The University of Southern Mississippi

National Center for Spectator Sports Safety and Security (NCS⁴)

Laboratory Assessment Report

Quantum Secure

SAFE Sports and Events Access Manager

Foreword

The National Center for Spectator Sports Safety and Security (NCS[4]) at the University of Southern Mississippi has established the National Sports Security Laboratory (NSSL) dedicated to sports safety and security to assist spectator sports venue operators in assessing and validating systems and technologies for safety and security use.

The NSSL provides a mechanism to aggregate specific safety and security requirements for the spectator sports domain as developed by security and venue operator practitioners through participation in a National Advisory Board. This Advisory Board includes participation from all professional sports leagues and select collegiate institutions. The NSSL, using industry requirements and operational needs, develops:

- Impartial, vendor agnostic, and operationally relevant assessments and validations of safety and security solutions (systems) based on the community of interest (COI) requirements.

- Evaluation reports that enable venue operators and security personnel to select and procure suitable solutions; and to deploy and maintain solutions effectively. In some cases, process evaluations will be performed to provide newly devised procedures.

The evaluation program follows principles currently espoused by standing DHS validation programs (such as SAVER[1]) that are meant to assist end operators with objective and quantitative reviews of available commercial systems and solutions. Information obtained in the course of the assessments (including this report) will be made available to subscribers of NCS[4] publications and to the U.S. Department of Homeland Security for their use.

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[1] System Assessment and Validation for Emergency Responders (SAVER) was established by DHS to assist emergency responders in making procurement decisions through the publication of objective assessments and validations of commercial equipment. This process was used as a reference guide for the evolution of NCS[4] Lab process.

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1.0   Introduction

1.1   Analysis of the Need

The NCS[4] National Advisory Board identified credentialing and access management as major priorities for sports safety and security. The need for a robust Physical Identity and Access Management strategy has become an integral part of sports safety and security. Many sporting venues deploy multiple applications to manage identities and access, creating complexity and/or a labor-intensive manual provisioning process. A holistic solution for managing physical access can help administrators control, consolidate, and streamline access privileges.

This report presents a summary of the evaluation and demonstration of the Quantum Secure SAFE for Sports Software Suite™.

1.2   Overview of Quantum Secure

Quantum Secure, part of HID Global, entered and defined the Physical Identity and Access Management (PIAM) market in 2004 by launching its Enterprise Software Suite – SAFE™ – to address challenges associated with physical identities lifecycle management (on/off -board, access assignment & revocation, change management, etc.) and the related audit and compliance pressures within diverse and disjointed physical security infrastructure. Through its SAFE for Sports Software Suite™, Quantum Secure enables enterprises to integrate multiple physical security systems (HR, IDMS, Business Analytics, etc.….) into a common enterprise infrastructure to automate the lifecycle management for employees, visitors and contractors in order to provide a strong framework for compliance to mitigate risks and reduce operational costs. A robust integration platform coupled with the unique patented policy and workflow automation engine, allows users to manage critical business rules across the physical security access infrastructure resulting in a unified security operation with a common platform to measure key security metrics and management objectives.

In March of 2015 Quantum Secure was acquired by HID Global, an ASSA ABLOY INC. Group brand. Quantum Secure is headquartered in San Jose, California with offices throughout the world.

1.3   SAFE Overview

SAFE is an enterprise software suite that reduces risks while increasing compliance by applying business process automation around the management of employees, visitors and contractors.

In its simplest of tasks, SAFE is designed to ensure:

- Visitors have been properly vetted before gaining access;

- Contractors(Vendors, Media, etc.) maintain required insurance or training certifications;

- Employees can quickly, easily and securely request access to facilities they may need to enter;

- Both internal and external audits are automated.

SAFE's platform and policy and workflow engine allows organizations to close common risk loopholes, automate tedious processes and maintain both internal and external compliance requirements. SAFE for Sports also provides actionable intelligence for operations and risk-mitigation through robust reporting and analytics.

1.4   SAFE for Sports Components

SAFE Sports and Events Access Manager
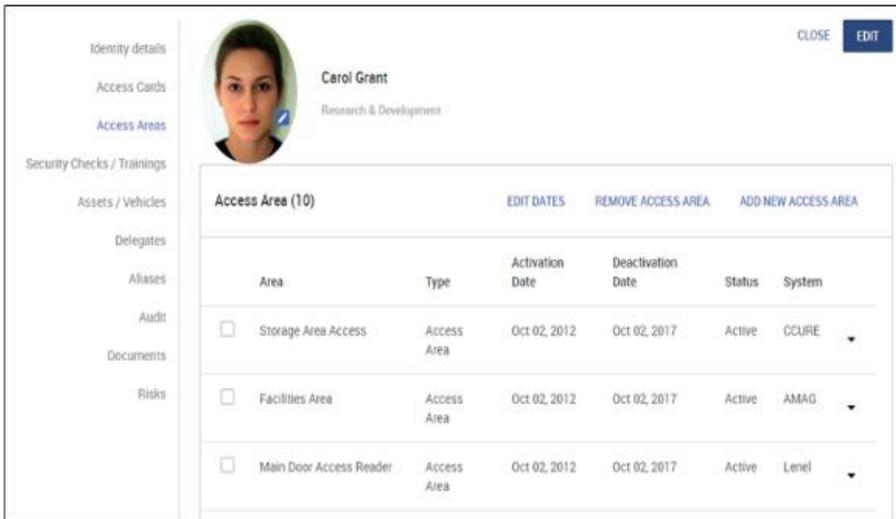
Figure 1: Access Manager

Quantum Secure's SAFE Sports and Events Access Manager enables secure and rapid entry to stadiums or other secure venues providing a high-quality, high-security customer experience for temporary or limited-engagement events. This mobile-app solution removes the need to rely on clipboards and lists to manage contractors, vendors, volunteers and thousands of other non-ticket holders who need temporary access to venues. The solution also integrates with IT systems and multiple handheld devices for swift, accurate real-time validation and immediate onboarding and provisioning for a variety of identity types based on each identity's appropriate access permissions. Additionally, the solution records identity access logs to track key operational and security metrics and streamline compliance processes.

