

# Digital Twin Preventive Maintenance

- Implement a standardized maintenance approach
- Improve simulator availability
- Maintain simulator performance



*Achieve and sustain peak Digital Twin simulator system performance and reliability.*

## Introduction

Regularly scheduled maintenance is critical to ensuring the longevity and peak performance of your simulation system.

Digital Twin Preventive Maintenance allows you to meet your plant's specific and comprehensive needs and address your operational and business challenges by:

- Keeping your Digital Twin system operating effectively, consistently and economically.
- Improving and preserving your asset reliability and investment over time.
- Optimizing your Digital Twin performance and achieving business goals.

Emerson service specialists perform a prescribed set of maintenance tasks using a standard and proven procedure.

Digital Twin Preventive Maintenance provides site services to proactively maintain and continually advance and enhance your Emerson Digital Twin installation.

With this program, you can keep your simulator hardware and software maintenance requirements up-to-date while maintaining a flexible path forward to new technology and features.

## Benefits

### Implement a standardized maintenance approach

Emerson's Digital Twin Preventive Maintenance Service provides a standardized and proactive maintenance methodology to help you dependably operate your simulation system day after day. Preventive Maintenance changes the maintenance from a fail-and-fix approach to a predict-and-prevent approach. The objective is to proactively identify shortcomings that can impact system continuity and availability.

### Improve simulator availability

Maximize Digital Twin system availability for operations, engineering and training teams through proactive software and hardware support maintenance methods. Preventive Maintenance will minimize the chance of unexpected simulator malfunction or failures.

### Maintain simulator performance

Apply component updates and identify potential issues to keep the Digital Twin operating reliably and current with the latest technology. Proactively assess simulator performance to maintain alignment with production system operation.

**Receive services executed by Emerson experts**

Priority access to site services specialists with deep knowledge of past proven solutions experiences can be a major time saver and will help reduce the risk of an inefficient or unreliable solution.

## Service Description

Emerson initiates the scheduling of planned maintenance visits with your plant's designated contact person. Emerson services specialists work in advance to access the necessary system documentation and data to be used in completing the work.

To ensure that the Digital Twin system is fully functional, a completed analysis of the DeltaV Simulate offline control system software and database, Mimic Simulation software and database, and a review of the supporting hardware infrastructure is completed in order to generate an assessment report. The report includes the assessment results and recommendations on potential enhancements.

The Digital Twin Preventive Maintenance activities are divided into ten categories:

- 1. System Documentation**  
Verify that all necessary and recommended Digital Twin system documentation has been created and is up to date.
- 2. Hardware – Virtualization**  
Check health and performance parameters of the virtual host server(s) as well as the status of their hardware chassis to ensure normal operation. Visual inspection of Server cabinets is performed to verify the integrity of the installed Digital Twin supporting virtual host server(s).
- 3. Hardware – Workstations**  
Check health and performance parameters of the workstations, status of their network communications and physical condition within the Digital Twin infrastructure.
- 4. Hardware – Network**  
Check health and performance parameters of the Digital Twin network equipment to ensure its integrity.
- 5. Software – Virtualization**  
Check health and performance parameters of the virtual host server(s) as well as the status of their virtualization hypervisor to ensure normal operation. Verification of key performance parameters and system utilization are part of the standard tasks for this system dimension.
- 6. Software – Workstations**  
Check health and performance parameters of the workstations, status of their simulation communications and virtual performance conditions within the Digital Twin software infrastructure.
- 7. Software – Network**  
The integrity parameters of virtual networks (VLANs) are reviewed and compared against the Emerson recommended values.
- 8. Software – Mimic**  
Check health and performance parameters of the Mimic Simulation Software. The integrity parameters of the Mimic Simulation Database are reviewed and compared against the Emerson recommended values. Communications with DeltaV Simulate are initiated to assess performance.
- 9. Software – DeltaV**  
Check health and performance parameters of the DeltaV Simulate Software. The integrity parameters of the DeltaV Simulate Database are reviewed and compared against the Emerson recommended values.
- 10. Backup and Recovery**  
Check health and integrity parameters to make sure Backup and Recovery setup is working as configured.

During each service visit, specialists will log all findings and observations and generate a standardized report. The report summarizes the findings and actions taken during the execution of the Preventive Maintenance routines. The report includes any other action plan recommendations identified during the visit to improve lifecycle, support and maintenance of the Digital Twin.

## Service Availability

Digital Twin Preventive Maintenance is a Lifecycle Services offering for DeltaV DCS. The Lifecycle Services portfolio consists of service modules, each designed to address specific support requirements. These modules can be combined to customize a support program for your plant that is tailored to fit just right, meeting your support needs while providing value and peace of mind.

## Ordering Information

Description	Model Number
Digital Twin Preventive Maintenance	SER-4104

**Notes:**

1. Must have an active Guardian Support for Mimic contract to utilize this service.

**Emerson**

**North America, Latin America:**

+1 800 833 8314 or  
+1 512 832 3774

**Asia Pacific:**

+65 6777 8211

**Europe, Middle East:**

+41 41 768 6111

[www.emerson.com/mimic](http://www.emerson.com/mimic)

©2019, Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their respective owners.

The contents of this publication are presented for informational purposes only, and while diligent efforts were made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

