User Manual



Virtual Image Templates

Catalog Numbers 9528-PAXVTENE, 9528-APPOWSENE, 9528-APPHISENE Version 3.00.1





Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

\bigwedge	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
\bigwedge	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.



ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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This manual contains new and updated information. Changes throughout this revision are marked by change bars, as shown to the right of this paragraph.

New and Updated Information

This table contains the changes made in this revision.

Торіс	Page
Changed System Release number to 3.00.1	Front Cover
Preface:	
In the Virtual Template Catalog Numbers table, changed '9528-APPHISTENE' to '9528-APPHISENE'	9
Made the following changes to the System and Software Requirements table:	10
 updated FactoryTalk View SE Studio and Client software from version 7.00.00 to 8.00.00 (CPR9 SR7) updated FactoryTalk Services Platform software from version 2.60.00 to 2.70.00 (CPR9 SR7) update RSLinx Classic OEM software from version 2.59.00 to 	
2.59.01 (CPR9 SR5) – updated RSLinx Enterprise software from version 5.60.00 to	
5.70.00 (CPR9 SR7) – updated FactoryTalk Activation software from version 3.60.00 to 2.60.4 (CPR9 SRC)	
 updated RSLogix 5000 Professional software from versions 19.00.00 and 20.00.00 to 19.01.00 (CPR9 SR3) and 20.01.00 (CPR9 SR5) updated Adobe Acrobat Reader software from version 10.01 to 11.0.03 updated VMware tools from version 8.3.7 to 9.40.1280544 	
Chapter 1:	
Replaced various images to match screens changed or combined (Datastore and Disk Format) by vSphere Client 5.5.0.	
Added Important note concerning differing images and versions of vSphere Client.	13
Added table describing storage formats.	19, 25, 30
Added step to clear 'Power on after deployment' checkbox.	21
Added Important note concerning time for process to finish.	21, 26, 32
Added step to expand the organizer tree.	27
Added step to clear the 'Power on this virtual machine after creation' checkbox.	31
Added step to review task status.	32
Chapter 2: Added Important note concerning differing images and versions of vSphere Client	35
Added Important note concerning screen remaining black for several minutes.	37
Added steps 9 through 11.	38
Added steps 14 and 15.	55
Added new section: Microsoft SQL Server 2008 Express Account Information.	57
Chapter 3:	
Added Important note concerning screen remaining black for several minutes.	61
Added new section: Microsoft SQL Server 2008 Express Account Information.	69
Chapter 4:	
Added Important note and text in case the Browse button is inactive.	66
Added Important note concerning screen remaining black for several minutes.	73
Added steps 9 through 11.	75
Added Important note concerning pressing proper keys to log in.	82
Chapter 5: Added Important note concerning pressing proper keys to log in.	102

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This manual for version 3.00.10 describes how to use virtual image templates for setting up virtual machines. Virtual machines are independent operating environments that use virtual resources. As the manufacturing industry embraces the virtual infrastructure, the use of the PlantPAx^{*} Virtual Image Templates provides reduced complexity and increased efficiency of system deployment.

Virtual image templates are provided for the following PlantPAx system elements:

- Process Automation System Server (PASS)
- Engineering Workstation (EWS)
- Operator Workstation (OWS)
- Application Server OWS (AppServ-OWS)
- Application Server Historian (AppServ-Hist)

The templates are delivered as an Open Virtual Format (OVF) file, which lets you use any virtualization platform for deployment. The guidelines contained in this manual are for setup and deployment of the templates in a VMware vSphere environment.

The OVF templates required for the corresponding system element are included and pre-installed, **but not** activated (see figure on right). This helps to minimize the set-up and configuration time required to deploy the PlantPAx system in a traditional IT environment. To activate each system element, you can purchase a separate activation license.



IMPORTANT The images that appear in this document are for example only and can be different than your vSphere environment.

Before You Begin

You need the following items during the setup and configuration of the virtual templates:

- PlantPAx Virtual Images Templates USB drive to access the template files
- Microsoft Volume License keys:
 - PASS template requires a Microsoft Volume License Key for Windows Server 2008 R2 SP1 operating system
 - EWS and OWS workstation templates each require a Microsoft Volume License for Windows 7 Professional SP1 operating system
 - Application Server OWS (AppServ-OWS) template requires a Microsoft Volume License Key for Windows Server 2008 R2 SP1 operating system
 - TIPRemote Desktop Services has its own method, separate from licensing
for the Windows Server 2008 R2 family of operating systems, for
licensing clients that log on to Remote Desktop Services servers.
Therefore, AppServ-OWS Remote Desktop Connections must receive a
valid license issued by a Remote Desktop Licensing Server before they
can log on to a Remote Desktop Session Host or Connection Broker.
 - Application Server Historian template requires a Microsoft Volume License Key for Windows Server 2008 R2 SP1 operating system
- VMware vSphere Client software with access to the vCenter server and appropriate credentials for creating and deploying virtual machines
- FactoryTalk[®] Activation Certificates that you purchased with the templates that contain serial numbers and product keys

See Virtual Template Catalog Numbers on page 9.

IMPORTANT If you already own individual product activations, these activations also can be used to activate the virtual image templates.

• Domain servers must be installed and available if you use a Domain (recommended).

Microsoft Software Licensing

The PlantPAx templates were designed for use with Microsoft Volume Licensing only. Each template contains a Full Packaged Product (FPP) license and must be converted to a Volume License within 90 days. Retail Microsoft licensing is not supported.

To activate the templates, contact your Microsoft software representative to convert the FPP license or to obtain a Microsoft Volume License Agreement.

Virtual Template Catalog Numbers

This table lists the product catalog numbers for the virtual templates.

Cat. No. ⁽¹⁾	Description
9528-PAXVTENE	USB device that contains three virtual image templates (PASS, EWS, and OWS). Each template contains a Microsoft Windows operating system, with all required Rockwell Automation software pre-installed but not activated. A Microsoft full packaged product license is included.
9528-APPOWSENE	USB device that contains the virtual image template for AppServ-OWS. The template contains a Microsoft Windows operating system, with all required Rockwell Automation software pre-installed but not activated. A Microsoft full-packaged product license is included. IMPORTANT: Each client connecting to AppServ-OWS must have a valid client license.
9528-APPHISENE	USB device that contains the virtual image template for AppServ-Hist. The template contains a Microsoft Windows operating system, with all required Rockwell Automation software pre-installed but not activated. A Microsoft full-packaged product license is included. IMPORTANT: There are no separate vTemplate Serial Number/Product IDs for licensing Application Server Historian. You must use individual Historian product licenses.

(1) English version is listed. Different languages are available by contacting your local Allen-Bradley[®] distributor or Rockwell Automation sales representative.

Rockwell Automation Software License Catalog Numbers

This table lists the catalog numbers for Rockwell Automation software licenses for PASS, EWS, and OWS.

Cat. No. ⁽¹⁾	Description
9528-PASS100ENE 9528-PASS250ENE 9528-PASSUNLENE	100-display license for the PASS server. 250-display license for the PASS server. Unlimited display license for the PASS server.
9528-EWSLICENE	Software activation license for the EWS.
9528-OWSLICENE	Software activation license for the OWS and AppServ-OWS.

 English version is listed. Different languages are available by contacting your local Allen-Bradley distributor or Rockwell Automation sales representative.

Build Details

This table lists the system build details for the PlantPAx system virtual image templates. The virtual image templates are based on VMware Virtual Hardware, version 7.

Table 1	- System	and Software	e Requirem	ents
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Element	Category	Description
EWS	Operating system	Windows 7 Professional SP1 64-bit operating system
	Rockwell Automation software	 FactoryTalk View SE Studio and Client software, version 8.00.00 (CPR9 SR7) FactoryTalk Services Platform FactoryTalk Services Platform software, version 2.70.00 (CPR9 SR7) RSLinx® Classic OEM software, version 2.59.01 (CPR9 SR5) RSLinx® Classic OEM software, version 3.62.01 (CPR9 SR7) FactoryTalk Activation software, version 3.62.01 (CPR9 SR7) FactoryTalk Activation software, version 3.62.01 (CPR9 SR6) RSLogix™ 5000 Professional software, versions 19.01.00 (CPR9 SR3), 20.01.00 (CPR9 SR5) PID Auto Tune software All firmware toolkits (no Motion) RSNetWorx for ControlNet software RSNetWorx for Chirlent software RSNetWorx for Ethernet software RSLogix Architect software ControlFLASH™ software RSLogix 5000 Fuzzy Designer software (activated separately) RSLogix Emulate 5000 software
	Additional third-party software	 Adobe Acrobat Reader software, version 11.0.03 Control Station LOOP-PRO TUNER software, version 1.5.0 (Allen-Bradley edition) (activated separately) Microsoft Internet Explorer software, version 8 VMware tools, version 9.40.1280544
OWS	Operating system	Windows 7 Professional SP1 64-bit operating system
	Rockwell Automation software	 FactoryTalk View SE Client software, version 8.00.00 (CPR9 SR7) FactoryTalk Services Platform software, version 2.70.00 (CPR9 SR7) FactoryTalk Activation software, version 3.62.01 (CPR9 SR6)
	Additional third-party software	 Adobe Acrobat Reader software, version 11.03 Microsoft Internet Explorer software, version 8 VMWare tools, version 9.40.1280544
PASS	Operating system	Windows 2008 R2 SP1 64-bit operating system
	Rockwell Automation software	 FactoryTalk View SE software, version 8.00.00 (CPR9 SR7) FactoryTalk View SE Studio software, version 8.00.00 (CPR9 SR7) FactoryTalk Services Platform FactoryTalk Services Platform software, version 2.70.00 (CPR9 SR7) RSLinx Enterprise software, version 5.70.00 (CPR9 SR7) FactoryTalk Activation software, version 3.62.01 (CPR9 SR6) Alarms and Events server software, version 2.60.00
	Additional third-party software	 Adobe Acrobat Reader software, version 11.0.03 Microsoft Internet Explorer software, version 8 VMware tools, version 9.40.1280544
Application Server	Operating system	Windows 2008 R2 SP1 64-bit operating system
uws	Rockwell Automation software	 FactoryTalk View SE Client software, version 7.00.00 FactoryTalk Services Platform software, version 2.60.00 FactoryTalk Activation software, version 3.60.00
	Additional third-party software	 Adobe Acrobat Reader software, version 10.01 Microsoft Internet Explorer software, version 8 VMware tools, version 8.3.7
FactoryTalk Historian	Operating system	Windows 2008 R2 SP1 64-bit operating system
Application Server	Rockwell Automation software	FactoryTalk Historian SE software, version 4.0
	Additional third-party software	 Adobe Acrobat Reader software, version 10.01 Microsoft Internet Explorer software, version 8 Microsoft SQL Server 2008 R2 Express VMware tools, version 8.3.7

For More Information

These documents contain information about related products from Rockwell Automation.

Resource	Description
PlantPAx Process Automation System Reference Manual, publication <u>PROCES-RM001</u>	Details the application rules for implementing a PlantPAx system.
PlantPAx Process Automation System Selection Guide, publication PROCES-SG001	Provides procurement information for a PlantPAx system.
Product Certifications website, <u>http://www.ab.com</u>	Provides declarations of conformity, certificates, and other certification details.
FactoryTalk Historian SE Installation and Configuration Guide, publication <u>HSE-IN025</u>	Provides information on how to install, secure, configure, use, and troubleshoot FactoryTalk Historian SE.
Knowledgebase Answer ID 32715 - Cannot add/change pens in trend from SE client on Terminal Server at https://rockwellautomation.custhelp.com/app/answers/	Provides details on the problem of adding/changing pens in trend from SE client on Terminal Services.
detail/a_id/32715 You must have a TechConnect™ license to view this document.	
Knowledgebase Answer ID 496679 - FAQ: FactoryTalk Historian SE: MDB to AF Preparation Wizard at <u>https://rockwellautomation.custhelp.com/app/answers/ detail/a_id/496679</u> You must have a TechConnect license to view this document.	Provides information on using the FactoryTalk Historian SE MDB to AF Preparation wizard.
Knowledgebase Answer ID 567658 - Using FactoryTalk View SE with Windows 2008 R2 Remote Desktop Services - Getting Started Whitepaper at <u>https://rockwellautomation.custhelp.com/app/answers/ detail/a_id/567658</u> You must have a TechConnect license to view this document.	Provides information on using FactoryTalk View SE with Microsoft Windows 2008 R2 Remote Desktop Services.
Knowledgebase Answer ID 60585 - FactoryTalk Historian SE Collective Manager Error - Error Writing Server at <u>https://rockwellautomation.custhelp.com/app/answers/ detail/a_id/60585</u> You must have a TechConnect license to view this document.	Provides information on implementing a collective for FactoryTalk SE Historian.

You can view or download publications at

http://www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

Notes:

Configure the Virtual Image Templates

Virtualization lets you remove the operating system dependency on computer hardware and enables you to consolidate workloads by putting multiple virtual machines on a single piece of hardware. Each virtual machine is dynamically allocated a share of the hardware resources to function like a physical machine. The PlantPAx system offers pre-built templates of virtual machines for specific server and workstation system elements.

IMPORTANT	You must have VMware vSphere Client software connected to a vCenter server to deploy a PlantPAx system virtual image template to the ESXi server.
	The images in this section are from VMware vSphere Client 5.5.0. If you are using a different version of vSphere Client, the screens you see may be different.

The table outlines the process for creating virtual machines by using the virtual image templates.

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Deploy a Virtual Image Template for the First Time

Complete these steps to import a virtual image template from the USB drive to the Datacenter for the first time. This procedure **must** be repeated for each virtual image template (PASS, EWS, OWS, AppServ-OWS, AppServ-Hist).

1. Click Start and choose All Programs>VMware>VMware vSphere Client.

The VMware vSphere Client login dialog box appears.

🚱 VMware vSphere Client	×
vmware VMware vSphere Client	R
To directly manage a singl To manage multiple hosts, vCenter Server.	e host, enter the IP address or host name. enter the IP address or name of a
IP address / Name:	172.18.27.24
User name:	Administrator
Password:	******
	Use Windows session credentials

2. Type information in the login dialog box.

Field	Description
IP address/Name	Type an IP address for the server. For example: 172.18.27.24
User name	Type a user name for the server specified previously.
Password	Type the user password.
Use Windows session credentials	Clear the checkbox.

- 3. Click Login.
- 4. From the File menu, choose Deploy OVF Template.

ß	Deploy OVF Template Source		
E	Source Select the source location. OVF Template Details Name and Location Host / Cluster Resource Pool Disk Format Ready to Complete	Deploy from a file or URL Image: Browse Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.	
	Help	< Back Next >	Cancel

The Deploy OVF Template Wizard appears.

- **5.** Browse to the OVF template.
- 6. Select the appropriate file and click Open.

The path to the file appears in the Deploy from a file or URL field.

7. Click Next.

🛃 Deploy OVF Template			×
OVF Template Details			
veniy ovr template detail			
			_
OVF Template Details Name and Location	Product:	PlantPAx PASS Virtual Template 3.00.10	
Host / Cluster Resource Pool	Version:	3.00.10	
Disk Format Ready to Complete	Vendor:	Rockwell Automation	
Ready to complete	Publisher:	No certificate present	
	Download size:	8.1 GB	
	Size on disk:	14.6 GB (thin provisioned) 60.0 GB (thick provisioned)	
	Description:		
Help		< Back Next > Cancel	

The Deploy OVF Template dialog box shows the OVF Template Details (boldfaced in the left column).

