Pre-Installation Checklist for Atellica Process Manager Version 2.2

Contents

SIEMENS
Healthineers

Pre-Installation Checklist for Atellica Process Manager Version 2.2

1.0 Contact Information

Site Contact Information

Ship to Account Number*:

Sold to Account Number*:

Official (SAP/Accounting) Account Name and Account Number*:

Ship to Address*:

Country*:   City*:   State*:   Zip*:

Attention of: Phone: Fax:
   Customer Primary Contact Name*:   Phone*:   e-mail*:

   Customer Secondary Contact Name: Phone: e-mail:

   Customer Network Admin Name*:   Phone*:   e-mail*:

Siemens Healthineers Contact Information

Country*:

Country Atellica Process Manager Specialist*:   Phone: e-mail*:

IT Specialist*:   Phone: e-mail*:

Applications Specialist*:   Phone: e-mail*:

Sales Representative*:   Phone: e-mail*:

Regional Sales Manager: Phone: e-mail:

Regional Service Manager: Phone: e-mail:

* Mandatory fields

2.0 Customized Master Planning Worksheet for Implementation

The purpose of this Pre-Installation Checklist is to assist in planning the upcoming installation of the Atellica® Process Manager (Atellica PM) software version 2.2. Our extensive planning process ensures that this product meets the customer's expectations at the completion of the installation.

Together the Siemens implementation team and the customer's team will discuss and complete this Pre-Installation Checklist. Once completed, this checklist will be used by the customer with the *Atellica Process Manager Upgrade and Installation Instructions,* and the list will be used by the Siemens Atellica PM specialist to configure the system.

Typical Installation Workflow

1. During the sales process, Siemens verifies that the customer has the hardware/virtual resources and time to install the Atellica Process Manager system.

2. The Siemens Implementation Team and the customer team meet to complete the Pre-Installation checklist.

3. The customer installs the Atellica Process Manager server, Data Router server, Analytics server, and clients.

4. Once the customer completes the installation, the Siemens Atellica PM specialist configures and customizes the software.

5. The Siemens Atellica PM specialist trains the customer.

Pre-implementation meeting date:	Implementation Date:	Target go-live date:
Siemens contact completing this form:	**Customer contact completing this form:**	**Date this form was completed:**

Customer's Agreement for Site Readiness Completion

The customer understands that should Siemens support staff arrive on-site to configure the product and the site is not prepared per the server and client specifications provided by this Pre-Installation Checklist, the implementation will *not* occur.

Customer has confirmed site readiness as stated above:　　☐ Yes ☐ No

3.0 Atellica Process Manager Network Overview

The Atellica Process Manager system is a software-only product that is installed on customer-supplied hardware. The Atellica Process Manager system has 4 components:

- Atellica Process Manager server
- Data Router server
- Analytics server
- SQL server

Each component must be a dedicated server except in the following circumstances:

- The Atellica Process Manager server and SQL server can reside on the same computer or instance. Combining the Atellica Process Manager server and the SQL server requires a minimum of 32 GB RAM.
- For Labs running less than 100,000 tests per day, the Data Router server and Analytics server can reside on the same computer or instance. Combining the Data Router server and Analytics servers requires a minimum of 72 GB RAM.

These are approved physical and virtual host configurations based on the criteria for combining servers. Indicate which configuration will be in use.

Select a Configuration	Number of Servers	Server 1	Server 2	Server 3	Server 4
☐	4	Atellica PM Server	SQL Server	Data Router Server	Analytics Server
☐	3	Atellica PM Server SQL Server	Data Router Server	Analytics Server	N/A
☐	3	Atellica PM Server	SQL Server	Data Router Server Analytics Server	N/A
☐	2	Atellica PM Server SQL Server	Data Router Server Analytics Server	N/A	N/A

Virtualization

The Atellica Process Manager software supports virtualized servers running Microsoft Hyper-V and VMware vSphere hypervisors with the following specifications or by the respective providers of the virtualized server software.

Specifications

Install the Atellica PM system in an Aptio® Automation environment or as a standalone system connected to instruments only.

In an automated environment, the Atellica PM system must have access to both the customer's internal network and the Siemens instrument network.

- If the Aptio Automation serial number starts with APT-, the customer is responsible for bridging the customer and instrument networks. The customer provides and configures a gateway appliance or router with port-forwarding capabilities.

- If the Aptio Automation serial number starts with AP2- and a CNI (Common Network Infrastructure) router is being used, Siemens support personnel will configure the CNI router for the Atellica PM system with information provided by the customer.

Requirements

The following requirements must be met:

- Hospital/Labs will have an IT administrator resource to install and support the servers and clients.

- Customer uses a local user or domain user account with administrator privileges to install the software on each machine.

- In reference to Atellica PM user accounts: If creating Domain accounts, enter the user name with the following format: domain name (NetBIOS name)\username or user name@domain name. Do not include the fully qualified domain name. Note: User accounts are created in Windows on the Atellica PM server or within Active Directory for Domain accounts. These accounts are granted access to Atellica PM from within Atellica PM.

- Customer is responsible for backup of the Atellica Process Manager database.

- Customer is responsible for anti-virus software on supplied servers and clients.

- Customer is responsible for backup of the Analytics data repository.

- Customer is responsible for updating Microsoft operating systems and SQL server components.

- Siemens support personnel must be able to remotely monitor and access *syngo*® Lab Connectivity Manager (sLCM) or Atellica Connectivity Manager (Atellica CM) using Smart Remote Services (SRS).

