meridium

Hardware and Software Requirements

V3.6.0.0.0

Meridium APM Hardware and Software Requirements
V3.6.0.0.0

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About this Document

This file is provided so that you can easily print the hardware and software requirements for all Meridium APM modules and features. Because this file represents excerpts from the Meridium APM Help system, parts of it may seem incomplete outside the Help system itself. When you read the documentation via the Help system, you will see links which serve as cross-references to other areas of the documentation. These cross-references are not available in this document.

To access the Meridium APM Help system, in the Meridium APM Framework application, click the **Help** menu, and then **click Meridium APM Help**.

The Basic Meridium APM System

Overview: The Basic Meridium APM System

The *basic Meridium APM system* consists of machines and software that are required for ANY Meridium APM implementation to function. Implementation of the basic Meridium APM system gives you the foundation-level analysis tools within the APM Framework application and is the basis upon which you can add additional machines that provide functionality for other Meridium APM components. This section of the documentation provides details on the architecture of the basic Meridium APM system, including the hardware and software requirements for each machine within the basic system.

The HW and SW requirements and Meridium APM system architecture represent the environment in which Meridium, Inc. tests Meridium APM. This is the environment that we recommend you use in your system. Throughout the documentation, we assume that your system meets these requirements. In addition, the HW and SW requirements indicate the associated behavior of the installers if these requirements are not met. You can use these as a reference for how the installation process behaves within the basic Meridium APM system.

Other HW or SW may be required for a specific module or feature that is not required to deploy the basic Meridium APM system. System requirements for specific modules and features is located in the documentation for that module or feature.

Directory of HW and SW requirements for the basic Meridium APM system architecture

Use the following list as a directory to locate the HW and SW requirements for each component of the basic Meridium APM system architecture.

Basic System Architecture Component
APM Application Server machine
APM Framework machine

| APM Database Server machine |
| SQL Server Report Server |

The Basic Meridium APM System Architecture

Meridium APM is a multi-tier system that runs on the Microsoft .NET Framework with some HTML5 components. The .NET Framework is an infrastructure for building, deploying, and running thin- and thick-client applications. In its most basic implementation, the Meridium APM architecture consists of the following machines. To read a detailed description of each machine, click the hyperlinked machine name. To collapse the detailed descriptions, click the machine name again.

- Meridium APM Application Server

    A computer on which the Meridium APM Application Server software is installed. The Meridium APM Application Server machine contains Internet Information Services (IIS), which serves as the host for communication between the Application Server and APM Framework workstations. The Meridium APM Application Server:

    - Contains and executes the Meridium APM business objects implemented using the .NET transaction management framework.

    - Receives requests from an APM Framework computer, processes those requests, connects to the database to retrieve information, and returns that information to the APM Framework computer.

    - Executes and enforces the business logic and business rules.

    - Processes data.

    - Performs calculations.

    Your Meridium APM system should include multiple Meridium APM Application Server instances.

- Meridium APM Application Server machines that will receive and process requests from Meridium APM Framework workstations are referred to as *dedicated* Meridium APM Application Servers and should not have any other Meridium APM components installed on them (with the exception of the APM Framework applications). You can have one or more dedicated Application Servers in your implementation. The number of dedicated Application Servers you need will depend upon the number of users you have.

  - Meridium APM Application Server instances that exist to support other Meridium components are referred to as *supporting* Meridium APM Application Servers. We recommend you install a supporting instance of the Meridium APM Application Server on every *Meridium APM* Server machine. For example, for the Meridium APM Web Framework, a supporting Meridium APM Application Server must be installed on the Meridium APM Web Framework machine. For more information on this and other components, refer to the directory of additional Meridium APM components.

- Meridium APM Framework Machine

  The computer on which the Meridium APM Framework application is installed. The Meridium APM Framework serves as the user interface for Meridium APM. From Meridium APM Framework workstations, users can connect to a *dedicated* Meridium APM Application Server and perform tasks using the Meridium APM tools.

  Note: There is no functional restriction that prevents Meridium APM Framework instances from connecting to *supporting* Meridium APM Application Servers. For performance reasons and caching considerations, however, we recommend that you enforce this restriction manually. Throughout the Meridium APM documentation, whenever we refer to the Meridium APM Application Server within the context of the Meridium APM Framework, unless otherwise specified, we are referring to a *dedicated* Meridium APM Application Server machine.

  Each Meridium APM Framework workstation may also have the Meridium APM Administrative Applications installed. The Meridium APM Framework application and the Meridium APM Administrative Applications (with some exceptions) will also be installed on the Meridium APM Application Server automatically so that the Application Server can function as a Meridium APM Framework workstation.

Note: In most cases, we do not make a distinction between Meridium APM Framework workstations where the Administrative Applications *are* installed and Meridium APM Framework workstations where the Administrative Applications *are not* installed. Because the Administrative Applications usually use the same configuration and settings that are defined for the Meridium APM Framework application, you can assume that all guidelines outlined for Meridium APM Framework workstations apply *to all Meridium APM Framework workstations*, regardless of whether or not the Administrative Applications are also installed. Exceptions are noted where appropriate.

- Database Server

  The computer on which the database software (Oracle or SQL Server) and the physical Meridium APM databases or schemas reside. Your Database Server may contain multiple Meridium APM databases or schemas (e.g., a test database and a production database). The Database Server answers requests for data from Meridium APM Application Servers. The Meridium APM database or schema contains the metadata (information about Entity families, fields, System Codes, etc.) and the tables containing actual data. The Meridium APM system allows for a single, central database, which can be accessed from any site at which the Meridium APM software has been installed. This approach enables cross-site and cumulative analyses.

- SQL Server Report Server

  The computer on which the SQL Server Reporting Services is installed. The SQL Server Report Server stores SQL Server reports. Reports can be developed via a Meridium APM Framework workstation, and when they are saved to the Meridium APM Catalog, they will be simultaneously uploaded to the SQL Server Report Server. After they exist on the SQL Server Report Server, they can be viewed by other Meridium APM users through:

  - The Meridium APM Framework application.

  - The Meridium APM Web Framework application (this is an optional component).

  - Through a web browser using SQL Server Report Manager.

  In addition to the custom reports that can be created using SQL Server Reporting Services, the Meridium APM database contains baseline SQL

Server Reporting Services reports. In the image below, the basic Meridium APM system architecture does not show the external database that is required for SQL Server Reporting Services. Click here for more information on the system requirements for the SQL Server Report Server.

Note that while the SQL Server Report Server is part of the basic Meridium APM architecture, it is not considered a *Meridium APM* Server. Therefore, you are not required to install a supporting instance of the Meridium APM Application Server on the SQL Server Report Server machine. You will, however, need to install the Meridium APM Adapter for SSRS on this machine. Click here for more information on how the SQL Server Report Server interacts within the basic Meridium APM system architecture.

In the recommended implementation, Meridium APM is deployed in a distributed environment where each workstation described above is a separate, physical machine in your system. The following image illustrates the basic Meridium APM System architecture.
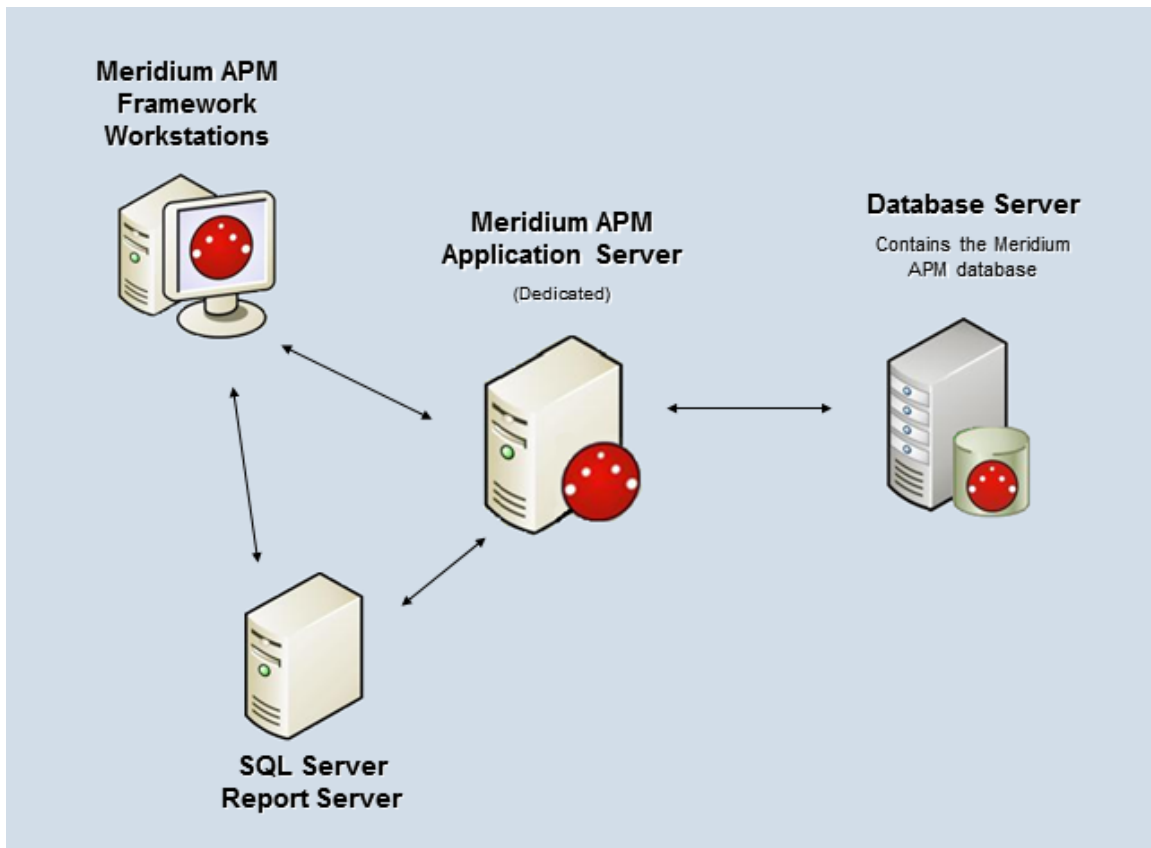
This image shows *one* dedicated Meridium APM Application Server. In a deployment where multiple dedicated Meridium APM Application Servers exist, connections can be managed manually by assigning users to specific servers, or they can be managed automatically by a hardware- or software-based network load balancer.

> **Note:** A given Meridium APM Framework machine can access only one Application Server and data source *at a time*. A single Application Server can access multiple databases.

If you choose to use a network load balancer, the type of solution that you deploy will depend upon how your network is set up. In either solution, you *must* ensure that the client affinity is configured to be *sticky*. Note that some load balancers provide different communication strategies, such as Unicast or Multicast, with or without Internet Group Management Protocol (IGMP) support. Unicast solutions are designed to flood switches, and multicast solutions with IGMP support require all network hardware to be compatible with it. Attempting to compensate for the adverse effects of switch flooding or IGMP support by using virtual LANs will have considerable performance implications for Meridium APM.

> **IMPORTANT:** We strongly recommended that you thoroughly test any network load balancing solution before you deploy it in a production environment.

System Requirements

Meridium APM Application Server

Hardware Requirements

The following hardware requirements outline the *minimum* hardware required for any machine that will serve as the Meridium APM Application Server machine. These requirements account for the Meridium APM software only. Additional hardware may be required on an Application Server machine where other components are installed. These requirements may not be sufficient, depending upon how your system is configured.

- Two Processor Cores, 2+ GHz

- 4 GB RAM

- 20 GB Hard Drive space

Meridium APM recommends a 100BASE-TX switched network between the Application Server, Database Server, Web Server, and Meridium APM Web Framework Server. A minimum of 128KBPS link is required between the Application Server and the APM Framework machines. Full duplex communication must be enabled between servers. We recommend that you also enable full duplex communication between Meridium APM Framework machines and servers.

Note: 100BASE-TX is not a requirement but is highly recommended. An entire 100BASE-TX network would be an ideal situation.

If you are using a virtual machine (VM) to host your Meridium APM Application Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

Software Requirements

The following software components are required on any machine that will serve as the Meridium APM Application Server. This table is intended to be used as a reference of the behavior of the Meridium APM Application Server and Add-ons installer as it relates to each component. In addition to the components that appear in this list, there are configuration settings that will need to be set depending upon your operating system.

Software Name and Version	Where You Can Obtain It	Required?	Behavior of Meridium APM Server and Add-ons Installer
Microsoft.net 3.5 SP1	Microsoft	Yes	If this is not found, the installer will close.
Microsoft.net 4.0	Microsoft	Yes	If this is not found, the installer will install it automatically.
Microsoft.net 4.5	Microsoft	Yes	If this is not found, the installer will install it automatically.
Microsoft Shared Management Objects (SMO) and Common Language Runtime Types (CLR)	Microsoft	Yes	If this is not found, the installer will install it automatically.
ReportViewer2008	Microsoft	Yes	If this is not found, the installer will install it automatically.
Microsoft WSE 3.0 Runtime	Microsoft or Meridium APM 3rd party distribution package	Yes	If this is not found, the installer will close.

Windows 2008 R2 (64-bit) OS -or- Windows 2012 (64-bit) OS -or- Windows 2012 R2 (64-bit) OS	Microsoft	Yes	If this is not found, a message will appear, indicating that the environment is not supported. You can, however, continue the installation process.
Internet Explorer 8.0, 9.0, 10.0, or 11.0	Microsoft	Yes	If this is not found, a message will appear, indicating that the environment is not supported. You can, however, continue the installation process.
IIS 7.0 or later	Microsoft	Yes	If this is not found, an error message will appear, and the installer will close.
IIS 6 WMI Compatibility	Microsoft	Yes	If this is not found, the installer will close.
Microsoft ADOMD.Net	Microsoft	Yes	If this is not found, the installer will install it automatically.
Microsoft.Web.Services3.dll	Microsoft	Yes	If this is not found, the installer will close.