8. Review the information in the Product Name (circled in the previous figure) field to verify that it is the correct image you want to deploy.

IMPORTANT The product name, such as 'PlantPAx PASS Virtual Template v3.00.1', and size can vary between virtual images.

9. Click Next.

The Deploy OVF Template dialog box shows the Name and Location section to define for your virtual environment.

🛃 Deploy OVF Template		- 🗆 ×
Name and Location Specify a name and locat	tion for the deployed template	
Source OVF Template Details Name and Location Host / Cluster Resource Pool Disk Format Ready to Complete	Name: PlantPAx PASS Virtual Template 3.00.10 The name can contain up to 80 characters and it must be unique within the inventory folder. Inventory Location: Manufacturing Unit Mixing Room Manufactor Building Tank Farm	
Help	< Back Next >	Cancel

- 10. In the Name box, type a name for your deployed template.
- **11.** In the Inventory Location box, select a location in your Datacenter for the deployed template and click Next.
 - The Deploy OVF Template dialog box shows the Host/Cluster section.



12. Select the host in the cluster and click Next.

The Deploy OVF Template dialog box shows the Storage section.

🛃 Deploy OVF Template					_ 🗆 🗵
Storage					
Where do you want to s	store the virtual machine file	S?			
Source	Select a destination sto	rage for the virtua	al machine files:		
OVF Template Details	VM Storage Profile:		✓ <u>A</u>		
Host / Cluster	Name	Drive Type	Capacity Provisioned	Free Type	Thin Prov
Storage	LOCAL1	Non-SSD	131.75 GB 561.00 MB	131.20 GB VMFS3	Supporte
Disk Format	Repository	Non-SSD	270.75 GB 47.62 GB	223.13 GB VMF53	Supporte
Ready to Complete	SAN1-LUN2	Non-SSD	1.82 TB 2.00 TB	863.13 GB VMFS3	Supporte
	SAN1-LUN3	Non-SSD	1.82 TB 451.42 GB	1.54 TB VMFS3	Supporte
	SAN1-LUN4	Non-SSD	1.82 TB 198.96 GB	1.67 TB VMFS3	Supporte
	Storage 1	Non-SSD	499.75 GB 393.70 GB	139.11 GB VMF53	Supporte
	Storage 2	Non-SSD	499.75 GB 331.25 GB	190.34 GB VMFS3	Supporte
	Storage 3	Non-SSD	499.75 GB 345.73 GB	154.02 GB VMFS3	Supporte
	•				►
	E pischle Gierren Di	no fee this control			
	Disable Storage Di	RS for this virtual	machine		
	Select a datastore:				
	Name	Drive Type	Capacity Provisioned	Free Type	Thin Provi
					F
Usla					1
Help			<u><</u> Back	Next >	Cancel
					//

13. Select the destination Storage to host the deployed template and click Next.

🛃 Deploy OVF Template					
Disk Format In which format do you wa	nt to store the virtual disks?				
Source OVF Template Details Name and Location Host / Cluster Storage Disk Format Network Mapping Ready to Complete	Datastore: Available space (GB): C Thick Provision Lazy Zeroe C Thick Provision Eager Zero C Thin Provision	SAN1-LUN2 863.1 ed ped			
Help			< Back	Next >	Cancel

The Deploy OVF Template dialog box shows the Disk Format section.

14. Select one of the following formats to store the virtual back-up disks:

Format	Description
Thick Provision Lazy Zeroed	Disk storage is allocated immediately in a default thick format where blocks containing older data on the storage device are only cleared when the virtual machine writes new data to the disk for the first time.
Thick Provision Eager Zeroed	Disk storage is allocated immediately in a default thick format where blocks on the physical storage device are formatted with zeros to overwrite any older data.
Thin Provision	Disk storage is allocated on demand as data is written to virtual disks.

15. Click Next.

The Deploy OVF Template dialog box shows the Network Mapping section.

Deploy OVF Template			_ [
Network Mapping What networks should t	he deployed template use?		
Source OVF Template Details	Map the networks used in this OVF	emplate to networks in your inventory	
Name and Location Host / Cluster	Source Networks	DestinationNetworks	
Storage	VM Network	VM Network	
<u>Disk Format</u>			
Ready to Complete			
includy to complete			
	Description:		
	The VM Network network		4
1			
Ulala			

- 16. Map the networks in the Source column to networks in your inventory.
- 17. Click Next.

The Deploy OVF Template dialog box shows the Ready to Complete section so you can verify the deployment settings. Your information can vary from the example dialog box.

Deploy OVF Template		
Are these the options yo	ou want to use?	
Source OVE Template Details	When you dick Finish, the denloyn	nent task will be started.
Name and Location	Deployment settings:	
Host / Cluster	OVE file:	\\ATK-DEPLOYMENT\PlantPAx 3.0 OVE\ PlantPAx Templa
Storage	Download size:	8.8 GB
Disk Format	Size on disk:	16.5 GB
Network Mapping	Name:	PlantPAx PASS Virtual Template 3.00.10
Ready to Complete	Folder:	PlantPAx vTemplate Library
	Host/Cluster:	172.18.27.96
	Datastore:	SAN1-LUN2
	Disk provisioning:	Thin Provision
	Network Mapping:	"VM Network" to "VM Network"
	1	
	Power on after deployment	
		· · · · · · · · · · · · · · · · · · ·
Help		< Back Finish Cancel

- 18. Clear the 'Power on after deployment' checkbox.
- **19.** Select one of the following to verify settings:
 - If information is wrong, click Back to correct the information.
 - If the information is correct, click Finish.

The dialog box shows the progress of the template deployment.

🚱 39% Deploying PlantPAx PASS Virtual Template
Deploying PlantPAx PASS Virtual Template Bill
Deploying disk 1 of 2 from \\AIK-DEPLOYMENT\PlantPAx 3.0 OVF_PlantPAx Templates v3.00.10\Production Images\PASS\PlantPAx PASS Virtual Template 3.00.10\PlantPAx_PASS_Virtual_Template_3.0
13 minutes remaining
Close this dialog when completed Cancel

IMPORTANT The template deployment can take 20 minutes or more depending on the size of your template.

When the deployment is finished, a message dialog box appears with 'Deployment Completed Successfully'.

20. Click Close.

The name of the new virtual machine appears in the Organizer tree under the correct Datacenter, such as PlantPAx vTemplate Library.

21. Select the new virtual machine, and then click the Summary tab to see general and resource details for your new machine.

Now that you have deployed the OVF template from the USB drive, this section shows how to create a template within the Datacenter for future deployments. This new template is no longer in OVF format, but in a format used by VMware.

1. If the VMware vSphere Client is not already open, on a computer with VMware vSphere Client software installed click Start and choose All Programs>VMware>VMware vSphere Client.

The vSphere Client Window appears.

2. Right-click the template that you want to clone and select Template>Clone to Template from the menus that appear.



Create a Template on Datacenter for Future Deployments



The Clone Virtual Machine to Template dialog box shows the Name and Location section.

- 3. In the Template Name box (circled in the previous figure), type a name for the cloned template.
- 4. In the Template Inventory Location box, select a location to store the new template and click Next.

The Clone Virtual Machine to Template dialog box shows the Host/Cluster section.

🔁 Clone Virtual Machine Host / Cluster	to Template	
On which host or du	PlantPAx vTemplate Library Image: PlantPAx vTemplate Library Image: PlantPAx	
	Compatibility:	
Help		< Back Next > Cancel

5. Select the host in the cluster and click Next.

The Clone Virtual Machine to Template dialog box shows the Datastore section.

Clone Virtual Machine t	to Template						
Choose a Datastore fo	r the Template						
Where do you want to	o store the template files?						
Name and Location	Select a virtual disk for	mat:					
Host / Cluster	Thin Provision			•			
Datastore Ready to Complete	, Select a destination sto	orage for the temp	ate files:				
				- A			
	VM Storage Profile: 1			<u>~</u>	,		
	Name	Drive Type	Capacity	Provisioned	Free	Туре	Thin Prov 🔺
	Repository	Non-SSD	270.75 GB	47.62 GB	223.13 GB	VMFS3	Supporte-
	AINT-LONZ	1001-550	1.02 10	2.00 10	00.00.00	V MIE 55	Supporte -
	Disable Storage D	DRS for this virtual I	machine				
	Select a datastore						
	Name	Drive Type	Capacity Pr	visioned	Eree T	100	Thin Provision
	Wallie	Drive Type	Capacity Pit	ovisioneu	i i ee ij	ype	T IIIII PIOVISIOI
							•
	<u>1 · 1</u>						
							Advanced >>
	Compatibility:						
	Validation succeeded						
Help				× 0	-k N	4.5	Cancel

6. Select one of the following formats from the pull-down menu to store the virtual back-up disks:

Thin Provision	1
Same format as source	
Thick Provision Lazy Zeroed	
Thick Provision Eager Zeroed	

Format	Description
Same format as source	Use the same format as the original disks.
Thick Provision Lazy Zeroed	Disk storage is allocated immediately in a default thick format where blocks containing older data on the storage device are only cleared when the virtual machine writes new data to the disk for the first time.
Thick Provision Eager Zeroed	Disk storage is allocated immediately in a default thick format where blocks on the physical storage device are formatted with zeros to overwrite any older data.
Thin Provision	Disk storage is allocated on demand as data is written to virtual disks.

7. Select the Datastore to host the cloned template and click Next.

The Clone Virtual Machine to Template dialog box shows the Ready to Clone Virtual Machine to Template section.

🛃 Clone Virtual Machine to	o Template		_ 🗆 ×
Ready to Clone Virtual Click Finish to start a ta	Machine to Template ask that will create the new virtual mad	hine	
Name and Location	Settings for the new virtual machine		
Host / Cluster	Virtual Machineto Clone:	PlantPAx PASS Virtual Template	
Datastore Ready to Complete	Name:	Template PASS	
Ready to complete	Folder:	PlantPAx vTemplate Library	
	Host/Cluster:	172.18.27.96	
	Datastore:	SAN1-LUN2	
	Disk Storage:	Thin Provision	
	Creation of the virtual machine system. Install a guest OS on	: (VM) does not include automatic installation of the gues the VM after creating the VM.	t operating
Help		< Pack Finish	1

- 8. Select one of the following to verify settings:
 - If information is incorrect, click Back to correct the information.
 - If the information is correct, click Finish.

IMPORTANT It can take 30 minutes, depending on the size of the hard disk drive, to clone a virtual machine to a template.

9. You can view the status of the task by finding 'Clone virtual machine' in Recent Tasks at the bottom of the window. When the status = Completed, the cloning is finished.



Deploy Additional Virtual Machines from Datacenter

Now that we have templates on the Datacenter, additional deployments can be performed from these new templates. We no longer require the USB drive or VMware to convert from the OVF format.

This new template is no longer in OVF format, but in a format used by VMware.

1. If VMware vSphere Client is not already open; on a computer with VMware vSphere Client software installed, click Start and choose All Programs>VMware>VMware vSphere Client.

The vSphere Client Window appears.

- 2. Click Home.
- 3. Click the VMs and Templates icon.
- **4.** Expand the organizer tree.
- 5. Right-click the cloned template and choose 'Deploy Virtual Machine from this Template'.

	22AD esciment	
Ō'	Clone	- 1
	Convert to Virtual Machine	
4	Deploy Virtual Machine from this Template	
	Add Permission Ctrl+P	
ų	Open in New Window Ctrl+Alt+N	

The Deploy Template dialog box appears with the Name and Location section.

🛃 Deploy Template	
Name and Location	
Specify a name and loca	tion for this virtual machine
Name and Location	
Host / Cluster	Pass VM
Resource Pool	Virtual machine (VM) names may contain up to 80 characters and they must be unique within each vCenter
Guest Customization	Server VM folder.
Ready to Complete	Inventory Location:
	🖂 🔂 Manufacturing Unit
	PlantPAx vTemplate Library
Halp	and here for
	<pre></pre>

- **6.** In the Name box (circled in the previous figure), type a name for your virtual machine.
- 7. In the Inventory Location box, select the location of the virtual environment in the template and click Next.

🛃 Deploy Template		x
Host / Cluster		
On which host or cluste	r do you want to run this virtual machine?	
		_
Name and Location Host / Cluster Specific Host Resource Pool Storage Guest Customization Ready to Complete	PlantPAx vTemplate Library VTemplates T72.18.27.96 Compatibility: Validation succeeded	
Help	< Back Next > Cancel	

The Deploy Template dialog box shows the Host/Cluster section.

8. Select the host in the cluster and click Next.

🛃 Deploy Template							
Storage							
Select a destination sto	orage for the virtual mach	ine files					
Name and Location	Select a virtual disk form	nat:					
Host / Cluster Storage	Thin Provision			•			
Guest Customization	Select a destination stor	rage for the virtu	al machine files:				
Ready to Complete	VM Storage Profile:						
	Name	Drive Type	Capacity	Provisioned	Free	Туре	Thin Prov 🔺
	LOCAL1	Non-SSD	131.75 GB	561.00 MB	131.20 GB	VMF53	Supporte
	Repository	Non-SSD	270.75 GB	47.62 GB	223.13 GB	VMF53	Supporte
	SAN1-LUN2	Non-SSD	1.82 TB	2.13 TB	829.88 GB	VMF53	Supporte
	SAN1-LUN3	Non-SSD	1.82 TB	451.42 GB	1.54 TB	VMF53	Supporte
	, <u> </u>						
	🗖 Disable Storage DF	RS for this virtual	machine				
	Select a datastore:						
	Name	Drive Type	Capacity Pro	ovisioned	Free	Туре	Thin Provision
	I						F
							Advanced >>
	Compatibility:						
	Validation succeeded						
					. 1		
нер				< Bac	k Ne	ext >	Cancel

The Deploy Template dialog box shows the Datastore section.

9. Select one of the following formats from the pull-down menu to store the virtual back-up disks:

Thin Provision	
Same format as source	
Thick Provision Lazy Zeroed	
Thick Provision Eager Zeroed	

Format	Description	
Same format as source	Use the same format as the original disks.	
Thick Provision Lazy Zeroed	Disk storage is allocated immediately in a default thick format where blocks containing older data on the storage device are only cleared when the virtual machine writes new data to the disk for the first time.	
Thick Provision Eager Zeroed	Disk storage is allocated immediately in a default thick format where blocks on the physical storage device are formatted with zeros to overwrite any older data.	
Thin Provision	Disk storage is allocated on demand as data is written to virtual dis	

10. Select the Datastore to host the cloned template.

11. Click Next.

🛃 Deploy Template		<u>- ×</u>
Guest Customization		
Select the customizatio	n option for the guest operating system	
Name and Location	Devenue at this side of the diversities	
Host / Cluster Storage) Power on this virtual machine after creation.	
Guest Customization		
User Settings	Select the option to use in customizing the guest operating system of the new virtual machine.	
Ready to Complete	O not customize	
	Customize using the Customization Wizard	
	C Customize using an existing customization specification	
· · · · · · · · · · · · · · · · · · ·		
Help	< Back Next >	Cancel
		111

The Deploy Template dialog box shows the Guest Customization section.