- All instruments, servers, and middleware are using Network Time Protocol (NTP) time source for synchronization.
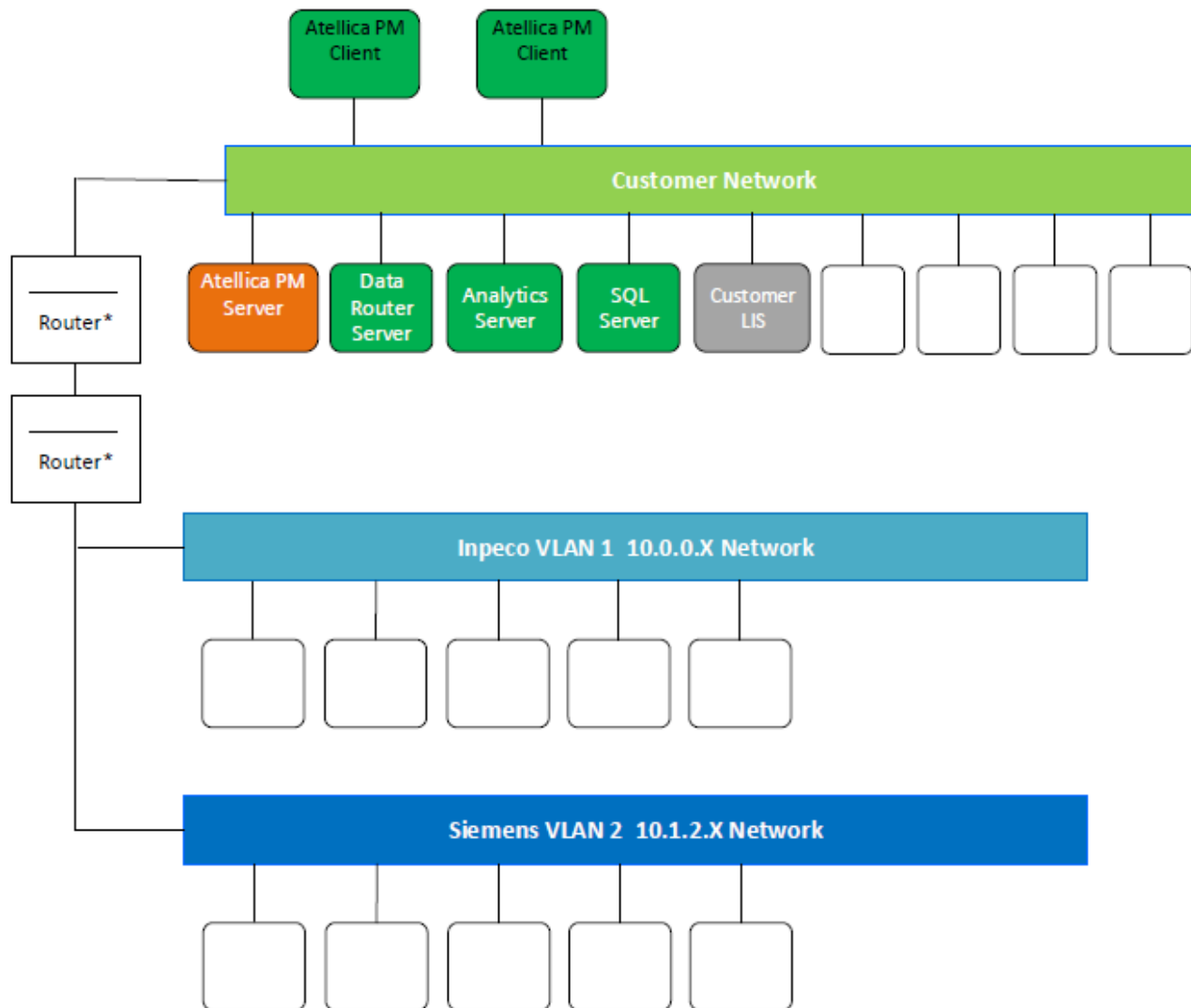
If the customer cannot meet these minimum requirements or fails to provide an IT resource, the implementation of the Atellica Process Manager system is not permitted.

4.0 Atellica Process Manager v2.2 Supported Configurations

	CentraLink® 16 and Second LIS Channel	Atellica Data Manager	DMS-only	Standalone Instruments
Aptio Automation (s/n AP2-)	Yes	Yes	Yes	Yes
Aptio Automation (s/n APT-)	No	Yes	N/A	Yes
No Automation Track	No	Yes	N/A	Yes

Network Diagram Worksheet for Aptio Automation (s/n AP2-) Configurations

Complete this worksheet to define the customer's network configurations.