Microsoft Visual Studio for Applications (VSTA)	Microsoft -or- Meridium APM 3rd party distribution package	Yes, if you want to install the Configuration Manager application. Otherwise, this is not required.	If the Configuration Manager option is selected, and this is not found, a message will appear, indicating that you cannot continue with the installation process for the Configuration Manager.
Microsoft Business Intelligence Development Studio	Microsoft This is installed with SQL Server Standard or later.	Yes	If this is not found, the installer will close.
Jet 4.0	Microsoft	No *This is required only if you have translations stored in your database, and you want those translations to be exported during the database upgrade process.	The installer does not check for this component.
Microsoft Access Database Engine (ACE) 2010	Meridium APM 3rd party distribution package	Yes	The installer does not check for this component.
WinMerge	Meridium APM	Yes	This is installed automatically.

Oracle Data Provider for .NET (ODP.NET) 12.1.0.1 (32-bit *and* 64-bit)	Meridium APM 3rd party distribution package	No *This is required only on Application Server machines that connect to Oracle Database Servers.	The installer does not check for this component.
Oracle Services for Microsoft Transaction Server 12.1.0.1 (64-bit)	Meridium APM 3rd party distribution package	No *This is required only on Application Server machines that connect to Oracle Database Servers.	The installer does not check for this component.
Microsoft Message Queuing (MSMQ)	Microsoft	Yes	If this is not found, you can continue through the installation process. This service can be activated through roles in the Server Manager.
MSXML 3.0 MSXML3 Exception INF	Microsoft Internet Explorer. This is installed automatically with Internet Explorer 6.0 and later.	Yes	The installer does not check for this component.

Visual C++ 8.0 CRT (x86) WinSXS MSM Visual C++ 8.0 MFC (x86) WinSXS MSM Visual C++ 10.0 CRT (x86) Visual C++ 9.0 CRT (x86) WinSXS MSM Visual C++ 10.0 ATL (x64) Visual C++ 9.0 ATL (x86) WinSXS MSM	Meridium APM	Yes	If this is not found, the installer will install it automatically.

How the 2008 R2 Operating System is Configured in the Meridium APM Testing Environment

About the Operating System in the Meridium APM Testing Environment

> **Note:** The following information is specific to the 2008 R2 operating system. The same information is also available for the 2012 operating system.

The Meridium APM testing environment uses the 64-bit version of Windows Server 2008 R2 and 2012 for all instances of the Meridium APM Application Server (both dedicated and supporting). The operating system is not distributed by Meridium, Inc. and must be obtained from another vendor. While instructions on installing the operating system exceeds the scope of this documentation, we do provide guidelines on how the operating system in the Meridium APM testing environment is configured for each version of the operating system. We recommend that you configure your system to match the Meridium APM testing environment.

Roles and Role Services

The following roles are installed on the Meridium APM Application Server instances in the Meridium APM testing environment:

- Application Server

- Web Server (IIS)

These roles can be installed via the **Add Roles and Features Wizard** in the Server Manager. After the roles are installed, the **Select Server Roles** screen in the **Add Roles Wizard** should look similar to the following image.

Component Services settings for Local DTC

The following image shows how the Local DTC properties are set in Component Services for all instances of the Meridium APM Application Server in the Meridium APM testing environment.

WebDAV

WebDAV is enabled.

Application Server Role Services

> **Note:** The following information is specific to the 2008 R2 operating system. The same information is also available for the 2012 operating system.

The following Application Server role services are installed on the Meridium APM Application Server machine within the Meridium APM testing environment:

- Net Framework 3.5.1 and 4.5

- Web Server (IIS) Supports

- COM+ Network Access

- TCP Port Sharing

- Windows Process Activation Service Support

    - HTTP Activation

    - Message Queuing Activation

    - TCP Activation

    - Named Pipes Activation

- Distributed Transactions

    - Incoming Remote Transactions

    - Outgoing Remote Transactions

After the Application Server role services are installed, the **Select Role Services** screen in the **Add Roles Wizard** should look similar to the following image.
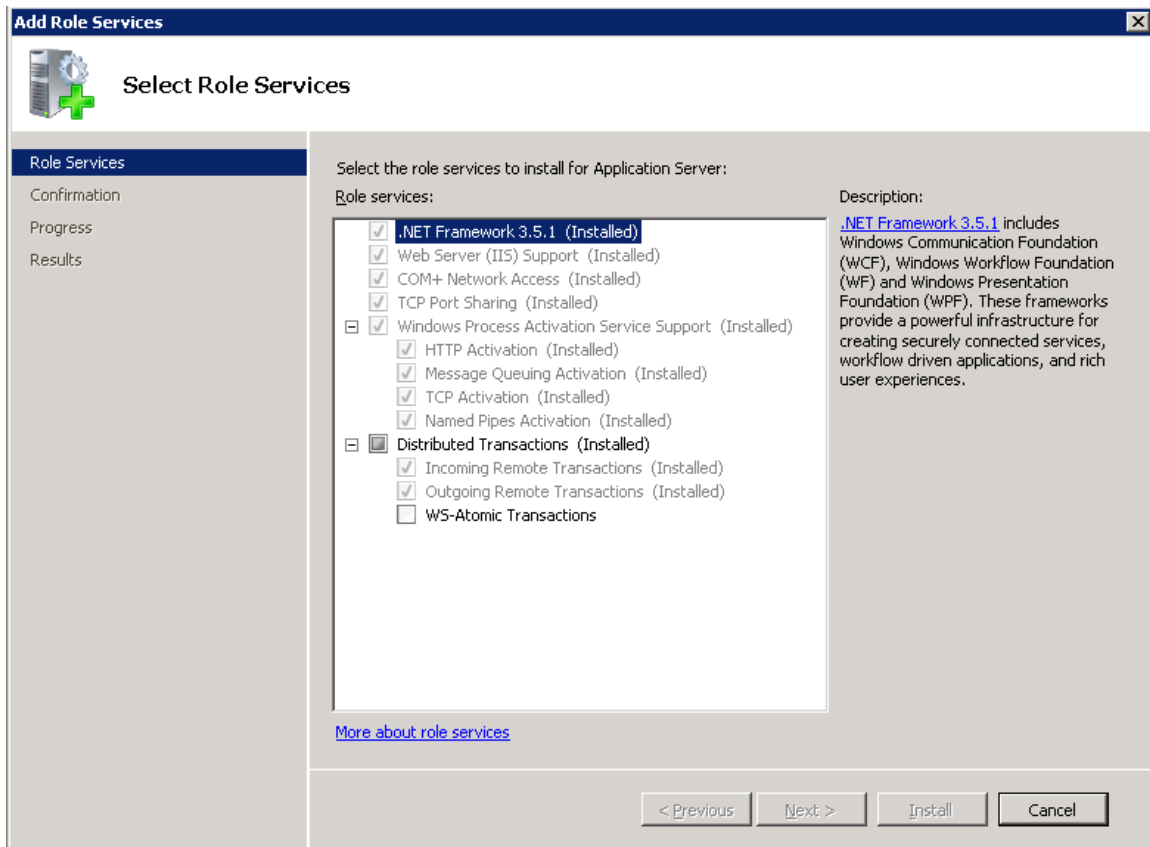
Web Server Role Services

> **Note:** The following information is specific to the 2008 R2 operating system. The same information is also available for the 2012 operating system.

The following Web Server role services are installed on the operating system for the Meridium APM Application Server machine within the Meridium APM testing environment:

- Web Server

  - Common HTTP Features

    o Static Content

    o Default Document

    o Directory Browsing

    o HTTP Errors

- o   HTTP Redirection

- o   WebDAV Publishing

- ▪   Application Development

  - o   ASP .NET

  - o   .NET Extensibility

  - o   ASP

  - o   ISAPI Extensions

  - o   ISAPI Filters

- ▪   Health and Diagnostics

  - o   HTTP Logging

  - o   Logging Tools

  - o   Request Monitor

  - o   Tracing

- ▪   Security

  - o   Basic Authentication

  - o   Windows Authentication

  - o   Digest Authentication

  - o   Client Certificate Mapping Authentication

  - o   IIS Client Certificate Mapping Authentication

  - o   URL Authorization

- o Request Filtering

- o IP and Domain Restrictions

  - Performance

    - o Static Content Compression

    - o Dynamic Content Compression

- Management Tools

  - IIS Management Console

  - IIS Management Scripts and Tools

  - Management Service

  - IIS 6 management Compatibility

    - IIS 6 Metabase Compatibility

    - IIS 6 WMI Compatibility

    - IIS 6 Scripting Tools

After the Web Server (IIS) role services are installed, in the **Add Roles Wizard**, the top part of the tree on the **Select Role Services** screen will look like this:
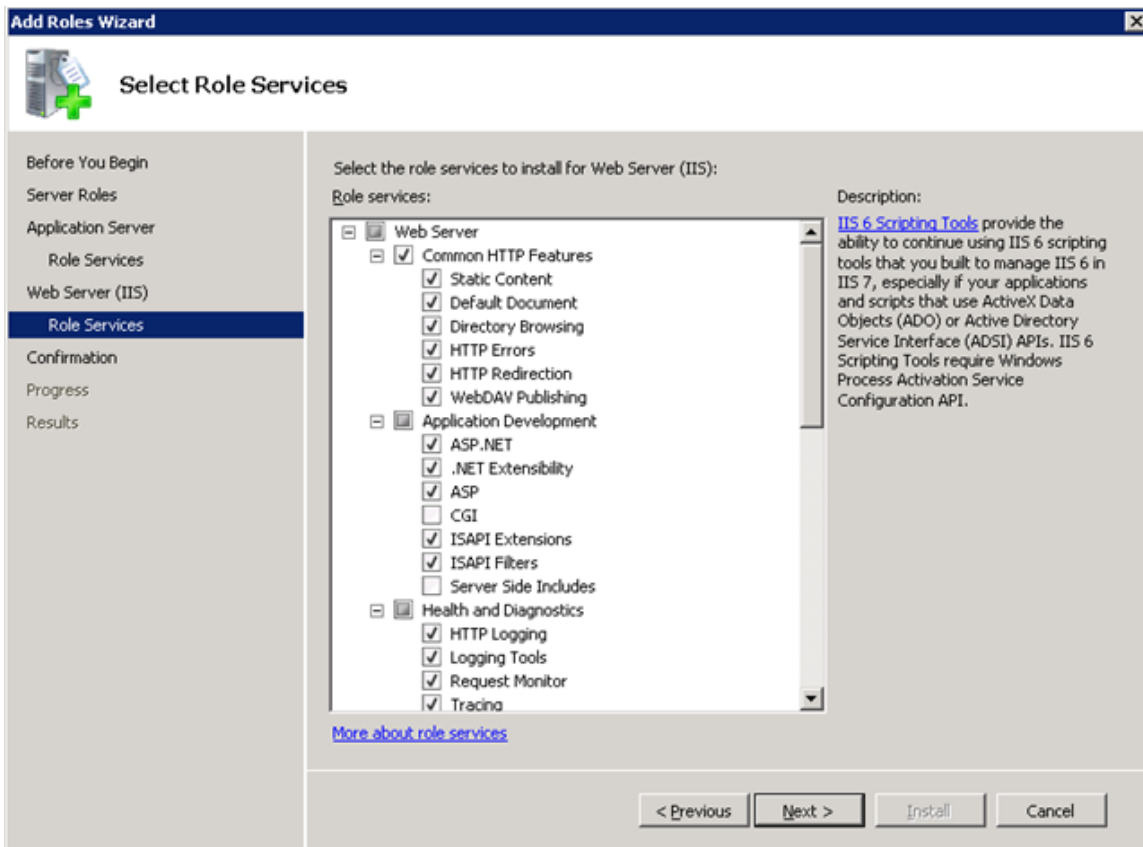
…and the bottom part of the tree on the **Select Role Services** screen should look like this:
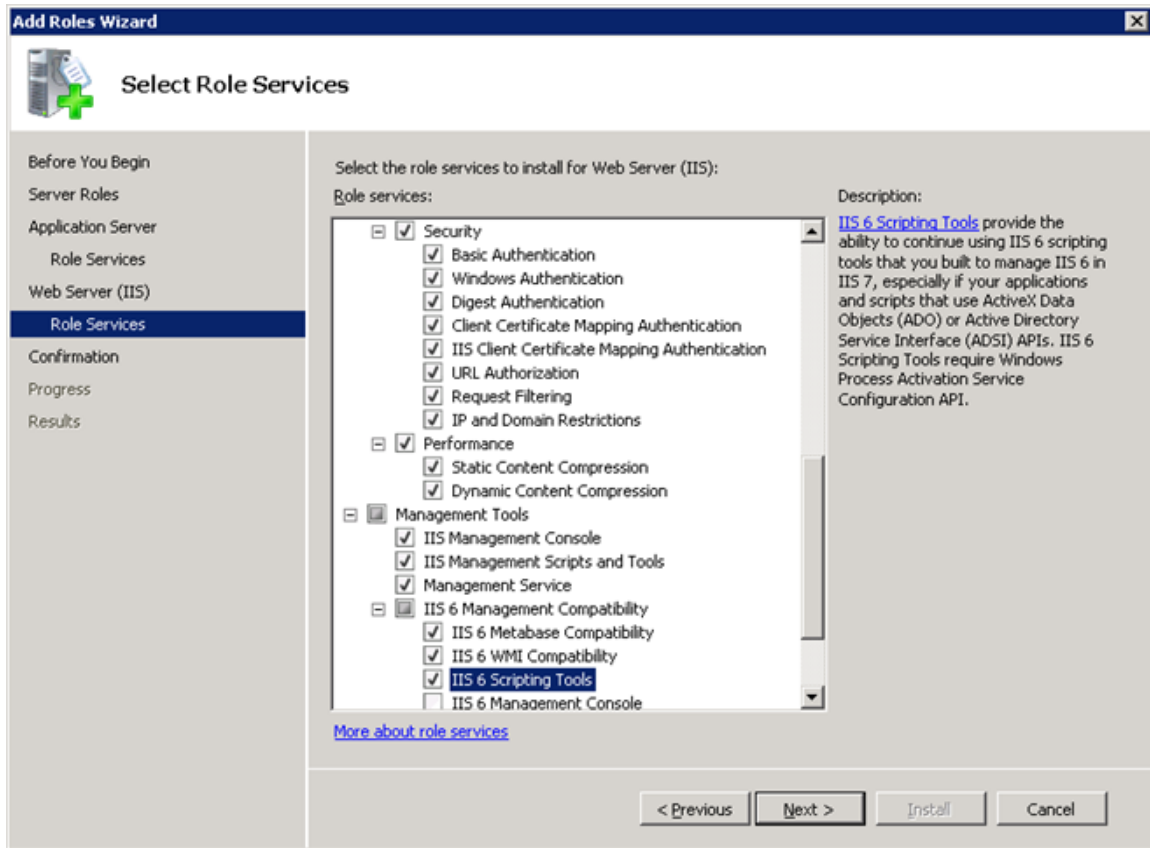
Enabling WebDAV

After you configure the Application and Web Server Roles Services, you should enable WebDAV via your IIS Manager.