- 12. Clear the 'Power on this virtual machine after creation' checkbox.
- **13.** Click one of the following options for the guest operating system that is hosting the new virtual machine:
 - Do not customize (recommended)
 - Customize by using the Customization Wizard
 - Customize by using an existing customization specification
- 14. Click Next.

🚱 Deploy Template			
Ready to Complete Click Finish to start a task that will create the new virtual machine			
Name and Location Host / Cluster Storage Guest Customization Ready to Complete	Settings for the new virtual machine: Template to Deploy Name: Folder: Host/Cluster: Datastore: Disk Storage: Guest OS Customization Specification: Edit virtual hardware (Experimental) Creation of the virtual machine (VM) of system. Install a guest OS on the VM	Template PASS PASS VM PlantPAx vTemplate Library 172.18.27.96 SAN1-LUN2 Thin Provision None, do not customize guest OS	
Help		< Back Finish Cancel	

The Deploy Template dialog box shows the Ready to Complete section.

- 15. Clear the Edit virtual hardware (Experimental) checkbox.
- **16.** Select one of the following to verify settings:
 - If information is wrong, click Back to correct the information.

- If the information is correct, go to <u>step 17</u>.
- 17. Click Finish.



18. You can view the status of the task by finding 'Clone virtual machine' in Recent Tasks at the bottom of the window. When the status = Completed, the cloning is finished.

Recent Tasks				
Name	Targ	et	Status	Details
Clone virtual machine	品	Template PASS	36%	Copyin

19. Once the deployment is complete, you can start your virtual machine.

To start your virtual machine, see the respective section:

- Chapter 2, <u>Configure the Process Automation System Server (PASS)</u> on page 35
- Chapter 3, Configure the EWS and OWS System Elements on page 59
- Chapter 4, <u>Configure Application Server OWS (Microsoft Remote</u> <u>Desktop Services) on page 71</u>
- Chapter 5, Configure Application Server Historian on page 93

Notes:

Configure the Process Automation System Server (PASS)

This chapter details several procedures for configuring a new Process Automation System Server (PASS) virtual machine:

- Setting up Windows Server 2008 for the new instance
- Setting up the Network Adapter
- Setting up FactoryTalk Directory
- Setting up activation files

The FactoryTalk Directory is the information hub that centralizes the settings and administration of Rockwell Automation software components across multiple computers throughout the PlantPAx system. You must designate a PASS server for the FactoryTalk Directory.

IMPORTANT	The images in this section are from VMware vSphere Client 5.5.0. If you are
	using a different version of vSphere Client, the screens you see may be
	different.

The required Rockwell Automation software for the PASS system element virtual template is included and pre-installed in the virtual image templates, **but not activated**. To activate each PASS virtual template, you can purchase a single activation license for each virtual template instance.

See <u>page 9</u> for product catalog numbers.

IMPORTANT If you already own individual product activations, these activations also can be used to activate the virtual image templates.

The table includes topics that describe how to configure the PASS template.

Торіс	
Before You Begin	
Configure Microsoft Windows Server 2008	36
Configure Ethernet Network Adapter Settings	
Configure the FactoryTalk Directory on the PASS	
Configure the FactoryTalk Activation Server	
Microsoft SQL Server 2008 Express Account Information	

	IMPORTANT	During the configuration of the PASS server, you can encounter a User Account Control window that asks if you want to allow a program to make changes to the computer. Click Yes and continue on.
Before You Begin	You must deplo perform the fol template, see <u>C</u>	by your template from the USB drive or from a cloned template to lowing procedures in this chapter. If you need to deploy the <u>hapter 1 on page 13</u> for details.
Configure Microsoft Windows Server 2008	Complete these Server 2008 op administration this procedure.	e steps on a virtual machine to initiate the Microsoft Windows erating system setup for the PASS server. You set your own account password, computer name, and file location preference in
	 If the vSj vSphere Program 	phere Client is not already open, on a computer with VMware Client software installed, click Start and choose All s>VMware>VMware vSphere Client.
	2. In the O	rganizer tree, click the name of the virtual machine.
	3. Click the	e Console tab.
	4. In the O Power>I	rganizer tree, right-click the virtual machine and choose Power On.
		facturing Unit Ixing Room antPAx VTemplate Library Pace Pace Pace Pace Pace Pace Power On Ctrl+B Curther Pace Power On Ctrl+B
		Instruction Guest Power Off Lg Ctrl +E 172.18 Snapshot Suspend Ctrl +Z ank Farm Open Console Reset Ctrl +T image: product of the state of
		20 Clone
IMPORTANT The screen can remain black for several minutes.



The Microsoft Windows Set Up Windows dialog box appears.

IMPORTANT First, click inside the console to activate the controls for your virtual machine.



5. Choose the appropriate option from the following pull-down menus.

Menu	Description
Country or region	Choose your country or region, for example, United States.
Time and currency	Choose your time and currency, for example, English (United States).
Keyboard layout	Choose your keyboard layout, for example, US.

6. Click Next.

The License Agreement appears. This agreement includes Microsoft Windows, Rockwell Automation Software, and Adobe Reader.

- 7. Read the license agreement, and then click 'I accept the license terms'.
- 8. Click Start.

You will see a screen that says 'Press CTRL + ALT + DELETE to log on'.



- 9. Press CTRL+ALT+INSERT.
- **IMPORTANT** Even though 'Press CTRL + ALT + DELETE ...' is displayed on the screen, you must press CTRL + ALT + INSERT to access the virtual machine.

The icon for the Administrator account is displayed.



10. Click the Administrator icon.

You will see a message stating 'The user's password must be changed before logging in the first time.'





8	Administrator New password Confirm password Create a password reset disk	
	Cancel	

The Administrator account dialog box appears so you can change a password.

IMPORTANT Passwords must meet the following minimum requirements:

- Cannot contain the user's account name or parts of the user's full name that exceed two consecutive characters
- Must be at least six characters in length
- Must contain characters from three of the following four categories:
 - English uppercase characters (A...Z)
 - English lowercase characters (a...z)
 - Base 10 digits (0...9).
 - Non-alphabetic characters (for example, !, \$, #, %).
- **12.** Type a password, then verify the entry by typing the same password in the second entry field.
- **13.** Click the arrow.
- 14. Click OK to acknowledge your password has been changed.



The virtual image desktop appears.

IMPORTANT	The default time zone for Windows Server 2008 is Pacific Time. If you are not in
	the Pacific Time zone, you need to change time zone and update the time.

Create an Administrator User Account

We suggest that you create an Administrator user account for each user that requires administrative privileges. This best practice safeguards server corruption by restricting access to the default administrative account, and creates a backup of critical system information. Each user can be delegated a separate user account with password protection.

Follow these steps to create a new user account with administrative privileges.

1. On the virtual image desktop, click Start and choose Control Panel.

The Control Panel appears.



- 2. Click User Accounts.
- 3. Click Add or remove user accounts.

acontrol Panel\User Accounts\User Accounts\Manage Accounts	
🌀 🕞 🕫 🔹 Control Panel 🔹 User Accounts 🔹 User Accounts 🔹 Manage Accounts 🔹 🔹 🔯 Search Control Panel	<u>.</u>
Choose the account you would like to change	
Administrator Administrator Password protected	
Create a new account What is a user account?	
Additional things you can do Go to the main User Accounts page	

The Manage Accounts window appears.

4. Click Create a new account (circled in the previous figure).

The Create New Account dialog box appears. Secontrol Panel\User Accounts\User Accounts\ - 🗆 🗵 🕽 🗢 🗟 🔹 User Accounts 👻 Manage Accounts 👻 Create New Account 👻 🌆 Search Control Panel **G**(9 Name the account and choose an account type This name will appear on the Welcome screen and on the Start menu. New User Account O Standard user Standard account users can use most software and change system settings that do not affect other users or the security of the computer. • Administrator Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users. We recommend that you protect every account with a strong password. Why is a standard account recommended? Create Account Cancel

- **5.** Type your new user account name in the field circled in the previous figure and make sure Administrator is selected.
- 6. Click Create Account.



The New Manage Accounts window appears.

The current Administrator account (default) is shown with a blue background. After you create a password for the new user account, it appears as the default.

7. Click the newly created New_User_Account.

The Change an Account window appears.

🤽 Control Panel\User Accounts\User Accounts\Manage Accounts\Change an Account		
	👻 🌆 Search Control Panel	P
Make changes to New_User_Account's account		
Change the account name Create a password Change the picture Change the account type	New_User_Account Administrator	
Delete the account Manage another account		

8. Click Create a password (circled in the previous figure).

Control Panel	\User Accounts\User Accounts\Manage Accounts\Change an Account\Create Password	- D ×
G • R •	Manage Accounts Change an Account Create Password Search Control Panel	2
	Create a password for New_User_Account's account	
	New_User_Account Administrator	
	You are creating a password for New_User_Account.	
	If you do this, New_User_Account will lose all EFS-encrypted files, personal certificates and stored passwords for Web sites or network resources.	
	To avoid losing data in the future, ask New_User_Account to make a password reset floppy disk.	
	•••••	
	•••••	
	If the password contains capital letters, they must be typed the same way every time. How to create a strong password	
	Dog1@4u	
	The password hint will be visible to everyone who uses this computer. What is a password hint?	
	Create password Cancel	

9. Complete the password configuration.

Description
Type a password, then retype the password to confirm the entry. See <u>page 40</u> for password requirements.
Type a password that contains a string of words and characters. Passphrases are generally longer, thus more secure, than passwords.
T C S T C

IMPORTANT Remember this password because you need it when you configure your FactoryTalk Directory.

- 10. Click Create password.
- 11. Close the window.
- 12. Click Start and log off the virtual machine.

You will see a screen that says 'Press CTRL + ALT + DELETE to log on'



IMPORTANT	First, click inside the console to activate the controls for your virtual
	machine.

13. Press CTRL+ALT+INSERT.

IMPORTANT Even though 'Press CTRL + ALT + DELETE ...' is displayed on the screen, you must press CTRL + ALT + INSERT to access the virtual machine.



14. Click the newly created New_User_Account.

The New User Account window appears.

15. Type your password and press Return.

The Windows virtual image desktop appears with your personal account privileges.

Rename the Computer for Your Location

Follow these steps before using your virtual machine.

- 1. On the desktop of the virtual machine, right-click the computer icon and choose Properties.
- 2. From the Computer name, domain, and workgroup settings area, click Change Settings (on the right side).
- 3. On the Computer Name tab, click Change.
- 4. Type a new computer name in the Computer Name box.

IMPORTANT Do not use spaces, hyphens, or any special character symbols.

5. Select Domain or Workgroup (default) and click OK.

We recommend that PlantPAx servers and workstations be members of a Windows domain for systems with 10 or more computers. The domain centralizes administration of the users, groups, and security settings.

IMPORTANT	INT To join a domain, the user must have the appropriate domain use	
	account with proper credentials to add the computer to the domain.	

- 6. Restart the virtual computer to enable the changes to the settings.
- 7. Log in by using your domain credentials or local user administration account previously created.

Configure Ethernet Network Adapter Settings

Use the following procedure to set the speed, duplex, and power management settings for the Ethernet adapter.

- 1. Click Start and choose Control Panel.
- 2. Click System & Security.
- 3. Click Network & Internet.
- 4. Click Network and Sharing Center.

The Network and Sharing Center dialog box appears.

- 5. Click Change Adapter Settings.
- 6. Right-click Local Area Connection and choose Properties. The Network Properties dialog box appears.
- 7. Click Configure.
- 8. Click the Advanced tab.
- 9. From the Property window, choose Link Speed & Duplex.
- 10. From the Value menu, choose Auto Negotiation.
- 11. Click the Power Management tab.
- **12.** Clear the 'Allow the computer to turn off this device to save power' checkbox.
- 13. Click OK.

Configure the FactoryTalk Directory on the PASS

The following procedure assumes that the PASS is going to host the FactoryTalk Directory. The directory server manages applications that can exist on multiple clients and servers on separate computers on the PlantPAx system.

IMPORTANTIt is required to have a username and password with Administrator privileges
to install FactoryTalk software and to specify a FactoryTalk Directory location.
Use the same username and password for all FactoryTalk installations on the
PlantPAx system.
You must click inside the console to activate the controls for the
virtual machine.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Tools>FactoryTalk Directory Configuration Wizard.

The FactoryTalk Directory Configuration Wizard appears.

	FactoryTalk Directory Configuration
This w be cor	izard configures FactoryTalk Directory settings on this computer. A FactoryTalk Directory must figured before you can use this computer with your FactoryTalk software products.
Facto	ryTalk Network Directory
Allows	FactoryTalk software products to share centralized security and information settings across a rk.
Facto	ryTalk Local Directory
Allows	FactoryTalk software products to share security and information settings only on this local iter.
Confi	gure settings
Select	the directories you want to configure on this computer.
₹	Configure the FactoryTalk Network Directory
5	Configure the FactoryTalk Local Directory
	What FactoryTalk Directories do I need to configure?

- 2. Check the following checkboxes:
 - Configure the FactoryTalk Network Directory
 - Configure the FactoryTalk Local Directory
- 3. Click Next.

It can take 30 seconds to process the request.

4. Type the FactoryTalk Administration Console credentials (see below) for the network directory configuration and click Next.

Workgroup: Username: New_user_account Password: Use the password you created with your new_user_account. See <u>page 45</u>.

Domain: Use the username and password of the domain account.

5. Type the credentials for the local directory configuration and click Next.

The password verification occurs twice because you checked both the Network and Local Directory checkboxes on the FactoryTalk Directory Configuration Wizard.

It can take 30 seconds to process the request.

The network and local directory are now set up and are shown as being configured successfully.

🌠 FactoryTalk Directory Configuration Wizard		×
Summary		
FactoryTalk Network Directory Network Directory was successfully configured on this local computer. Network Directory Server is located on this local computer. FactoryTalk Local Directory Configuration successful.	×	
To reset a disabled FactoryTalk Security Administrator account, run this FactoryTalk Directory Configuration Wizard again.		
To close this wizard, click Close.	elp	

6. Click Close.

Delete the Old Computer Name

The old computer name is embedded in the sample applications. Therefore, if you want to use the sample applications, complete the following steps to rehost the applications on the new computer name. You delete the old computer name from the FactoryTalk Directory by using the Administration Console.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Administration Console.

The FactoryTalk Administrator Console appears.



- 2. Click Network (default) and click OK.
- 3. In the Explorer window, browse to Network (THIS COMPUTER) and click '+' to expand InstantFizz.



4. Click '+' to expand FTAETag_Area.

5. Right-click FTAETag_Server and choose Properties.





TAETa	g_Server Properties	×	
Gene	ral Redundancy Priorities and History		
1	Name:		
	FTAETag_Server		
	Description:		
	Computer hosting the alarm server:		
	WIN-DU4S3N1K9JV		
ſ	Startup type		
	C Load when operating system initializes		
	C When first client connects (Redundancy will be disabled)		
	OK Cancel Apply	Help	

- **6.** From the 'Computer hosting the alarm server' pull-down menu, choose your new computer name.
- 7. Click OK.
- 8. In the Explorer window, click '+' to expand Samples Water.



9. Right-click Samples Water AE Alarms and choose Properties.

The Samples Water AE Alarms Properties dialog box appears.

10. Select the new computer name and click OK.

A warning message appears.



- 11. Click OK.
- **12.** In the Explorer window, choose Network>System> Computers and Groups>Computers.