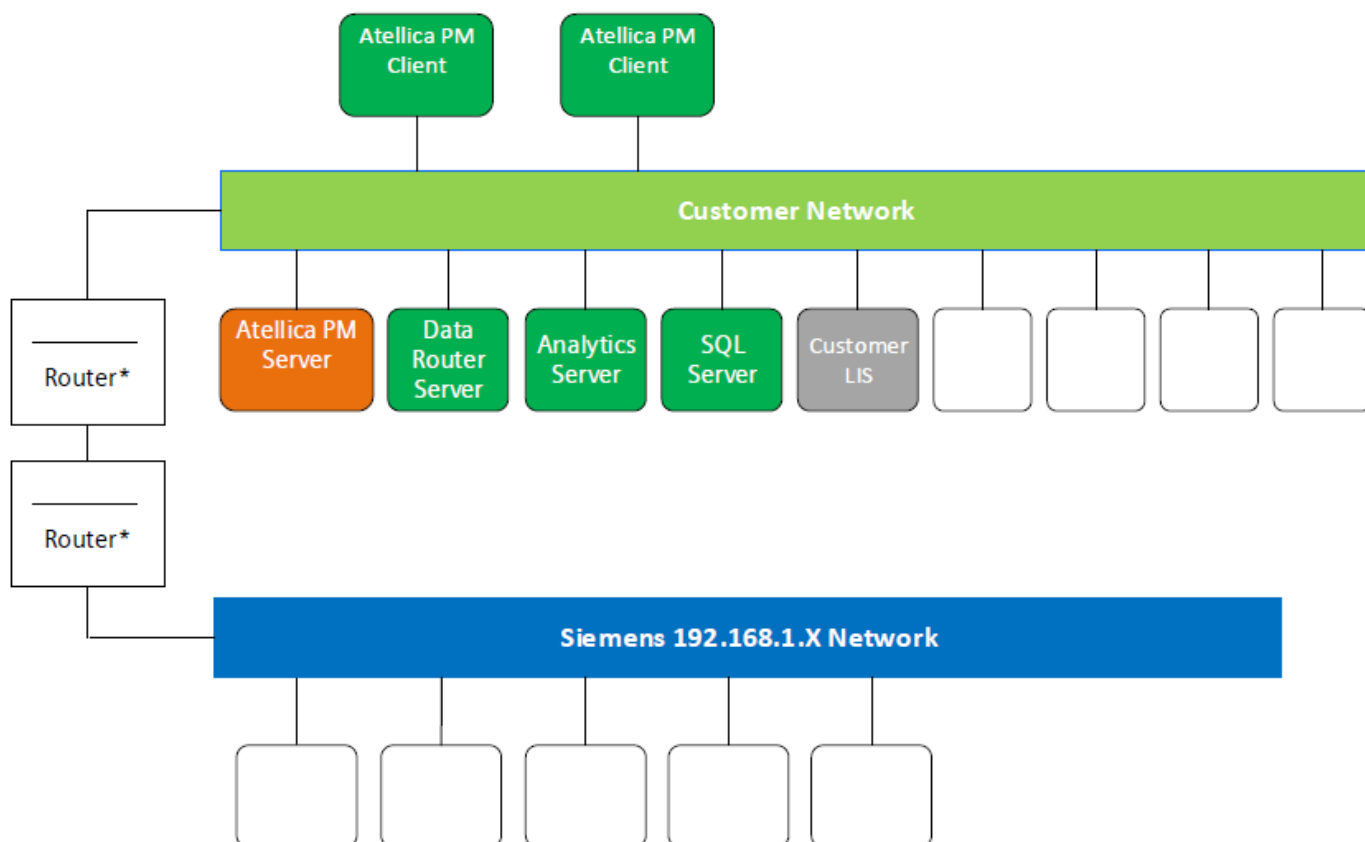Write the following components in the white boxes of the appropriate network.

- ■ DMS
- ■ Atellica Data Manager
- ■ CentraLink
- ■ sLCM or Atellica Connectivity Manager
- ■ SMS (Aptio Automation computer)

- ▢ Instruments
- ▢ Router*: Indicate if the router is customer-provided or a Siemens CNI router.

Color Key

- ■ All computers in orange must communicate with the Data Router Server.

- ■ All computers in green must communicate with the Atellica PM Server.

![Siemens Healthineers logo]

Network Diagram Worksheet for Aptio Automation (s/n APT-) or Standalone Configurations

Complete this network diagram worksheet to define the customer's network configurations.

Write the following components in the white boxes of the appropriate network.

■ Atellica Data Manager	■ Instruments	
■ CentraLink	□ Router*: Indicate if the router is customer-provided.	
■ sLCM or Atellica Connectivity Manager		
■ Aptio Automation Computer		

Color Key

■ All computers in orange must communicate with the Data Router Server.

■ All computers in green must communicate with the Atellica PM Server.

5.0 Network Port Information

Note: The Direction column indicates the direction from the server or client in the respective section. For example, in 5.1, inbound or outbound direction is from the Atellica PM Server.

5.1 Atellica PM Server Firewall Port Requirements		
Port	**Description**	**Direction**
25	Default SMTP port used for email notifications.	Outbound
1433	Default SQL Server port (if SQL is installed on different server)	Outbound
2514, 2516	Atellica PM application-to-server communication	Inbound
3389	Remote Desktop (RDP)	Inbound, Outbound
4242	Default Qlik Sense Repository Service (QRS) API service port, used for analytics license sync.	Outbound
5900	Remote Control (VNC)	Inbound, Outbound
20001	sLCM / Atellica CM	Outbound
30101	Atellica PM i2i service	Inbound, Outbound
8003 Record the port number if the default port will not be used.	Data Router	Outbound

5.2 Client Firewall Port Requirements		
Port	**Description**	**Direction**
2514, 2516	Atellica PM application-to-server communication	Outbound
3389	Remote Desktop (RDP)	Outbound
443 This port can be changed during the installation.	Report Server	Outbound

5.3 Data Router Server Firewall Port Requirements		
Port	**Description**	**Direction**
8002*	HTTP GET	Inbound
8003*	Websocket	Inbound
30101	Data Router i2i Service	Inbound, Outbound
5900	Remote Control (VNC)	Inbound
20001	sLCM / Atellica CM service	Outbound
21213 **	sLCM / Atellica CM data	Outbound
60001**	Data Management Software	Outbound
9998**	Atellica Data Manager	Outbound
25200**	CentraLink	Outbound

5.3 Data Router Server Firewall Port Requirements

Microsoft File Sharing (SMB) User Datagram Protocol (UDP) ports from 135 through 139 and Transmission Control Protocol (TCP) ports from 135–139. Direct-hosted SMB traffic without a network basic input/output system (NetBIOS): port 445 (TCP and UDP).	Aptio Automation	Outbound

* Record the port number if the default port will not be used.

