

Preface

Converged Plantwide Ethernet (CPwE) is a collection of tested and validated architectures that are developed by subject matter authorities at Cisco and Rockwell Automation. The testing and verification follow the Cisco Validated Design (CVD) and Cisco Reference Design (CRD) methodologies. The content of CPwE, which is relevant to both operational technology (OT) and informational technology (IT) disciplines, consists of documented architectures, best practices, guidance, and configuration settings to help manufacturers with the design and deployment of a scalable, reliable, secure, and future-ready plant-wide industrial network infrastructure. CPwE can also help manufacturers achieve cost reduction benefits using proven designs that can facilitate quicker deployment while helping to minimize risk in deploying new technology. CPwE is brought to market through a strategic alliance between Cisco Systems and Rockwell Automation.

Expanding on the existing collection of CPwE CVDs, this CPwE CRD outlines key requirements and application considerations to help with the integration of the Industrial Data Center (IDC) product within a CPwE architecture. The IDC is a purpose-built resource that provides compute, storage, and multi-layer network switching in a pre-engineered and validated package. This *Deploying Industrial Data Center within a Converged Plantwide Ethernet Architecture Design Guide* describes the IDC and validates some potential use cases within a CPwE architecture. CPwE IDC CRD was architected, tested, and documented by Cisco Systems, Panduit, and Rockwell Automation.

Document Organization

This document is composed of the following chapters and appendices.

Chapter/Appendix	Description
CPwE Architecture with Industrial Data Center	Introduces the CPwE architecture and provides a closer look at how the IDC operates in the greater architecture.
Virtualization, Thin Clients, and Industrial Data Center Description	Describes the equipment and capabilities of the IDC.
Virtualization	
Industrial Data Center Use Cases	Describes the use cases for which the IDC was tested.
Industrial Data Center Verification	Describes the testing performed on the IDC.

Chapter/Appendix	Description
Appendix A, “References”	Link to documents and websites that are relevant to the IDC within a Converged Plantwide Ethernet Architecture CRD.
Appendix B, “Acronyms and Initialisms”	Lists the acronyms and initialisms commonly used in CPwE documentation.
Appendix C, “About the Cisco Validated Design (CVD) Program”	Describes the Cisco Validated Design (CVD) process and the distinction between CVDs and Cisco Reference Designs (CRDs).

Audience

The main intended audience for this document are IT and engineers at manufacturers looking for guidance for implementing an Industrial Data Center product and integrating it into the larger CPwE architecture.

Readers should already be familiar with the CPwE architectures.

Document Objective and Scope

This document briefly discusses the CPwE architecture and then focuses on the Level 3 Site Operations and the Cell/Area Zone(s), where the Industrial Data Center (IDC) solution from Rockwell Automation provides services to end users. This document is not intended to be an exhaustive analysis of every feature and option available, but instead is designed to highlight the most important use cases of the Rockwell Automation Industrial Data Center.

For More Information

More information on CPwE Design and Implementation Guides can be found at the following URLs:

- Rockwell Automation site:
 - <http://www.rockwellautomation.com/global/products-technologies/network-technology/architectures.page?>
- Cisco site:
 - http://www.cisco.com/c/en/us/solutions/enterprise/design-zone-manufacturing/landing_ettf.html
- Panduit site:
 - <http://www.panduit.com/cpwe>