

Integrating Security and Access Control for Remote Locations with the SCADA Host

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Introduction

A security plan is based on the concept of risk and threat assessment. Once the level of risk is established, a suitable security plan can be implemented. The concept of security itself has evolved along with developments in technology. Security systems can now be integrated with SCADA, building management and fire alarm functions to provide a single enterprise system that can streamline operations, lower costs, handle all types of alarms consistently and minimize the impact of potential incidents.

The Starting Point – Determining Risk & Threat

The first step in planning an effective security system is to assess the level of risk or threat that may be present. Once this has been done, the major elements of the existing security system should be evaluated in relation to each risk. These elements include human, organizational and technological factors. This will determine the current state of security. If a higher level of security is desired, then an implementation plan should be developed. In most cases, achieving the desired level of security will involve integrating the security system with SCADA operations and building management systems.

Fundamentals of Security

The basic components of a security system include the following:

- Access control
- Photo identification
- Alarm monitoring
- Closed circuit television
- Communications

Security systems have evolved beyond these basic elements to become an integrated component of an enterprise management system that also includes SCADA, building management and fire alarm management functions. All of these functions can now be monitored and controlled from a single operator station located anywhere on the enterprise network. This facilitates rapid response to potential incidents and can help to minimize their impact.

The evolution of these multiple systems into a unified, enterprise management system has occurred over a period of time along with incremental advances in technology. This evolution has become possible due to a movement from the UNIX platform to Windows NT and from a single server for each separate function to a distributed server architecture that allows multiple servers to share data. Other factors have included the transition from single site reporting to global reporting, from hard wiring to network operations and from proprietary systems to open standards. All of these factors combined have allowed the merging of SCADA, security, building and fire alarm management systems into a unified enterprise system.

With this level of integration, security systems can now contribute to increased productivity and operational advantages for pipeline and gas distribution companies by providing data to business managers that was not readily available previously. Some examples would be incident reporting as well as time and attendance data. Security and access control can now be considered another MIS application.

Realizing Value

Total integration into a single system provides the key to managing diverse information. An integrated enterprise system provides a common language and common visual display for all data which helps users to be in control of any type of situation. It also facilitates operator quality assurance, training, consistent response management and adherence to industry and company standards.

Another advantage provided by a unified enterprise system is comprehensive and consistent alarm management. This ensures that all types of alarm conditions are handled promptly and effectively. An identifiable and repeatable process is created for both routine and emergency alarm situations, and key individuals throughout the company can be notified automatically. For example, SCADA operators are notified immediately of security, building management, fire and other non-SCADA alarms that may have an impact on the operation of the pipeline system.

A further step in realizing added value is to install a data warehouse that allows the integration of facility data into business systems. For example, making incident, time and attendance data readily available to business managers can lead to gains in operational efficiency, lower operating costs and faster, more informed decision making.

Summary

Integrating security and access control with the SCADA host is a beneficial decision that will yield operational and financial gains and also help to minimize the impact of potential incidents.

Biography

Steve Nibbelink is a Global Account Manager for Honeywell. He has been in the security industry for the past sixteen years and has spent eleven of those with Honeywell. As Global Account Manager, he is responsible for Honeywell's worldwide security business with Exxon.

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**Integrating Security & Access Control
for Remote Locations
with the SCADA Host**

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Cover Slide

Introduction and Thank You.

Introduction & Overview

- The Starting Point - Risk & Threat**
- Fundamentals of Security**
- Realizing Value - Integration**
- Summary**

Introduction & Overview

Start with introducing the concept of security in the past, versus its progress into today's world and technology.

Discuss the concept of Risk & Threat Assessment, and how it turns into the foundation of the security plan.

The Fundamentals of Security shows the basics of security and to the high tech and integrated security applications.

Realizing Value is the start of the tie-in of security and process control and how it will benefit the organization.

The Starting Point - Risk & Threat

- Determining Risk & Threat**
 - Documented Security/Safety Plan**
 - Current State of Security**
 - Degree of Risk - Implied vs Actual**
 - Security Process Evaluation - Human**
 - Security Process Evaluation - Technology**
 - Security Process Evaluation - Organization**
 - Desired State of Security**
 - Critical Path - Implementation**

The Starting Point - Risk & Threat

The main theme -- Determining Risk & Threat -- will show the planning stage of the security process and how these parts lead to the security plan.

The underlying theme with this slide is the relationship security and building management has with the process control operations.

Fundamentals of Security

- **The Basics of Security**
 - **Access Control**
 - **Photo Identification**
 - **Alarm Monitoring**
 - **Closed Circuit Television**
 - **Communications**

Fundamentals of Security

These basics are the primer for introducing the more complicated and integrated concepts of security.

Fundamentals of Security

- The Evolution of Security
 - Enterprise Management
 - Human Resources
 - Incident Reporting
 - Time & Attendance
 - Building Management
 - Fire Alarm Management

Fundamentals of Security

The next step in the “fundamentals” concept is the evolution of security into the enterprise management functions. These functions provide for the development of the productivity and operational advantages to the organization and its ability to produce and manage.