** These are the default port values. Use the actual port value in the firewall configuration.

5.4 Analytics Server Firewall Port Requirements

Port	Description	Direction
443	Default Qlik Sense Proxy Service (QPS) API service port. This port uses https for communication.	Inbound, Outbound
4242	Default Qlik Sense Repository Service (QRS) API service port. This port uses https for communication.	Inbound
4244	Default port for the internal authentication module in the Qlik Sense Proxy Service (QPS) when using NTLM in Microsoft Windows. This port uses https for communication.	Inbound, Outbound
rundll32.exe	Used by the installer software to launch the Test Connection functionality included in the .dll. After the installation completes, rundll32.exe can be disabled for the installer software.	Outbound

6.0 Installation Notes

The customer's IT personnel who install the Atellica Process Manager 2.2 system software shall review the following information prior to performing the installation:

- Atellica PM can be configured to provide an e-mail alert about software updates. The alert can be created from within Atellica PM, **Settings** > **System** > **Notifications**.

- Multiple passwords are required during the installation process. The list of passwords, along with any restrictions, is provided in Appendix A to assist in collecting the required passwords prior to performing the installation.

- During the Atellica PM Server installation process, the installer software prompts for SQL credentials (log-in name and password). The installer uses these credentials to create a new SQL ProcessManager database. The SQL log-in profile given to the installer must be associated with the server roles: dbcreator, securityadmin, and bulkadmin.

- During the Atellica PM Analytics installation process, the installer software prompts for SQL credentials (log-in name and password). The installer uses these credentials to connect to the existing ProcessManager database. The SQL log-in profile given to the installer must be associated with the securityadmin server role. The SQL log-in profile must also have ALTER ANY USER and db_owner privileges on the ProcessManager database.

- The Atellica PM server installer must create a new database during the server installation process. The Atellica PM cannot use an existing database.

- If the Atellica PM system is being installed at a site using Citrix, configure the Working Directory property in the Citrix Server Studio > Atellica PM Application properties.

  o Enable the Citrix Video optimization feature. See the Citrix documentation to enable and configure the Citrix Video optimization feature.

- All Windows user accounts on a Client that access the Analytics reports require read access to the client certificate.

- The Atellica PM Analytics installer software creates 15 local Windows accounts (AnalyticsUser01 through AnalyticsUser15) on the Analytics server computer. These Windows accounts provide access to analytics reports to the APM clients. By default, the Windows accounts are created with the **Password never expires** option checked. This setting can be overridden by the local IT policy, if the policy requires password expiration. Starting with Atellica Process Manager 2.2, an additional local Windows account, AnalyticsServiceUser, is created and used by Qlik services.

  o If the password for AnalyticsServiceUser is changed, all Qlik services stop running and Analytics reports become inaccessible from Atellica PM clients. To correct this, the Qlik services logon account password must be updated to match AnalyticsServiceUser and the Qlik services must be restarted.

- During the installation, the antivirus or anti-malware software on your system can prevent the Atellica PM installer program from completing successfully. Siemens recommends temporarily stopping the Antivirus and Anti-malware software before the installation. When the installation completes, restart the Antivirus and Anti-malware software.

- Use the Atellica PM Users Worksheet in Appendix B to list usernames and authorizations for the Atellica PM system.

- Active Directory users across multiple domains with a trust relationship can log into Atellica PM system.

SIEMENS Healthineers

"

7.0 Required Information

☐ **7.1 Information provided by Siemens**

NOTE: This section confirms the equipment being purchased or already in place. This section cannot be used to add new equipment to the sales contract.

Complete the connectivity between Atellica Data Manager, CentraLink, Aptio Automation system, DMS, Atellica Connectivity Manager, sLCM, LIS, and instruments before installing the Atellica Process Manager 2.2 software.

Check the appropriate automation environment:

Aptio Automation: ☐ No Automation

    ☐ AP2-

    ☐ APT-

        If the site has an Aptio Automation (s/n APT-) system or does not have an automation system, refer to Appendix C for information for the required gateway appliance or router.