Additional SAFE Modules

SAFE Employee Manager - Centrally manages employees, their access details, access pre-requisites (e.g. results of security checks, training certifications etc.), and access history. Automates on-/off-boarding, rule-based access provisioning and allows creation of virtual access zones and access profiles.

SAFE Contractor Manager - Provides self-service interface for sponsors/authorized signers to submit new company and contract information. Allows administrators to manage multiple companies (contractors, vendors, service providers) and allow their authorized administrators/sponsors to manage their employees. Segregates data across multiple companies**.**

SAFE Visitor Identity Manager – Web-based solution for managing visitor identities including visitor pre-registration, visitor check-in/check-out, badge printing and canned reports.

SAFE Security Reporter - Provides out-of-the-box and custom tabular and graphical reports. Includes a native report creation wizard with options for sorting, grouping and filtering of data. Allows users to schedule report delivery via automated email or file upload.

SAFE Operations Analytics - Security Analytics is a combination of existing analytics products rolled up into a single module. This module consists of readily available dashboards which provide descriptive analytics:

- SAFE Identity Analytics

- SAFE Visitor Analytics (pre-requisite – SAFE Visitor Management)

- W4 Compliance

SAFE Predictive Risk Analytics - Enables organizations to take the power of their physical security data beyond traditional reporting and use it to predict physical security operations and possible security risks. SAFE Predictive Risk Analytics utilizes the logs maintained for each device and system and through the use of predictive analytics, transforms this data into critical knowledge and actionable insights. These insights are called Indicators of Compromise (IOCs) and not only help organizations save on their operational expenditures but also enables preventive actions for a possible threat – potentially preventing a catastrophe.

2.0   Objectives

This report serves the following purposes:

- Provides the description of the methodology employed during the evaluation, the scoring system and the role of evaluators in the evaluation process.

- Outlines the full set of solution requirements identified as functional capabilities by Quantum Secure regarding the SAFE Software Suite™.

- Publishes the evaluation scoring results as well as the comments and additional information provided by the evaluators and Quantum Secure.

This evaluation is intended only to validate the SAFE Software Suite™ capabilities and functionality, as claimed by Quantum Secure. The goal of this assessment report is to validate SAFE Software Suite™ advertised features and functions. The intent is not for comparison purposes with similar technologies or products.

3.0   Methodology

3.1   General Approach

The methodology described herein was developed to be repeatable so that it could be used in the evaluation and assessment of a variety of technologies and processes. By employing this methodology the results become verifiable and quantifiable, and can be used subsequently for an entity's individual analysis and/or procurement decisions.

The methodology for this evaluation began with a discussion between Quantum Secure and NCS[4] to define the capabilities and functional requirements of the SAFE for Sports Software Suite™ for the evaluation. Once Quantum Secure provided a description of capabilities and functions to demonstrate, NCS[4] worked with Quantum Secure to create a list of executable requirements for the evaluation process.

Evaluators assessed the SAFE for Sports Software Suite™ only against the company's chosen requirements. No evaluation criteria were considered outside of Quantum Secure's own operational requirements. The evaluation criteria were composed of functional requirements that were grouped into the four main categories below:

1. Application and Capability
2. Administrative Functionality
3. End User Functionality
4. System Architecture and Security

3.2   Evaluators

The SAFE for Sports Software Suite™ was evaluated by a select group of subject matter experts (SMEs) from the sports security domain. This group consisted of professionals from public safety, sports and athletic facility operations (i.e., stadiums, coliseums, etc.), event operations and information technology. The collective group of SMEs had a base of experience that encompassed collegiate and professional sports and major event safety and security operations.

3.3   Collecting Results

Each SME/Evaluator was provided with the SAFE for Sports Software Suite™ requirements matrix and scoring definitions. Facilitators and evaluators were briefed prior to the evaluation to ensure a thorough understanding of the evaluation process and the expectations for each evaluation participant. Immediately following each part of the evaluation, evaluators documented their observations and qualitative comments to supplement the quantitative scoring. At the conclusion of the evaluation process, the facilitator used the quantitative scoring data to tabulate the results in the Scoring and Results section.

