



**Common Criteria Evaluation and
Validation Scheme**
National Information Assurance
Partnership (NIAP)

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Background and Purpose

This document describes a core set of security requirements for Enterprise Management systems. These requirements cover basic security characteristics and behaviors for an EM server.

Enterprise management (EM) software is a category of software applications designed to support organizations in managing their core business processes, data, and resources. This software encompasses tools for areas like finance, accounting, supply chain, HR, customer relationships, project management, and even infrastructure monitoring. EM software automates and integrates complex business functions, providing insights and improving operational efficiency across an organization. It has a critical role in streamlining workflows and driving data-driven decision-making. Finally, EM software platforms act as central hubs for connecting and coordinating various software applications used within an organization. The role of EM software is breaking down data silos and enabling seamless communication and collaboration between different departments and systems.

The intent is that the remaining sections provide succinct statements that highlight the relevant aspects to be addressed by the Technical Community (TC) constructing the PP. Here, the authors provide a narrative that introduces the reader to the problem being solved, and present key aspects that support or guide the TC, and may elaborate on subtleties not apparent in the “bulleted” high level statements.

Use Case(s)

[USE CASE] **Monitoring and Management**

[USE CASE 1] **Custom Events**

The ability to handle custom event management and monitoring across server and workstation endpoints.

[USE CASE 2] **Standard Services and Alerts**

The ability to monitor multiple system services across endpoints, such as alerting for low disk space, high memory usage alerts, account creations, accounts being added or removed from groups, services stopping.

[USE CASE 3] **Patching and Policies**

The ability to deploy patches, security, and business policies to server and workstation endpoints, in addition to deploying instructions to network configurable infrastructure devices.

[USE CASE 4] **Discovery**

The capability to effectively browse, query, and export aggregated host-based endpoint data through a management dashboard query interface, in addition to automatically add newly discovered endpoints to a monitored database.

[USE CASE] **Expandability**

[USE CASE 1] **Vendor Expansion**

The ability to integrate and expand with additional vendor packages for custom monitoring and configuration of varying physical and virtual hardware.

[USE CASE 2] **Resource Expansion**

The capability to generate performance and predictive analysis to estimate when a monitored resource will be exhausted and allow for administrators to plan accordingly.

[USE CASE] **Security**

The ability to function in any configuration of endpoints with or without agents in the following ways.

Agent

[USE CASE 1] **Detection of Potential Unauthorized Activity**

The ability for agents to detect potentially unauthorized activity, software, or users by collection of host-based endpoint data and reporting back to the management server for further analysis.

[USE CASE 2] **Remediation of Malicious Activity**

The ability for the management server to instruct agents to perform remediation activities on the endpoints to cleanup detected malicious activity and report back through secured channels.

Agentless

[USE CASE 1] **Detection of Potential Unauthorized Activity**

The detection of potentially unauthorized activity, software, or users is enabled by remote collection of host-based endpoint data by the management server.

[USE CASE 2] **Remediation of Malicious Activity**

The ability to perform remediation activities on the endpoint remotely from the management server to cleanup detected malicious activity.

Resources to be Protected

- Sensitive data stored by the EMS system.
- Credentials for authentication to or from the ESM system.
- Cryptographic key material used to perform secure communications with host agents.
- Sensitive data in transit to or from the ESM system.

Essential Security Requirements

- Patch Management
 - Scanning and updating patches is important enterprise security and requires management at all phases: QA, development, staging, production, etc. and maintaining strict policies to avoid any unexpected events.
- Policy Management

- Exception creation and policy configuration
- View protected processes
- Agent and EM settings
 - Heartbeat Interval
 - Reporting Interval
- Content updates
- Vulnerability Assessment
 - Import unknown hashes and set policy for them based on rules
 - Ability to administratively override previous policies
 - Scanning hosts for missing patches, configurations, security policies
 - Scanning file executions and running files
- Architecture
 - Resiliency
 - Failover
 - Load balanced
 - Endpoint and Tenant Management
 - Role-based access control
 - Agent revocation
 - Permission Segregation
 - Role based Tier model, protecting privileged accounts and resources from non-privileged.
 - Compliance
 - Auditing capabilities
 - Confidentiality
 - Encrypted communication between EM host and clients
- Risk Management
 - Behavior Detection/Threat Modeling
 - Network Virtualization
 - Ties into architecture with custom defense strategies based on the capabilities of the architecture
 - Zero Trust
- Reporting Capabilities
 - Log forwarding (SIEM, Syslog, Email, etc.)
 - Security events search criteria

Threats

T.NETWORK_ATTACK

An attacker is positioned on a communications channel or elsewhere on the network infrastructure. Attackers may engage in communications with applications and services running on or part of the OS with the intent of compromise. Engagement may consist of altering existing legitimate communications.

T.NETWORK_EAVESDROP

An attacker is positioned on a communications channel or elsewhere on the network infrastructure. Attackers may monitor and gain access to data exchanged between applications and services that are running on or part of the OS.

T.LOCAL_ATTACK

An attacker may compromise applications running on the OS. The compromised application may provide maliciously formatted input to the OS through a variety of channels including unprivileged system calls and messaging via the file system.

T.LIMITED_PHYSICAL_ACCESS

An attacker may attempt to access data on the OS while having a limited amount of time with the physical device.

Assumptions

The following assumptions are made for the EM software product and its operational environment. The Enterprise Management Software is not expected to provide any assurance in any of these areas, and as a result, requirements are not included to mitigate the associated threats.

- **A.PLATFORM**
The TOE relies upon a trustworthy computing platform with a reliable time clock for its execution. This includes the underlying platform and whatever runtime environment it provides to the TOE.
- **A.PROPER_ADMIN**
The Administrator of the software solution is not careless, wilfully negligent or hostile, and administers the OS within compliance of the applied enterprise security policy.
- **A.PROPER_USER**
The user of the application software is not wilfully negligent or hostile, and uses the software in compliance with the applied enterprise security policy.
- **A.PHYSICAL_PROTECTION**
The Enterprise Management Software is physically protected in its operational environment and not subject to physical attacks that compromise the security or interfere with the host device's physical interconnections or ability to operate at full capacity. This protection is assumed to be sufficient to protect the data contained within the Enterprise Management Software solution.
- **A.REGULAR_UPDATES**
The Enterprise Management Software is assumed to be updated by an Administrator on a regular basis in response to the release of product updates due to known vulnerabilities

Operational Environment

Security Objectives for the Operational Environment

- **OE.PLATFORM**
The TOE relies upon a trustworthy computing platform for its execution. This includes the underlying operating system and any discrete execution environment provided to the TOE.
- **OE.TRUSTED_ADMIN**
Security Administrators are trusted to follow and apply all guidance documentation in a trusted manner. For Enterprise Management Software, this includes the Administrator responsible for configuring, deploying, and updating the primary software solution.
- **OE.PROPER_USER**
The user of the application software is not willfully negligent or hostile, and uses the software within compliance of the applied enterprise security policy.

- OE.PHYSICAL
Physical security, commensurate with the value of the TOE and the data it contains, is provided by the environment.
- OE.UPDATES
The TOE firmware and software is updated by an Administrator on a regular basis in response to the release of product updates due to known vulnerabilities.