- Explorer × Network (THIS COMPUTER) E InstantFizz 🖲 📑 Data_Area FTAETag_Area FTAETag_Server R Alarm and Event Setup HMI_Area Samples Water . Waste Water 🗄 🥶 Water Distribution Bamples Water AE Alarms Alarm and Event Setup 😑 🦲 System Action Groups Computers and Groups Computer Groups Computers PASS-MAY14 Delete 💑 Networks and Users and Gro Security E Connections Properties...
- **13.** Right-click the old computer name that was generated by the operating system and choose Delete.

- 14. Click Yes when a message appears asking you to verify that you want to delete the computer name.
- 15. Exit the FactoryTalk Administrator console.

Configure the FactoryTalk Activation Server

For continuous use of FactoryTalk products and other Rockwell Automation software products, computers running the software must have access to activation files. FactoryTalk Activation software provides a secure, software-based system for activating Rockwell Automation software products and managing software activation files. With FactoryTalk Activation software, there is no need for a physical master disk or any physical media. Instead, activation files are generated and distributed electronically.

IMPORTANT	We recommend that the PASS server be designated as the FactoryTa		
	activation server.		

Concurrent activations are locked to a central activation-server computer on the network. The activation server manages a pool of activation keys for connected clients to share. Floating concurrent activations are assigned automatically to clients that need them, and returned automatically to the activation server pool when the software stops running on the client, or when the client computer shuts down.

Client computers must be configured to obtain floating activations from the activation server. A continuous network connection is also required for clients to use floating activations. After a client obtains a floating activation, if the activation server detects that the client has been disconnected, the activation is returned to the server pool.

Table 2 - Activation Considerations

Consideration	Details
Software that is not activated	If the components you have installed cannot be activated, for example, because the activation server is unavailable, then the software continues to run for up to seven days. The seven-day grace period provides time to correct the problem with acquiring activations, without disrupting critical applications. If activation is restored within seven days, normal operations resume. If activation is not restored, the grace period expires. After the grace period expires, if you restart the components and activation remains unavailable, the software runs for two hours in Demo mode.
Location of activation server	The PASS is the primary choice for activation management and is recommended to be the location of the activation server. In the instance that the PASS is not an acceptable location, for example, when you make use of a redundant PASS solution, the EWS is the secondary choice. In this instance, the EWS can be a dedicated station with a permanent Ethernet connection to the system. The FactoryTalk Activation software can be configured to run as both a server and client utility.
Options for adding activation files to the PASS	To make concurrent floating activations available to activation clients, first you must download the activation files to the activation server computer, from the Rockwell Automation Activation window. If the PASS has internet access, see <u>Open Activation Manager on page 57</u> . If the PASS does not have internet access, the activations can be downloaded on a different computer with internet connectivity and then transferred to the PASS.
Protect activation files	Activation files are simple text files that must have a .lic extension. As long as the .lic extension is retained, you can copy or rename an activation file without harming it. However, tampering with text inside the activation file can disable your Rockwell Software® products. If an activation file is damaged or deleted, contact Rockwell Automation Technical Support. For safekeeping, keep an original set of your activation files on back-up media. Use descriptive names for the files, so that you can identify them later, and copy them back to the appropriate computers. Activation files are locked to the Host IDs of the computers (or dongles) that need them. Activation fails for Rockwell Software products on a computer where the specified Host ID is not recognized by the activation file.

Open Activation Manager

On the Activation Manager computer, start the activation process by opening the Activation Manager.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Activation>FactoryTalk Activation Manager.

The FactoryTalk Activation Manager window appears.

FactoryTalk Activation Manager					
S 🖲 S 🥘 🥵 😣		\bigcirc			
FactoryTalk Activation N	Manager	Help About			
Home Manage Activations Advanced	9				
	Welcome to FactoryTalk Activation!				
You are steps away from using your Rockwell Automation product. All you have to do is activate your Rockwell product using FactoryTalk Activation.					
	Ready to get started?	Want to learn more?			
	To activate your Rockwell product, click one of the following buttons:	To learn more about Factory lalk Activation before you get started, click the following button:			
	Find Available Activations	Learn More			
	Get New Activations				
Rockwell Automation					

- **2.** For instructions on installing FactoryTalk activations, click Help (circled in the previous figure).
- 3. Use the Help instructions to complete the activations.

After completing the activation process, your PASS is ready to use.

Microsoft SQL Server 2008 Express Account Information

During installation, the following account information was used for Microsoft SQL Server 2008 Express:

User Name	Password
SA	Rockwell1!

Notes:

Configure the EWS and OWS System Elements

This chapter describes how to configure workstations for your virtual environment. The configuration procedures for the EWS and OWS are similar even though these PlantPAx system elements operating differently. These procedures include:

- Setting up Windows 7 Professional for the new instance
- Setting up the Network Adapter
- Setting up FactoryTalk Directory
- Setting up activation files

The engineering workstation (EWS) supports system configuration, application development, and maintenance functions. This is the central location for monitoring and maintaining the system's operation.

The operator workstation (OWS) is **not** meant to support development or maintenance activities. The purpose of this workstation is to support operator interaction with a graphical view and interface into the process.

The required Rockwell Automation software for the EWS and OWS workstations virtual template is included and pre-installed in the virtual image templates, **but not activated**. To activate each EWS or OWS virtual template, you can purchase a single activation license for each virtual template instance.

See <u>page 9</u> for product catalog numbers.

IMPORTANT If you already own individual product activations, these activations also can be used to activate the virtual image templates.

The table shows the topics in this section.

Торіс	Page
Before You Begin	60
Configure Microsoft Windows 7 Professional	60
Configure Ethernet Network Adapter Settings	65
Define the FactoryTalk Directory Location	66
Configure the FactoryTalk Activation Server	67
Microsoft SQL Server 2008 Express Account Information	69

	IMPORTANT	During the configuration of EWS and OWS, you can encounter a User Account Control window that asks if you want to allow a program to make changes to the computer. Click Yes and continue on.
Before You Begin	You must deplo perform the fo template, see <u>C</u>	by your template from the USB drive or from a cloned template to llowing procedures in this chapter. If you need to deploy the <u>Chapter 1 on page 13</u> for details.
Configure Microsoft Windows 7 Professional	Complete these the EWS and C	e steps to configure Microsoft Windows 7 Professional settings for DWS workstations on your virtual machine. phere Client is not already open, on a computer with VMware
	vSphere Program	Client software installed, click Start and choose All s>VMware>VMware vSphere Client.
	2. In the or configur	ganizer tree, click the name of the virtual machine you want to e.
	3. Click th	e Console tab.
	4. In the O Power>	rganizer tree, right-click the virtual machine and choose Power On.



The Microsoft Windows Set Up Windows dialog box appears.

IMPORTANT

This screen can remain black for several minutes.



5. Choose the appropriate option from the following pull-down menus.

Menu	Description
Country or region	Choose your country or region, for example, United States.
Time and currency	Choose your time and currency, for example, English (United States).
Keyboard layout	Choose your keyboard layout, for example, US.

6. Click Next.



The Set Up Window dialog box shows the user name and computer name.

7. Type information in the Set Up Windows dialog box.

Торіс	Description
Type a user name	Type a user name for the virtual machine.
Type a computer name	Type a computer name.

 IMPORTANT
 You need the user name again when you configure your

 FactoryTalk Directory.
 FactoryTalk Directory.

8. Click Next.

🚱 Manufacturing Unit - vSphere Client			_ 🗆 🗵
File Edit View Inventory Administration Plug-ins Help			
💽 🔂 Home 🕨 👸 Inventory 🕨 🗊 Hosts and Clusters		Search Inventory	Q
Manufacturing Unit Manufacturing Uni	Tasks & Breith Alems Concel Permissions Maps Storage Views Set a password for your account Creating a password for your account for the helps protect your user account from creating a password is a smart security proceasion of keep it in a safe place. Type a password (recommendel): Type a password (recommendel): Type a password (recommendel): Type a password hirt (required): Type a password will show you your hint.	Net	

The Set Up Window dialog box shows the account password.

9. Type information in the Set Up Windows dialog box.

Торіс	Description
Type a password	Type a password.
Retype your password	Retype the password.
Type a password hint	Type a hint that reminds you of the password.

IMPORTANT You need the password again when you configure your FactoryTalk Directory.

10. Click Next.

The License Agreement appears.

- 11. Read the license agreement, and then click 'I accept the license terms'.
- 12. Click Next.



The Windows Update window appears.

- 13. Click Ask me later.
- 14. From the Time Zone pull-down menu, choose your time zone.
- 15. If you need to, click 'Automatically adjust clock for Daylight Savings Time'.
- 16. Click Next.

The Set Up Window shows the current location options.

17. Click Work Network.

A message appears indicating that 'Windows is finalizing your settings'.

The desktop of the virtual machine then opens.

Rename the Computer for Your Location

You have an option of giving the computer a different name than the one assigned during configuration of the Windows settings or add the workstation to a domain by following these steps:

- 1. On the desktop of the virtual machine, right-click the computer icon and choose Properties.
- 2. From the Computer name, domain, and workgroup settings area, click Change Settings (on the right side).
- 3. On the Computer Name tab, click Change.
- 4. In the Computer Name box, type a computer name.

IMPORTANT Do not use spaces, hyphens, or any special character symbols.

5. Select Domain or Workgroup (default) and click OK.

We recommend that PlantPAx servers and workstations be members of a Windows domain for systems with 10 or more computers. The domain centralizes administration of the users, groups, and security settings.

IMPORTANT To join a domain, the user must have the appropriate domain user account with proper credentials to add the computer to the domain.

- **6.** When prompted, restart the virtual computer to enable the changes to the settings.
- 7. Log in by using your domain credentials or local user administration account previously created.

etwork Use the following procedure to set the speed, duplex, and power management settings for the Ethernet adapter.

- 1. Click Start and choose Control Panel.
- 2. Click System & Security.
- 3. Click Network & Internet.
- **4.** Click Network and Sharing Center.

The Network and Sharing Center dialog box appears.

- 5. Click Change Adapter Settings.
- Right-click Local Area Connection and choose Properties. The Network Properties dialog box appears.
- 7. Click Configure.
- **8.** Click the Advanced tab.
- 9. From the Property window, choose Link Speed & Duplex.
- 10. From the Value menu, choose Auto Negotiation.
- 11. Click the Power Management tab.
- 12. Clear the 'Allow the computer to turn off this device to save power' checkbox.
- 13. Click OK.

Configure Ethernet Network Adapter Settings

Define the FactoryTalk Directory Location

Complete the following steps to specify the Network FactoryTalk Directory location for the EWS and OWS workstations. Complete these steps for each workstation.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Tools>Specify FactoryTalk Directory Location.

The FactoryTalk Directory Server Location Utility appears.

FactoryTalk Directory Server Location Utility	×			
Use this dialog to change the Network directory that this computer belongs to. This setting affects all software that connects to the Network directory from this computer.				
Use the FactoryTalk Directory installed on:	<u>0</u> K			
Computer hosting directory server (connected)	<u>C</u> ancel			
localhost	<u>H</u> elp			

- 2. Click Browse (ellipsis '...' in box).
- **3.** Type your FactoryTalk Directory Administration Console credentials into the login screen and click OK.
- 4. Click Remote computer.

- Use the EactoryTalk Directory installed on:	
Use the racioly raik Directory installed on.	<u>0</u> K
C Ihis computer	Cancel
(Remote computer)	

IMPORTANT Browse may be inactive if Network Discovery & File Share is not turned on.

Click Browse (ellipsis '...' in box) to navigate the network to find the computer name of the PASS server that is hosting the FactoryTalk Directory services.

If Browse is inactive, type the FactoryTalk host computer name.

5. Choose the appropriate PASS server name and click OK.

The Network FactoryTalk Directory location has now been specified.

IMPORTANT Repeat all steps for each workstation.

- 6. When prompted, enter your credentials and click OK.
- 7. Restart the server or workstation after making a change.

Configure the FactoryTalk Activation Server

For continuous use of FactoryTalk products and other Rockwell Automation software products, computers running the software must have access to activation files. FactoryTalk Activation software provides a secure, software-based system for activating Rockwell Automation software products and managing software activation files. With FactoryTalk Activation software, there is no need for a physical master disk or any physical media. Instead, activation files are generated and distributed electronically.

Concurrent activations are locked to a central activation-server computer on the network. The activation server manages a pool of activation keys for connected clients to share. Floating concurrent activations are assigned automatically to clients that need them, and returned automatically to the activation server pool when the software stops running on the client, or when the client computer shuts down.

Client computers must be configured to obtain floating activations from the activation server. A continuous network connection is also required for clients to use floating activations. After a client obtains a floating activation, if the activation server detects that the client has been disconnected, the activation is returned to the server pool.

Consideration	Details
Software that is not activated	If the components you have installed cannot be activated, for example, because the activation server is unavailable, then the software continues to run for up to seven days. The seven-day grace period provides time to correct the problem with acquiring activations, without disrupting critical applications. If activation is restored within seven days, normal operations resume. If activation is not restored, the grace period expires. After the grace period expires, if you restart the components and activation remains unavailable, the software runs for two hours in Demo mode.
Location of activation server	The PASS is the primary choice for activation management and is recommended to be the location of the activation server. In the instance that the PASS is not an acceptable location, for example, when you make use of a redundant PASS solution, the EWS is the secondary choice. In this instance, the EWS can be a dedicated station with a permanent Ethernet connection to the system. The FactoryTalk Activation software can be configured to run as both a server and client utility.
Options for adding activation files to the PASS	To make concurrent floating activations available to activation clients, first you must download the activation files to the activation server computer, from the Rockwell Automation Activation window. If the PASS has internet access, see <u>Open Activation Manager on page 68</u> . If the PASS does not have internet access, the activations can be downloaded on a different computer with internet connectivity and then transferred to the PASS.
Protect activation files	Activation files are simple text files that must have a .lic extension. As long as the .lic extension is retained, you can copy or rename an activation file without harming it. However, tampering with text inside the activation file can disable your Rockwell Software products. If an activation file is damaged or deleted, contact Rockwell Automation Technical Support. For safekeeping, keep an original set of your activation files on back-up media. Use descriptive names for the files, so that you can identify them later, and copy them back to the appropriate computers. Activation files are locked to the Host IDs of the computers (or dongles) that need them. Activation file.

Table 3 - Activation Considerations

Open Activation Manager

On the Activation Manager computer, start the activation process by opening the Activation Manager.

 Click Start and choose All Programs>Rockwell Software> FactoryTalk Activation>FactoryTalk Activation Manager.

The FactoryTalk Activation Manager window appears.

FactoryTalk Activation Manager		
S 🕖 🛇 🔍 🥠 🚯		Haln Ahout
FactoryTalk Activation	n Manager	Help About
Home Manage Activations Advanced		
	Welcome to FactoryTalk Activation!	
	You are steps away from using your Rockv is activate your Rockwell product using Fa	vell Automation product. All you have to do ctoryTalk Activation.
	Ready to get started?	Want to learn more?
	To activate your Rockwell product, click one of the following buttons:	To learn more about FactoryTalk Activation before you get started, click the following button:
	Find Available Activations	Learn More
	Get New Activations	
Rockwell Automation		

- **2.** For instructions on installing FactoryTalk activations, click Help (circled in the previous figure).
- **3.** Use the Help instructions to complete the activations.