4.0 Setup, Demonstration and Evaluation

4.1 Setup

The evaluation took place at the National Sports Safety and Security Laboratory (NSSL) located on the University of Southern Mississippi (USM) campus in Hattiesburg, MS. Prior to the evaluation, Quantum Secure developed a Physical Identity and Access Management baseline solution for professional and collegiate venues. Quantum Secure developed these baseline requirements from the results of a needs assessment and from interviews with sports safety and security, facility operations, human resources and information technology professionals. Additionally, Quantum Secure assessed operational performance by field testing the system in multiple professional and collegiate sports venues. Following research and development, Quantum Secure developed a capabilities matrix outlining the specific system functionality.
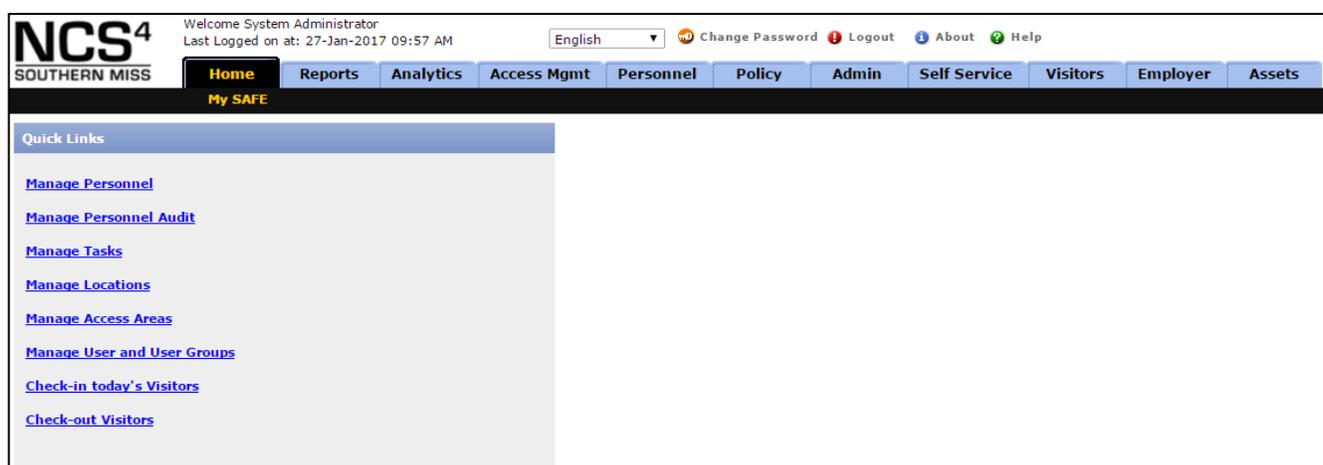
Figure 2: Baseline Solution Screenshot

4.2 Demonstration

Prior to the evaluation, Quantum Secure provided an overview of capabilities and application to the evaluation team. They then demonstrated the following capabilities:

- Access management

- Personnel, visitor, and contractor management

- Asset management

- Policy rules and management

- Administrative rights and privileges

- Mobile applications

- Risk analytics

- Reporting

4.3 Evaluation

After logging into the software suite, the system evaluation began with the personnel management capabilities of the software. A customizable interface allowed for personnel information to be added to or removed from the system by authorized administrators. Test accounts were created to demonstrate how system users input details, assign credentials, and document employment details for personnel and employers. Quantum Secure representatives also demonstrated how to grant and revoke administrative privileges and manage the system and associated processes in accordance with organizational policy.
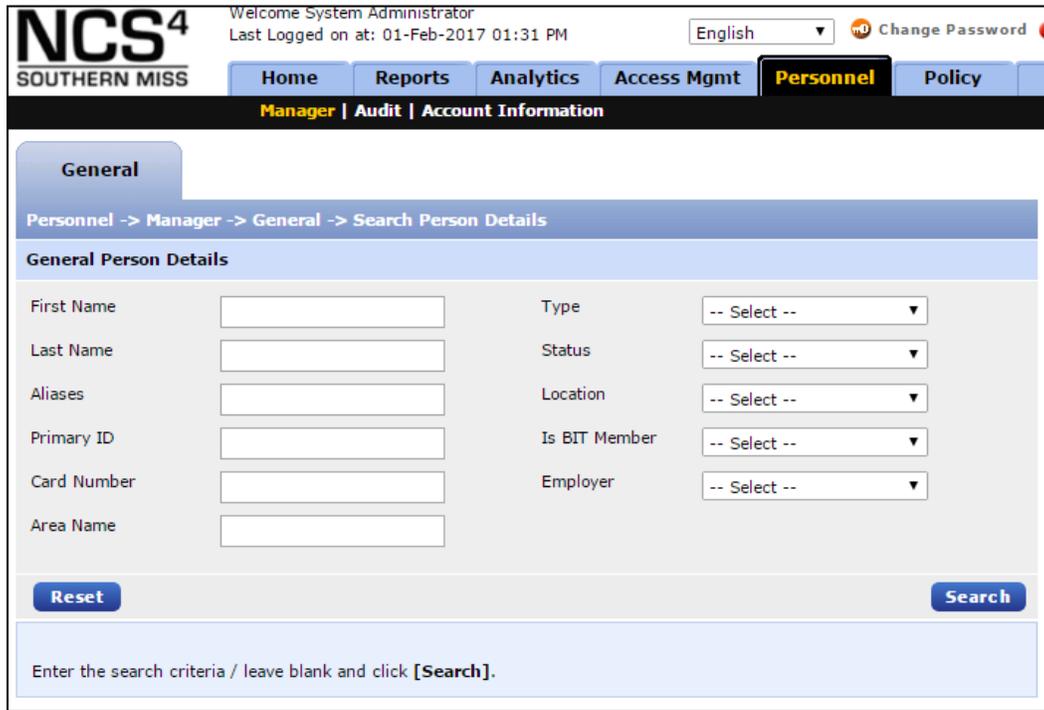
Figure 3: Personnel Management Screenshot

