about external systems with which the ABHC interacts.



C. CLIENT DIAGRAM

This diagram provides greater detail about the kiosks with which the ABHC interacts.



D. RACK DIAGRAM

This diagram provides detail about the networking infrastructure used in the server rack that is hosting the ABHC.