After completing the activation process, your workstation or workstations are ready to use.

Update Activation Search Path

After the license files are on the PASS, you must update the Activation Search Path on the workstations.

- If the Activation Manager is not already open, on the OWS or EWS computer, click Start and choose All Programs> Rockwell Software>FactoryTalk Activation> FactoryTalk Activation Manager.
- 2. Click Find Available Activations.

The Manage Activations section appears on the FactoryTalk Activation Manager window.

3. Click Update Activation Search Path.

The Update Activation Search Path window appears.

- 4. Click Add Server.
- 5. Click Browse (ellipsis '...' in box).

The Browse for Server message window appears.

6. Select the PASS in the network and click OK.

The name of the PASS computer appears in the table under Path to Activations.

- 7. Check the box next to the name of the PASS computer.
- 8. Click 'Up' so that the PASS computer moves to the top of the list.
- 9. Click Save.
- 10. Click Refresh Activations.

Available activations appear in the table.

11. Complete steps 1...10 for all OWS and EWS workstations.

Microsoft SQL Server 2008 Express Account Information

During installation, the following account information was used for Microsoft SQL Server 2008 Express:

User Name	Password
SA	Rockwell1!

Notes:

Configure Application Server OWS (Microsoft Remote Desktop Services)

The Application Server OWS (AppServ-OWS) provides PlantPAx users with an alternative to the standard OWS client machine (physical or virtual). AppServ-OWS uses Microsoft Remote Desktop Services (RDS) technology to serve multiple instances of the OWS from a single server virtual template. This architecture is ideal for PlantPAx users wishing to use Thin Clients as Operator Work Stations.

This chapter provides you with the procedures necessary to deploy the Application Server OWS (AppServ-OWS) virtual template:

- Setting up Windows Server 2008 for the new instance
- Setting up the Network Adapter
- Setting up FactoryTalk Directory
- Setting up activation files
- Configure Remote Desktop Services

For more information regarding recommended architecture and the actual configuration of the Application Server, see the PlantPAx Process Automation System Reference Manual, publication <u>PROCES-RM001</u>, and the specific product documentation.

The required Rockwell Automation software for the AppServ-OWS virtual template is included and pre-installed in the virtual image templates, **but not activated**. You need an activation license for each client connection.

See <u>page 9</u> for product catalog numbers.

IMPORTANT If you already own individual product activations, these activations also can be used to activate the virtual image templates.

The table shows the topics in this section.

	Торіс		Page	
	Before You Begin		72	
	Configure Microsoft Windows Server 2008		72	
	Configure the Ethernet Network Adapter Settings Define the FactoryTalk Directory Location Configure the FactoryTalk Activation Server		84 85 86	
	Configure Remote De	esktop Services	89	
	Microsoft Remote Desktop Services Licensing		92	
	Install Additional Software		92	
	Add Remote Desktop Services Users		92	
	IMPORTANT During the configuration of Application Server OWS, yo Account Control dialog box that asks if you want to allo changes to the computer. Click Yes and continue on.		ncounter a Use gram to make	
Before You Begin	You must deploy your template from the USB drive or from a cloned template to perform the following procedures in this chapter. If you need to deploy the template, see <u>Chapter 1 on page 13</u> for details.			
Configure Microsoft Windows Server 2008	Complete these steps on a virtual machine to initiate the Microsoft Windows Server 2008 operating system setup for the Application Server OWS. You set your own administration account password, computer name, and file location preference in this procedure.			
	 If the vSphere Client is not already open, on a computer with VMware vSphere Client software installed, click Start and choose All Programs>VMware>VMware vSphere Client. 			
	2. In the organizer tree, click the name of the virtual machine.			
	3. Click the Console tab.			
- 🖃 🛃 Manufacturing Unit PlantPAx AppServ-OW5 PlantPax vTemplate Library Getting Started Summary Resource Al E D VTemplates

 Improves

 PlantPAx 3.0 OWS Gold Master Audit E3.3 TAS PlantPAx 3.0 PASS Gold Master Audit E3.1 TAS PlantPAx AppServ-Hist Gold Master Audit E2.6 JJC PlantPAx AppServ-Hist Syspreped E2.5 PlantPAx AppServ-Hist Virtual Template 3.0 PlantPAx AppServ-Hist Virtual Template v2.4 PlantPAx AppServ-OWS Virtual Template 3.0 + Power Cul+B Power On PlantPAx EWS Virtual PlantPAx DWS Virtual PlantPAx PASS Virtual PlantPAx PASS Virtual Win7x64 Pro- Audit M Guest . Power Off Ctrl+E Snapshot . Suspend Cirl+Z Open Console Reset Cul+T Win7x64 Professional-5 Win7x86 Template Edit Settings... Shut Down Guest Ctrl+D ⊟ 🔲 172.18.27.96 -Migrate... Restart Guest Ctrl-HR Hist- EWS 20 Clone... Hich orian DACC _ 1
- 4. In the Organizer tree, right-click the virtual machine and choose Power>Power On.

IMPORTANT The screen can remain black for several minutes.

You see this window during initial setup.



The Microsoft Windows Set Up Windows dialog box appears.

IMPORTANT First, click inside the console to activate the controls for your virtual machine.



5. Choose the appropriate option from the following pull-down menus.

Menu	Description
Country or region	Choose your country or region, for example, United States.
Time and currency	Choose your time and currency, for example, English (United States).
Keyboard layout	Choose your keyboard layout, for example, US.

6. Click Next.

The License Agreement appears. This agreement includes Microsoft Windows, Rockwell Automation Software, and Adobe Reader.

- 7. Read the license agreement, and then click 'I accept the license terms'.
- 8. Click Start.

You will see a screen that says 'Press CTRL + ALT + DELETE to log on'.



9. Press CTRL+ALT+INSERT'

IMPORTANT	Even though 'Press CTRL + ALT + DELETE ' is displayed on the screen, you
	must press CTRL + ALT + INSERT to access the virtual machine.

File Edit View Inventory Administration Plug-ins Help	
🔛 🔄 Home 🛊 🛃 Inventory 👂 👰 VMs and Templates	69 - Search Inventory C
Manufacturing Unit PASS VM Bill PASS VM Bill	and the second se
Discovered virtual machine Getting Started, Summary Resource	te Allocation CPerformance Tasks & Everes CAlarms, Console Permissions Maps Storage Views
AMeters Advetors Advetors Or VAS John Tangate Or VAS John Tangate Or VAS John Tangate Or VAS Lai Tangate Pass John 1 VAS John Tangate Or VAS John Tangate	
PASS Las J PASS LAS LAS LAS LAS LAS LAS LAS LAS LAS	Administrator Carical

The icon for the Administrator account is displayed.

10. Click the Administrator icon.



You will see a message stating 'The user's password must be changed before logging in the first time.'

11. Click OK.



The Administrator account dialog box appears so you can change a password.

IMPORTANT	Passwords must meet the following minimum requirements:
	• Cannot contain the user's account name or parts of the user's full name that exceed two consecutive characters
	Must be at least six characters in length
	 Must contain characters from three of the following four categories:
	 English uppercase characters (AZ)
	 English lowercase characters (az)
	 Base 10 digits (09).
	 Non-alphabetic characters (for example, !, \$, #, %).

- **12.** Type a password, then verify the entry by typing the same password in the second entry field.
- 13. Click the arrow.
- 14. Click OK to acknowledge your password has been changed.

The virtual image desktop appears.



IMPORTANT The default time zone for Windows Server 2008 is Pacific Time. If you are not in the Pacific Time zone, you need to change time zone and update the time.

Create an Administrator User Account

We suggest that you create an Administrator user account for each user that requires administrative privileges. This best practice safeguards server corruption by restricting access to the default administrative account, and creates a backup of critical system information. Each user can be delegated a separate user account with password protection.

Follow these steps to create a new user account with administrative privileges.

1. On the virtual image desktop, click Start and choose Control Panel.

The Control Panel appears.



- 2. Click User Accounts.
- 3. Click Add or remove user accounts (circled in the previous figure).

accounts Variable Control Panel Variable Accounts Variable Accounts	
🌀 🗇 🕫 🔹 Control Panel 🔹 User Accounts 🔹 User Accounts 🔹 Manage Accounts 🔹 👻 Search Control Panel	2
Choose the account you would like to change	
Administrator Administrator Password protected	
Create a new account What is a user account?	
Additional things you can do Go to the main User Accounts page	

The Manage Accounts window appears.

4. Click Create a new account (circled in the previous figure).

The Create New Account dialog box appears.

Sontrol Panel/User Accounts/User Accounts/Manage Accounts/Ereate New Account	<u> </u>
G 🕞 🕫 🕫 Viser Accounts 🔹 Manage Accounts 🔹 Create New Account 🔹 🛃 Search Control Panel	<u>.</u>
Name the account and choose an account type This name will appear on the Welcome screen and on the Start menu.	
New_User_Account	
C Standard user	
Standard account users can use most software and change system settings that do not affect other users or the security of the computer.	
Administrator	
Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.	
We recommend that you protect every account with a strong password.	
Why is a standard account recommended?	
Create Account Cancel	

- **5.** Type your new user account name (circled in the previous figure) and make sure Administrator is selected.
- **6.** Click Create Account.

	acounts Viser Accounts Viser Accounts
	🚱 😳 🗟 🔹 Control Panel 👻 User Accounts 👻 Manage Accounts 🔹 🧐 Search Control Panel
	Choose the account you would like to change
Current Administrator Account Default	Administrator Administrator Password protected
	Guest Guest account is off New user account that is being configured.
	Create a new account What is a user account?
	Additional things you can do
	Go to the main User Accounts page

The New Manage Accounts window appears.

The current Administrator account (default) is shown with a blue background. After you create a password for the new user account, it appears as the default.

7. Click the newly created New_User_Account.

The Change an Account window appears.

🎎 Control Panel\User Accounts\User Accounts\Manage Accounts\Change an	Account	
🧿 ◯ マ 🗟 ▼ User Accounts ▼ Manage Accounts ▼ Change an Account	👻 🔽 Search Control Panel	<u> 2</u>
Make changes to New_User_Account's account		
Change the account name Create a password Change the picture Change the account type	New_User_Account Administrator	
Delete the account Manage another account		

8. Click Create a password (circled in the previous figure).

The Create Password dialog box appears.

🛃 Control Panel\l	User Accounts\User Accounts\Manage Accounts\Change an Account\Create Password
G)~ 🗟 •	Manage Accounts + Change an Account + Create Password + 🕼 Search Control Panel
	Create a password for New_User_Account's account
	New_User_Account Administrator
	You are creating a password for New_User_Account.
	If you do this, New_User_Account will lose all EFS-encrypted files, personal certificates and stored passwords for Web sites or network resources.
	To avoid losing data in the future, ask New_User_Account to make a password reset floppy disk.
	•••••
	•••••
	If the password contains capital letters, they must be typed the same way every time. How to create a strong password
	Dog1@4u
	The password hint will be visible to everyone who uses this computer. What is a password hint?
	Create password Cancel

9. Complete the password configuration.

Торіс	Description
Password	Type a password, then retype the password to confirm the entry. See <u>page 77</u> for password requirements.
Passphrase	Type a password that contains a string of words and characters. Passphrases are generally longer, thus more secure, than passwords.

IMPORTANT Remember this password because you need it when you configure your FactoryTalk Directory.

- 10. Click Create password.
- 11. Close the window.
- 12. Click Start and log off the virtual machine.

You will see a screen that says 'Press CTRL + ALT + DELETE to log on'



IMPORTANT First, click inside the console to activate the controls for your virtual machine.

- 13. Press CTRL+ALT+INSERT.
- **IMPORTANT** Even though 'Press CTRL + ALT + DELETE . . . ' is displayed on the screen, you must press CTRL + ALT + INSERT to access the virtual machine.



14. Click the newly created New_User_Account.

The New User Account window appears.

15. Type your password and press Return.

The Windows virtual image desktop appears with your personal account privileges.

Rename the Computer for Your Location

Follow these steps before using your virtual machine.

- 1. On the desktop of the virtual machine, right-click the computer icon and choose Properties.
- 2. From the Computer name, domain, and workgroup settings area, click Change Settings (on the right side).
- 3. On the Computer Name tab, click Change.
- 4. Type a new computer name in the Computer Name box.

IMPORTANT Do not use spaces, hyphens, or any special character symbols.

5. Select Domain or Workgroup (default) and click OK.

We recommend that PlantPAx servers and workstations be members of a Windows domain for systems with 10 or more computers. The domain centralizes administration of the users, groups, and security settings.

IMPORTANT To join a domain, the user must have the appropriate domain user account with proper credentials to add the computer to the domain.

- **6.** Restart the virtual computer to enable the changes to the settings.
- 7. Log in by using your domain credentials or local user administration account previously created.

Use the following procedure to set the speed, duplex, and power management settings for the Ethernet adapter.

- 1. Click Start and choose Control Panel.
- 2. Click System & Security.
- 3. Click Network & Internet.
- 4. Click Network and Sharing Center.

The Network and Sharing Center dialog box appears.

- 5. Click Change Adapter Settings.
- **6.** Right-click Local Area Connection and choose Properties. The Network Properties dialog box appears.
- 7. Click Configure.
- 8. Click the Advanced tab.
- 9. From the Property window, choose Link Speed & Duplex.
- 10. From the Value menu, choose Auto Negotiation.
- **11.** Click the Power Management tab.
- **12.** Clear the 'Allow the computer to turn off this device to save power' checkbox.
- 13. Click OK.

Configure the Ethernet Network Adapter Settings

Define the FactoryTalk Directory Location

Complete the following steps to specify the Network FactoryTalk Directory location for AppServ-OWS.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Tools>Specify FactoryTalk Directory Location.

The FactoryTalk Directory Server Location Utility appears.

FactoryTalk Directory Server Location Utility	×
Use this dialog to change the Network directory that this computer I setting affects all software that connects to the Network directory fir computer.	pelongs to. This om this
Use the FactoryTalk Directory installed on:	<u>0</u> K
Computer hosting directory server (connected)	<u>C</u> ancel
	<u>H</u> elp

- 2. Click Browse (ellipsis '...' in box).
- **3.** Type your FactoryTalk Directory Administration Console credentials into the login screen and click OK.
- 4. Click Remote computer.

Use the FactoryTalk Directory installed on:	<u>O</u> K
Ihis computer Remote computer	<u><u>C</u>ance</u>
Bemote computer	

Click Browse (ellipsis '...' in box) to navigate the network to find the computer name of the PASS server that is hosting the FactoryTalk Directory services.

5. Choose the appropriate PASS server name and click OK.

The Network FactoryTalk Directory location has now been specified.

- 6. When prompted, enter your credentials and click OK.
- 7. Restart the server after making this change.

Configure the FactoryTalk Activation Server

For continuous use of FactoryTalk products and other Rockwell Automation software products, computers running the software must have access to activation files. FactoryTalk Activation software provides a secure, software-based system for activating Rockwell Automation software products and managing software activation files. With FactoryTalk Activation software, there is no need for a physical master disk or any physical media. Instead, activation files are generated and distributed electronically.

Concurrent activations are locked to a central activation-server computer on the network. The activation server manages a pool of activation keys for connected clients to share. Floating concurrent activations are assigned automatically to clients that need them. These activations are returned automatically to the activation server pool when the software stops running on the client, or when the client computer shuts down.