Devices and Instruments	Qty	SW Version	Minimum SW Required	Upgrade Required		Notes
☐ Atellica Connectivity Manager			version 1.0	☐ Yes	☐ No	
☐ syngo® Lab Connectivity Manager			VA20B-2.0.1.78786	☐ Yes	☐ No	
☐ Atellica Data Manager			version 1.1	☐ Yes	☐ No	
☐ CentraLink® Data Management System			16.0.2.2	☐ Yes	☐ No	
☐ CNI Router				☐ Yes	☐ No	
☐ DMS			R 18	☐ Yes	☐ No	
☐ Aptio Automation (s/n AP2-)			R 17	☐ Yes	☐ No	
☐ Aptio Automation (s/n APT-)			Quebec 1	☐ Yes	☐ No	
☐ ADVIA® 1800				☐ Yes	☐ No	
☐ ADVIA 2400				☐ Yes	☐ No	
☐ ADVIA Centaur® XP				☐ Yes	☐ No	
☐ ADVIA Centaur XPT				☐ Yes	☐ No	
☐ ADVIA Chemistry XPT				☐ Yes	☐ No	
☐ Atellica Solution			version 1.13	☐ Yes	☐ No	
☐ Dimension® EXL™ 200				☐ Yes	☐ No	
☐ Dimension Vista® 1500			version 3.8	☐ Yes	☐ No	
☐ Dimension Vista 500			version 3.8	☐ Yes	☐ No	
☐ IMMULITE® 2000 XPi				☐ Yes	☐ No	
☐ IMMULITE 2000				☐ Yes	☐ No	
☐ VersaCell® system				☐ Yes	☐ No	

☐	**7.2 Information provided by Siemens**			
				Notes
	Atellica PM Security Whitepaper provided to customer and reviewed by the customer IT department.			
	Most recent version of the Atellica PM Release Notes provided to customer and reviewed by the customer's IT department.			
	Number of Analytics licenses:			A license for two Analytics users is provided with the purchase of Atellica PM. If additional users are required, contact the Siemens sales support team.
	DMS Navigation URL			
	sLCM or Atellica CM serial number			If there is more than 1 sLCM or Atellica CM, list all serial numbers.
		Port	**IP Address**	These IP addresses will be used during the software installation and configuration.
	CNI Router	n/a		
	SRS Gateway	20001		This IP address should be identical to the sLCM or Atellica CM IP address unless there is an exception to the network setup.
	sLCM or Atellica CM*	21213		If there is more than 1 sLCM or Atellica CM, list all IP addresses.
	DMS**	60001		
	Atellica Data Manager**	9998		Required if integrating an Atellica DM system.
	CentraLink system**	25200		Required if integrating a CentraLink system.
	SMS (Aptio computer)**	445		Required if using Aptio Automation.

* If access to the sLCM or Atellica CM service is not allowed on the customer network, refer to the service documentation for making this exception.

** For DMS, CentraLink, Atellica DM, and SMS IP addresses:
- If the component is on the customer network, enter the IP address of the component.
- If the component is behind the CNI or other router, enter the IP address of the router.

7.3 Information provided by Customer IT department		
NOTE: Administrative rights to Windows Server and SQL Server are required.		**Notes**
Path of Atellica PM installation folder (Default location is C:\Program Files)		The path can be a local or network drive.
SQL Server database instance name	Port: 1433	This is the SQL Server database instance. This should be in the format of "hostname\instance". If using a different port, use the following format: *hostname, port*
Path of SQL Server data file folder drive	D:\ or any valid drive letter with 200 GB containing a SQL Data file folder.	These folders are created by the admin in the desired location on the SQL Server machine. The paths must start with a valid drive letter. A Universal Naming Convention (UNC) is not valid for these entries. The default location in the installation software is the same drive. Siemens recommends these 2 folders reside on different drives.
Path of SQL Server transaction log drive and folder	E:\ or any valid drive letter with 20 GB (non-compressed) space containing a SQL Log folder.	
Path of drive containing Analytics Share and Data folder	D:\ or any valid drive with 400 GB of space.	
IP address of Atellica PM server	IP:	
Atellica PM Serial Number		The serial number is found on the Atellica PM system software DVD.
IP address and port of Data Router	IP: Port: 8003	The default port for the Data Router is 8003. If using a different port, indicate the port number.
Citrix XenApp	Version in use:	Atellica PM supports Citrix XenApp version 7.15 LTSR.

	7.3 Information provided by Customer IT department		
	Reporting Rights: Each Windows user account running the Atellica PM software that will access Analytics reports requires read access to the client certificate in the Personal certificate store. Will reporting rights be granted to individual users, or a local group account?		To verify that your log-in profiles work during Client installation, the administrator must enter the URL of the reporting server: • Use the usernames that will be created (AnalyticsUser01 and AnalyticsUser02) with the appropriate password
	How many clients will be installed? Location of clients.		Recommended Clients: • Lab manager office for Analytics report access • Command Center • Additional clients in lab areas, as needed
	SMTP server IP address and port	IP: Port:	Address and port of mail server
	Alert notification email address		This is the email address that displays to customers using email alerts.
	Is the Atellica PM client in a location accessible by Siemens and Customer personnel?	☐ Yes ☐ No	The client computer must be in a location accessible to Siemens and lab personnel.