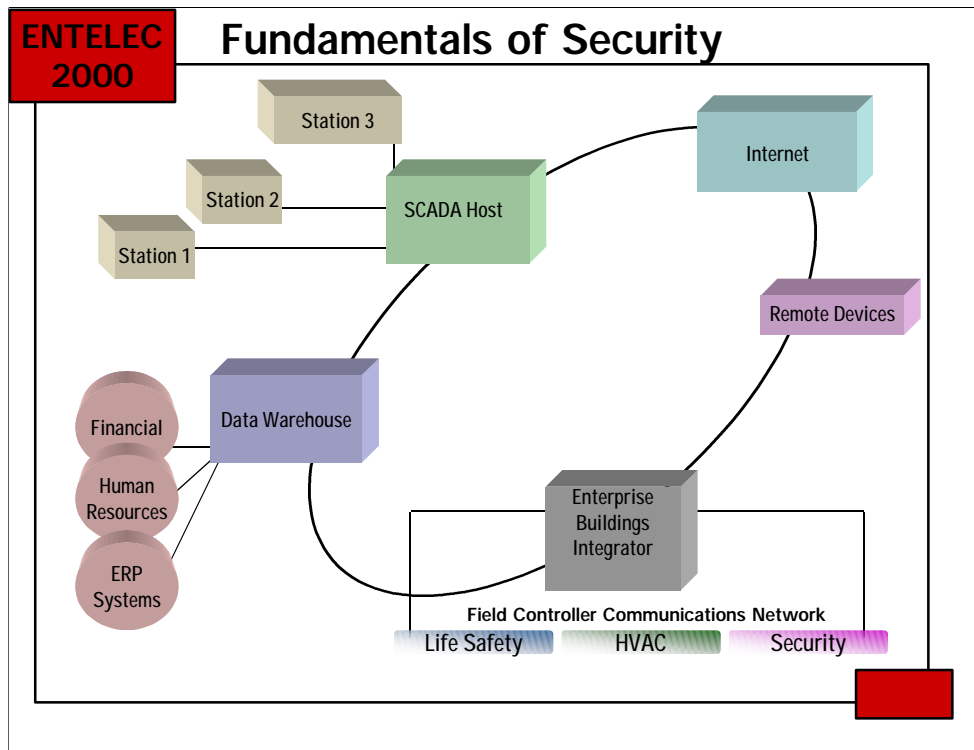
Fundamentals of Security

- **The Technology of Security**
 - **UNIX to Windows NT**
 - **Single Server to Distributed Server**
 - **Single Site to Global Reporting**
 - **Hard Wire to Network**
 - **Proprietary to Open Standards**
 - **Integration**

Fundamentals of Security

This last section of narrative for the fundamentals relates to the advances and growth of security technology.

This is the “high-level” integration between security and process control (versus the lower level integration on the previous pages).



Fundamentals of Security

This graphic (the only one in the presentation) depicts the nature of the “network” with security and process control and how it is a high level mis application.

This slide is important for the audience to understand that the relationship between the Honeywell Plantscape and Honeywell EBI servers are totally and completely integrated. A single workstation can monitor, control and command the entire system. This slide will be the foundation for the “Realizing Value” slides to follow.

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Realizing Value - Integration

- **Total Integration Into A Single System Provides The Key To Managing Diverse Facility Information.**

Open Systems Integration
Common Language & Visual Display
Industry & Business Standards
Software & Quality Standards

Realizing Value

Total Integration Into A Single System.....

This slide and its highlights start to show benefits of the integration of security and process control.

Each of the line items can be discussed and highlighted by an example - or reference.

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Realizing Value - Integration

- **Consistent Operator Interface Permits
The User To Be In Control Of
Every Situation.**

Operator Quality Assurance
Training & Development
Response Management
Organization/System Standards

Realizing Value

Consistent Operator Interface Permits.....

The slide highlights the quality of operations and process/standards compliance.

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Realizing Value - Integration

- **Comprehensive and Consistent Alarm Management Ensures Alarm Conditions Are Handled Promptly and Effectively.**

Creates an Identifiable and Repeatable Process
for Routine and Emergency Alarm Situations
Operations Awareness & Notification
Risk Management

Realizing Value

Comprehensive and Consistent Alarm.....

This slide is directed toward actual examples or references of the value of a single integrated system.

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Realizing Value - Integration

- **Data Management Platform To Integrate Facility Data Into Business Systems.**

Productivity Gains
Operational Gains
Cost of Operations
Decision Making

Realizing Value

Data Management Platform To Integrate.....

This slide will show the value (in productivity and dollars) the integrated approach will bring.

Summary

- **YES, Integrating Security and Access Control into the SCADA Host is a Positive and Beneficial Decision -- that will Yield Operational and Financial Gains.**

Decision Making	Open Systems
Standards	Control
Consistency	Software
Hardware Technology	Cost of Operations

Summary

YES, Integrating Security and Access.....

This summary slide brings together the points made during the presentation. The **Blue** words are the key words from the presentation and its reference points.