After adding personnel and employers to the system – accomplished by direct input or bulk upload – the evaluation team examined the process of assigning assets and granting access permissions to employees, contractors, and visitors. The software successfully automated the process for administrators and employers to track assets being distributed to individuals such as credentials, keys, and passes. The Access Management function successfully allowed administrators to manage access profiles, define access zones and areas, create access locations, customize access badges, and conduct or delegate audits to employees and/or contractors. Quantum Secure integrated AMAG, CCURE9000, Lenel and SAFE into the software suite to demonstrate the system's ability to create situational awareness and manage multiple solutions on a single platform.
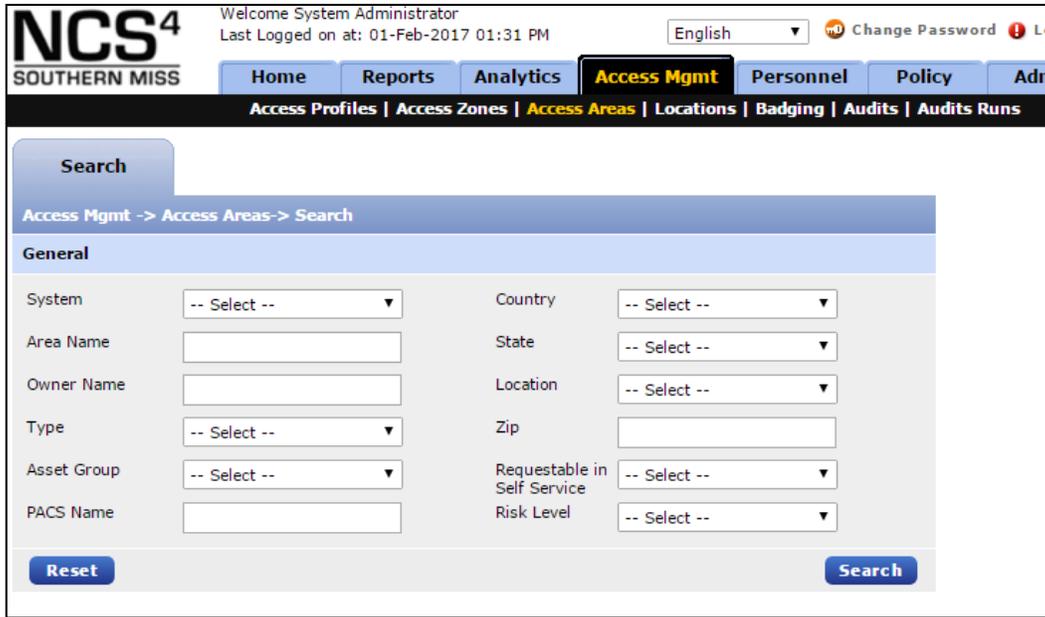
Figure 4: Access Management Screenshot

Following the evaluation of personnel and employer management, the assessment team reviewed the software's ability to manage visitors. The evaluators verified the software's ability to check visitors in an out of a venue, sync SharePoint calendars, audit visitors (e.g., venue staff and contractors) and visited areas (i.e., locations requiring a swipe badge for entry), and document deliveries (e.g., visitor authorizations, contracts, etc.).
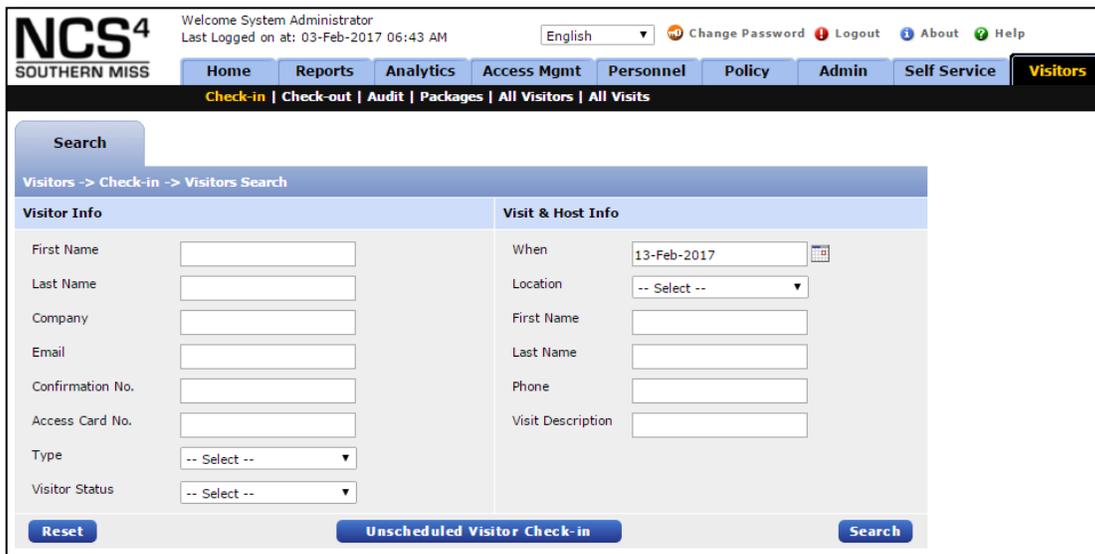
Figure 5: Visitor Management Screenshot