☐	**7.4 Information Provided by the Lab Manager**	
		Notes
	Sample ID Reuse Policy Will SIDs be reused? ☐ Yes ☐ No If SIDs will be reused, confirm the maximum number of days until reused: _____	If using SQL Express, do not reuse sample IDs beyond 5 days for sites running 1 million or more tests per day. If this is an issue, consult with a Siemens Atellica PM Specialist.
	Multiple Data Management System (DMS) Channels What is the laboratory peak hourly throughput? ☐ < 3000 Samples per hour or < 20,000 tests per hour peak throughput ☐ >3000 Samples per hour or > 20,000 tests per hour peak throughput	Laboratories that process < 3000 samples per hour or < 20,000 tests per hour peak throughput require only one DMS channel. Laboratories that process > 3000 samples per hour or > 20,000 tests per hour peak throughput require multiple DMS channels.
	Analytics Load Days What is the average number of laboratory tests run per day? 	Lab tests/day		Recommended data load (days)
<12,000	☐	730
12,000-20,000	☐	365
20,000-50,000	☐	180
50,000-100,000	☐	90
100,000-1,000,000	☐	30		Atellica PM loads 730 days of data for Analytics reports by default. Performance of Analytics reports is affected by both the number of tests run per day, and the number of concurrent Analytics users.
	Hemolysis, Icterus and Lipemia (HIL) Test Codes What are the laboratory's HIL test codes?	If the laboratory does not use H, I, and L for these tests, the values must be updated in Atellica PM by a Siemens technical service representative.

SIEMENS
Healthineers

8.0 Atellica Process Manager Client System Requirements

☐	**8.1 Hardware**			
	Component	**Minimum**	**Recommended**	**Actual**
	CPU	Intel i5, 64-bit multi-core processor or equivalent		
	Memory (RAM)	4 GB available memory	8 GB available memory	
	Hard Drive	2 GB available space (non-compressed)		
	Graphics	• Intel HD Graphics 530 Desktop or equivalent • Resolution 1920 x 1080	• Nvidia GTX 660 or AMD Radeon HD 7870 equivalent DX11 GPU with dedicated 2 GB VRAM • Resolution 1920 x 1200	
	Network Adapter	100 Mbps Ethernet Adapter or higher	Gigabit Ethernet Adapter	
	Keyboard	Required	Required	
	Mouse	Required	Required	
	DVD-ROM Drive	Required for software installation	Required	

☐	**8.2 Software**		
	Software	**Version**	**Notes**
	OS	• Windows10, 64-bit, Professional, or Enterprise	
	Internet Browser	Internet Explorer version 11 or later	
	Application	Microsoft .NET Framework 4.5.2	.NET Framework 4.5.2 software is included in the \redist folder of the installation software (Atellica PM System Software DVD).

9.0 Atellica Process Manager Server Requirements

	9.1 Hardware			
	Component	**Minimum**	**Recommended**	**Actual**
	CPU	Intel Xeon Family 64-bit 4 core server class processor (Cores represent the number of independent CPUs in a single chip. You must enable Hyper-threading.)		
	Memory (RAM)	8 GB (32 GB minimum if combined with SQL Server.)		
	Hard Drive	60 GB (non-compressed)		
	Monitor	1280 x 720 or higher resolution	Resolution 1920 x 1200	
	Network Adapter	100 Mbps Ethernet Adapter or higher	Gigabit Ethernet Adapter	
	DVD-ROM Drive	Required for software installation	Required	

	9.2 Software		
	Software	**Version**	**Notes**
	OS	• Windows Server 2012 R2 Standard, 64-bit • Windows Server 2016 Standard, 64-bit	
	Application	Microsoft .NET Framework 4.5.2	.NET Framework 4.5.2 software is included in the \redist folder of the installation software (Atellica PM System Software DVD). .NET Framework 4.5.2 does not support Transport Layer Security (TLS) 2.0. TLS 1.1 must be enabled to allow Atellica PM to connect to the database for proper installation.

10.0 Microsoft SQL Server Requirements

☐ **10.1 Hardware**			
Component	**Minimum**	**Recommended**	**Actual**
CPU	Intel Xeon Family 64-bit 4 core server class processor (Cores represent the number of independent CPUs in a single chip. Enable Hyper-threading.)		
Memory (RAM)	24 GB (32 GB minimum if combined with Atellica PM server.)		
Hard Drive	**C** drive: 60 GB containing operating system **D** drive: 200 GB containing SQL Data file **E** drive: 20 GB containing SQL Log (non-compressed)		
Monitor	1280 x 720 or higher resolution	Resolution 1920 x 1080	
Network Adapter	100 Mbps Ethernet Adapter or higher	Gigabit Ethernet Adapter	
DVD-ROM Drive	Required for software installation	Required	

☐ **10.2 Software**		
Software	**Version**	**Notes**
OS	• Windows Server 2012 R2 Standard, 64-bit • Windows Server 2016 Standard, 64-bit	
SQL Server	• SQL Server 2012 Standard SP4, 64-bit • SQL Server 2014 Standard SP3, 64-bit • SQL Server 2016 Standard • SQL Server 2017 Standard • SQL Server 2017 Express, 64-bit *	
Application	Microsoft .NET Framework 3.5	

*If using SQL Express, a Siemens Atellica PM Specialist must set the Sample and Result Data purge setting to a maximum value of 5 million divided by daily test or sample volume.

11.0 Data Router Server Requirements

	11.1 Hardware			
	Component	**Minimum**	**Recommended**	**Actual**
	CPU	Intel Xeon Family 64-bit, 4 core server class processor (Cores represent the number of independent CPUs in a single chip. Enable Hyper-threading.)		
	Memory (RAM)	8 GB (72 GB minimum if combined with Analytics server.)		
	Hard Drive	200 GB (non-compressed)		
	Network Adapter	100 Mbps Ethernet Adapter or higher	Gigabit Ethernet Adapter	
	DVD-ROM Drive	Required for software installation	Required	

	11.2 Software			
	Software	**Version**	**Actual**	**Notes**
	OS	• Windows Server 2012 R2 Standard, 64-bit • Windows Server 2016 Standard, 64-bit		For Windows Server 2012 R2 Standard 64-bit, the latest Microsoft Windows security updates up to the end of December 2018 must be installed for Data Router Configuration Tool to open in Google Chrome browser
	Application	Microsoft .NET Framework 4.5.2		.NET Framework 4.5.2 software is included in the \redist folder of the installation software (Atellica PM System Software DVD).
		Google Chrome v64 or higher		Google Chrome v64 or higher must be installed on this computer for Data Router installation and configuration. Other browsers are not supported.

