

Integrated Patch Management for the DeltaV™ System

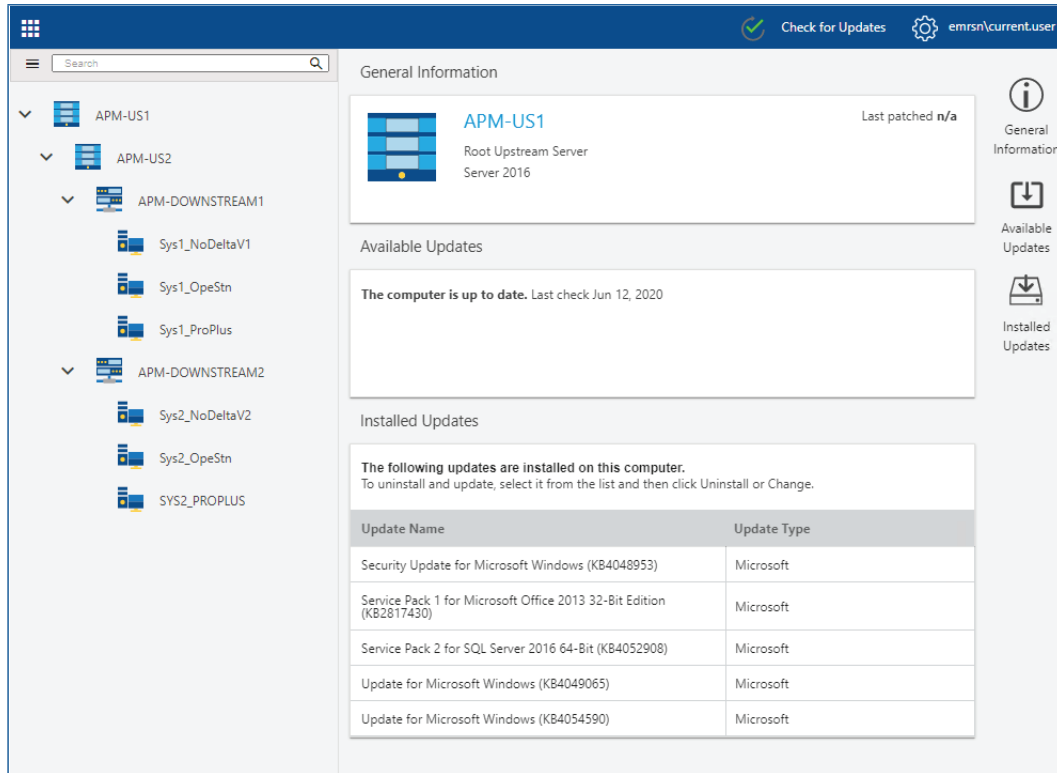


Figure 1: Integrated Patch Management user interface.

- Built for DeltaV™
- Easy and Cost Effective
- Cybersecure design from the Ground Up

Introduction

Usually, every month there are new Microsoft® Windows® OS security updates, McAfee® Endpoint Security for DeltaV™ Systems antivirus updates, Symantec™ Endpoint Protection antivirus updates and DeltaV DCS hotfixes (Guardian subscription required) that may require action. Emerson's Integrated Patch Management for DeltaV service

provides a complete solution for Windows and DeltaV patches that addresses the five deployment steps — identification of Emerson-approved updates, acquisition of update executables, distribution to appropriate workstations and servers, installation for Windows updates and compliance auditing.

It is common for the most critical security, antivirus and application hotfix updates to go uninstalled for extended periods of time, or not be installed at all. Often the reported reasons are due to limited skilled resources and demands on those resources to address an immediate need with a measurable business benefit. Deploying the Integrated Patch Management for DeltaV solution frees up those resources and allows you to keep your system patched and secure against attacks targeting unpatched systems.