Setting the Local DTC Property Settings

Note: The following settings apply to all Meridium APM Application Server instances (both dedicated and supporting) that are installed on a 2008 R2 operating system, regardless of whether they point to an Oracle *or* SQL Server Database Server machine. The same information is available for 2012 operating systems.

To set the Local DTC property settings to match the Meridium APM testing environment:

1. On the Windows **Start** menu, click **Programs**, point to **Administrative Tool**, and then click **Component Services.**
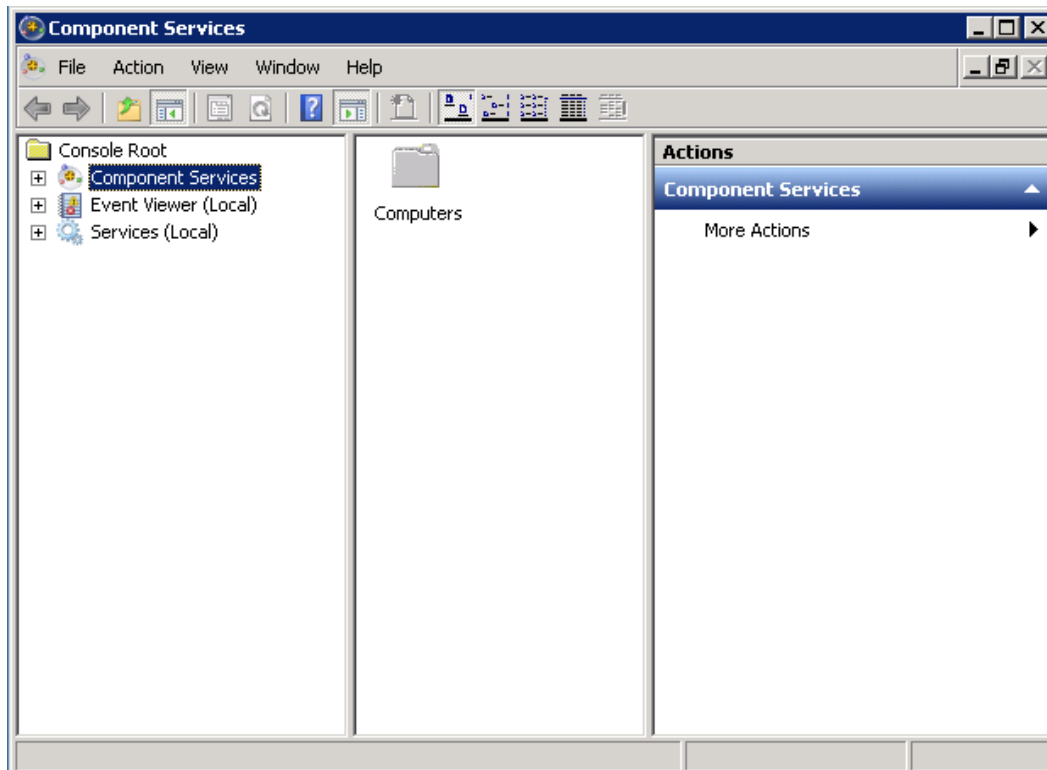
   The **Component Services** window appears.

2. In the tree to the left, expand the **Component Services** node down to the **My Computer** node.
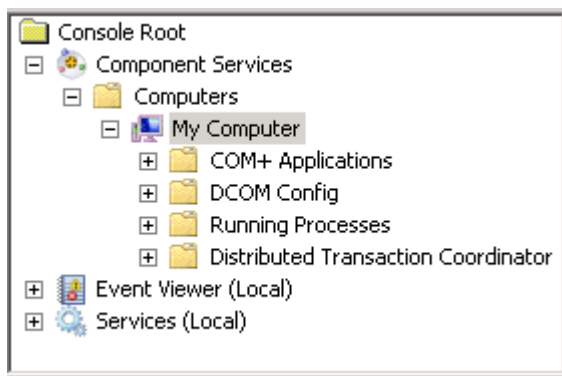
3. Expand the **Distributed Transaction Coordinator** node, and select **Local DTC**.
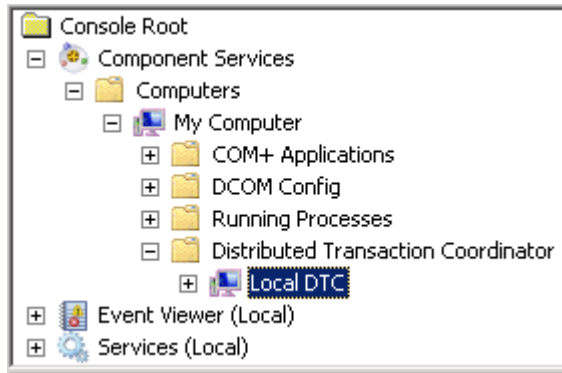
4. On the menu above the tree, click the **Properties** button. 📄

   The **Local DTC Properties** window appears, displaying the **Tracing** tab by default.
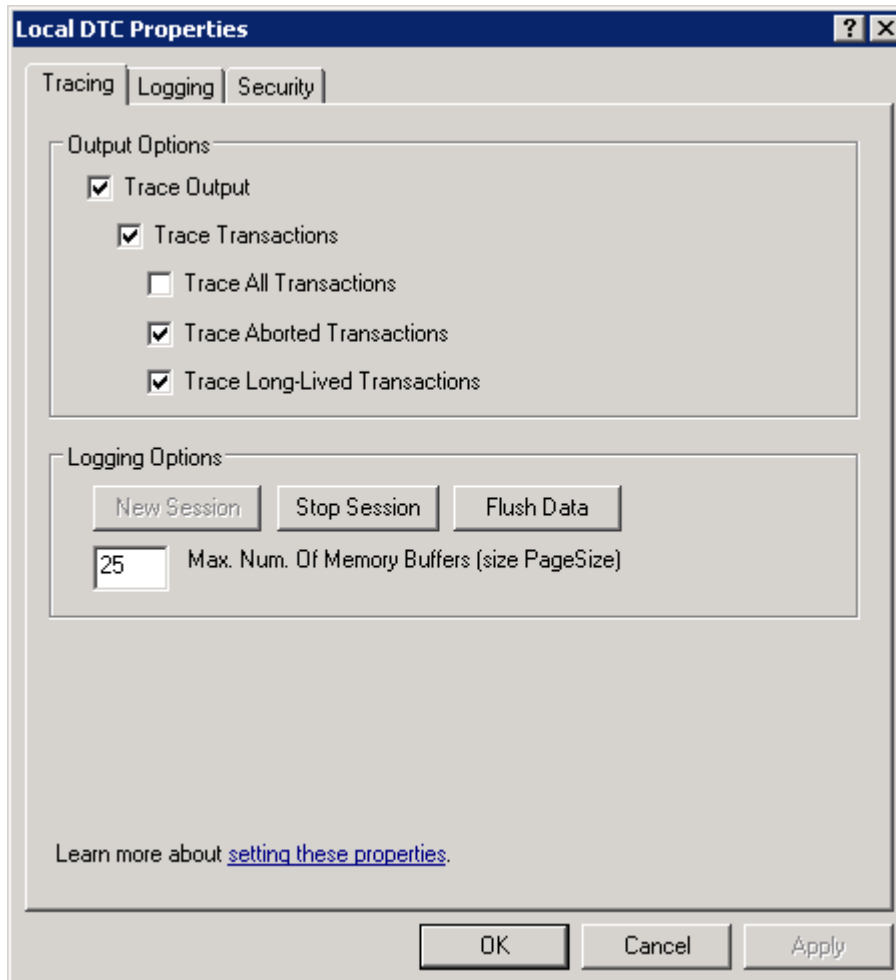
5. Click the **Security** tab.

The **Security** tab appears.
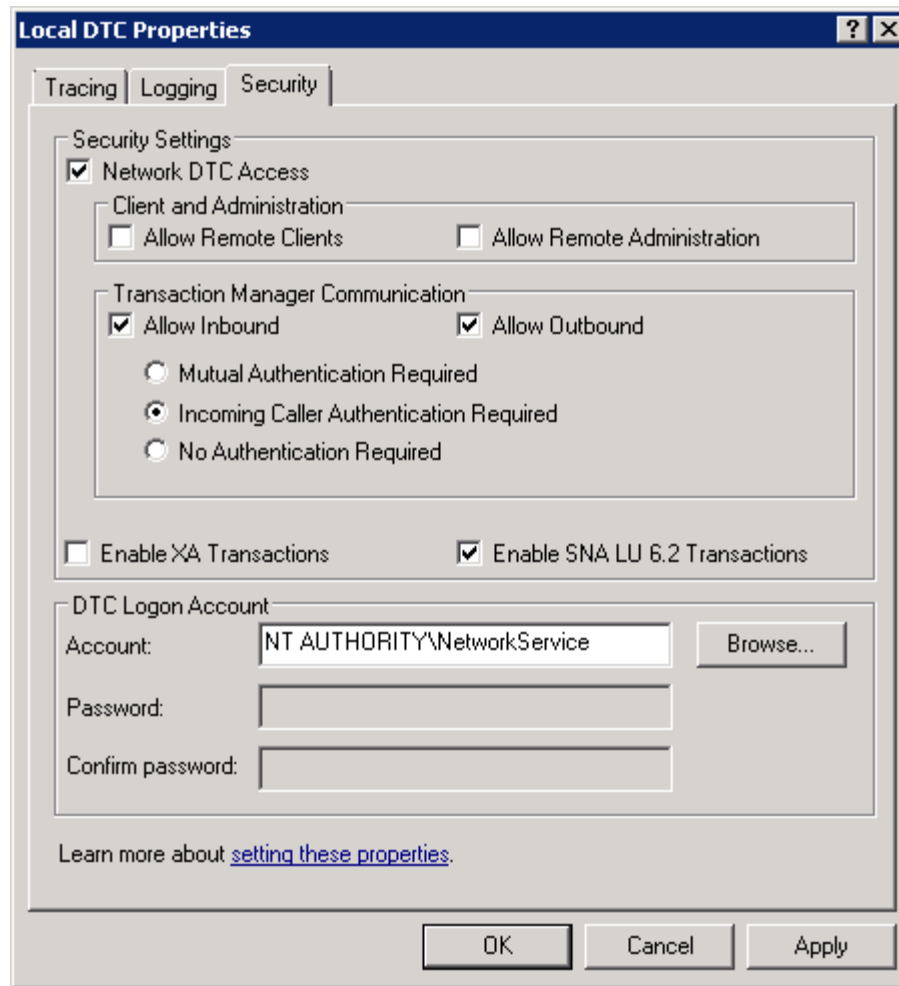
6. Specify the following settings on this tab (i.e., to match the preceding image):

- In the **Security Settings** section, select the **Network DTC Access** check box.

- In the **Client and Administration** section, clear the **Allow Remote Clients** check box.

- In the **Client and Administration** section, clear the **Allow Remote Administration** check box.

- In the **Transaction Manager Communication** section, select the **Allow Inbound** check box.

- In the **Transaction Manager Communication** section, select the **Allow Outbound** check box.

- In the **Transaction Manager Communication** section, select the **Incoming Caller Authentication Required** option.

7. Click **OK**.

   A message appears, indicating that the MSDTC service will be stopped and restarted.

8. Click the **Yes** button.

   A message appears, indicating that the MSDTC service has been restarted.

9. Click **OK**.

   The **Local DTC Properties** window closes, and your settings are saved. At this point, you can close the **Component Services** window.

How the 2012 and 2012 R2 Operating Systems are Configured in the Meridium APM Testing Environment

About the Operating System in the Meridium APM Testing Environment

> **Note:** The following information is specific to the 2012 and 2012 R2 operating systems. The same information is also available for the 2008 R2 operating system.

The Meridium APM testing environment uses the 64-bit version of Windows Server 2008 R2, 2012, and 2012 R2 for all instances of the Meridium APM Application Server (both dedicated and supporting). The operating system is not distributed by Meridium, Inc. and must be obtained from another vendor. While instructions on installing the operating system exceeds the scope of this documentation, we do provide guidelines on how the operating system in the Meridium APM testing environment is configured for each version of the operating system. We recommend that you configure your system to match the Meridium APM testing environment.

Server Roles and Role features

The following roles are installed on the Meridium APM Application Server instances in the Meridium APM testing environment. Click either of these roles to see what additional features need to be installed for that role.

- Application Server

- Web Server (IIS)

These roles can be installed via the **Add Roles and Features Wizard** in the Server Manager. After the roles are installed, the **Select Server Roles** screen in the **Add Roles Wizard** should look similar to the following image.

Component Services settings for Local DTC

The following image shows how the Local DTC properties are set in Component Services for all instances of the Meridium APM Application Server in the Meridium APM testing environment.

