GE VERNOVA

GE Vernova's Cybersecurity Solution - OTArmor

DATA SECURITY SOLUTIONS

GE Vernova's cybersecurity platform includes the following suite of products for data security:

- Centralized Backup and Disaster Recovery
- Network Attached Storage (NAS)

CENTRALIZED BACKUP AND DISASTER RECOVERY

Our plantwide cybersecurity solution provides the base platform for centralization of backup and recovery activities. The centralized backup server provides backup and recovery features and storage for computers and supported network devices in the end user's network. This solution provides automatic, centralized backup and recovery of the process control domain, saving time and money through assurance of a quick Disaster Recovery plan with minimal downtime.

Purdue Model for ICS Cybersecurity
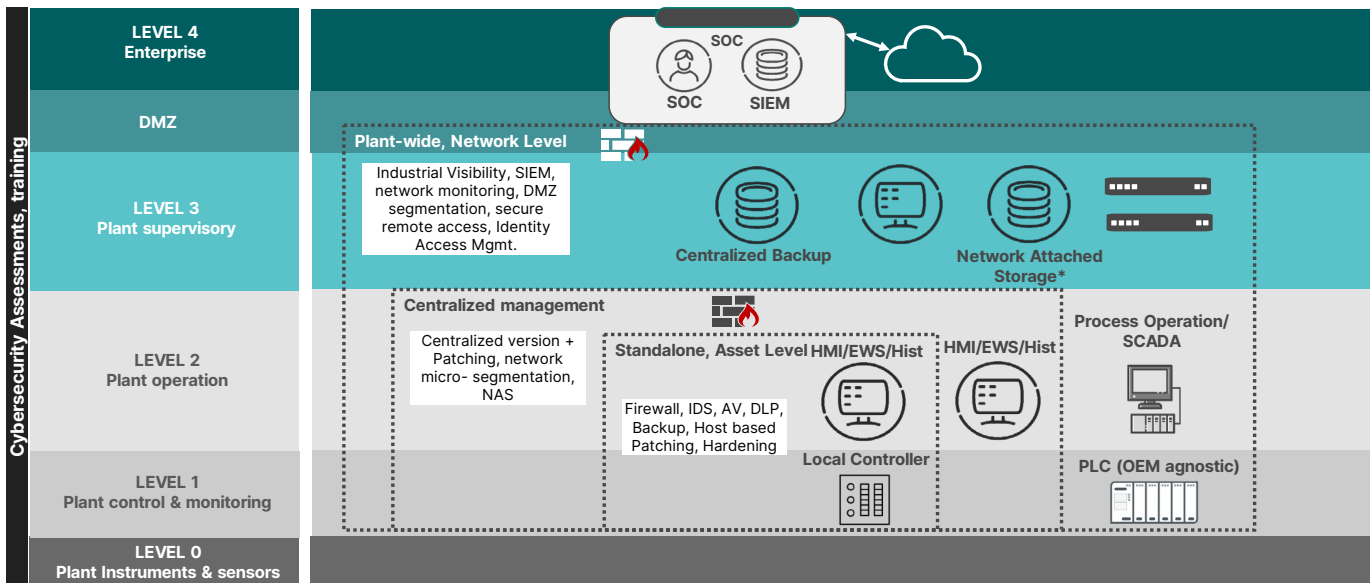
AV – Antivirus	HMI – Human Machine Interface	SCADA – Supervisory Control and Data Acquisition
DLP – Data Loss Prevention	MSSP – Managed Security Service Provider	SOC – Security Operations Center
DMZ – Demilitarized Zone		
EWS – Engineering Workstation	NAS – Network Attached Security	SIEM – Security Information & Events Management
IDS – Intrusion Detection System	PLC – Programmable Logic Controller	
Hist – Historian		

NOTE: Solutions shown are representative and can be customized.
*Can be placed in Level 2 or 3 based on the project and customer requirement.

SOLUTION

The Backup and Recovery application provided in GE Vernova's cybersecurity platform provides backup and recovery for servers and computers on the domain. The system is sized to include the platform and the number of physical workstations in the original site configuration. Additional capacity can be added for additional computers as needed on the domain. The Backup and Recovery Management Console is used as a centralized backup management point. It provides dashboard information on backup status, including errors or warnings related to backup or recovery tasks. Each HMI (Human Machine Interface) or workstation under security management has a Backup Agent installed to report status to the console. The Backup & Recovery Management Console provides support for recovery of:

- Virtual machines
- Physical machines
- Individual files
- Data drives
- Operating system-only drives
- SQL Databases

The network backup and recovery application provided in the platform provides centralized backup and recovery services for switches, firewalls, and other network devices on a regular basis. The tool can also be utilized to compare and analyze configuration changes, rollback network configurations and perform bulk network configurations as needed.

NETWORK ATTACHED STORAGE

There is often a need for additional external backup storage outside the main backup storage (i.e., redundancy) in order to comply with governmental regulations as well as corporate data storage policies. The solution must also accommodate large quantity of backup, many times due to an excessive backup frequency mandated by local regulations, to be stored in a central location to avoid compromising the capacity of Host Base Asset. The duplicated back up data must be easily accessible by the plant operations team for auditing purposes, as well as collect backups from multiple networks. This will allow a dedicated team to manage the collected data and maintain an alternative Disaster Recovery location.

SYSTEM REQUIREMENTS

- Centralization of data storage in a safe, reliable way for authorized network users and clients
- Dedicated storage for historical data and trends available for monthly reports on plant performance
- Not application specific
- Lower cost
- Fault tolerant

SOLUTION

Network attached storage (NAS) is a secondary backup solution suitable for integration to all plant wide applications. NAS provides networks a single access point for storage with built-in security, management, and fault tolerant capabilities such as RAID (redundant array of independent disks). This solution comes with a lightweight operating system (OS) that's usually embedded in the hardware and can be implemented at L2 or L3 or architecture inline to IEC 62443-3-3. NAS can also facilitate a consolidated backup and integration philosophy across all applications supporting SMB protocol.

The Network Attached Storage (NAS) is a server class storage device that has redundant network connections and can be configured with optional redundant power inputs (100-120 VAC/200 – 240 VAC).

BENEFITS

- Flexible, scalable and cost-effective external storage medium
- Allows easy continuous accessibility
- Can be setup outside the plant in the corporate environment where backup data can be transferred securely via data diode from plant to corporate
- Customized and tailored for file storage
- Management console to manage and monitor
- Protects data at rest with file system and drive encryption
- Protects data in transit through SMB encryption and signing
- Physical security through a lockable bezel
- Highly resilient to prevent disruption

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