Value

Built for DeltaV: Fully integrated into your high availability DeltaV OT environment out of the box, including your DeltaV Guardian Support portal for automatic asset management and cybersecurity reporting.

Easy and Cost Effective: Save significant time and effort by either remotely or locally automating your patch management plan to protect your customized DeltaV OT environment and make IEC 62443-2-3 compliance easy.

Cybersecure design from the Ground Up: Integrated Patch Management encrypts communications between the cloud servers and your site improving file security and integrity through signed and hashed binaries that are automatically checked – ensuring the DeltaV, Microsoft and McAfee updates you install are the ones that Emerson fully tested, validated and released.

Benefits

Establish easy and proactive patch management strategy: Integrated Patch Management automates routine aspects of software update deployment for timely dependable implementation, while freeing staff to devote more time to your own business. For large systems, the savings can add up to hundreds of hours per year. Integrated Patch Management identifies the appropriate Microsoft Windows security patches, tests them on supported DeltaV DCS/SIS systems and advises you on which DeltaV hardware needs updating with which particular software patches on an individual system-by-system basis.

Ensure the availability and business continuity of your DeltaV system: Emerson provides approved Microsoft Windows security updates as well as antivirus signature file updates on a regular basis. Experience has shown many of the disruptive events reported to the Emerson Global Service Center could have been avoided, had the relevant security update or hotfix been applied in a timely fashion.

Reduce manual system administrative activity and delays associated with software updates: Maintaining security, patch management and hotfixes are essential to your system's availability.

This automated solution helps to ensure that critical updates are deployed consistently.

By using Emerson's Integrated Patch Management solution, site resources can shift more focus on delivering quality product and bottom-line results; spending less time evaluating and deploying patches, and more time focusing on process management and operations.

Minimize time spent on product installation and day to day patching activities: Integrated Patch Management comes with an easy-to-use user interface that allows you to quickly determine patch status of your managed control system workstations and servers.

Included tools, like the Environment Checker, allow you to speed up initial installation and makes troubleshooting the environment more efficient by verifying required firewall ports are open and proper node communication.

Distribute, install, and reboot patches and updates either locally or remotely from our intuitive user interface. Easily choose which updates to send to which machines and export your updated status report to assist in compliance auditing.