WebDAV

WebDAV is enabled.

Application Server Role Features

The following services are installed on all instances of the Application Server in the Meridium APM testing environment:

- IIS Management Console

- .Net Framework 3.5 features

- .Net Framework 3.5

- HTTP Activation

- Non-HTTP Activation

- Message Queuing

- Message Queuing Services

- Message Queuing Server

- Windows Process Activation Service

- Process Model

- .Net Environment 3.5

- Configuration APIs

After the Application Server role features are installed, the **Select Features** screen in the **Add Roles Wizard** should look similar to the following image.
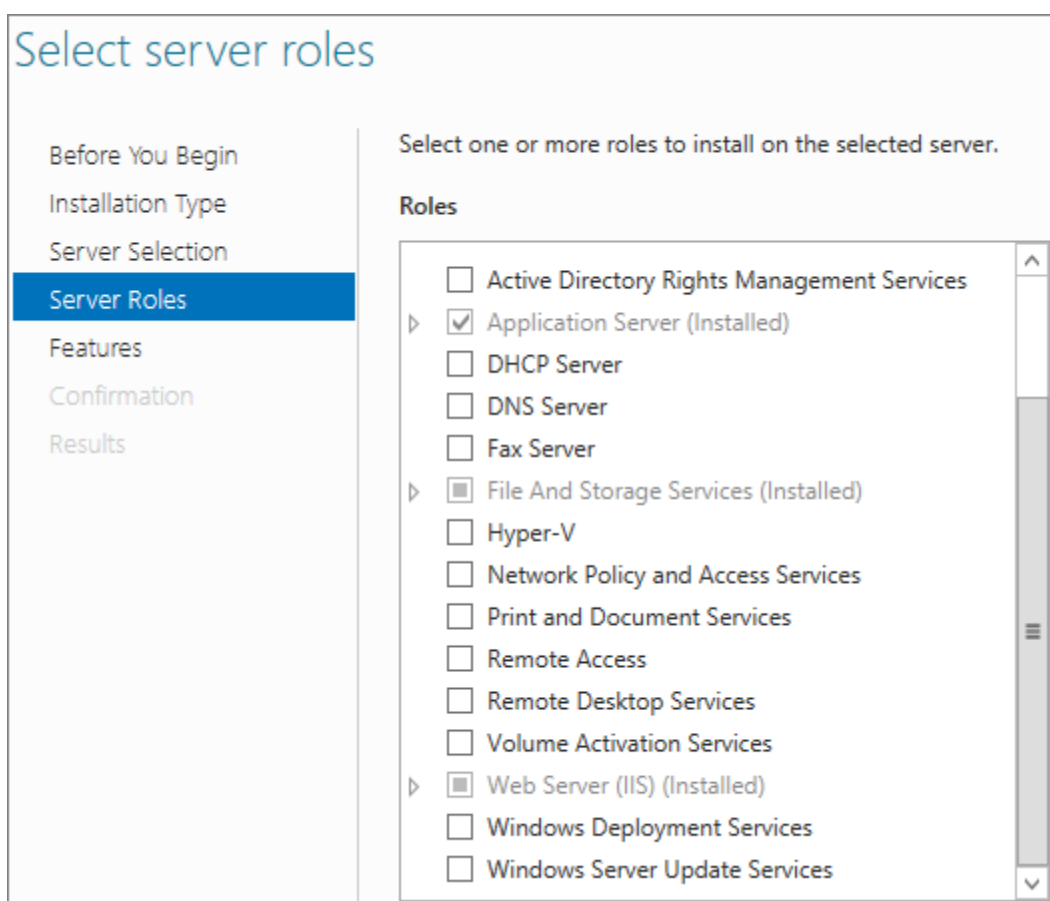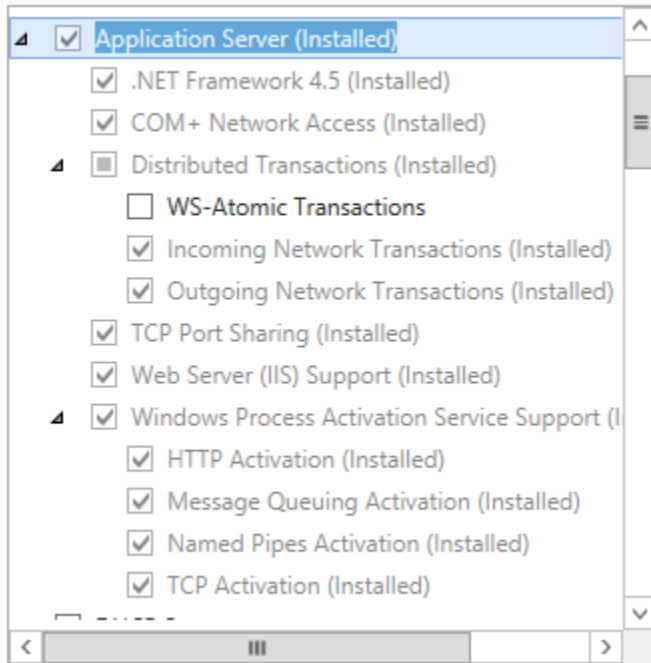
Web Server Role Features

> **Note:** The following information is specific to the 2012 and 2012 R2 operating systems. The same information is also available for the 2008 R2 operating system.

The following Web Server role features are installed on all instances of the Application Server in the Meridium APM testing environment:

- Common HTTP Features

  - Default Document

  - Directory Browsing

  - HTTP Errors

  - Static Content

  - HTTP Redirection

  - WebDAV Publishing

- Health and Diagnostics

- HTTP Logging

- Logging Tools

- Request Monitor

- Tracing

- Performance

  - Static Content Compression

  - Dynamic Content Compression

- Security

  - Request Filtering

  - Basic Authentication

  - Client Certificate Mapping Authentication

  - Digest Authentication

  - IIS Client Certification Mapping Authentication

  - IP and DOcmain Restrictions

  - URL Authorization

  - Windows Authentication

- Application Development

  - .NET Extensibility 3.5

  - .NET Extensibility 4.5

  - Application Initialization

- ASP

- ASP.NET 3.5

- ASP.NET 4.5

- ISAPI Extensions

- ISAPI Filters

- Management Tools

- IIS Management Console

- IIS 6 Management Compatibility

  o IIS 6 Metabase Compatibility

  o IIS 6 Management Console

  o IIS 6 Scripting Tools

  o IIS 6 WMI Compatibility

- IIS Management Scripts and Tools

- Management Service

After the Web Server role features are installed, the **Select Features** screen in the **Add Roles Wizard** should look similar to the following image. The image has been split into multiple pieces to illustrate the complete list of features, which are not visible without scrolling in the **Roles** list.

Note: The previous image was taken using a Windows Server 2012 operating system. If you are using a Windows Server 2012 *R2* operating system, the *IIS Hostable Web Core* option is not available. You do not need to install this feature on either operating system.

Enabling WebDAV

After you configure the Application and Web Server Roles Services, you should enable WebDAV via your IIS Manager.

Setting the Local DTC Property Settings

To set the local DTC property settings to match the Meridium APM testing environment:

1. On the machine containing the Application Server instance, in the Server Manager, on the **Tools** menu, click the **Component Services** option.

   The **Component Services** window appears.

2. In the tree to the left, expand the **Component Services** node down to the **My Computer** node.

3. Expand the **Distributed Transaction Coordinator** node, and select the **Local DTC** node.
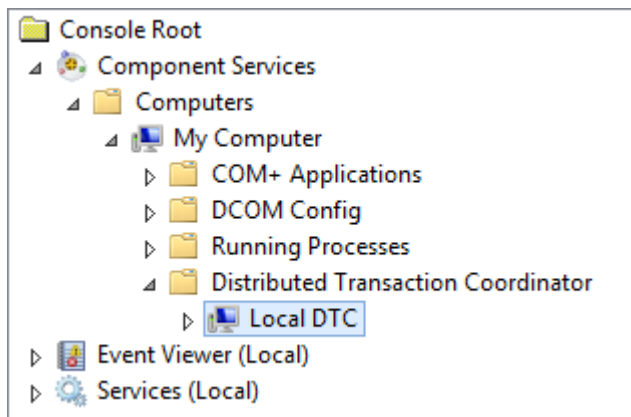
4. On the menu above the tree, click the **Properties** button.

   The **Local DTC Properties** window appears, displaying the **Tracing** tab.
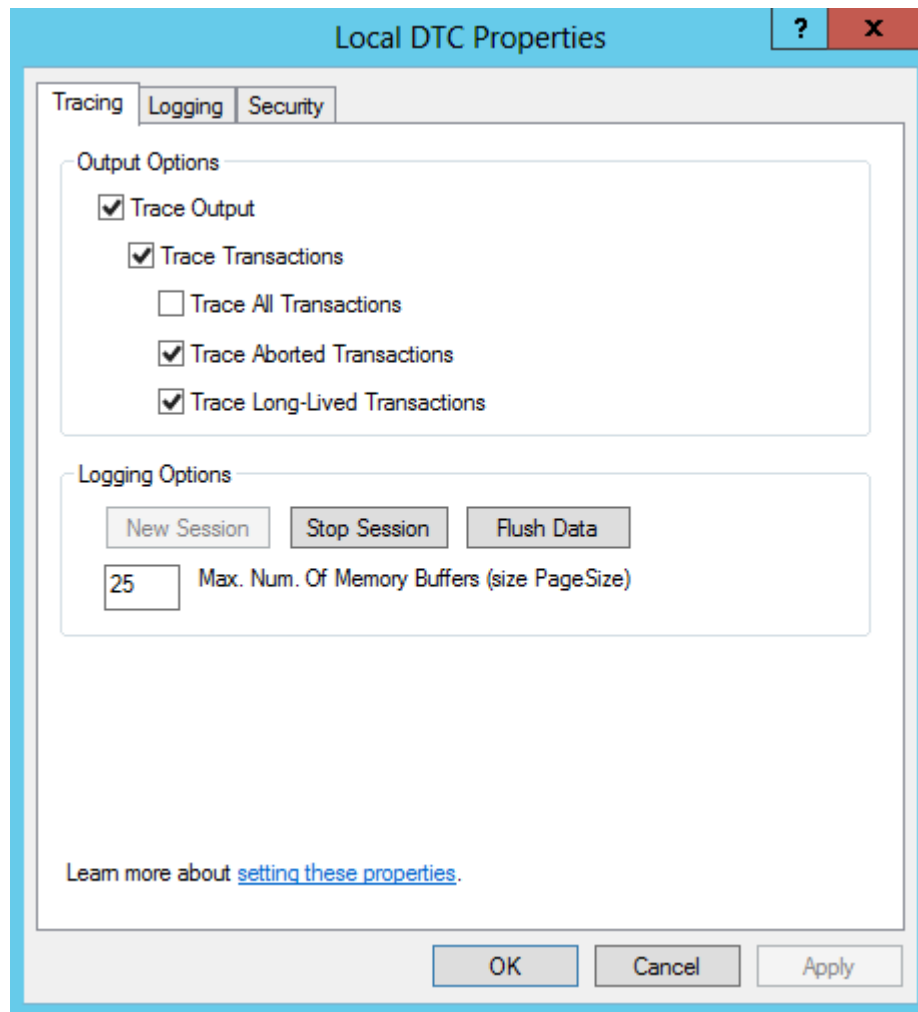
5. Click the **Security** tab.

   The **Security** tab appears.

6. Specify the settings on this tab according to the following image.
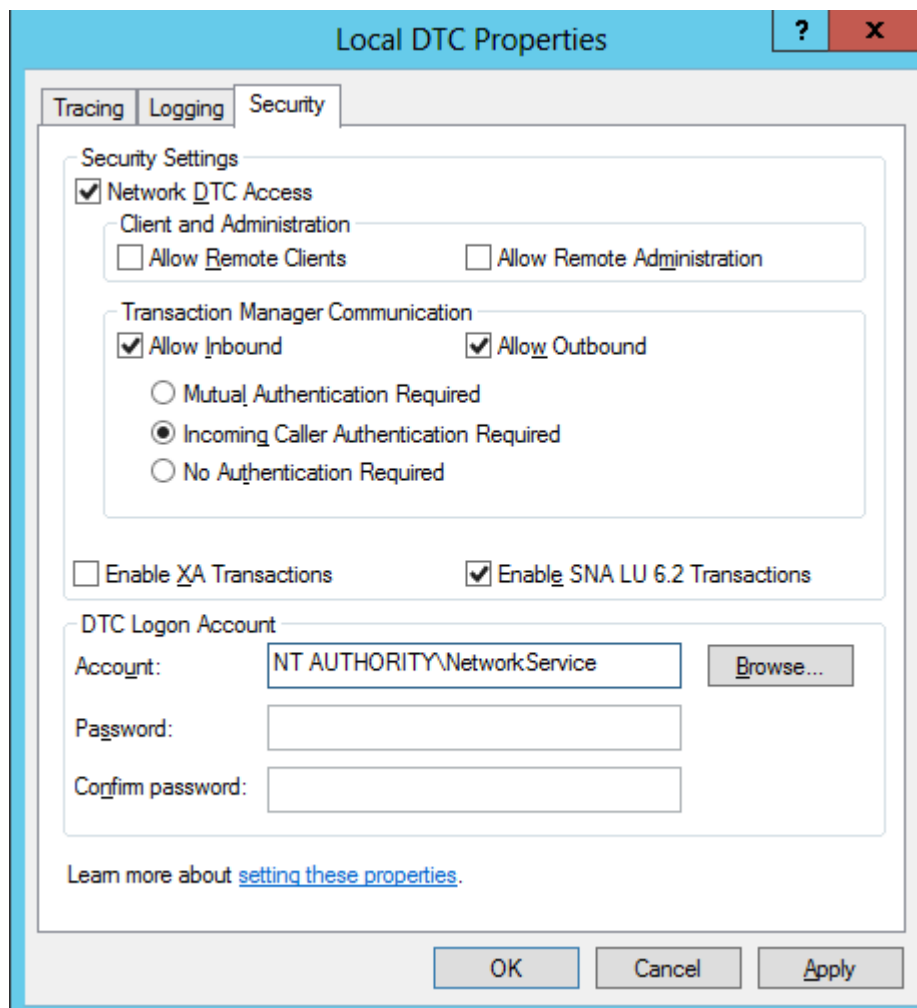
More specifically, in the **Security Settings** section:

- Select the **Network DTC Access** check box, and *clear* the following check boxes:

    - **Allow Remote Clients**

    - **Allow Remote Administration**

- In the **Transaction Manager Communication** section, select the following options:

    - **Allow Inbound**

    - **Allow Outbound**

- **Incoming Caller Authentication Required**

  - Select the **Enable SNA LU 6.2 Transactions** check box.