4.4 Analysis

The evaluators observed how end users can use the system to generate custom reports. Reports were generated for the visitor and contractor management systems. The Data were reviewed as daily, weekly, monthly, quarterly, and annual reports. The software allows users to customize reports and configure displays based on user needs and preferences.
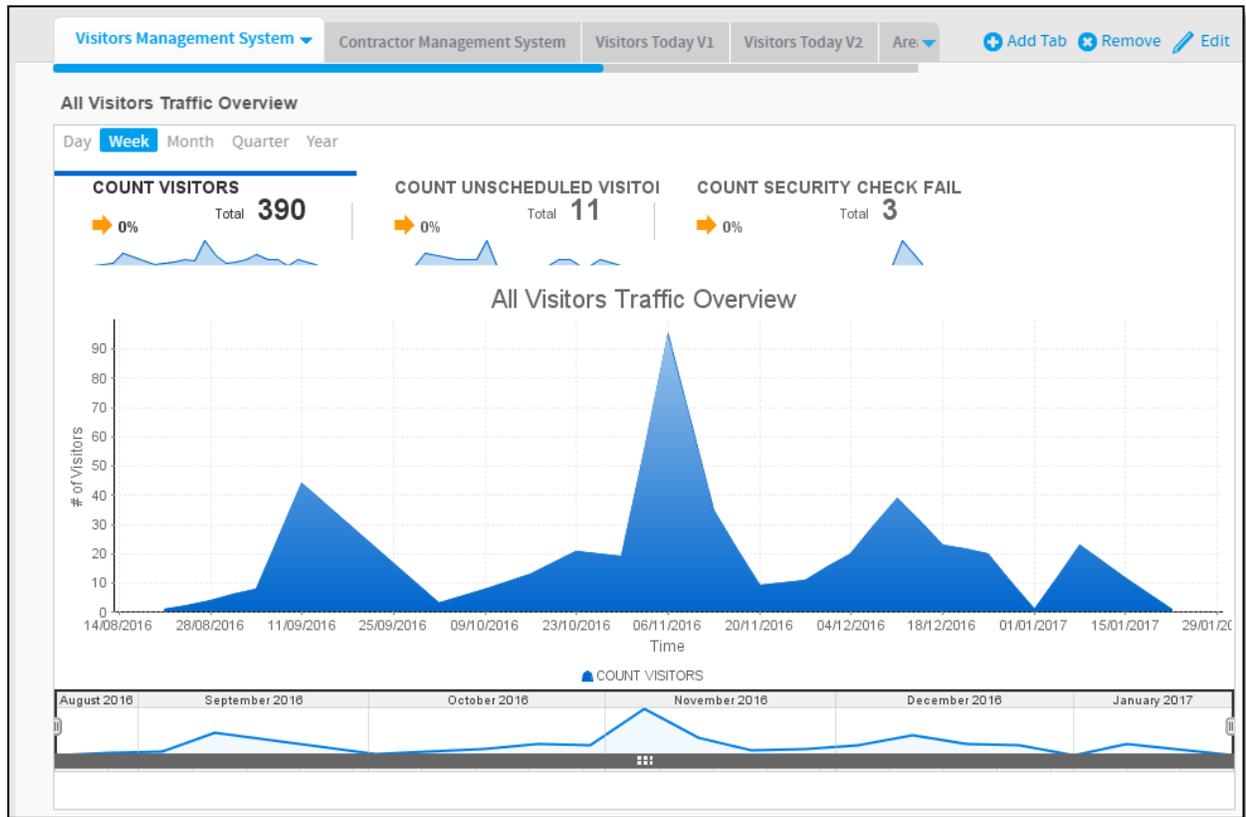
Figure 6: Visitor Analysis
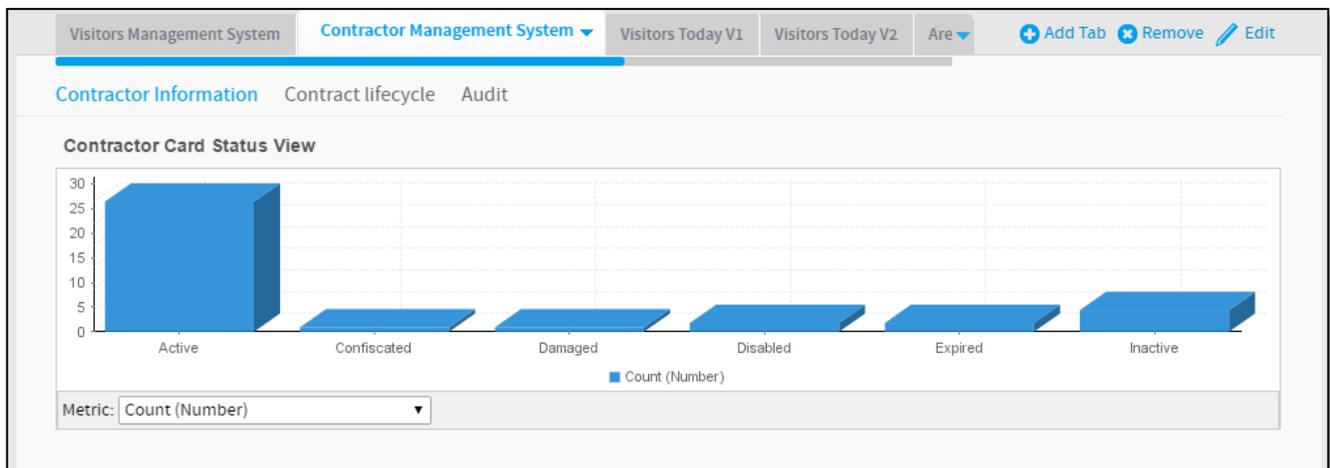
Figure 7: Contractor Card Status Screenshot

5.0. Scoring and Results

5.1 Scoring System

As outlined in Section 3.1, the evaluators scored the performance of the SAFE Software Suite™ based on the specific requirements within four functional areas, as defined by Quantum Secure. Evaluators scored each functional area in three ways: 1) through observation/documentation during training, 2) interaction with the system, and 3) Quantum Secure's demonstration of system functions. In accordance with NSSL policy, evaluators compared the SAFE Software Suite™ against the requirements and not against other evaluators' results (technical leveling). Table 5.1 below defines the scores used.

Table 5.1: Scoring Definitions

Definition	Score	Equivalent %
Does not meet the requirement	0	0%
Partially meets the requirement	1	50%
Meets the requirement, with comments/recommendations	2	75%
Meets the requirement	3	100%

Each requirement was weighted equally. Prior to January 2016, assessments included separate categories and weightings for capability and feasibility. This allowed evaluators to provide scores that showed a product "exceeded" requirements. The new methodology combines capability and feasibility thus, eliminating dual scoring. Each requirement's score now represents a combined score of capability and feasibility.