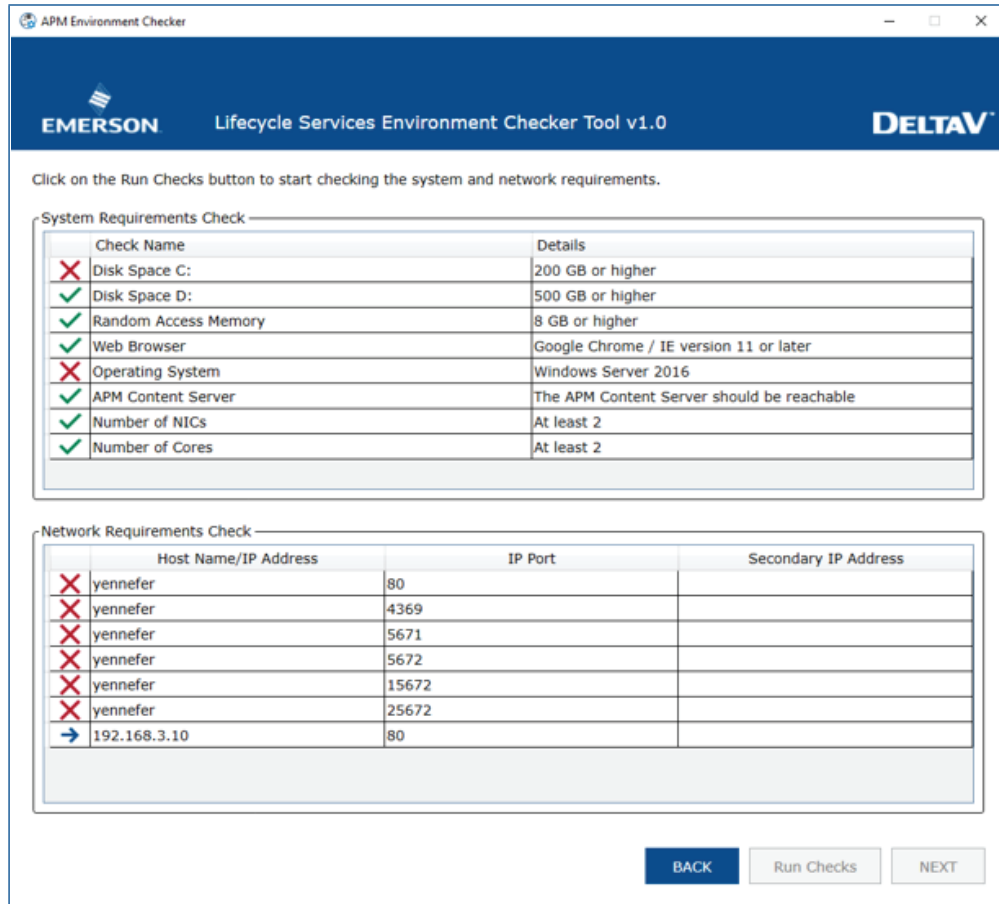


Figure 2: Environment Checker, allows you to quickly determine communication status.

Architecture

Integrated Patch Management can be combined with Emerson’s expert consultation and optional on-site commissioning to implement automated deployment capability for Microsoft® Windows® security updates, McAfee or Symantec antivirus updates and for Guardian subscribers, DeltaV DCS hotfixes.