7. Click **OK**.

   A message appears, indicating that the MSDTC service will be stopped and restarted and asks if you want to proceed.

8. Click the **Yes** button.

   A message appears, indicating that the MSDTC service was restarted.

9. Click **OK**.

   The **Local DTC Properties** window closes, and your settings are saved. At this point, you can close the **Component Services** window.

Microsoft ACE and the Application Server

Microsoft Database Access (ACE) is required on the Meridium APM Application Server if you have translations stored in your database, and you want those translations to be exported during the database upgrade process.

The Microsoft ACE software is provided with your 3rd party components distribution package and is stored in the following location in the root folder: **\\Microsoft ACE\12.0**. To install this component, double-click the file **AccessDatabaseEngine_x64.exe**.

Hint: If you are prompted to allow ACE to make changes to your computer, click the **Yes** button.

Meridium APM Framework Machine

Hardware Requirements

The following hardware requirements outline the *minimum* hardware required for any machine that will serve as the Meridium APM Framework machine. These requirements account for the Meridium APM software only. Additional

hardware may be required on an APM Framework machine where other components are installed. These requirements may not be sufficient, depending upon how your system is configured.

- One Processor Core, 1+ GHz

- 2 GB RAM

- 5 GB Hard Drive space

Meridium APM recommends a 100BASE-TX switched network between the Application Server, Database Server, Web Server, and Meridium APM Web Framework Server. A minimum of 128KBPS link between the Application Server and the APM Framework machines. Full duplex communication must be enabled between servers. We recommend that you also enable full duplex communication between clients and servers.

Note: 100BASE-TX is not a requirement but is highly recommended. An entire 100BASE-TX network would be an ideal situation.

Software Requirements

The following software components are required on any machine that will serve as a Meridium APM Framework workstation. This table is intended to be used as a reference of the behavior of the Meridium APM Application Server and Add-Ons installer as it relates to each component.

Software Name and Version	Where You Can Obtain It	Required?	Behavior of Meridium APM Server and Add-ons Installer
One of the following operating Systems: • Windows XP (32-bit) • Windows 7 (64-bit *or* 32-bit) • Windows 8.1 (64-bit)	Microsoft	Yes	If this is not found, a message will appear, indicating that the environment is not supported. You can, however, continue the installation process.

Microsoft.net 3.5 SP1	Microsoft	Yes	If this is not found, the installer will close.
Microsoft.net 4.0	Microsoft	Yes	If this is not found, the installer will install it automatically.
Microsoft ADOMD.Net	Microsoft	Yes	If this is not found, the installer will install it automatically.
Report Viewer 2008	Microsoft	Yes	If this is not found, the installer will install it automatically.
Internet Explorer 8.0, 9.0, 10.0, or 11.0	Microsoft	Yes, if you will use the machine to access the Web Framework application. Otherwise, this is not required.	If this is not found, a message will appear, indicating that the environment is not supported. You can, however, continue the installation process.
Microsoft Visual Studio for Applications (VSTA)	Microsoft -or- Meridium APM 3rd party DVD	Yes, if you want to: • Install the Configuration Manager application. -or- • Work with Strategy rules in the Meridium APM Framework application. Otherwise, this is not required.	If the Configuration Manager option is selected, and this is not found, a message will appear, indicating that you cannot continue with the installation process for the Configuration Manager.

Microsoft Visual Studio 2005 Remote Debugger	Meridium APM 3rd party DVD	Yes, if you want to use the debugging feature in VSTA on a 64-bit APM Framework machine. Otherwise, this is not required.	The Meridium APM Framework installer does not check for this software.
Microsoft Business Intelligence Development Studio (if you are using SSRS 2010) -or- SQL Server Data Tools (SSDT) (if you are using SSRS 2012)	Microsoft	Yes, if you want to design reports on that machine. Otherwise, this is not required.	If the Meridium Adapter for SSRS Designer option is selected and this is not found, the installer will close.

Recommended Screen Resolution

To view the Meridium APM Web Framework application and the Meridium APM applications on the Meridium APM Framework workstation, we recommend that you use a screen resolution of 1280x1024. The *minimum supported* screen resolution, however, is 1024x768.

Recommended User Permissions

For the APM Framework applications to update automatically, the user who runs the APM Framework application when an update is available must have *administrative* permission to the files that need to be updated. For this reason, we recommend that you grant administrative privileges to the **<root>\Program Files\Meridium** folders to the user who will run the APM Framework application and perform the automatic update.

Database Server Machine

Hardware Requirements

The following hardware requirements outline the *minimum* hardware required for any machine that will serve as the Database Server for the Meridium APM database. These requirements account for the Meridium APM software only. Additional hardware may be required on Database Server machines where components other than the Meridium APM database are installed. These requirements may not be sufficient, depending upon how your system is configured.

- Four Processor Cores, 2+ GHz

- 8 GB RAM

- 100 GB Hard Drive space

Note also that:

- While Meridium, Inc. supports the use of RAID 5, which has benefits in its recoverability features, Meridium, Inc. *recommends the use of RAID 0+1* for the best overall database performance.

- Oracle requires instance tuning to use memory cache effectively. For Oracle Database Servers, a comparable UNIX-based system can be used.

- We recommend you use a 100BASE-TX switched network between the Application Server and Database Server.

  Note: 100BASE-TX is not a requirement but is highly recommended. An entire 100BASE-TX network would be an ideal situation.

Software Requirements

Meridium APM supports the use of an Oracle or SQL Server Database Server. Oracle is required for Unicode characters (e.g., for Asian languages). If you plan to use Unicode characters in Meridium APM, you will need to use an Oracle Database Server instead of a SQL Server Database Server.

Oracle Requirements

Meridium APM requires that you use Oracle Server 11.2 or 12.1 Enterprise Edition. The Meridium Inc. testing environment uses 11.2.0.1, 11.2.0.4, and 12.1.0.1.

Oracle patch *13780035* is also required for Oracle Server if you use 11.2.0.2 or 11.2.0.3. This patch must be applied before the Meridium schema is created or upgraded. You can obtain this patch from Oracle.

SQL Server Requirements

Meridium APM requires that you use SQL Server 2008 R2 or SQL Server 2012. The Meridium Inc. testing environment uses SQL Server 2008 R2 *SP2* Standard Edition and SQL Server 2012 Standard Edition *SP1 Cumulative Pack 4*.

Setting the Local DTC Property Settings

Note: The following settings apply to the Database Server machine if it is using SQL Server. These settings represent the Meridium, Inc. testing environment.

To set the Local DTC property settings to match the Meridium APM testing environment:

1. On the Windows **Start** menu, click **Programs**, point to **Administrative Tools**, and then click **Component Services.**
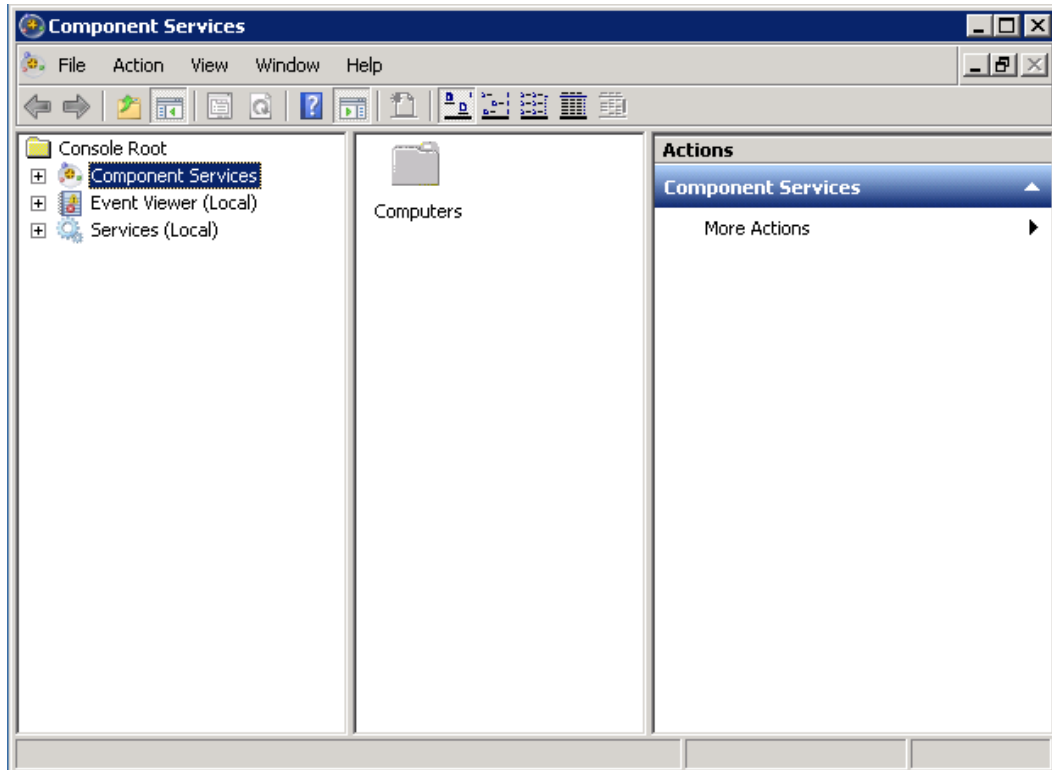
   The **Component Services** window appears.

2. In the tree to the left, expand the **Component Services** node down to the **My Computer** node.
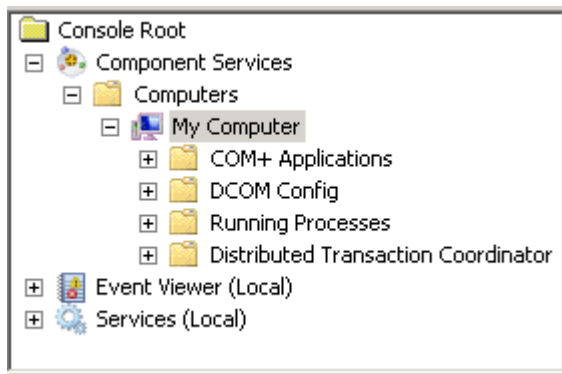
3. Expand the **Distributed Transaction Coordinator** node
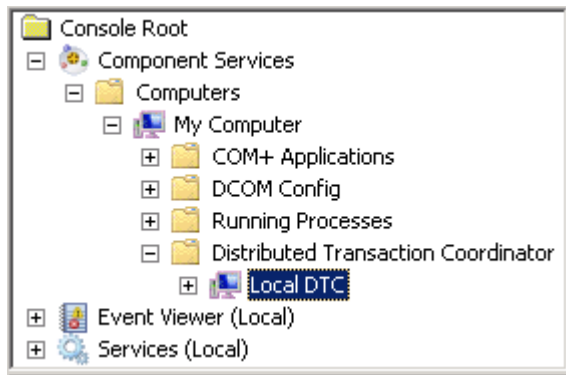
4. Select the **Local DTC** node, and on the menu above the tree, click ▣ (**Properties**).

    The **Local DTC Properties** window appears, displaying the **Tracing** tab by default.
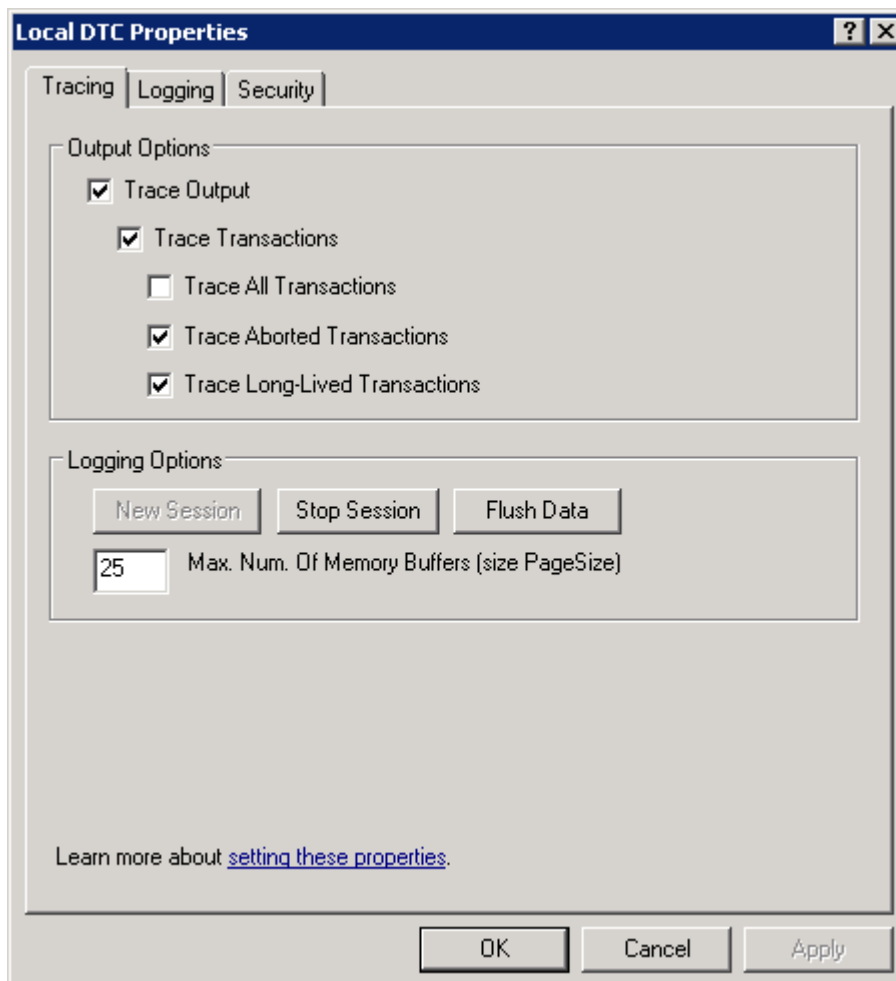
5. Click the **Security** tab.

