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Production Management

FactoryTalk[®] ProductionCentre



RELEASE 10.4
PRODUCT OVERVIEW

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ALLEN-BRADLEY • ROCKWELL SOFTWARE

**Rockwell
Automation**

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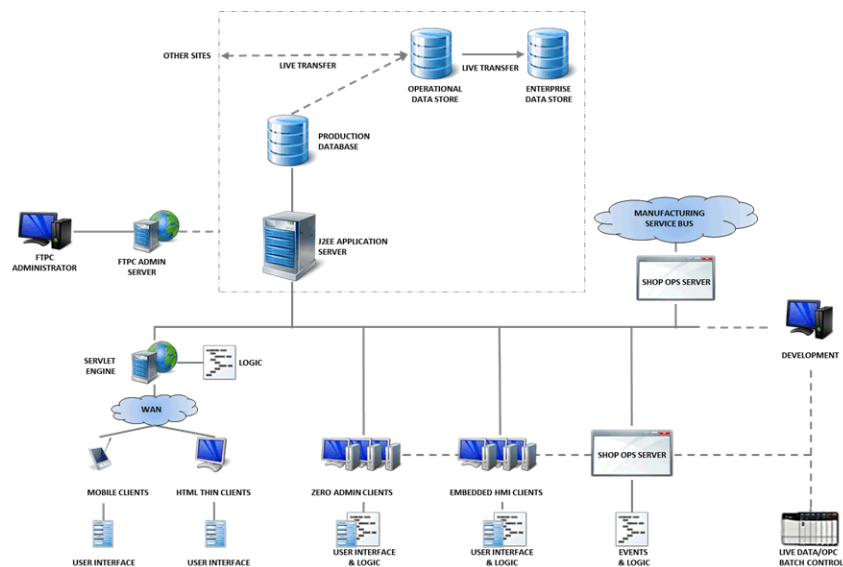
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FactoryTalk ProductionCentre Suite

FactoryTalk® ProductionCentre (called FTPC hereafter) is a powerful suite of software solutions that drives performance, quality and value across the product lifespan. The FTPC suite integrates manufacturing execution, supplier management, quality assurance, repair, business intelligence, and a data management infrastructure to help global supply chain partners improve delivery and quality while reducing cost and inventory throughout the product lifespan.

FactoryTalk ProductionCentre Architecture

Figure 1-1: FTPC Architecture



The Plant Operations configuration consists of the following items:

- The **Production database** is an online transaction processing (OLTP) database that records and stores all data collected from Plant Operations.

- The **Operational Data Store (ODS) database** is the data warehouse to which data collected by Production databases is transferred using Live Transfer.
- The Plant Operations **J2EE application server** is the functional representation of the transactional system that feeds data to the Production database. Users connect to application servers to build and run the production floor applications, and third-party applications connect to the application servers to load data to the Production database. This server runs Process Designer, Shop Operations, Application Solutions, and Integrate Web Services.
- The **FTPC Administrator server** is responsible for managing the connections between the databases and the transfer of data between databases (Production to ODS and ODS to ODS). This server has FTPC Administrator installed on it.

TIP: The application server and the FTPC Administrator server can be the same machine.

- The Plant Operations **client system** has certain hardware and software requirements that allow you to access the applications installed on the Application and Administration servers. You can have multiple sessions running.
- **Shop Operations Server** provides a runtime environment for event sheets, which in turn support the creation and management of event sources for executing script code. Shop Operations Server also contains an embedded servlet engine to process web services events and to host an administration console that is used for configuration and monitoring.

Plant Operations

The **Plant Operations** product line contains the applications necessary to collect data and manage your shop floor production, quality, and repair processes within a single plant, across global facilities or via out-sourced enterprises. The Plant Operations product line is made up of:

- FTPC Administrator
- Process Designer
- Shop Operations
- Shop Operations Server
- Shop Operations HMI Client

FTPC Administrator

FTPC Administrator is the application that allows you to perform administrative functions on the Production and ODS databases. Through FTPC Administrator, you can:

- connect to, initialize, and migrate databases.
- configure database logging.
- modify security.
- delete data.
- set object uniqueness.
- enable/disable consumed parts consolidation.
- enable/disable closing consumed lots.
- set the client inactivity timeout.
- configure access control.
- specify serial numbers.