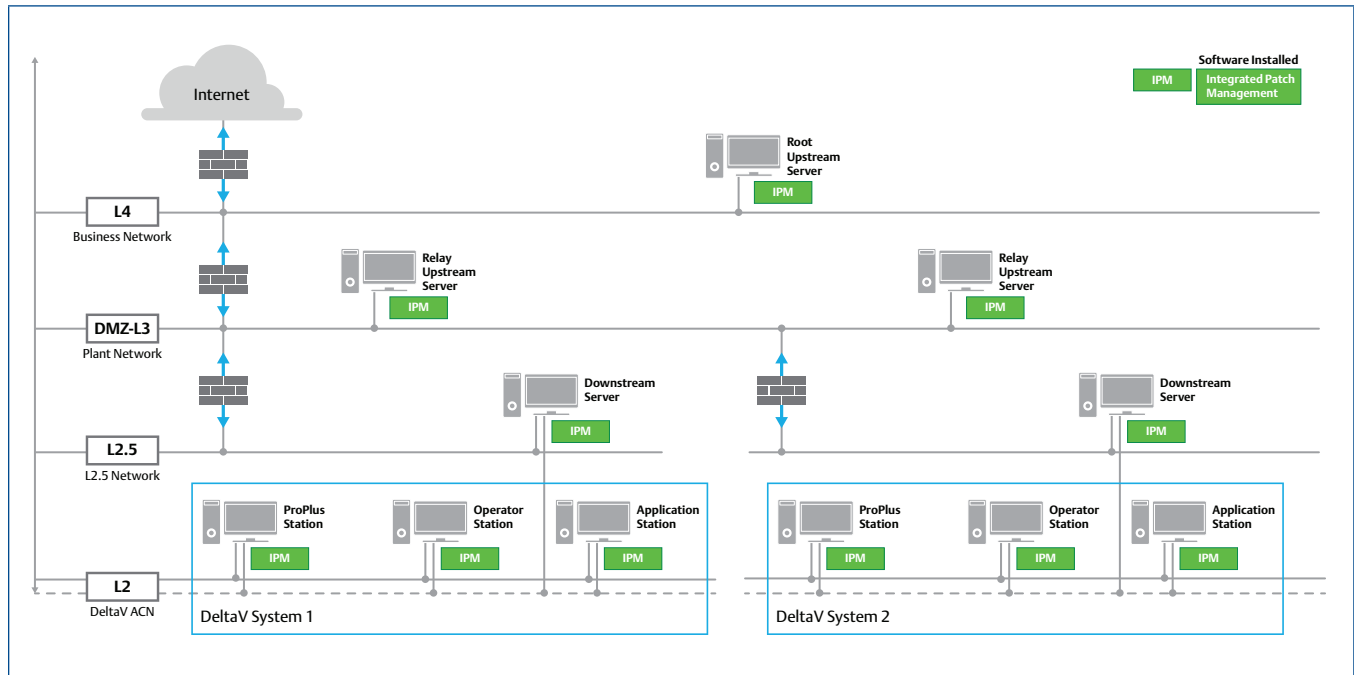


Figure 3. Integrated Patch Management Reference Architecture.

Identification of Emerson-approved updates: When Check for Updates is initiated, Integrated Patch Management will determine which assets at site require updates that Emerson has tested and released. This includes non-DeltaV workstations and servers at the same operating system version as DeltaV machines.

Acquisition of update executables: Updates are securely downloaded through an encrypted communication channel between Emerson’s servers and the Integrated Patch Management server at the site. The updates are verified to ensure they were properly signed by the appropriate certificate so you can be sure that the patches Emerson has tested and released are the ones you will be installing – and have not been tampered with in transit.

Distribution to appropriate workstations and servers:

Updates will then be securely sent to the proper workstations and servers when the appropriate time is determined and Install. Updates are initiated either remotely or locally from the user interface of the Integrated Patch Management console.

Installation for Windows updates: Installation requests can be locally approved or declined directly at the client machine. Discreet notifications can be enabled within the DeltaV Desktop to alert the user that updates are available for installation.

Compliance auditing: Export the latest reports showing the current update status to make compliance auditing much more efficient once all the updates and patching are complete.

The Software Servers

- **Integrated Patch Management Upstream Server:**
With an intuitive Emerson software application evaluating status of endpoints and the ability to check for updates from Emerson's Content Server, the upstream server solicits system hot fixes (Guardian subscription required) and Microsoft security updates via the Internet. It is typically located on an internet facing machine.
- **Integrated Patch Management Downstream Server:**
Intermediate interface that transfers new DeltaV hotfixes for active Guardian subscriptions and the latest Microsoft security updates from the internet facing Upstream Server to the endpoints to be patched.

Solution Options

- **If you have McAfee Endpoint Security for DeltaV Systems:**
 - McAfee ePolicy Orchestrator® Console (McAfee ePO™) — A software application that solicits antivirus updates from either Emerson or via the Internet, typically located on a server on the L3 network and can be combined with the Upstream Server as long as hardware requirements are met (see McAfee installation documentation for further ePO server details).
 - McAfee Agent Handler — An application platform that deploys the antivirus updates obtained by the ePO console to the agents located on the DeltaV ACN nodes and can be combined with the Downstream Server as long as hardware requirements are met (see McAfee installation documentation for further ePO server details).
- **If you have Symantec Endpoint Protection Solutions:**
Symantec signature files will be tested by Emerson monthly and released as a text file for you to obtain the Symantec signature files on your own.

Solution Prerequisites

Integrated Patch Management for DeltaV solution prerequisites:

- Windows 10 and Server 2016 operating Systems.
- Internet facing root Upstream Server at site able to connect to Emerson's Patch Management Content Server.
- Downstream Server with constant connection to all workstations and servers to be patched.

- Annual purchase of the Integrated Patch Management for DeltaV Subscription Service for each system ID.
- For McAfee Endpoint Security for DeltaV Systems:
 - Licenses to use McAfee ePO, Agent Handler and agent clients (all supplied by Emerson).
- For Symantec Endpoint Protection:
 - License to use Symantec on workstations (your responsibility to procure).
 - Support service contract from Symantec is recommended (your responsibility to procure).