    The **Security** tab appears.
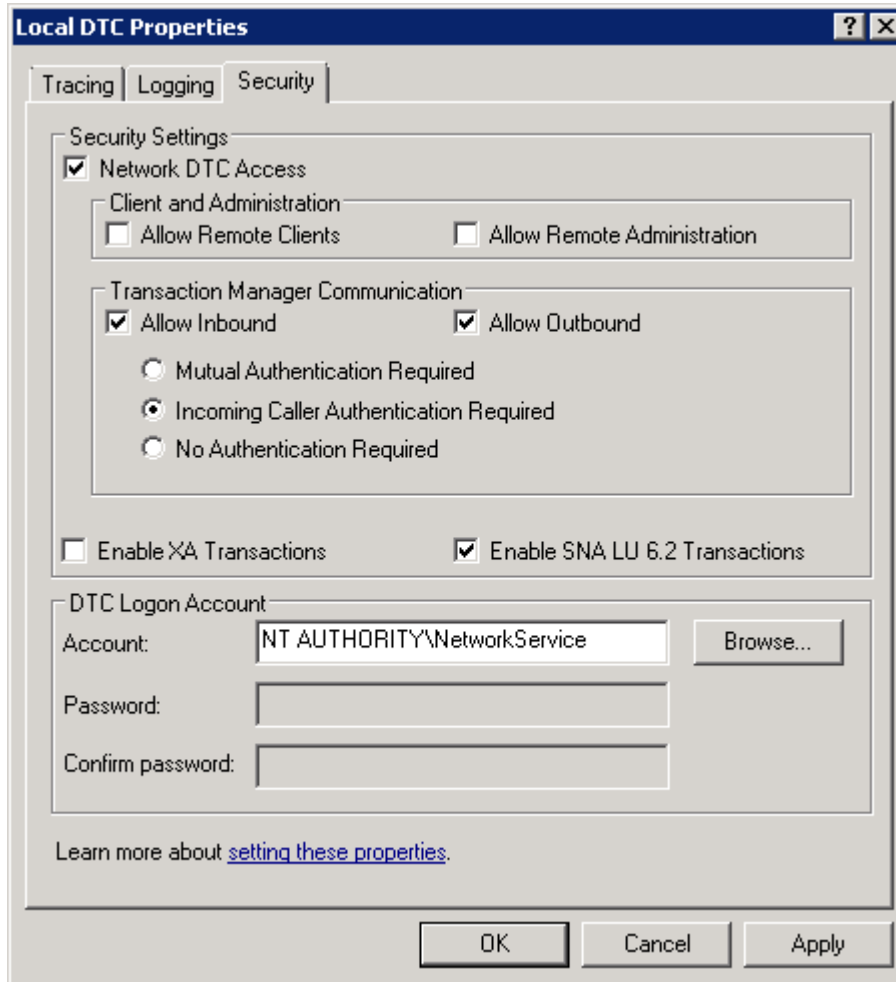
6. Specify the following settings on this tab (i.e., to match the preceding image):

    - In the **Security Settings** section, select the **Network DTC Access** check box.

    - In the **Client and Administration** section, clear the **Allow Remote Clients** and **Allow Remote Administration** check boxes.

    - In the **Transaction Manager Communication** section, select the **Allow Inbound** and **Allow Outbound** check boxes.

- In the **Transaction Manager Communication** section, select the **Incoming Caller Authentication Required** option.

7. Click **OK**.

   A message appears, indicating that the MSDTC service will be stopped and restarted.

8. Click the **Yes** button.

   A message appears, indicating that the MSDTC service has been restarted.

9. Click **OK**.

   The **Local DTC Properties** window closes, and your settings are saved. At this point, you can close the **Component Services** window.

SQL Server Report Server

Hardware Requirements

The following hardware requirements outline the *minimum* hardware required for any machine that will serve as the SQL Server Report Server machine. These requirements account for the Meridium APM software only. Additional hardware may be required on a SQL Server Report Server machine where other components are installed. These requirements may not be sufficient, depending upon how your system is configured.

- One Processor Core, 2+ GHz

- 2 GB RAM

- 10 GB Hard Drive space

If you are using a virtual machine (VM) to host your SQL Server Report Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

Software Requirements

The following software components are required on any machine that will serve as the SQL Server Report Server. This table is intended to be used as a reference of the behavior of the Meridium APM Application Server and Add-ons installer as it relates to each component.

Software Name and Version	Where You Can Obtain It	Required?	Behavior of Meridium APM Server and Add-ons Installer
Microsoft .Net 3.5 SP1	Microsoft	Yes	If it is not found, the installer will close.
ReportViewer 2008	Microsoft	Yes	If it is not found, the installer will install it automatically.
Microsoft WSE 3.0 Runtime	Microsoft or Meridium APM 3rd party folder	Yes	If it is not found, the installer will close.

SQL Server Reporting Services 2008 R2 (Includes 2008 R2 *SP2*) -or- SQL Server Reporting Services 2012	Microsoft	Yes	If it is not found, the installer will close.
MSXML 3.0 MSXML3 Exception INF	Microsoft Internet Explorer. This is installed automatically with Internet Explorer 6.0 and later.	Yes	None
Visual C++ 8.0 CRT (x86) WinSXS MSM Visual C++ 8.0 MFC (x86) WinSXS MSM Visual C++ 10.0 CRT (x86) Visual C++ 9.0 CRT (x86) WinSXS MSM Visual C++ 10.0 ATL (x64) Visual C++ 9.0 ATL (x86) WinSXS MSM	Meridium APM	Yes	If this is not found, the installer will install it automatically.

How the SQL Server Report Server Works with Meridium APM

The SQL Server Report Server is the machine that stores SQL Server reports so that you can view SQL Server Reporting Services (SSRS) reports in the Meridium APM Framework, Meridium APM Web Framework (optional component), or a web browser.

The following image provides a visual representation of how components work together.
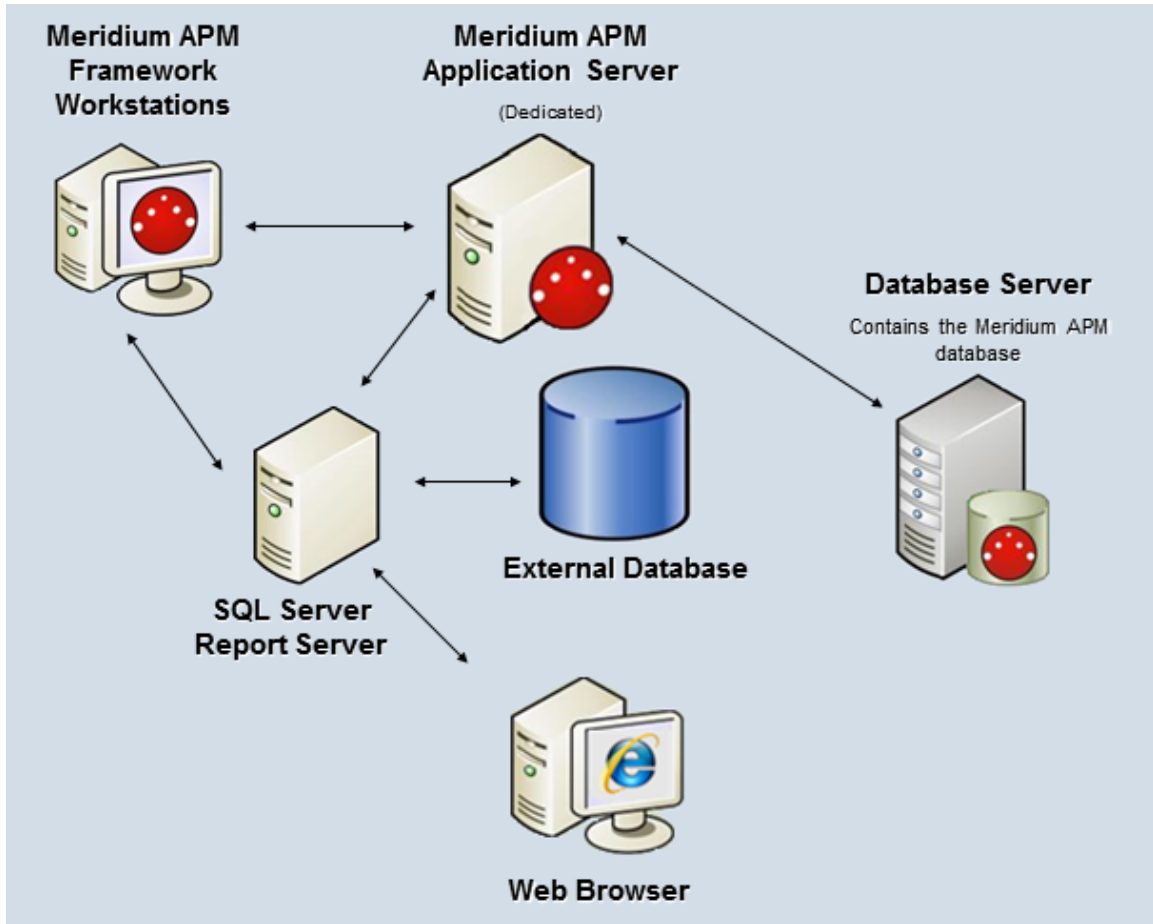
The components shown in this image will work together as described in the following list.

- Meridium APM Framework Workstations

    Let users create new reports that are based upon Meridium APM queries and datasets. When a report is created in Meridium APM, a connection will be made to the Meridium APM Application Server to retrieve information from the current data source and display the information to the Meridium APM Framework user. When a user saves a new report to the Catalog, the report will be saved to the Meridium APM database and deployed to the SQL Server Report Server.

    When a Meridium APM Framework user opens an existing report from the Meridium APM Catalog, the Meridium APM system will check to see if a report with the same name exists in the corresponding folder on the SQL Server Report Server.

- If the report already exists on the Report Server, it will simply be displayed to the user.

- If the report does not already exist on the Report Server, it will be deployed on the Report Server first and then displayed to the user.

When a user modifies an existing report and saves it to the Meridium APM system, an updated version of the report will be deployed to the Report Server.

SQL Server Reporting Services reports can be viewed from any Meridium APM Framework workstation via the SQL Server Report Viewer, which is installed automatically via the Meridium APM Framework installer and integrated into the Meridium APM Framework application. To create and modify reports from Meridium APM Framework workstations, you must have the following software installed on that machine:

- Microsoft Business Intelligence Development Studio (if you're using SSRS 2010) *or* SQL Server Data Tools (SSDT) (if you're using SSRS 2012).

- The Meridium APM Adapter for SSRS Designer (so that SSRS can connect to Meridium APM and retrieve data while reports are being developed).

In addition to viewing reports from the Meridium APM Framework application, all reports that are stored on the Report Server can be accessed directly through a web browser via the SQL Server Report Manager. Whether reports are viewed in the Meridium APM Framework or the Report Manager, their appearance and content will be the same.

- Meridium APM Application Server

Serves as the host for communications between the SQL Server Report Server and the Meridium APM database based upon requests initiated from the Meridium APM Framework. When a user accesses a report that is based upon a Meridium APM query or dataset and stored on the SQL Server Report Server, the Report Server sends a request to the Meridium APM Application Server, which in turn connects to the Meridium APM database and returns the requested information.

> **Note:** In Meridium APM deployments that contain multiple dedicated Application Servers, where a load balance handles connections to those servers, the *load balancer* will handle report requests initiated from Meridium APM Framework workstations.

- Meridium APM Database

  Stores the Meridium APM copy of each SQL Server Reporting Services report that has been saved to the Meridium APM Catalog. Additionally, the Meridium APM database responds to requests made from the Application Server and returns data that is displayed in reports that are based upon Meridium APM queries and datasets.

- SQL Server Report Server

  Contains the SQL Server Reporting Services software and stores the master copy of each Meridium APM report. Meridium APM reports are deployed to the Report Server when they are first saved to the Meridium APM Catalog. When a report is modified, the copy on the Report Server is updated.

  The Meridium APM Adapter for SSRS must be installed on the SQL Server Report Server to allow the Report Server to communicate with the Meridium APM Application Server. When a request is made to the Report Server to access a Meridium APM report, the Report Server sends a request to the Meridium APM Application Server, which in turn retrieves the requested data from the Meridium APM database.

  The SQL Server Report Server machine in the image shown above represents a single *instance* of the SQL Server Reporting Services. Meridium APM supports the use of *one* SQL Server Reporting Services *instance* per Meridium APM Application Server. SQL Server supports installing more than one SQL Server Reporting Services instance on the same machine. If your Meridium APM system includes more than one Application Server (e.g., a test Application Server and a production Application Server), you will need to create a separate SQL Server Reporting Services instance for *each* Application Server.

  Note that when you install SQL Server Reporting Services, two SQL Server databases that store the reports for a given instance of SQL Server Reporting Services are installed automatically. These databases are not represented in the image shown above. For more information about the components a SQL Server Reporting Services implementation

and details about the supported configuration scenarios, see the SQL Server documentation.