- view the messages in the Consolidated Log.
- enable and disable Consolidated Logging.
- enable and disable subplot object revisioning.
- set the Application Log retention period and maximum size.

In addition, you can configure and schedule the Data Management components (Live Transfer and Purge) through FTPC Administrator.

- The extract and load process, which is called Live Transfer, allows you to move data from Production databases to ODSs or from base ODSs to hub ODSs.
- Administrators can purge data from both the Production database and ODS using either time-based or status-based criteria.

See the *FactoryTalk ProductionCentre Administrator User's Guide* for details on setting up Live Transfer and Purge.

Process Designer

Process Designer provides the interface for designing a shop floor or quality application to collect, manage, configure, and deliver information. Process Designer provides the following for you to model your manufacturing process and build your application.

- **Set of Objects:** used to create the structure of your application.
- **Form-Building Environment:** used to build the graphical user interface for the application.
- **Application Programming Interface (API):** used to create the application logic.

The Process Designer interface provides an environment for developing a custom application by combining graphical user interface (GUI) functions, like drag/drop and point/click, with built-in object selectors and text fields. The form and subroutine interfaces provide scripting and test tools that enable you to code and test your application.

Shop Operations

Shop Operations is a form browser that displays the forms that are used for tracking and data entry. The forms are created using the Form Designer interface in Process Designer. The options and menu items available from the Shop Operations Menu bar depend on the user privilege level and the mode you are using to open Shop Operations. Using Shop Operations, you can perform the following tasks:

- open, close, and print a form

- set up a list of favorite forms
- configure the station
- log on and off
- change your password
- set the locale (display language)

NOTE: Setting the locale may not localize all the text in a form. See the Process Designer and Objects Help for more details on localization.

Shop Operations Server

Shop Operations Server provides a runtime environment for event sheets, which in turn support the creation and management of event sources for executing script code. Shop Operations Server also contains an embedded servlet engine to process web services events and to host an administration console that is used for configuration and monitoring. Shop Operations Server also provides failover support. Please note that Shop Operations Server cannot write to remote file systems.

Shop Operations HMI Client

FTPC provides a Shop Operations HMI Client that can be placed onto a FactoryTalk View display. This control has properties and methods that can be called via Visual Basic Applications (VBA) scripting. The Shop Operations HMI Client needs to be installed in each computer where FactoryTalk View Site Edition Client or FactoryTalk View Studio will display the Shop Operations HMI Client.

Integrate Web Services

Integrate Web Services is a set of XML Web Services provided by the FactoryTalk® ProductionCentre application server. XML Web Services is the industry-standard approach to provide language- and platform-independent interfaces for integration between different software systems.

Integrate Web Services provides web service interfaces to expose most of the business functionality available through the core Plant Operations Scripting API. It does not provide business functionality available through the Application Solutions modules.

Integrate Web Services conforms to the following industry-accepted technology standards:

- Web Services Interoperability (WS-I) Basic Profile 1.0
- SOAP 1.1
- WSDL 1.1
- SAAJ 1.1

Integrate Web Services is built primarily using these two technologies:

- SOAP (Simple Object Access Protocol): SOAP is the transport protocol used by XML Web Services to expose useful functionality to web users.
- WSDL (Web Services Description Language): XML Web Services provide a way to describe their interfaces in enough detail to allow a user to build a client application to talk to them. This description is provided in an XML document called a WSDL document.

Integrate Web Services provides a Java package that makes writing a client application in Java easy and allows that Java client to use RMI if desired.

Documentation for Rockwell Software products is posted on the Rockwell Automation download site. Please contact Customer Support for the URL unique to your company.