Installation Services

Emerson offers installation services to help you incorporate Integrated Patch Management into your network infrastructure through evaluation, design and implementation services.

These optional services may include some or all of the following:

- **Evaluation:** Emerson will work with you to evaluate your request for services. The evaluation will define the scope of work to be performed.
 - Analyze the system architecture desired and any high-level technical considerations requested.
 - Define any requirements of an overall system architecture plan and configuration desired.
 - Provide an Evaluation Report outlining your request, considerations, and Emerson's recommendations.
- **Detailed Design:** Based on the findings from the Patch Management Evaluation, this optional service will develop a proposed architecture, detailed configuration, and policies to test and verify proper functioning of the proposed patch management system. The detailed design phase may include:
 - System staging based on the desired system architecture and configuration. This pre-work will determine the optimal configuration and installation processes to be used on site. The computers to be used as upstream/downstream servers in the plant can be provided by you for system staging.
 - Detailed consultation regarding the newest features and enhancements contained in the new versions of the patch management solution.

- An outline of the testing procedure to be performed.
 - Complete test reports outlining system behavior and installation and configuration issues found.
 - A detailed roadmap indicating any prerequisites to site installation and configuration.
 - Testing of any desired system modification identified during the Evaluation phase.
- **Implementation:** Based on the findings of the evaluation and detailed design, Emerson will work with you to install, configure and implement the patch management service. Upon completion, an implementation report will be provided to you.

Please contact your local sales office for a quote if any of these services are desired at your site.

Annual Subscription Service

Integrated Patch Management requires an annual subscription. This subscription service enables the System ID's patch management server to connect with Emerson's Content Server to download the applicable updates.

Keep DeltaV versions current. Integrated Patch Management will not patch operating systems or DeltaV Hotfixes without a Guardian Upgrade Bridge purchase. If DeltaV version is End of Life, this means Guardian Upgrade Bridge must be purchased to keep receiving any updates that are still offered by Microsoft and Emerson.

Product Support

Integrated Patch Management is a solution composed of a combination of standard Emerson products and an engineered environment that delivers patches through your network to individual machines. Standard Guardian Support provides initial support for any issues or questions regarding the Integrated Patch Management for DeltaV solution through Emerson's Global Support Center (GSC) if you already have a Guardian subscription.

If you do not have a Guardian subscription relatively simple and straightforward questions and issues that are non-site/system specific can be answered by the GSC. Issues and questions that are more complex and are more site/system specific will most likely require an additional service contract either through your local Emerson Service Representative and/or Emerson's Performance Services group.

Cybersecurity Management Solutions

Integrated Patch Management for DeltaV is an integral part of Emerson's Cybersecurity Management Solutions portfolio.

A comprehensive cybersecurity solution consists of many different components; each one specific to reducing risks associated with various process control system functions. Emerson's Cybersecurity Management is an integrated approach to finding the best cyber solutions to fit your current process control system and existing plant security policies and procedures.

Cybersecurity Management solutions cover:

- Integrated/Manual Patch Management Services
- Endpoint Security
- Disaster Recovery
- Backup and Recovery
- System Health Monitoring
- Application Control
- Network Security Monitoring
- Security Information & Event Management (SIEM)
- Smart Firewalls, Smart Switches and Controller Firewalls
- On-site Spare Parts Management
- Security Consultation Services
- Incident Response Services
- Development Services for IR Plan and Site Policies & Procedures Review

Reduction of risks associated with the use of these solution components minimizes the time spent on incidents and allows focus on other important day-to-day issues.

Ordering Information

The patch management solution requires a current Integrated Patch Management for DeltaV subscription to be maintained for each System ID at a given plant site. Please visit the Integrated Patch Management Price Portal for part number selection and purchasing or for current pricing information <https://serviceprice.emerson.com>

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