- External Database

  Represents any external data source that is supported by SQL Server Reporting Services for building reports. Reports that are built upon external data sources can be imported into Meridium APM and saved to the Meridium APM Catalog. When a user accesses an external report, either through the Meridium APM Framework Application or via SQL Server Report Manager, a request is sent to the Report Server, which in turn retrieves the data from the appropriate data source and displays the results to the user. Any report that can be built upon an external data source via the Business Intelligence Development Studio and viewed in Report Manager can be imported into Meridium APM, saved to the Meridium APM Catalog, and viewed by Meridium APM users.

About the SQL Server Report Manager

The SQL Server Report Manager is a tool that is provided with SQL Server Reporting Services that lets you manage the reports that exist on the SQL Server Report Server. You will need to use the Report Manager to perform tasks to configure the Report Server for use with your Meridium APM system.

After SQL Server Reporting Services has been installed and properly configured via the Reporting Services Configuration Manager, the Report Manager will be accessible from any web browser, either on the Report Server itself or remotely via the following URL:

http:\\<Report Server Name>\<Report Manager Virtual Directory>

...where:

- **<Report Server Name>** is the name of the Report Server.

- **<Report Manager Virtual Directory>** is the name of the virtual directory that you created for Report Manager. The Report Manager Virtual Directory can be defined for each instance of Reporting Services via the Reporting Services Configuration Manager.

Note: For more information on determining how to access Report Manager, see the SQL Server Setup Help, which is accessible via the Reporting Services Configuration Manager.

All Meridium APM reports that exist on the SQL Server Report Server can be accessed through Report Manager. Reports are organized on the Report Server using a folder structure that corresponds to the Meridium APM Catalog folder structure. Meridium APM users must be granted permissions to these folders in order to access SSRS reports through Meridium APM.

When you attempt to open a report in Report Manager, you will be prompted to provide a user ID and password. You will need to supply a Meridium APM user ID and password with the appropriate security privileges. The results that are displayed in the Report Manager should look the same as the results that are displayed when a user opens the report in the Meridium APM Framework application or through the Meridium APM Web Framework.

The SQL Server Report Manager should be used only to *view* Meridium APM reports. Meridium APM reports should not be created or modified directly through the Report Manager. When a user modifies an existing report in Meridium APM and re-saves it to the Meridium APM Catalog, the report will be redeployed automatically to the Report Server. Any modifications that have been made on the Report Server via the Report Manager will be overwritten when the report is redeployed from the Meridium APM Framework Application.

Additional details about the Report Manager can be found in the Help system that is accessible from the Report Manager tool.

About Communication Methods

Meridium APM provides two communication methods for allowing Meridium APM clients to communicate with the Meridium APM Application Server:

- **Remoting:** A communication infrastructure that uses the HTTP protocol over the IIS port (usually port 80) to connect client workstations to the Application Server. A Remoting connection is required whenever the client resides on a computer that is physically separate from the Meridium APM Application Server to which it needs to connect. All Meridium APM Framework workstations will connect to *dedicated* Meridium APM Application Servers via a Remoting connection.

- **Local:** A method that allows clients to access files directly on the Meridium APM Application Server without having to transfer data across a network. A Local connection should be used whenever a client resides on the same machine as the Meridium APM Application Server to which it needs to connect. Meridium APM clients should connect to *supporting* Meridium APM Application Servers via a Local connection.

The Meridium APM Framework and Administrative Applications will be installed on every dedicated Meridium APM Application Server. This local installation will exist for reasons such as running the database upgrade and debugging business rules via the Configuration Manager. While most Meridium APM Framework workstations will connect to dedicated Application Servers remotely, local installations should connect to the Application Server via a Local connection. Note that business rules debugging can be performed *only* via a Configuration Manager application that is running on the Application Server using a Local connection. To use a Local connection, you must be a member of the local Administrators group on the Meridium APM Application Server machine.

Note: Remoting connections for local installations are supported and will work properly. Local connections, however, provide better performance for components that reside on the same machine as the Application Server and are recommended for this reason.

Translations for Meridium APM

About Translations for Meridium APM

After you install Meridium APM, the text within the applications (i.e., strings) will be displayed in *English* by default. You can, however, configure the Meridium APM system to display this content in other languages. Meridium, Inc. provides translations for the following languages:

- Chinese (Simplified)

- Dutch

- French

- German

- Italian

- Portuguese

- Russian

- Spanish

To use Meridium APM with one of these languages:

- Your system must be configured according to the system requirements for a non-English version.

  -and-

- You must complete several configuration steps in addition to those required for setting up the basic Meridium APM system architecture.

> **Note:** The information in this section of the documentation applies only to the Meridium APM Framework applications and Meridium APM Web Framework application. You will need to complete different steps to deploy translations for the Operator Rounds application on a HandHeld device.

System Requirements

To see translated strings in Meridium APM applications, your system must contain:

- The basic Meridium APM system architecture. Note that when you set up the basic architecture, you will need to configure your database. This step includes considering Oracle Server Globalization software or SQL Server Localization.

  > **Note:** The Meridium, Inc. testing environment for non-English strings uses English operating systems. We recommend that you configure your system according to the Meridium, Inc. testing environment.

- Translation files for the non-English language(s) that you want to use in Meridium APM. These translation files contain translations for the baseline Meridium APM application strings and database strings. The Meridium APM system uses the strings in these files to display translated strings throughout the Meridium APM applications.

  Two translations files will exist for each language: one for the application strings, and one for the database strings. These files must be installed on:

  - The *dedicated* Meridium APM Application Server machine.

  - The supporting instance of the Meridium APM Application Server on the Meridium APM Web Framework Server (if you are using the Meridium APM Web Framework).

  > **Note:** Translation files must be obtained from Meridium, Inc. for each language that you want to use.

- At least one Meridium APM Framework machine on which the Configuration Manager application is installed must contain Microsoft Excel for the purpose of modifying baseline translations or adding

custom translations. Before you can install the Configuration Manager application, the required prerequisites must be installed.

- The Configuration Manager application must be installed on the Meridium APM Web Framework Server for the purpose of uploading custom translations to the Meridium APM Application Server instance on that machine (if you want to use custom translations in the Meridium APM Web Framework).

After you have installed and configured the basic system architecture and installed the translation files for the languages that you have purchased, you will need to perform several configuration tasks to fully deploy translated strings in your Meridium APM system.

The following image illustrates the architecture that is required for translated strings to appear in Meridium APM applications.
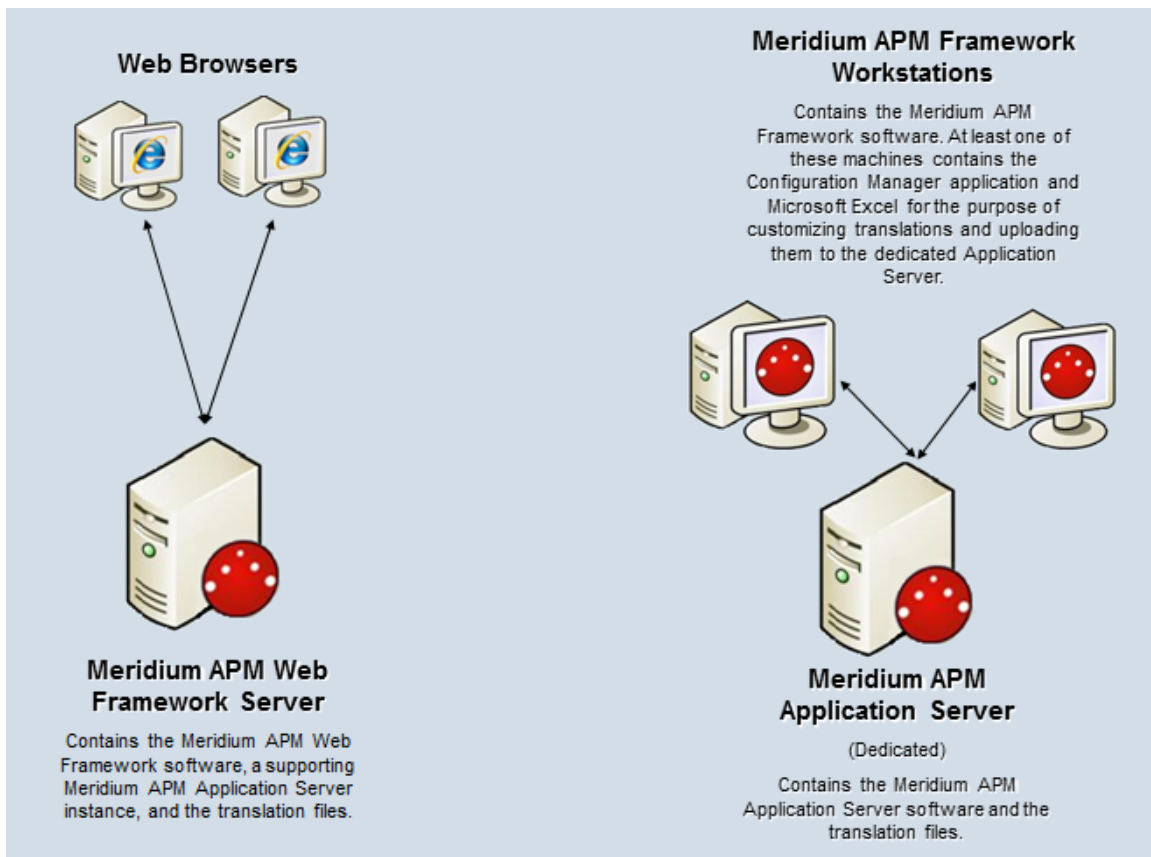
Note: Throughout this documentation, when we refer to the Meridium APM Application Server, we are referring to the dedicated Meridium APM Application Server (for APM Framework applications) *and* the supporting instance of the Meridium APM Application Server that is installed on the Meridium APM Web Framework Server, unless otherwise specified.

Types of Strings in Meridium APM

The Meridium APM applications contain the following types of strings:

- **Operating system strings**. Meridium APM applications run on Windows operating systems, which provide various methods of localization. Meridium APM applications leverage various operating system components, such as message dialog boxes and other controls. These components will be displayed in the language that the operating system has been configured to use. You cannot customize the translations for these strings using any mechanism provided through the Meridium APM system.

- **Application strings**. The Meridium APM applications display text on various user interface components (e.g., task menus and dialog boxes). If the corresponding translation files are installed, these strings will be displayed in the language that is associated with the Meridium APM Culture setting for each Meridium APM Security User. You can customize these translations, if needed.

- **Database content strings**. The Meridium APM applications display information about database content, such as datasheet captions on datasheets. These strings appear throughout the Meridium APM applications. If the associated translations exist, database strings will be displayed in the language that is associated with the Meridium APM Culture setting for each Meridium APM Security User. By default, baseline database strings are translated for all supported languages. You can customize these baseline translations, if needed.

  If you create your own database content (e.g., a new family with fields and datasheets), for each string that you use, if a baseline translation does not already exist for that string, you will need to provide the appropriate translations in all the languages in which you want that string to appear. If a string does *not* exist in a translation file for any language that you have installed, that string will be displayed in *English* to *all* users, regardless of their Meridium APM Culture setting.

Translatable Database Strings

When you create or customize database string translations, a custom database string translation file will be created automatically on the dedicated Meridium APM Application Server machine. If you want custom translations to appear in the Meridium APM Web Framework application, you will need to upload your custom database string translations to the supporting instance of the Meridium APM Application Server that is installed on the Meridium APM Web Framework machine.

You can translate database strings from the following locations:

- The **Manage Translations** window in the Configuration Manager. From this location, you can download the baseline database string translations to a Microsoft Excel file, modify the translations, and then upload the Microsoft Excel file to the Meridium APM Application Server. You can also use this tool to download your *custom* database string translations, customize the translations, and then upload your additional changes.

- The **Localize Caption** dialog box, which is accessible from the or buttons that appear throughout the Meridium APM applications wherever you can translate a database string. From this location, you can add or modify database string translations using a grid, and they will be uploaded to the dedicated Meridium APM Application Server automatically.

Custom translation files will be used instead of the baseline translation files. Because only one custom database string translation file can exist per language, after you create a custom database string translation file, if you want to make further changes, you should download your custom database string translation file, customize the translations, and then upload it again. The most recent file that you upload will be the file that is used by the Meridium APM system.

Database strings are case sensitive. This means that if the database string translation file contains a translated string that contains a capital letter, and you create a translation for the same string except it contains a lowercase letter, the string with the lowercase letter will be considered a new custom string (because it did not already exist in a translation file). For example, if the string *Produce* (capitalized) exists in a translation file and then you create a query named *produce* (lowercase) and translate it, the string *produce* and its translations will be added to a custom translation file.

The following lists identify the database strings that can be translated using the features described in the preceding list. You can use these lists as a reference when you are translating database strings.

In the Configuration Manager, you can provide translations for the following items:

- Family captions

- Field captions

- Field help text

- Datasheet captions (standard datasheets and custom-layout datasheets)

- Datasheet section captions

- Unit of measure (UOM) captions

- System Code Table descriptions

- System Code descriptions

In the Meridium APM Framework application, you can provide translations for the following items:

- Home Page names

- Names of the local sections on Home Pages

- Names of hyperlinks in Home Page sections

- Names of tasks on the Home Pages

- Catalog item captions for all Catalog item types

- Contents of reports that is controlled by report layout (not the underlying data)

- Labels for hyperlinks on the shortcut menu in query results

- Labels for a submenus on the shortcut menu in query results

- Query aliases

- Query prompt captions

- Section names on a dashboard

- Names or descriptions of measures that are displayed in dashboard sections

- Names of hyperlinks that are displayed in dashboard sections

- Labels of axes on graphs that are displayed in dashboard sections

- State captions

- State roles captions

- State operations captions

Additionally, in the URL Manager, you can translate the captions for Associated Pages.

Application String Translations

You can modify the baseline application string translations using the **Manage Translations** window in the Configuration Manager. From this location, you can download the baseline application string translations to a Microsoft Excel file, customize the translations, and then upload the Microsoft Excel file to the Meridium APM Application Server. When you do so, a custom application string translation file will be created automatically and will contain *all* the application string translations, including your custom translations. This custom translation file will be used instead of the baseline translation file.