5.2 Evaluation Results

5.2.1 Application and Capability

5.2.1 Application and Capability

Function #	Functional Area	Function/ Specification to Score	Score
1. Application and Capability			
1.1	**User Interface (UI)**	The SAFE solution is web-based and accessible using a web browser.	3
1.2	**Mobile Applications**	Mobile applications are available for Apple IOS mobile devices, providing check-in options for security staff using a mobile device and/or visitor self-service check-in from a mobile tablet.	2.33
1.3	**Configurable, policy-based solution**	The solution can be configured in a number of different ways, including:	
1.3.1	Configurable UI Look & Feel	Add customer logos and change color schemes	3
1.3.2	Configurable Kiosk Workflow	Change the event check-in requirements, such as requirement for driver's license and/or signatures etc.	3
1.3.3	Email Templates, Reports & Underlying Data	Ability to configure email templates, reports and system Master Data	3
1.3.4	Role Based Access Configuration	Ability to configure different user groups for role based access.	3
1.3.5	Edit Underlying Policies/Workflows	Ability to view/configure system policies using the Microsoft Visio based Policy Editor.	2.67
1.4	**Auditability**	Ability to view messages sent between SAFE and other systems (e.g. Lenel Physical Acces Control System) for troubleshooting purposes.	
1.5	**Deployment Flexibility**	Quantum Secure SAFE provides the flexibility to deploy the solution at the organization premises as well as cloud servers.	3
1.6	**Multi Lingual**	The user can change the current language on the login screen via a drop down box.	2.33
1.7	**Dynamic Help Options**	Help within the solution is provided through Dynamic Help Panels and Configurable Pop-Up Messages.	

1.7.1	Dynamic Help Panels	Dynamic panels display customer and context specific messages	3
1.7.2	Configurable Pop-Up Messages	Configurable pop-up menus provide customer and specific help messages.	3
		Average score	**2.85**

SME Comments/Recommendations:

1.2 – Android functionality is currently limited to scanning, while IOS mobile devices are equipped with a calendar, check in, and scanning capabilities. The company will increase Android functionality in the future.

1.3.5 – Editing underlying policies/workflows requires IT and/or HR assistance.

1.6 – Three languages were validated during the evaluation: English, Portuguese, and Spanish. This is not a dynamic translation and any information manually input by the user stays in the original input language.

5.2.2 Administrative Functionality

Table 5.2.2: Administrative Functionality

Function #	Functional Area	Function/ Specification to Score	Score
2. Administrative Functionality			
2.1	**Location Configuration & Management**	Authorized users have the ability to add and manage Location data within SAFE. This includes configuration of:	
2.1.1	Enter General Information	Name, address, associated systems assigned to the location (e.g. Physical Access Control Systems), Badge Templates assigned to the Location etc. as well as other miscellaneous Location data such as assigned badge printers, required documentation and user roles.	3
2.1.2	Configure Buildings/Floors	Configuration of specific buildings, floors and rooms within the overall Location for more granular access management.	3
2.1.3	Group Access Rights	Specific access rights/levels associated with the Physical Access Control System that relate to the Location.	3
2.2	**Access Area Configuration**	Allow for management of access rights such as name, permission level, approval authority, and	3

		what location individuals are associated with. Configuration also allows for grouping of separate Access Levels into logical zones for management and flow.	
2.3	**Access Profile Configuration**	Contractors, vendors, and visitors can be automatically assigned access to the facility based on their attributes (e.g. identity type, what location they need access to etc.)	3
2.4	**Badge Template Management**	SAFE allows for the creation and enrollment of different badge types and designs. The organization can have different visitor and contractor badges based on the specific location, visit/identity type, etc. The SAFE drag and drop badging utility allows for the creation of multiple badge templates as required.	3
2.5	**Calendar Integration**	SAFE integrates with external event calendars, for the purposes of importing all upcoming events into the SAFE solution.	3
2.6	**Contractor Company Management**	SAFE allows for the organization to manage each contractor/vendor as an individual entity. Each contractor/vendor company can be configured according the following:	
2.6.1	Enter General Information	Company Name, Address, Main point of contact etc.	3
2.6.2	Assign Authorized Admins	Employees of the Contractor/Vendor company can have the ability to log into the solution for the purposes of managing their own identities.	3
2.6.3	Link Company to Active Contracts	Ability to manage contract numbers, start and end dates for the contractor/vendor.	3
2.6.4	Link Company to Sub-Contractors	Ability to link companies in a contractor-subcontractor relationship.	3
2.6.5	Assign Company to Specific Locations	Ability to restrict the company to specific Locations within the organization.	3
2.6.6	Assign Access Rights	Ability to specify the access rights available to companies. Access rights can be assigned to the identities automatically when they are on-boarded, or they can be requested by the authorized administrator for specific identities as required.	3

2.7	**Reporting Configuration**	Reports can be run dynamically, or scheduled and sent to specified users via email etc.	3
2.8	**Attestation Audit Configuration**	SAFE has the ability to automate the process of periodic area/personnel audits through configuration in the solution. Admins have the ability to configure and schedule audits to occur (e.g. every three months). Any changes made during the audits are automatically reflected in the appropriate PACS.	3
		Average score	**3**

SME Comments/Recommendations:

2.6.3 – Contract management is a vital function within the system and a great feature for the end user.