Client computers must be configured to obtain floating activations from the activation server. A continuous network connection is also required for clients to use floating activations. After a client obtains a floating activation, if the activation server detects that the client has been disconnected, the activation is returned to the server pool.

Table	4 -	Activation	Consideration	5
				•

Consideration	Details
Software that is not activated	If the components you have installed cannot be activated, for example, because the activation server is unavailable, then the software continues to run for up to seven days. The seven-day grace period provides time to correct the problem with acquiring activations, without disrupting critical applications. If activation is restored within seven days, normal operations resume. If activation is not restored, the grace period expires. After the grace period expires, if you restart the components and activation remains unavailable, the software runs for two hours in Demo mode.
Location of activation server	The PASS is the primary choice for activation management and is recommended to be the location of the activation server. In the instance that the PASS is not an acceptable location, for example, when you make use of a redundant PASS solution, the EWS is the secondary choice. In this instance, the EWS can be a dedicated station with a permanent Ethernet connection to the system. The FactoryTalk Activation software can be configured to run as both a server and client utility.
Options for adding activation files to the PASS	To make concurrent floating activations available to activation clients, first you must download the activation files to the activation server computer, from the Rockwell Automation Activation window. If the PASS has internet access, see <u>Open Activation Manager on page 87</u> . If the PASS does not have internet access, the activations can be downloaded on a different computer with internet connectivity and then transferred to the PASS.
Protect activation files	Activation files are simple text files that must have a .lic extension. As long as the .lic extension is retained, you can copy or rename an activation file without harming it. However, tampering with text inside the activation file can disable your Rockwell Software products. If an activation file is damaged or deleted, contact Rockwell Automation Technical Support. For safekeeping, keep an original set of your activation files on back-up media. Use descriptive names for the files, so that you can identify them later, and copy them back to the appropriate computers. Activation files are locked to the Host IDs of the computers (or dongles) that need them. Activation fails for Rockwell Software products on a computer where the specified Host ID is not recognized by the activation file.

Open Activation Manager

On the Activation Manager computer, start the activation process by opening the Activation Manager.

 Click Start and choose All Programs>Rockwell Software> FactoryTalk Activation>FactoryTalk Activation Manager.

The FactoryTalk Activation Manager window appears.

FactoryTalk Activation Manager		_D×
S ● S ● ● S ● S ● S ● S ● S ● S ● S ● S	lanager	Help About
Home Manage Activations Advanced		
	Welcome to FactoryTalk Activation!	
	You are steps away from using your Rock is activate your Rockwell product using Fa	well Automation product. All you have to do actoryTalk Activation.
	Ready to get started?	Want to learn more?
	click one of the following buttons:	Activation before you get started, click the following button:
	Find Available Activations	Learn More
	Get New Activations	
Rockwell Automation		

- 2. For instructions on installing FactoryTalk activations, click Help.
- **3.** Use the Help instructions to complete the activations.

After completing the activation process, your AppServ-OWS is ready to use.

Update Activation Search Path

After the license files are on the PASS, you must update the Activation Search Path on AppServ-OWS.

- If the Activation Manager is not already open, click Start and choose All Programs>Rockwell Software>FactoryTalk Activation> FactoryTalk Activation Manager.
- 2. Click Find Available Activations.

The Manage Activations section appears on the FactoryTalk Activation Manager window.

3. Click Update Activation Search Path.

The Update Activation Search Path window appears.

- 4. Click Add Server.
- 5. Click Browse (ellipsis '...' in box).

The Browse for Server message window appears.

6. Select the PASS in the network and click OK.

The name of the PASS computer appears in the table under Path to Activations.

- 7. Check the box next to the name of the PASS computer.
- 8. Click 'Up' so that the PASS computer moves to the top of the list.
- 9. Click Save.
- 10. Click Refresh Activations.

Available activations appear in the table.

Configure Remote Desktop Services

The Application Server OWS provides PlantPAx users with an alternative to the standard OWS client machine (physical or virtual). The AppServ-OWS uses Microsoft Remote Desktop Services (RDS) technology to serve multiple instances of the OWS from a single server Virtual Template. This architecture is ideal for PlantPAx users wishing to use Thin Clients as Operator Work Stations.

IMPORTANT A valid FactoryTalk activation is still required for each instance of the OWS that is in use.



Microsoft RDS (formerly known as Terminal Services) is a standard Role built into the Windows Server family of operating systems that allows remote access to applications and data on a remote computer over a network.

RDS can be used as an administrative tool to connect to a remote machine and perform maintenance tasks. RDS can also be used as a thin client solution to let remote clients to execute applications or even access the entire desktop of the host server.

The thin client solution is a transparent system that runs applications and performs data processing and storage functions on a remote computer. This solution minimizes the amount of information traveling across your network. While multiple sessions can run on a single server, each user can see only their individual session. Only the user interface is shown on client, user input from client is redirected over the network to the remote desktop session. User's desktops are transmitted to clients for display by using terminal emulation software. Similarly, the software sends command functions such as keyboard inputs and mouse clicks across the network between the client and the server.

The PlantPax AppServ-OWS has been pre-configured with the Microsoft Remote Desktop server role and the FTView SE Client 7.0 application. This configuration provides a thin client solution for FactoryTalk View SE Clients. Users, with the proper credentials, can log in into the AppServ-OWS and run the FactoryTalk View SE Client application.

One FactoryTalk View SE client activation key is required for each Remote Desktop Session in which FactoryTalk View SE client is run. The first instance of FactoryTalk View SE client loaded within a Remote Desktop Session acquires an activation key. Any additional FactoryTalk View SE clients that are started within a session do not require additional keys.

TIPFor more information, see Knowledgebase Answer ID 567658 - Using
FactoryTalk View SE with Windows 2008 R2 Remote Desktop Services - Getting
Started Whitepaper at
<ht>https://rockwellautomation.custhelp.com/app/answers/detail/a_id/567658
You must have a TechConnect license to download the library.

Remote Desktop Services with FactoryTalk View SE

The benefits of using Remote Desktop Services with FactoryTalk View SE include the following:

- Increased network flexibility: RDS lets you deploy thin and ultrathin clients on the plant floor or out in the field. The minimal requirements of RDS Clients allow for various thin products that are designed to handle most environmental conditions. These conditions include radical temperatures, extreme vibrations, or areas where mobility is key. Users can gain access to an RDS over any Transmission Control Protocol/Internet Protocol (TCP/IP) connection including Remote Access, Ethernet, the Internet, wireless, wide area network (WAN), or virtual private network (VPN).
- Lower cost of ownership: A thin client typically consists only of the Operating System and the Remote Desktop Connection software. RDS delivers a virtual Windows Server 2008 R2 experience from server to clients, regardless of what Operating System the client uses.
- Minimize downtime: Upgrade your entire FactoryTalk View SE installation with a single operation. Because FactoryTalk View SE products install only on the server side, any future software upgrades are limited to the server, making software upgrades on clients a thing of the past.
- Improve data security: A FactoryTalk View SE architecture that uses RDS is less vulnerable to security threats. RDS lets you focus your security measures on the server because all data is processed on the server, which you can manage in a secure location.

The known limitations when using Remote Desktop Services with FactoryTalk View SE include the following:

- The Microsoft RDS protocol does not transfer the physical display aspect ratio (height/width proportion) from the server to its clients. Clients need to specify the display properties (resolution, aspect ratio, color depth, and so on) for each session they create. Verify the appearance of the application visually on the Remote Desktop Clients before placing the system in a production environment, modifying graphics as necessary.
- When the FactoryTalk View SE Server is also the Remote Desktop Session Host, it is possible that thin clients cannot add/change pens in a trend.
 - TIPFor more information, see Knowledgebase Answer ID 32715 Cannot
add/change pens in trend from SE client on Terminal Server at
https://rockwellautomation.custhelp.com/app/answers/detail/a_id/32715.
- If your FactoryTalk View SE client configuration (.cli) enables 'Show Diagnostics List', the list shows all activity from all clients running on the same Remote Desktop Session Host. This activity is due to the fact that although each instance of the FactoryTalk View SE client runs in a separate session, they are all hosted on the same computer and share common log resources. This amount of activity can be confusing for HMI operators because they see diagnostic activity on their client that they did not initiate.
- Using the Tag Import and Export Wizard does not work correctly when used in a Remote Desktop Client session. Run this wizard only from a FactoryTalk View Studio instance on the HMI Server console. Using a Remote Desktop Client to connect to the console session can avoid this issue, but is not recommended.

PlantPAx AppServ-OWS Base Configuration

IMPORTANTYou can add additional role services to your server depending on your specific
deployment of Remote Desktop Services and connectivity needs. These added
services can add additional configuration beyond which this base Remote
Desktop Server has been configured for.

Microsoft Remote Desktop Services Licensing	RDS has its own method for licensing clients that log in to RDS servers, separate from the licensing for the Windows Server 2008 R2 family of operating systems. Remote Desktop Connections must receive a valid license issued by a Remote Desktop Licensing Server before they can log in to a Remote Desktop Session Host or Connection Broker. One Remote Desktop Licensing Server can serve multiple RDS servers
	concurrently; therefore, you can either leverage an existing Remote Desktop Licensing Server or create your own.
Install Additional Software	Before you install any application, place the Remote Desktop Session Host server into a special installation mode. Placing the server into this special installation mode will ensure that patches and additional software are installed correctly to work in a multiuser environment. Failure to use the special installation mode can prevent an application from functioning properly.
	Install Special Mode
	Put the Remote Desktop Session Host into the special installation mode by Clicking Start and choosing Control Panel>Programs>Install Application on Remote Desktop.
	After the application is installed, you must put the RD Session Host server back into execution mode before remote users begin using the application. The Install Application on Remote Desktop Session Host tool automatically puts the RD Session Host server into execution mode when it is finished running, but always verify before continuing.
	It is important to put the Remote Desktop Session Host server back into execution mode before running any of the installed applications. Some applications cannot execute properly or can have loss of functionality if the server is not put back into execution mode.
Add Remote Desktop Services Users	Each user who logs in to an RDS server must have a user account either on the server or in a domain on the network that the server is on. The user account contains additional information that determines when user can log in, under what conditions, and how specific desktop settings are stored. Windows Server 2008 R2 family operating systems contain a built-in User group called Remote Desktop Users, which is used to manage RDS users.
	On the Select User Groups Allowed Access to This RD Session Host Server page, select the users and/or groups that can connect to the Remote Desktop Session Host Server and click Next.
	Alternatively, you can add additional users later via the Local Users and Groups option in Computer Management.

Configure Application Server Historian

This chapter provides you with the details necessary to deploy the Application Server Historian (AppServ-Hist) virtual template. AppServ-Hist (based on FactoryTalk Historian) satisfies the Data Collection role of the PlantPAx system architecture.

This chapter provides you with the procedures necessary to deploy the Application Server Historian (AppServ-Hist) virtual template:

- Setting up Windows Server 2008 for the new instance
- Setting up the Network Adapter
- Setting up FactoryTalk Directory
- Setting up activation files
- Rename SQL Server
- Install and configure Historian Asset Framework

For more information regarding recommended architecture and the actual configuration of the Application Server, see the PlantPAx Process Automation System Reference Manual, publication <u>PROCES-RM001</u>, and the specific product documentation.

The required Rockwell Automation software for the AppServ-Hist virtual template is included and pre-installed in the virtual image templates, **but not activated**. Use an individual FactoryTalk Historian SE activation license to activate each AppServ-Hist virtual template.

See <u>page 9</u> for product catalog numbers.

The table shows the topics in this section.

Торіс	Page
Before You Begin	94
Configure Microsoft Windows Server 2008	94
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	Торіс		Page	
	Delete Old Computer Name Synchronize AF Database Complete Historian Configuration		118	
			120	
			122	
	IMPORTANT	During the configuration of Application Serv User Account Control window that asks if you changes to the computer. Click Yes and conti	rer Historian, you can encounter a 1 want to allow a program to make nue on.	
	This template r does not includ	epresents a base installation of a Facto e optional features such as Advanced	ryTalk Historian Server and Server or DataLink.	
	TIP	To use DataLink, you must install Microsoft E Microsoft Excel license.	xcel yourself by using a valid	
Before You Begin	You must deplo procedures in t see <u>Chapter 1 o</u>	by your template from the USB drive t his chapter. If you need to deploy the t an page 13 for details.	o perform the following template,	
Configure Microsoft Windows Server 2008	Complete these Server 2008 op your own admi preference in th	e steps on a virtual machine to initiate erating system setup for the Application nistration account password, compute his procedure.	the Microsoft Windows on Server Historian. You set er name, and file location	
	 If the vSj vSphere Program 	ohere Client is not already open, on a Client software installed, click Start a s>VMware>VMware vSphere Client.	computer with VMware nd choose All	
	2. Click the	e Console tab.		
	3. In the Organizer tree, right-click the virtual machine and choose Power>Power On.			
	 Manufacturing UI PlantPax vTer 172.1 <l< td=""><td>Nit Planti mplate Library es 8.27.81 Gettil 8.27.81 Sase W7 64 machine 7xx 3.0 AppServ-OWS Gold Master Audit E3.3 TAS Part 100 master Audit E3.3 TAS 7xx 3.0 DWS Gold Master Audit E3.3 TAS Part 20 master Audit E3.3 TAS 7xx 3.0 DWS Gold Master Audit E2.6 JJC Part 20 master Audit E3.3 TAS 7xx AppServ-Hist Gold Master Audit E2.6 JJC Part 20 master Audit E3.1 TAS 7xx AppServ-Hist Gold Master Audit E3.1 TAS Part 20 master Audit E3.1 TAS 7xx AppServ-Hist Vidual Temmlate 3.0 Power 7xx Snapshot Suss 7xx Open Console Ress 7xx Edit Settings Shui 64 Migrate Ress</td><td>Ax AppServ-Hist Virtual Template 3.0 19 Started Summary Resource Allocation er On Ctrl+B er Off Ctrl+E bend Ctrl+Z et Ctrl+T tDown Guest Ctrl+D tart Guest Ctrl+R</td></l<>	Nit Planti mplate Library es 8.27.81 Gettil 8.27.81 Sase W7 64 machine 7xx 3.0 AppServ-OWS Gold Master Audit E3.3 TAS Part 100 master Audit E3.3 TAS 7xx 3.0 DWS Gold Master Audit E3.3 TAS Part 20 master Audit E3.3 TAS 7xx 3.0 DWS Gold Master Audit E2.6 JJC Part 20 master Audit E3.3 TAS 7xx AppServ-Hist Gold Master Audit E2.6 JJC Part 20 master Audit E3.1 TAS 7xx AppServ-Hist Gold Master Audit E3.1 TAS Part 20 master Audit E3.1 TAS 7xx AppServ-Hist Vidual Temmlate 3.0 Power 7xx Snapshot Suss 7xx Open Console Ress 7xx Edit Settings Shui 64 Migrate Ress	Ax AppServ-Hist Virtual Template 3.0 19 Started Summary Resource Allocation er On Ctrl+B er Off Ctrl+E bend Ctrl+Z et Ctrl+T tDown Guest Ctrl+D tart Guest Ctrl+R	



You see this window after initial setup is complete. This stage can take a few minutes.

The Microsoft Windows Set Up Windows dialog box appears.

IMPORTANT First, click inside the console to activate the controls for your virtual machine.