12.0 Analytics Server Requirements

	12.1 Hardware			
	Component	**Minimum**	**Recommended**	**Actual**
	CPU	Intel Xeon Family 64-bit, 8 core server class processor (Cores represent the number of independent CPUs in a single chip. You must enable Hyper-threading.)		
	Memory (RAM)	Up to 100,000 tests per day: 64 GB. (72 GB if combined with Data Router server.) Up to 1,000,000 tests per day: 320 GB.		
	Hard Drive	**C** drive: 100 GB containing operating system **D** drive: 400 GB containing Analytics Share and Data folders		
	Network Adapter	100 Mbps Ethernet Adapter or higher	Gigabit Ethernet Adapter	
	DVD-ROM Drive	Required for software installation	Required	

	12.2 Software		
	Software	**Version**	**Notes**
	OS	• Windows Server 2012 R2 Standard, 64-bit • Windows Server 2016 Standard, 64-bit	
	Internet Browser	Internet Explorer version 11 or later	
	Application	Microsoft .NET Framework 4.5.2	.NET Framework 4.5.2 software is included in the \redist folder of the installation software (Atellica PM System Software DVD).

13.0 Atellica Process Manager Network Requirements

☐	**Loss & Error** One indicator of network congestion is packet loss, which can also be caused by other factors, such as faulty network devices. Network packet loss and error rates should be less than 0.1%. Unrecoverable packet loss disrupts overall system operation.
☐	**Bandwidth** At a minimum, each system, instrument, and module must connect to the network with full duplex 100 Mb/s interface. Use auto detect to obtain 100 Mb/s. Siemens recommends that servers connect to the network with a full duplex 1 GB/s interface, or aggregate multiple 100 Mb/s full duplex connections. Network devices (for example, switches) on the subnet must allow a minimum throughput of 100 Mb/s from instruments to server, or from systems to the Atellica PM server. Each instrument or system on the subnet should have a minimum throughput of 50 Mb/s to other connected systems.
☐	**Latency** Maximum latency between any two computers on the subnet should be less than 100 milliseconds.
☐	**Jitter** One indicator of network congestion is variability in latency. While currently there is no conversational or streaming traffic identified for Siemens systems on the subnet that are sensitive to jitter, the network should provide consistent latency. If the packet jitter is more than 20 milliseconds, the cause should be investigated.
☐	**Availability** During system operation, the network needs high availability of at least 99%. Disruptions in network availability will disrupt system operation. Provisions to allow routing around failed network devices and rapid diagnosis and replacement of failed network devices are required. Most instruments and systems are independently serviced by uninterruptible power supply (UPS) systems and need network availability during power outages. Siemens recommends a UPS and battery backup for all network devices to enable system operation during power outages. Run time for network devices should match or exceed the instrument and system runtimes connected to the network. Siemens recommends using network devices with MTBF greater than 100,000 hours.

Appendix A: Passwords Required for Installation

Below is a list of passwords that are required during the installation process.

Account	Used during installation of..	Notes
SQL service account	Atellica PM server, Analytics server	SQL credentials require dbcreator, securityadmin, bulkadmin server roles, ALTER ANY USER, and db_owner privileges on Process Manager database
SQL server account pmdba	Atellica PM server	Internal account created during installation, only used by Atellica PM software
SQL server account i2idba	Atellica PM server	Internal account created during installation, only used by Atellica PM software
Siemens Service Level2 account	Atellica PM server, Data Router Server	Password must change after configuration by Siemens service
Qlik Sense Database Repository Account**	Analytics server	Internal account created during installation, only used by Qlik Sense software
APM Analytics Local Windows Account**	Analytics server	Installer creates 15 Windows accounts on Atellica PM Analytics Server with this password
AnalyticsDataReader SQL server login**	Analytics server	Internal account created during installation, only used by Analytics to retrieve data from Atellica PM database
APM Analytics Local Windows Account AnalyticsServiceUser	Analytics server	Installer creates AnalyticsServiceUser local Windows account on Atellica PM Analytics server with this password

**See restrictions on next page.

Additionally, after the Analytics server is installed, a password must be created to generate and secure the Analytics certificate. The Analytics certificate is needed during APM client (including the APM server) configuration and the password is required to install the certificate.

During the Analytics installation process, create passwords that meet the site's password policy. Follow the guidelines in the table below when creating passwords.