5.2.3 End User Functionality

Table 5.2.3: End User Functionality

Function #	Functional Area	Function/ Specification to Score	Score
3. End User Functionality			
3.1	**Contractor Identity Management**	Authorized administrators for each company have the ability to log into the SAFE Contractor Portal for the purposes of managing the employees of the company. The authorized administrator has the ability to:	
3.1.1	Onboard Contractor Identities	Add new identities to the system	3
3.1.2	Upload Photos	Upload badge photos	3
3.1.3	Manage Access	Manage Contracts, Access Levels, Access Cards and Physical Assets (e.g. metal keys) for each identity.	3
3.1.4	Termination	Disable an identity thereby revoking all of their access to all facilities.	3
3.2	**Access Request & Approval**	SAFE allows the authorized administrators to make requests for specific physical access from the Contractor Portal. The relevant area owner is notified via email of the request. The area owner/approver can approve/deny the request through SAFE, or directly from the email itself.	3

3.3	**Event Pre-Registration**	SAFE is capable of automatically importing registration from a Sharepoint calendar. Once imported into SAFE (or added manually), the following can be configured:	
3.3.1	Assign Attendees	Assign Visitors and Contractors/Vendors to the event either manually or through a spreadsheet import function.	3
3.3.2	Configure Recurring Events	Configure recurring events/visits if the same event will occur multiple times.	3
3.3.3	Provision Access Rights	Assign access rights linked to the Physical Access Control System so the identities are automatically provisioned with specific access rights for the duration of the event (only while checked in).	3
3.4	**Watchlist Checks**	All identities assigned to specific events are checked against the SAFE watch list. If a match is found an authorized user has the ability to review the match and determine the authenticity. If the match is not deemed valid, the user can override the match and allow the identity to attend the event.	3
3.5	**Event/Visitor Approvals**	SAFE can be configured to require approval from a manager, or location/area owner prior to the event. The approver will be sent an email notifying them of the required approval. The approver logs into SAFE and completes the approval task. All steps taken are logged in SAFE and can be viewed in the reports.	3
3.6	**Email Notifications**	The solution will send the identities assigned to each event an email confirmation which includes a barcode for streamlined check-in to the event. The solution sends email notifications for a different workflows including visit/event approvals and watch list.	3
3.7	**Event Check-In**	All visitors, contractors and vendors are checked-in as they enter the event. All identities are screened prior to check-in. Visitors are sent an email confirmation prior to the event. The email contains a barcode which can be used for streamlined check-in.	

		SAFE allows for visitor check-in through a number of different options including:	
3.7.1	Standard Check-In	Standard check-in at a security desk	3
3.7.2	Self-Service Check-In	Self Service check-in at a mobile kiosk	3
3.7.3	Mobile Check-In	Mobile check-in by a security officer with mobile device	3
3.8	**Unscheduled Check-In**	In the event identities were not assigned to the event, the solution allows "unscheduled" check-in's to occur. The identity is checked against the SAFE watch list and any required approvals will apply. Unscheduled check-in's allow for last minute changes to the event roster.	3
3.9	**Reporting**	SAFE Security Reporter provides ready-to-use reports and dashboards covering operational and management information your security department can use on a daily, weekly and monthly basis. Reports and graphical dashboards are available to authorized users. The reports provide valuable information and visibility into the visitor and contractor management processes.	3
		Average score	**3**

5.2.3 System Architecture and Security

Table 5.2.4: System Architecture and Security

Function #	Functional Area	Function/ Specification to Score	Score
4. System Architecture and Security			
4.1	**Security Threat Assessment and Analysis**	Quantum Secure conducts regular penetration testing on the system to identify and manage vulnerabilities. Reports are made available to clients.	3
4.2	**User Groups and Role Based Administration**	SAFE enforces role/attribute based access to system resources. SAFE administrator can create a logical grouping of one or more users. Grouping can be achieved either by selecting users manually or defining a condition which	3

		will automatically apply itself on user database. The administrator can then define the access privileges to various SAFE applications and select the UI templates for a particular user group.	
4.3	**Data Safety**	SAFE supports a variety of industry standard encryption that runs on Microsoft IIS Server Products, SQL Server, or Oracle. SAFE is a standard .NET Web application and runs in Internet Explorer 7 or higher; as such it supports browser encryption using https: SSL, AES and others.	3
4.4	**Server & Application Performance Monitoring & Reporting**	SAFE leverages on the capabilities of 3rd party applications such as Microsoft Operations Manager that support SNMP monitoring for Real time Server & Application Monitoring, Server Performance Monitoring, Network Load Monitoring, Website/Application monitoring.	3
4.5	**Integration Layer**	SAFE is capable of provisioning and de-provisioning access within multiple PACS including:	
4.5.1	Lenel Physical Access Control System	Integration of Lenel OnGuard.	3
4.5.2	CCURE9000 Physical Access Control System	Integration of SoftwareHouse CCURE9000.	3
4.5.3	AMAG Physical Access Control System	Integration of AMAG Symmetry PACS.	3
4.5.4	ODBC External Data Source(s)	SAFE features individual integration "Agents", which allow integration with external data sources, through a configurable driver.	3
4.8	**Peripheral Integration**	SAFE Integrates with various peripherals for specific functions such as scanning barcodes & ID documents, mobile tablets (e.g. kiosk check-in), printing badges etc.	3
		Average score	**3**
		Composite Score	**2.96**

5.3 Description of Results

Tables 5.2.1, 5.2.2, 5.2.3 and 5.2.4 display the three functional areas and associated requirements that were demonstrated and scored. Each of the four functional areas has an average score at the bottom of each section. A composite score, representing the average of all three functional area scores, is found at the bottom of Table 5.2.4.

The average scores for each of the four functional areas, **Application and Capability**, **Administrative Functionality**, **End User Functionality** and **System Architecture and Security** were scored as 2.85, 3.0, 3.0 and 3.0 respectively.