FactoryTalk ProductionCentre

For an explanation of the relationships and dependencies among FactoryTalk® ProductionCentre products and the supported platform for each product line, see the **FactoryTalk ProductionCentre Supported Platforms Guide** located on the Rockwell Automation download site.

Plant Operations

Table 4-1 Plant Operations Documentation

Document	Contents	Location
Plant Operations Server Installation Guide	Instructions on installing Plant Operations	Rockwell Automation download site
Database Installation Guide	Instructions on installing and configuring databases	Rockwell Automation download site

Table 4-1 Plant Operations Documentation

Document	Contents	Location
Plant Operations Release Notes	The most recent changes made to and known issues regarding Plant Operations	Access by doing one of the following: <ul style="list-style-type: none"> • Browse to <code>http://<server name>:<port number>/PlantOperations/index.htm</code>, and then click Help > Plant Operations Release Notes. • Log in to Process Designer, and then go to Help > Help Topics. • Log in to Process Designer, and then press the [F1] key.
Plant Operations Data Dictionary	A description of tables and attributes in the Production database schema	Access by doing one of the following: <ul style="list-style-type: none"> • Browse to <code>http://<server name>:<port number>/PlantOperations/index.htm</code>, and then click Help > Process Designer Online Help. • Log in to Process Designer, and then go to Help > Help Topics. • Log in to Process Designer, and then press the [F1] key.

FTPC Administrator

For information on configuring and using FTPC Administrator, see the **FactoryTalk ProductionCentre Administrator User's Guide** located on the Rockwell Automation download site and accessible through the FTPC Administrator GUI by clicking the Help link.

Process Designer

Table 4-2 Process Designer Documentation

Document	Contents	Location
Process Designer API	The API class and method reference for the Process Designer form builder	Access by doing one of the following: <ul style="list-style-type: none"> Browse to <code>http://<server name>:<port number>/PlantOperations/index.htm</code>, and then click Help > Process Designer API Go to the API tab in the Form Designer interface in Process Designer
Process Designer API Method Summary	Descriptions of Plant Operations classes and methods available to the application developer	Access by doing one of the following: <ul style="list-style-type: none"> Browse to <code>http://<server name>:<port number>/ PlantOperations/index.htm</code>, and then click Help > Process Designer Online Help. Log in to Process Designer, and then go to Help > Help Topics. Log in to Process Designer, and then press the [F1] key.
Process Designer and Objects Help	<ul style="list-style-type: none"> Information about navigating the interface, creating objects, and defining properties in Process Designer Conceptual and reference information about Process Designer objects and features required to build an application, including object business rules and behavior 	
PNUTs Language Overview	A description of the PNUTS™ scripting language	
Activity Developer's Guide	Describes how to create activities to be used with Process Designer Activity and Activity Set objects.	Rockwell Automation download site

Shop Operations

For instructions on using Shop Operations, see the **Shop Operations Online**

Help. Access this document by doing one of the following:

- Browse to `http://<server name>:<port number>/PlantOperations/index.htm`, and then click **Help > Shop Operations Online Help**.
- Log in to Shop Operations, and then go to **Help > Help Topics**.
- Log in to Shop Operations, and then press the [F1] key.

Shop Operations Server

For information on installing and administering Shop Operations Server, see the **Plant Operations Server Installation Guide** for your application server located on the Rockwell Automation download site..

For information on creating and configuring the event sheets that will be run by Shop Operations Server, see the **Process Designer and Objects Help** listed under “Process Designer” on page 15

Shop Operations HMI Client

For information on installing, configuring, and using the Shop Operations HMI Client, see the **Plant Operations Server Installation Guide** for your application server located on the Rockwell Automation download site..

Live Transfer and Purge

For information on configuring and using Live Transfer and Purge, see the **FactoryTalk ProductionCentre Administrator User’s Guide** located on the Rockwell Automation download site and accessible through the FTPC Administrator GUI by clicking the Help link..

Integrate Web Services

For instructions on how to set up Web Services with FTPC and code examples, see the **Integrate Web Services Setup and Code Examples Guide** located on the Rockwell Automation download site.