Password	Characters to Avoid	Patterns to Avoid
Qlik Sense database password	\ backslash / slash > greater than < less than , comma ; semi colon : colon " double quote . period { left bracket } right bracket Spaces are not allowed	[ ] (This means a "]" right after a "[") { } (This means a "}" right after a "{")
AnalyticsUserxx password (AnalyticsUser01 through AnalyticsUser15 are created during the installation)	{ } ' " (brackets, single quote, double quote)	Not applicable
AnalyticsDataReader password	{ } (brackets)	Not applicable
AnalyticsServiceUser password	{ } ' " (brackets, single quote, double quote)	Not applicable

SIEMENS
Healthineers

Appendix B: Atellica PM Users Worksheet

Complete this table to list the usernames and access requirements for the Atellica PM system.

| Username	Active Directory Domain (Leave blank for Atellica PM Server created account)	Atellica PM Administrative Access Required		Atellica PM Analytics Access Required	
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No

Appendix C: Aptio Automation (s/n APT-) or Standalone Installations

When installing the Atellica Process Manager in any environment, there must be a network connection between the customer network and the instrument network. This connection is required for remote control functionality. To enable this connectivity, a Gateway appliance or router is connected to both the Customer Network and the Instrument Network. This router must be able to support port forwarding.

Unless the Atellica PM system is being installed in an Aptio Automation (s/n AP2-) environment, the customer provides the Gateway appliance or router. The customer configures a port-forwarding rule for each device that can be remote controlled to pass network data from the Customer Network to the Instrument Network. Siemens recommends installing and configuring the router prior to installing the Atellica PM system.

The following is an example of configuring a port forwarding rule:
- The Gateway appliance/router IP address is 1.2.3.4 and is using port 6000 on the customer network
- The Vista instrument IP address is10.0.0.5 on the instrument network, and is listening on port 5900 for VNC connections
- The router in this example would be configured so that any messages sent to the router on port 6000 forward to 10.0.0.5:5900
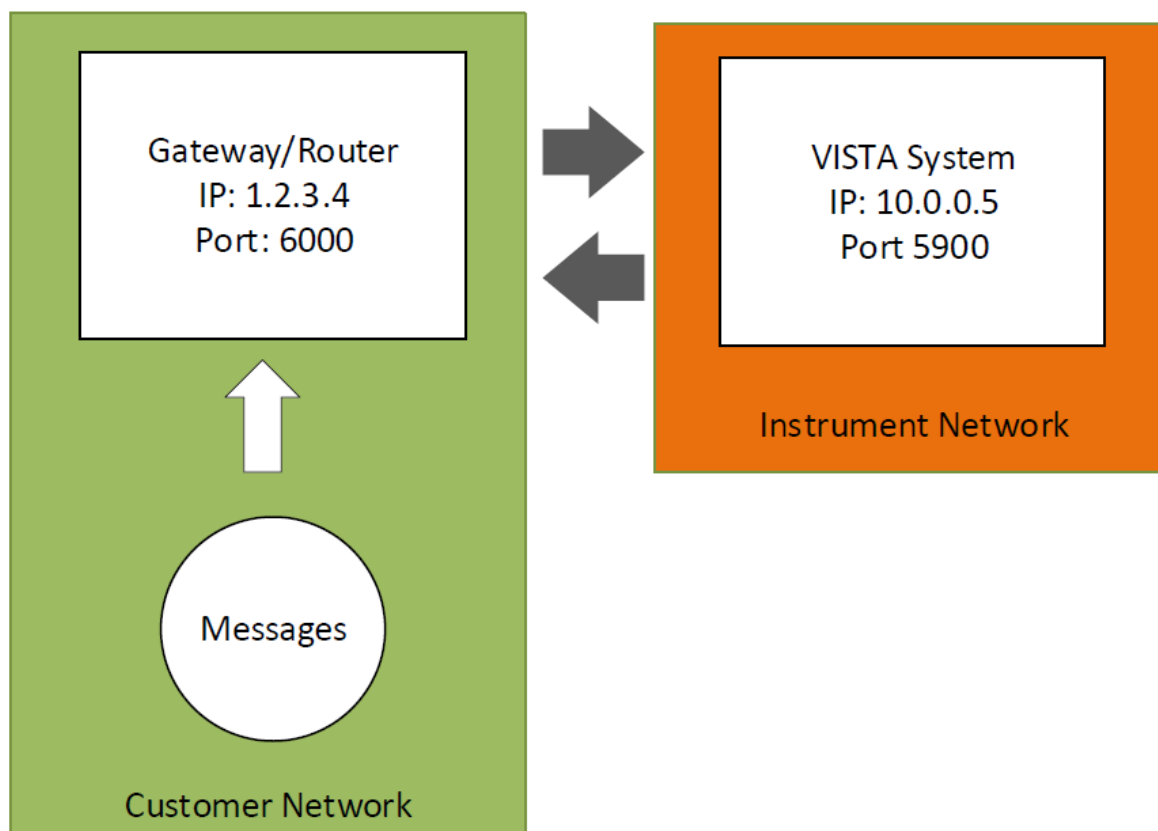
Instruments

Use the table to record information for the instruments and devices that are remote-controllable:

NOTE: On instruments and devices, VNC uses port 5900, RDP uses port 3389.

Instrument or Device	Instrument or Device IP Address	Alias Port	VNC or RDP
Gateway appliance/router		N/A	N/A
CentraLink system (if used)			RDP

Appendix D: General Comments

Record any comments in general or in respect to any of the preceding sections in this *Pre-Installation Checklist*, note them on this page.

Trademark Information

ADVIA, ADVIA Centaur, Aptio, Atellica, CentraLink, Dimension, EXL, Dimension Vista, IMMULITE, and VersaCell are trademarks of Siemens Healthcare Diagnostics Inc.

syngo is a trademark of Siemens Healthcare GmbH.

All other trademarks and brands in this document are the property of their respective owners.