Functional Area 1: Application and Capability had a **mean score** of **2.85**. No single application or capability failed to meet the requirement. Assessor comments and recommendations are listed by function number within the evaluation matrix.

Functional Area 2: Administrative Functionality had a **mean score** of **3.0**. No single capability failed to meet the requirement.

Functional Area 3: End User Functionality had a **mean score** of **3.0**. No single capability failed to meet the requirement.

Functional Area 4: System Architecture and Security had a **mean score** of **3.0**. No single capability failed to meet the requirement.

6.0   Evaluator Comments

Each evaluator was asked to provide feedback relative to the SAFE Software Suite™ following the evaluation. Comments are intended to capture overall feedback from each SME, expanding on the evaluated criteria. Emphasis is placed on the incorporation of the product into safety and security operations.

Evaluator 1:

"Overall the demonstration and evaluation was thorough, informative and thought provoking. The Quantum Secure representatives were very knowledgeable regarding their product. They were receptive and responsive to our numerous questions and 'what-if' scenarios.

I believe Quantum Secure software is current and relevant to the security threat environment we are currently faced with as stadium security managers. It is imperative we learn and track visitors and contractors whom access our venues on a daily basis. Quantum Secure is a powerful platform designed to effectively do just that.

The software contains several unique features which provides a high level of functionality. The integration with 'most' existing platforms is a huge bonus as it keeps us from having to duplicate hours, days, months and possibly years of data input. Contract expiration alerts, required training tracking, pre-registration, mobile check-in and checkpoints, and powerful analytical report capabilities are relevant and essential to our operational needs.

As, seemingly, with any new technology software in today's world, integration and start up may overwhelm most security end-users and perhaps require IT or HR assistance. The 'workshops' and partnership Quantum Secure provides helps to ease this process.

All mobile applications are available for Apple IOS mobile devices, but not all functionality is available on android devices. This makes mobile application more costly. However, full android capabilities is available upon request. Quantum Secure may want to consider offering full android mobile application as android users far outnumber Apple users.

In conclusion, I believe the Quantum Secure Safe application is a powerful tool for tracking visitors and contractors. Providing access control in to and within our venues allows us to reduce our risk exposure, effectively investigate incidents and makes our venues safer overall."

Evaluator 2:

"Quantum Secure has produced a very detailed and efficient product with SAFE Suite. This web-based software is customizable and allows the user to conduct a variety of functions such as credentialing, access control, contractor/vendor management and security intelligence.

The software was very user friendly but the overall system has many features that could take some time getting comfortable with. The software has 7 different modules to choose from, including: Physical Identity & Access Manager, Self Service, Visitor Identity Manager, Asset Manager, Web Badging, Contractor Manager, Data Match, and Reconciliation.

The company created mobile applications for Android and iOS devices, but they were different in producing results. Some features were available through one app but not the other. According to the Quantum Secure representatives participating in the evaluation, both apps are still "work in progress" and hopefully will be compatible in the near future. One feature that was very impressive was the ability to use a mobile device as a scanner to read the barcode/QRC on the badge/identification for Mobile Check-in.

Additional equipment can be purchased that would work in concert with the software such as a kiosk for check-in or badge/identification verification. The kiosk would also allow for Self Service Check-in at its location. The software also has the luxury of being available in up to 15 different languages, of which 3 we validated during the evaluation.

The ability to customize the software, as well as the reports that could be generated, were very easy to use and allows the user to produce professional style documents. Some of the features within the software would require a person who was very tech savvy to view and edit. The representatives stated that they provide 24/7 Customer Service.

Overall I felt the product had a lot of great features and a few that still needed upgrading. The company representatives stated that they are continuously growing and updating their product. I felt this is an important feature because of the ever growing a fast changing digital world."

Evaluator 3:

"For a university environment, SAFE is robust enough to be a campus-wide solution yet simple enough for a single venue or event. It can be a 365-day a year solution or it can be an 8 day a year, football game-day only solution. It is easily scalable and customizable to the client's needs without duplicating the client's existing systems but instead working with those systems. It can make the gathering and distribution of access or identity management information a snap in real-time using stationary or mobile devices, increasing the efficiency and depth of an organization's security operations.

Favorite features include:

- Integrates with existing software programs, and hardware (card readers, fingerprint scanners, eye scanners, etc.) used for access control, identity management and other campus/building/venue/campus systems

- Smartphone Apps that can serve as SAFE on the go being able to check in/out credentialed visitors, vendors, patrons and so forth by scanning the credential code and even being able to generate a new credential. All this in real-time updating the database.

- Scalability and client specific customization.

- Proactive with security threats – Identifying vulnerabilities to the SAFE software and addressing them.

Before recommending any product to my counter parts at other universities, I use it and test it in our operational environment. However, after this lab and learning about SAFE, I would not hesitate recommend my peers to take a look and see how SAFE can work for them."

7.0   Summary

The specific functions and features of this product were observed and evaluated by a team of sport security professionals assembled by the University of Southern Mississippi's National Center for Spectator Sport Safety and Security. The NCS[4] staff facilitated the product evaluation and compiled the evaluation results listed in this report. The NCS[4] staff did not have any input into the scoring of the evaluation criteria or evaluator comments.

The evaluation requirements centered on the three functional areas of **Application and Capability**, **Operational Performance** and **Ease of Use**. The **overall composite score**, **2.96** out of a possible 3.0, of the measured functions indicates that this product overall performed at or above the levels considered by the evaluators to fully meet each requirement. Additional evaluator comments and recommendations are captured in section 6.

NSC[4] would like to thank the subject matter experts and Quantum Secure for their participation in the evaluation and demonstration process.

This report is available on the NSC[4] website at http://www.ncs4.com/lab/evaluated-product-list.