4. Choose the appropriate option from the following pull-down menus.

Menu	Description
Country or region	Choose your country or region, for example, United States.
Time and currency	Choose your time and currency, for example, English (United States).
Keyboard layout	Choose your keyboard layout, for example, US.

5. Click Next.

The License Agreement appears. This agreement includes Microsoft Windows, Rockwell Automation Software, and Adobe Reader.

- 6. Read the license agreement, and then click 'I accept the license terms'.
- 7. Click Start.
- 8. If you get a message stating 'The User's password must be changed before logging in the first time', click OK.

Administrator	
Create a password reset disk Cance!	

The Administrator account dialog box appears so you can change a password.

IMPORTANT Passwords must meet the following minimum requirements:

- Cannot contain the user's account name or parts of the user's full
 name that exceed two consecutive characters
- Must be at least six characters in length
- Must contain characters from three of the following four categories:
 - English uppercase characters (A...Z)
 - English lowercase characters (a...z)
 - Base 10 digits (0...9).
 - Non-alphabetic characters (for example, !, \$, #, %).
- **9.** Type a password, then verify the entry by typing the same password in the second entry field.
- **10.** Click the arrow.
- 11. Click OK to acknowledge your password has been changed.

The virtual image desktop appears.



IMPORTANT	The default time zone for Windows Server 2008 is Pacific Time. If you are not in
	the Pacific Time zone, you need to change time zone and update the time.

Create an Administrator User Account

We suggest that you create an Administrator user account for each user that requires administrative privileges. This best practice safeguards server corruption by restricting access to the default administrative account, and creates a backup of critical system information. Each user can be delegated a separate user account with password protection.

Follow these steps to create a new user account with administrative privileges.

1. On the virtual image desktop, click Start and choose Control Panel.

The Control Panel appears.



2. Click Add or remove user accounts (circled in the previous figure).

The Manage Accounts window appears.



3. Click Create a new account (circled in the previous figure).

The Create New Account dialog box appears.

	Eontrol Panel\User Accounts\User Accounts\Manage Accounts\Create New Account	<u> </u>
	G 🕞 🖉 🔹 User Accounts 🔹 Manage Accounts 🔹 Create New Account 💿 🔹 🚱 Search Control Panel	
	Name the account and choose an account type	
	This name will appear on the Welcome screen and on the Start menu.	
	New_User_Account	
	O Standard user	
	Standard account users can use most software and change system settings that do not affect other users or the security of the computer.	
	Administrator	
	Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.	
	We recommend that you protect every account with a strong password.	
	Why is a standard account recommended?	
	why is a standard account recommended:	
	Create Account Cancel	
	4. Type your new user account name (circled in the previous figure) make sure Administrator is selected.	and
	5. Click Create Account.	
	The New Manage Accounts window appears.	
	& Control Panel\User Accounts\User Accounts\Manage Accounts	_ 🗆 🗵
	🚱 😔 - 🙉 - Control Panel - User Accounts - User Accounts - Manage Accounts - 🦉 Search Control Panel	P
	Choose the account you would like to change	
Current Administrator Account Default	Administrator Administrator Password protected	
	Guest Guest account is off	
	New user account that being configured.	at is
	Create a new account	
	What is a user account?	
	Additional things you can do	
	Go to the main User Accounts page	

The current Administrator account (default) is shown with a blue background. After you create a password for the new user account, it appears as the default.

6. Click the newly created New_User_Account.

The Change an	Account window	appears.
r ne onange an	recount white w	uppeuro

http://www.countstead.	n Account	
😋 🕞 🕫 🔹 User Accounts 👻 Manage Accounts 👻 Change an Account	👻 🌆 Search Control Panel	2
Make changes to New_User_Account's account		
Change the account name Create a password Change the picture Change the account type	New_User_Account Administrator	
Delete the account Manage another account		

7. Click Create a password (circled in the previous figure).

The Create Password dialog box appears.

🎎 Control Panel\User Accounts\User Accounts\Manage Accounts\Change an Account\Create Password	<u>_ </u>
😋 🕞 🕫 👻 🗧 Manage Accounts 👻 Change an Account 👻 Create Password 🛛 🔹 🔯 Search Contro	ol Panel 😥
Create a password for New_User_Account's account	
New_User_Account Administrator	
You are creating a password for New_User_Account.	
If you do this, New_User_Account will lose all EFS-encrypted files, personal certificates and passwords for Web sites or network resources.	stored
To avoid losing data in the future, ask New_User_Account to make a password reset floppy disk.	
•••••	
••••••	
If the password contains capital letters, they must be typed the same way every time. How to create a strong password	
Dog1@4u	
The password hint will be visible to everyone who uses this computer. What is a password hint?	
Create password	Cancel

8. Complete the password configuration.

Торіс	Description
Password	Type a password, then retype the password to confirm the entry. See <u>page 97</u> for password requirements.
Passphrase	Type a password that contains a string of words and characters. Passphrases are generally longer, thus more secure than passwords.

IMPORTANT Remember this password because you need it when you configure your FactoryTalk Directory.

- 9. Click Create password.
- 10. Close the window.



11. Click Start and log off the virtual machine.



12. Press CTRL+ALT+INSERT.

IMPORTANT Even though 'Press CTRL + ALT + DELETE ...' is displayed on the screen, you must press CTRL + ALT + INSERT to access the virtual machine.



13. Click the newly created New_User_Account.

The New User Account window appears.

14. Type your password and press Return.

The Windows virtual image desktop appears with your personal account privileges.

Rename the Computer for Your Location

Follow these steps before using your virtual machine.

- 1. On the desktop of the virtual machine, right-click the computer icon and choose Properties.
- 2. From the Computer name, domain, and workgroup settings area, click Change Settings (on the right side).
- 3. On the Computer Name tab, click Change.
- 4. Type a new computer name in the Computer Name box.

IMPORTANT Do not use spaces, hyphens, or any special character symbols.

5. Select Domain or Workgroup (default) and click OK.

We recommend that PlantPAx servers and workstations be members of a Windows domain for systems with 10 or more computers. The domain centralizes administration of the users, groups, and security settings.

IMPORTANT To join a domain, the user must have the appropriate domain user account with proper credentials to add the computer to the domain.

- 6. Restart the virtual computer to enable the changes to the settings.
- 7. Log in by using your domain credentials or local user administration account previously created.

Configure the Ethernet Network Adapter Settings

Use the following procedure to set the speed, duplex, and power management settings for the Ethernet adapter.

- 1. Click Start and choose Control Panel.
- 2. Click System & Security.
- 3. Click Network & Internet.
- 4. Click Network and Sharing Center.

The Network and Sharing Center dialog box appears.

- 5. Click Change Adapter Settings.
- 6. Right-click Local Area Connection and choose Properties. The Network Properties dialog box appears.
- 7. Click Configure.
- 8. Click the Advanced tab.
- 9. From the Property window, choose Link Speed & Duplex.
- 10. From the Value menu, choose Auto Negotiation.
- 11. Click the Power Management tab.
- **12.** Clear the 'Allow the computer to turn off this device to save power' checkbox.
- 13. Click OK.

Define the FactoryTalk Directory Location

Complete the following steps to specify the Network FactoryTalk Directory location for AppServ-Hist.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Tools>Specify FactoryTalk Directory Location.

The FactoryTalk Directory Server Location Utility appears.

FactoryTalk Directory Server Location Utility		
Use this dialog to change the Network directory that this computer belongs to. This setting affects all software that connects to the Network directory from this computer.		
Use the FactoryTalk Directory installed on:	<u>0</u> K	
Computer hosting directory server (connected)	<u>C</u> ancel	
	<u>H</u> elp	

- 2. Click Browse (ellipsis '...' in box).
- **3.** Type your FactoryTalk Directory Administration Console credentials into the login screen and click OK.
- 4. Click Remote computer.

Use the Eastern Talk Directory installed on	
Use the Factory raik Directory installed on.	<u>O</u> K
C Ihis computer	Cancel
Bemote computer	

Click Browse (ellipsis '...' in box) to navigate the network to find the computer name of the PASS server that is hosting the FactoryTalk Directory services.

5. Choose the appropriate PASS server name and click OK.

The Network FactoryTalk Directory location has now been specified.

- 6. When prompted, enter your credentials and click OK.
- 7. Restart the server after making a change.

Configure the FactoryTalk Activation Server

For continuous use of FactoryTalk products and other Rockwell Automation software products, computers running the software must have access to activation files. FactoryTalk Activation software provides a secure, software-based system for activating Rockwell Automation software products and managing software activation files. With FactoryTalk Activation software, there is no need for a physical master disk or any physical media. Instead, activation files are generated and distributed electronically.

Concurrent activations are locked to a central activation-server computer on the network. The activation server manages a pool of activation keys for connected clients to share. Floating concurrent activations are assigned automatically to clients that need them. These activations are returned automatically to the activation server pool when the software stops running on the client, or when the client computer shuts down.

Client computers must be configured to obtain floating activations from the activation server. A continuous network connection is also required for clients to use floating activations. After a client obtains a floating activation, if the activation server detects that the client has been disconnected, the activation is returned to the server pool.

Consideration	Details
Software that is not activated	If the components you have installed cannot be activated, for example, because the activation server is unavailable, then the software continues to run for up to seven days. The seven-day grace period provides time to correct the problem with acquiring activations, without disrupting critical applications. If activation is restored within seven days, normal operations resume. If activation is not restored, the grace period expires. After the grace period expires, if you restart the components and activation remains unavailable, the software runs for two hours in Demo mode.
Location of activation server	The PASS is the primary choice for activation management and is recommended to be the location of the activation server. In the instance that the PASS is not an acceptable location, for example, when you make use of a redundant PASS solution, the EWS is the secondary choice. In this instance, the EWS can be a dedicated station with a permanent Ethernet connection to the system. The FactoryTalk Activation software can be configured to run as both a server and client utility.
Options for adding activation files to the PASS	To make concurrent floating activations available to activation clients, first you must download the activation files to the activation server computer, from the Rockwell Automation Activation window. If the PASS has internet access, see <u>Open Activation Manager on page 108</u> . If the PASS does not have internet access, the activations can be downloaded on a different computer with internet connectivity and then transferred to the PASS.
Protect activation files	Activation files are simple text files that must have a .lic extension. As long as the .lic extension is retained, you can copy or rename an activation file without harming it. However, tampering with text inside the activation file can disable your Rockwell Software products. If an activation file is damaged or deleted, contact Rockwell Automation Technical Support. For safekeeping, keep an original set of your activation files on back-up media. Use descriptive names for the files, so that you can identify them later, and copy them back to the appropriate computers. Activation files are locked to the Host IDs of the computers (or dongles) that need them. Activation fails for Rockwell Software products on a computer where the specified Host ID is not recognized by the activation file.

Table 5 - Activation Considerations

Open Activation Manager

On the Activation Manager computer, start the activation process by opening the Activation Manager.

 Click Start and choose All Programs>Rockwell Software> FactoryTalk Activation>FactoryTalk Activation Manager.

The FactoryTalk Activation Manager window appears.

FactoryTalk Activation Manager		_ __
S 🕖 S 🧿 🥵 🕢		
FactoryTalk Activation N	lanager	Help About
Home Manage Activations Advanced		
	Welcome to FactoryTalk Activation!	
You are steps away from using your Rockwell Automation product. All you have to do is activate your Rockwell product using FactoryTalk Activation.		
	Ready to get started?	Want to learn more?
	To activate your Rockwell product, click one of the following buttons:	To learn more about FactoryTalk Activation before you get started, click the following button:
	Find Available Activations	Learn More
	Get New Activations	
Rockwell Automation		

- **2.** For instructions on installing FactoryTalk activations, click Help (circled in the previous figure).
- 3. Use the Help instructions to complete the activations.

After completing the activation process, your AppServ-Hist is ready to use.

Update Activation Search Path

After the license files are on the PASS, you must update the Activation Search Path on the AppServ-Hist.

- If the Activation Manager is not already open, click Start and choose All Programs>Rockwell Software>FactoryTalk Activation> FactoryTalk Activation Manager.
- 2. Click Find Available Activations.

The Manage Activations section appears on the FactoryTalk Activation Manager window.

3. Click Update Activation Search Path.
The Update Activation Search Path window appears.

- 4. Click Add Server.
- 5. Click Browse (ellipsis '...' in box).

The Browse for Server message window appears.

6. Select the PASS in the network and click OK.

The name of the PASS computer appears in the table under Path to Activations.

- 7. Check the box next to the name of the PASS computer.
- 8. Click 'Up' so that the PASS computer moves to the top of the list.
- 9. Click Save.
- 10. Click Refresh Activations.

Available activations appear in the table.

Rename SQL Server

As a result of the Sysprep process (used to build the template) and subsequent renaming of server, it is necessary to use the SQL Server Rename Tool to grant SysAdmin rights to the local administrator of the renamed SQL Server Express instance on the virtual image.

Perform the following steps.

1. On the desktop, double-click the PlantPAx Utilities icon.

The PlantPAx Utilities directory opens.



- 2. In the Microsoft Windows Explorer window that appears, double-click SQL Server Rename Tool directory (circled in the previous figure).
- **3.** In the SQL Server Rename Tool directory, double-click the 'addselftosqlsysadmin.cmd' file name.

A command window opens with the default name for the SQL instance name.

eve C:\W	/indow	s\system32	\cmd.exe	2					- 🗆 🗙
Enter	SQL	instance	name,	0ľ	default	to	SQLEXPRESS:	-	
									-

4. In the window that appears, press Enter to accept SQLEXPRESS as the name of the SQL Instance name.

The name change is processed and can take a few minutes.

Hading 'WIN-005HJN49HU3\Haministrator' to the 'sysadmin' role on SQL S ance 'SQLEXPRESS'.	erver inst 🔺
Verify the 'MSSQL\$SQLEXPRESS' service exists	
The SQL Server (SQLEXPRESS) service is stoming.	
The SQL Server (SQLEXPRESS) service was stopped successfully.	
Start the 'MSSQL\$SQLEXPRESS' service in maintenance mode	
Had 'WIN-005HJNQ9HU3\Haministrator' to the 'sysaamin' role Ston the 'MSSQL5SQLEXPRESS' service	
The SQL Server (SQLEXPRESS) service is stopping.	
The SQL Server (SQLEXPRESS) service was stopped successfully.	
The SQL Server (SQLEXPRESS) service is starting.	
The SQL Server (SQLEXPRESS) service was started successfully.	
'WIN-005HJNQ9A03\Administrator' was successfully added to the 'sysadmi	n' role.
rress any key to continue	
	-

- 5. Verify that 'Computername\Administrator' was successfully added to the 'sysadmin' role is displayed on the screen (circled in the previous figure).
- 6. Press any key to close this window.

(

Install Historian Asset Framework (AF)

You must install the Historian Asset Framework (AF) by using the installation wizard. Perform the following steps.

1. On the desktop, double-click the AppServ-Hist Software Install Files icon. The AppServ-Hist Software Install Files directory opens.

/ 💭 🗮 🔹 Computer 🔹 Local Disk (C:) AppServ-Hist Software Install Files	+ 😥	Search AppServ-Hist :	software Insta	il
rganize 👻 Include in library 👻 Share	with 🔻 New folder			====	
- Favoritar	Name		Date modified	Туре	
Desktop	4 00 00-ETHistorian-SE-DVD		1/24/2014 7:27 AM	File folder	
Downloads			the freet i there in t	1 10 101001	
Recent Places					
🗃 Libraries					
Documents					
J Music	-				
E Pictures					
E PlantPAx					
Videos					
U Computer					
Local Disk (C:)					
💼 Data (D:)					
Network					
AIK-DEPLOYMENT					
APPSERV-BATCH10					
APPSERV-BATCH11					
APPSERV-HIST10					
J APPSERV-HMI101					
APPSERV-HMI-102					
APPSERV-OWS01					
PPSERV-VAN10	+(*)				

2. In the window that appears, double-click the 'DVD' directory (circled in the previous figure).

a Edit View Teals	Hab			
rganize 🔻 Include in li	brary Share with New folder			# • 🖬 (
Favorites	Name -	Date modified	Туре	Size
E Desktop		1/24/2014 7:27 AM	File folder	
📕 Downloads	Setup	1/24/2014 7:27 AM	File folder	
Recent Places	autorun.inf	5/15/2012 1:42 AM	Setup Information	1 KB
Librarian	Historian SE Third_PartyLicense.rtf	5/30/2012 3:32 AM	Rich Text Document	53 KB
Documents	PKG info.txt	5/6/2010 2:10 AM	Text Document	1 KB
J Music	Setup.exe	10/17/2013 1:00 AM	Application	5,317 KB
E Pictures				
📄 PlantPAx				
Videos				
Computer				
Local Disk (C:)				
🕞 Data (D:)				
📭 Network				
6 itoms				

The 'DVD' directory is opened.

3. Double-click 'setup.exe' (circled in the previous figure).



The FactoryTalk Historian Site Edition main page appears.

4. Click 'Install FactoryTalk Historian Site Edition' (circled in the previous figure).

The Install FactoryTalk Historian Site Edition page appears.

ttoryTalk® Histor	rian Site Edition	-
	INTEGRATED PRO	DUCTION & PERFORMANCE SUITE
Factory	Talk Historian Site Edition	00000
	Install FactoryTalk Historian Site Edition	
00	Install FactoryTalk Services Platform	To install FactoryTalk Historian
0	Install FactoryTalk Historian Asset Framework	Site Edition, select an option to continue.
0	Install FactoryTalk Historian Server	
0	Install FactoryTalk Historian Management Tools	
0	Install RSLinx Enterprise	
0	Install FactoryTalk Historian Live Data Interface	
0	Uninstall FactoryTalk Historian Site Edition	
- L		
		EACK EXIT
Version 4.00	@ Alian-Bradley - Rackwel	Software Automation
	The set of Angalance and Angalance All Alaber Reger	na.

5. Click FactoryTalk Historian AF (circled in the previous figure).

	INTEGRATED P	RODUCTION & PERFORMANCE SUITE
Factory Talk Histori Site Edit	an 🤤	000000
Install FactoryTa	alk Historian Asset Fram	ework
Install Microsoft SQ	L Server 2008 Express	To install FactoryTalk Historian
Install FactoryTalk H	Historian AF Server	Asset Framework (AF), select an option to continue.
		BACK
Version 4.00	@ Allen-Bradley · Roci	kwell Software Automation
	Tachwell Augumation. Inc. 40 Alpha Re	ANTING-

The Install FactoryTalk Historian Asset Framework window appears.

6. Click 'Install FactoryTalk Historian Asset Framework Server' (circled in the previous figure).

The Welcome to FactoryTalk Historian Site Edition Asset Framework Suite Installation Wizard window appears.



7. Read the information in the window and click Next.

The End-User License Agreement (EULA) appears.

LICENSE AGREEMENT	Factory Talk	
		_
END-USER LICENSE AGREE	MENT (Rev Jan/2012)	•
("EULA") is a legal contract between you Licensee") and Rockwell Automation, Inc. products that Rockwell Automation licer technology and may include associated n license to You printed materials, and "onli An amendment or addendum to this EU	I CARCFULLT, This End-User License Agree u (either an individual or a single entity) (" ("Rockweil Automation") for the software pror nses to You, which includes computer so nedia ("Software"). Rockwell Automation ma ine" or electronic documentation ("Document LA may accompany the Software. ROCK	erment You or duct or ftware, ay also ation").
AUTOMATION IS WILLING TO LICENS YOU ONLY ON THE CONDITION TH, CONDITIONS IN THIS AGREEMENT. YO TERMS OF THIS EULA BY INSTALL SOFTWARE. IF YOU ARE ACCEPTIN PERSON, COMPANY, OR OTHER LEG.	E THE SOFTWARE AND DOCUMENTATION AT YOU ACCEPT ALL OF THE TERMS U ACCEPT AND AGREE TO BE BOUND B ING, COPYING, OR OTHERWISE USING IG THESE TERMS ON BEHALF OF AND AL ENTITY, YOU REPRESENT AND WAR	AND AND Y THE THE THER RANT
AUTOMATION IS WILLING TO LICENS YOU ONLY ON THE CONDITION TH, CONDITIONS IN THIS AGREEMENT. YO TERMS OF THIS EULA BY INSTALL SOFTWARE. IF YOU ARE ACCEPTIN PERSON, COMPANY, OR OTHER LEG. C I accept the terms in the license agreement I do not accept the terms in the license agreem	E THE SOFTWARE AND DOCUMENTATION AT YOU ACCEPT ALL OF THE TERMS U ACCEPT AND AGREE TO BE BOUND B ING, COPYING, OR OTHERWISE USING IG THESE TERMS ON BEHALF OF AND AL ENTITY, YOU REPRESENT AND WAR ent	ON TO 5 AND 9 THE 5 THE 0 THER RANT

8. Read the EULA and click 'I accept the terms in the license agreement'.

IMPORTANT	The Next button does not become active until you click 'I accept the
	terms in the license agreement'.

The Review Component Installation window appears.

nis wizard will insta	II the following com	ponents of Fact	oryTalk Historia	n Site Edition 4.0	00 Asset Framework Suite
Component Name	Installed Version	New Version	Status	1	
I AF Server 2012		2.5.0.5039	Not installed	-	

9. Click Next.

The Destination Drive window appears.

Destination Dri	ive	Factory	falk in the second s
Click Next to install the s	uite to the selected drive, or	choose another one.	
he wizard will install Fa different drive, choose	ctoryTalk Historian Site Editi it from the list below.	on 4.00 Asset Framework Suite on the	selected drive. To install it on
lote: You can choose th nstalled on the compute	e destination drive only if no r before.	e versions of any FactoryTalk Historian	components have been
Installation drive:			
	-	1	The second se

10. Click Next to install the software to the drive indicated in the window. The AF Server Components Configuration window appears.

riose che in sole obcobase. Ie
ess edition, leave the default
-
nstalled and SQL Scripts will be

11. Click Next.

The Installation Progress window appears.

omponent Name	Installed Version	New Version	Status		
AF Server 2012		2.5.0.5039	To be installed		

12. Click Install.

The software installation starts.

After the software has been installed, the release notes are displayed.



13. Review the Release Notes and close the window when you are finished.

IMPORTANT The installation cannot be completed until the Release Notes window is closed.

After you have closed the Release Notes window and the installation is complete, the Installation Wizard Complete window opens.

14. Click Finish.



15. At the FactoryTalk Historian Asset Framework window, click Exit.

Delete Old Computer Name

After you have installed the Historian Asset Framework, you need to delete the old computer name. Perform the following steps.

If you are planning on implementing a collective, refer to Knowledgebase Answer ID 60585 - FactoryTalk Historian SE Collective Manager Error - Error Writing Server <u>https://rockwellautomation.custhelp.com/app/answers/detail/a_id/60585</u> for additional steps to take. This document can also be found in the PlantPAX Documentation folder in your template. You must have a TechConnect license to view this article. Asset Framework needs to be installed on a separate computer if you have implemented a collective. After AF has been installed on a separate computer, skip the steps in this section and perform the steps in the MDB to AF	IMPORTANT	At this point, if you are not planning on implementing a FactoryTalk Historian SE collective, then go ahead with the steps in this section and the Synchronize AF Database section.
You must have a TechConnect license to view this article. Asset Framework needs to be installed on a separate computer if you have implemented a collective. After AF has been installed on a separate computer, skip the steps in this section and perform the steps in the MDB to AF		If you are planning on implementing a collective, refer to Knowledgebase Answer ID 60585 - FactoryTalk Historian SE Collective Manager Error - Error Writing Server <u>https://rockwellautomation.custhelp.com/app/answers/detail/a_id/60585</u> for additional steps to take. This document can also be found in the PlantPAX Documentation folder in your template
Asset Framework needs to be installed on a separate computer if you have implemented a collective. After AF has been installed on a separate computer, skip the steps in this section and perform the steps in the MDB to AF		You must have a TechConnect license to view this article.
Synchronization section.		Asset Framework needs to be installed on a separate computer if you have implemented a collective. After AF has been installed on a separate computer, skip the steps in this section and perform the steps in the MDB to AF Synchronization section.

- 1. Click Start and choose >All Programs>Rockwell Software> FactoryTalk Historian SE>FactoryTalk Historian SE System> PISDK Utility. The PI Software Development Kit window opens.
 - **TIP** The first time the PI SDK is run, it can take several minutes to complete the startup and show a display.

🕼 PI SDK Utility (Admini	strator)
File PI SDK Buffering	Tools Help
PI SDK About PISDK Connections Snapshot Tool Message Log Support Data Error Lookup Fror Lookup	2012 PI Software Development Kit (64-bit)
 KST Cleanup 	PISDR Version: 1.4.2 Build: 1445 Date: 17/24/2014
	Install Path: [C\Program Files\Rockwell Software\FactoryTalk Historian\F PI SDK Node Status Important Log Messages since: *.1h OK OK
	PI Services Status: Update all Reset to now
	ОК
	Release version

2. In the explorer pane on the left side of the window, select Connections (circled in the previous figure).

The server pane is displayed in center of the window.

File PI SDK Buffering Tools Connections Help About PISDK About PISDK Image: Source to not connect to not c	🗇 PI SDK Utility (Admini	strator)	
Image: PI SDK Image: WIN-005HJNQ3A03 Network Node: WIN-DU4S3N1K9 Image: Connections Image: WIN-005HJNQ3A03 Network Node: WIN-DU4S3N1K9 Image: Connections Image: Connect Connect Connect as Image: Connect Connect Connect Connect Connect Connect Connect Image: Connect	File PI SDK Buffering	Tools Connections Help	
Save	File PI SDK Buffering PI SDK About PISDK Connections Connections Snapshot Tool Message Log Support Data Error Lookup Tracing Setup KST Cleanup	Tools Connections Help WIN-005HJNQ9A03 Network Node: Connect Connect Connect as Disconnect Disconnect Refresh Refresh F5 Add Server Ins Remove selected Server Del Description: Connected User: IP Address: PI Version: Operating System: Derating System:	WIN-DU4S3N1K9 5450 piadmin 10 60 PI3
WIN-DU4S3N1K9JV disconnected		WIN-DU4S3N1K9JV disconnected	Save,;

- **3.** In the server pane, right-click any computer name (other than your renamed computer) and choose 'Remove selected Server' (circled in the previous figure).
- 4. Click Yes.
- 5. Close the utility.

Synchronize AF Database

IMPORTANT Before proceeding, log off the computer and log in to the computer as the local computer Administrator with the password you created (see step 9 on page 97).

Once you have the FactoryTalk Historian Asset Framework installed, you need to set up synchronization between the Historian server's module database (MDB) and the AF server.

Perform Synchronization

To synchronize MDB to AF, run the MDB to AF Preparation Wizard by clicking Start and choosing All Programs>Rockwell Software>FactoryTalk Historian SE>MDB to AF Preparation Wizard.

TIP It can take a few minutes for the wizard to open. Follow the instructions in the wizard and complete all four steps.

IMPORTANT	The Historian MDB to AF Preparation wizard includes comprehensive online documentation. Click Help on any screen in the wizard to get instructions.
	See Knowledgebase Answer ID 496679 - FAQ: FactoryTalk Historian SE: MDB to AF Preparation Wizard at
	https://rockwellautomation.custhelp.com/app/answers/detail/a_id/496679
	or you can find it in the PlantPAX Documentation folder in your template.
	You must have a TechConnect license to view this article.

After successfully completing the MDB to AF Preparation wizard, perform the following steps to restart the PI to AF link subsystem service.

1. Click Start and choose All Programs>Rockwell Software> FactoryTalk Historian SE>System Management Tools.

The System Management Tools dialog box appears.

- **2.** Under Servers, select the Historian Server by checking the checkbox for your server.
- 3. Under System Management Tools, select Operation>PI Services
- 4. Right-click 'PI AF Link Subsystem (Running)' and click STOP Service.
- **5.** Wait until the service shows 'PI AF Link Subsystem (Stopped)', right-click it and select Start Service.
- 6. Verify that the PI to AF Link Subsystem is running.

Verify Synchronization

Follow these steps to verify the MDB to AF synchronization.

 If not already displayed, start the System Management Tools by clicking Start and choosing All Programs>Rockwell Software> FactoryTalk Historian SE>System Management Tools.

The System Management Tools dialog box appears.

- 2. Under System Management Tools, choose Operation>MDB to AF Synchronization.
- **3.** Select the Historian server for which you want to verify the synchronization:
 - If the synchronization is operating correctly, a green icon appears next to the name of the server.
 - If synchronization cannot be completed, a red icon appears. Click in the System Management Tools dialog box for information on how to diagnose and solve the problem.

IMPORTANT Log off the computer and log on as the new (administrator) user you created (see <u>Create an Administrator User Account on page 99</u>).

Complete Historian Configuration

At this point, the FactoryTalk Historian virtual template is ready for use. Review the Post Installation Tasks and Configuring FactoryTalk Historian chapters of the FactoryTalk Historian SE Installation and Configuration Guide, Rockwell Automation Publication HSE-IN025A (see http://literature.rockwellautomation.com/idc/groups/literature/ documents/in/hse-in025.pdf). This document provides a complete list of options related to configuring FactoryTalk Historian, adding your Historian to

the FactoryTalk Directory, assigning license activations to the FactoryTalk Historian server, configuration of data interfaces, security configuration, and other items to consider to complete your AppServ-Hist installation.

IMPORTANT	We recommend that you perform the following sections of the FactoryTalk Historian SE Installation and Configuration Guide, publication <u>HSE-IN025A</u> , on the pages indicated:
	• Verify that Historian Services are Running (page 53)
	• Verify that Historian Server is Updating Data for Default Tags (page 55)
	Create Security Mappings (page 71)
	Adding the Server to the FactoryTalk Directory Connection (page 78)
	• Assigning License Activations to the Historian Server (page 88)

The FactoryTalk Historian SE Installation and Configuration Guide can be found in your template at: c:\AppServ-Hist Software Install Files\ 4.00.00-FTHistorian-SE-DVD\Redist\Docs.

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Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <u>http://www.rockwellautomation.com/support</u> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <u>https://rockwellautomation.custhelp.com/</u> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/services/online-phone.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the <u>Worldwide Locator</u> at <u>http://www.rockwellautomation.com/rockwellautomation/support/overview.page</u> , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication <u>RA-DU002</u>, available at <u>http://www.rockwellautomation.com/literature/</u>.

Rockwell Automation maintains current product environmental information on its website at http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page.

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