Because only one custom application string translation file can exist per language, after you create a custom application string translation file, if you want to make further changes, you should:

1. Download your custom application string translation file.

2. Customize the translations.

3. Upload the translations again. The most recent file that you upload will be the file that is used by the Meridium APM system.

If you delete a custom application string translation file, the Meridium APM system will automatically use the baseline application string translation file instead.

About the Translations Files

Overview of the Translation Files

Translations for the Meridium APM applications are stored in files with the extension .MTM on the Meridium APM Application Server. By default, two files are provided for each supported language that you purchase:

- One file stores the baseline translations for application strings.

- One file stores the baseline translations for database strings.

The translation files are named according to the abbreviation for the culture associated with the language that is stored in that file. For example, the Spanish translation file is named **es.MTM**, where **es** is the abbreviation for *Spanish*.

If you customize baseline translations or add new translations, custom translation files will be created automatically to store those translations. For example, suppose that for Spanish, you want to modify the translation for the baseline string *Equipment*. Suppose that the same string *Equipment* appears both as a button label (application string) and as a datasheet caption (database string).

If you modify the Spanish translation for the application string and the database string, four files will exist on the Meridium APM Application Server:

- The baseline application translation file.

- The baseline database string translation file.

- A custom application translation file including your custom translation for the *Equipment* string that is displayed on the button.

- A custom database string translation file including your custom translation for the *Equipment* string that is displayed as a datasheet caption.

To modify a translation, you can download to your local machine the translations stored in the appropriate translation file from the Meridium APM Application Server. These translations will be downloaded to a Microsoft Excel file, which you can use to modify the translations. After you are finished, you can upload the Microsoft Excel file, and the Meridium APM system will automatically convert that file to a translation file (i.e., with the extension MTM) and save it on the Meridium APM Application Server.

The Meridium APM system will display only the strings that are stored in translation files on the Meridium APM Application Server. If you have uploaded custom translation files, the Meridium APM system will use your custom translations instead of the baseline translations.

Translation Files and the Meridium APM System

As you upload new or customized translations from a Microsoft Excel file to the Meridium APM Application Server, the Meridium APM system will automatically:

- Create *custom* translation files (application or database strings) and save them to locations on the Meridium APM Application Server machine that are separate from the location in which the baseline translation files are stored.

- Save the previous version of your custom translation files (if any exist) to locations on the Meridium APM Application Server that are separate from the updated custom translation files *and* baseline translation files.

After the translations that you want to use exist on the Application Server in translation files with the extension .MTM (baseline or custom), the Meridium APM applications will use these files to display the strings in Meridium APM applications in the languages for which the translation files exist. Specifically, when you log in to a Meridium APM application, the Meridium APM system will:

1. Copy to the Meridium APM Framework machine the latest application string translation files from the Meridium APM Application Server.

Note: For the Meridium APM Framework applications to display application string translations, the Meridium APM Framework machine must contain a local copy of the application string translation files. The database string translation files, however, are used remotely from the Meridium APM Application Server machine.

2. Use the Meridium APM Culture setting in your Meridium APM Security User record to look for the corresponding translation files.

3. For each string, compare the translations in the baseline translation files to the corresponding translations in the custom translation files (if the custom files exist).

    - If a custom translation exists in the custom translation files, the Meridium APM system will display the translation from your custom translation file.

    - If there is no custom translation in the custom translation files (or there are no custom translation files), the Meridium APM system will use the translation in the baseline translation file.

Note: If you want to use the baseline translations instead of your custom translations, you can remove your custom translation file via the Configuration Manager. If you do so, the file will not actually be deleted. Instead, it will be moved to a separate location on the Meridium APM Application Server. You can restore this file later, if needed.

APM Foundation Work Process

Multiple licenses are required to take advantage of APM Foundation modules, features, and tools. In addition to the following licenses, your system must contain the basic Meridium APM system architecture:

- Asset Criticality Analysis (ACA)

- Asset Health Manager (AHM)

- One or more of the licences representing the third-party EAM systems you plan to integrate with your Meridium APM system:

    - SAP Interfaces

    - Oracle EBS eAM Interfaces

    - Maximo Interfaces

- AMS Analytics

- Process Data Integration

- Operator Rounds *or* Lubrication Management

- Recommendation Management

After you have licensed and configured the basic system architecture, you will need to perform some configuration steps for some features.

ACA System Requirements

The *Meridium APM Framework Tools* license is required to take advantage of ACA functionality. In addition, your system must contain the basic Meridium APM system architecture.

In order to update your SAP system to reflect the criticality value that is determined in ACA, the licenses *SAP Interfaces – Foundation* and *SAP Interfaces - Criticality Assessment* are also required.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the ACA feature.

AHM System Requirements

AHM is a feature that can be used to its complete potential only when it is integrated with the following modules:

- Operator Rounds

- Metrics and Scorecards

- Asset Strategy Management

- Process Data Integration

Note: To integrate AHM with these modules, you will also need to complete the installation and configuration tasks that are required for them.

The *Meridium APM Framework Tools* license and the licenses for the modules that you want to use with AHM are required to take advantage of AHM functionality.

In addition, your system must contain the basic Meridium APM architecture and additional machines and components for PDI users, which are described in the *Additional Requirements for PDI Users* section in this topic.

When you install the Meridium APM Application Server, the Meridium AHM Service is installed automatically. After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for AHM. In order for the AHM Service to function as described within this documentation, you must first modify the file *Meridium.AHI.Service.exe.config*. After you configure the settings in this file, the AHM Service will allow the Health Indicator status values to be updated automatically.

Additional Requirements for PDI Users

PDI users can create Health Indicator records from *Xi Tag records*. This documentation assumes that the following machine and components have been added to the basic Meridium APM system architecture.

- **Meridium APM Process Data Integration Server**: Contains the OPC Server software and a supporting instance of the Meridium APM Application Server and Add-ons. In addition, this machine contains a *second* instance of the Meridium AHM Service and a *second* file named Meridium.AHI.Service.exe.config, which are both installed automatically when you select the **Meridium APM Process Data Integration Service** in the Meridium APM Server and Add-ons installer. In addition to modifying the file Meridium.AHI.Service.exe.config on the Meridium APM Application Server, you will also need to modify this file on the Meridium APM Process Data Integration Server.

The following image provides an illustration of the architecture components that are required for deploying AHM, including Process Data Integration.
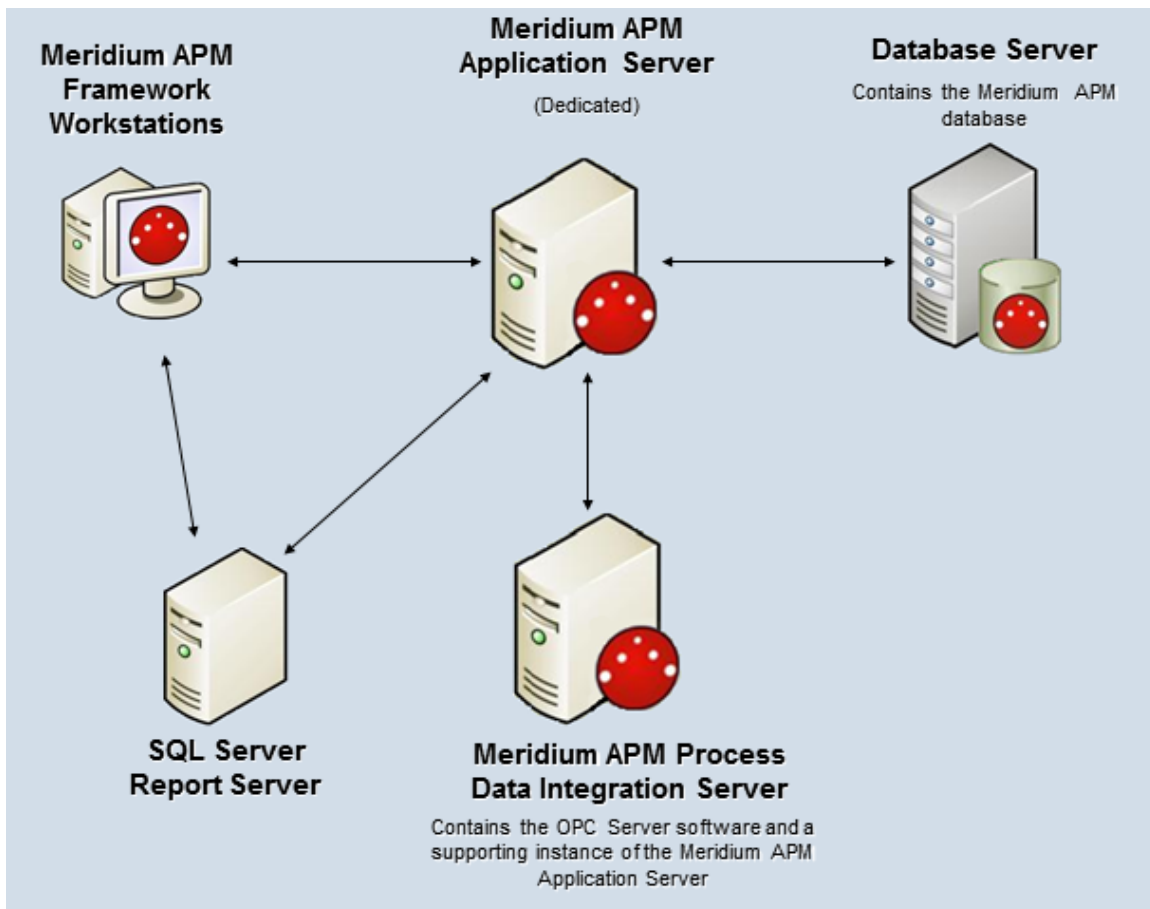
SAP Interfaces System Requirements

The *SAP Interfaces* feature allows you to integrate Meridium APM with your SAP system. Two approaches are available for implementing this functionality:

- **Non-PI-based:** Allows you to transfer data to and from SAP using the SAP backend system and an SAP database.

- **PI-based:** Allows you to transfer data to and from SAP through an SAP PI Server.

The *SAP Interfaces - Foundation* license is required to take advantage of SAP Interfaces functionality. The following additional licenses may also be required to take advantage of additional SAP Interfaces features:

- SAP Interfaces - Foundation

- SAP Interfaces - Process Integration

- SAP Interfaces - Technical Characteristics

- SAP Interfaces - Work Management

In addition, your system must contain the basic Meridium APM system architecture and the following additional components. If you want to use a PI-based SAP Interfaces implementation, note that your system will need to contain both the additional components for all SAP Interfaces implementations *and* the additional components for PI-based SAP Interfaces implementations.

Note: On each Meridium APM Application Server to which you will transfer SAP data (i.e., each Meridium APM Application Server that is specified in the /MIAPM/PARAMS table), the regional settings must match the decimal notation and date format settings of the SAP users that will run reports to transfer data to and from that Application Server. For example, if the Application Server regional setting is configured to use a comma instead of a period to separate dollars from cents (e.g., *123,50* instead of *123.50*), if the SAP user with the user ID JSMITH will be running the Notification and Order Extraction Interface to transfer data to that Application Server, the decimal notation for JSMITH should be set to *1.234.567,89*. In SAP, decimal notation and date format settings are available on the **Defaults** tab of the user information screen, which is accessible from the transaction *SU01*.

After you have installed and configured the basic Meridium APM system architecture, you will need to perform some configuration steps specifically for SAP Interfaces.

Additional components required for all SAP Interfaces implementations:

- **SAP Backend System.** An SAP server machine with an ECC system set up. The following versions are supported:

  - SAP ECC 6.0 (Enhancement Packs [EhP] 1 through 7)

  The *PI-based* interfaces were tested using SAP ECC 6.0.

- **SAP Database:** A database that houses the SAP data model and data.

- **SAP Internet Transaction Server (ITS).** Version 6.20 or higher is required.

  Note: If you are using SAP ECC 5.0 or ECC 6.0 on the SAP Backend System, a separate ITS is not required, but the WebGUI *does* need to be activated in the ECC system.

- **Meridium APM Web Services:** Requires the following components.

Software Name and Version	Where you Can Obtain It	Required?	Behavior of Meridium APM Server and Add-ons Installer
Microsoft.net 3.5 SP1	Microsoft	Yes	If this is not found, the installer will close.
ReportViewer2008	Microsoft	Yes	If this is not found, the installer will install it automatically.
Micorosft WSE 3.0 Runtime	Microsoft or Meridium APM 3rd party DVD.	Yes	If this is not found, the installer will close.

Windows 2008R2 or newer	Microsoft	Yes	If this is not found, the installer will close.
Internet Explorer 8.0, 9.0, or 10.0	Microsoft	Yes	If this is not found, the installer will close.
IIS 7.0 or later	Microsoft	Yes	If this is not found, an error message will appear, and the installer will close.
MSXML 3.0 MSXML3 Exception INF	Microsoft Internet Explorer. This is installed automatically with Internet Explorer 6.0 and later.	Yes	None
IIS 6 WMI Compatibility	Microsoft	Yes	If this is not found, the installer will close.
Visual C++ 8.0 CRT (x86) WinSXS MSM Visual C++ 8.0 MFC (x86) WinSXS MSM Visual C++ 10.0 CRT (x86) Visual C++ 9.0 CRT (x86) WinSXS MSM Visual C++ 10.0 ATL (x64) Visual C++ 9.0 ATL (x86) WinSXS MSM	Meridium APM	Yes	If this is not found, the installer will install it automatically.

If you are using a virtual machine (VM) to host your Meridium APM Web Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

Note: The installation and setup of the SAP machines is beyond the scope of the Meridium APM documentation. Information about installing and configuring the SAP Servers and database can be found in the documentation that is distributed by SAP with the SAP software. Throughout the Meridium APM documentation, we assume that these machines have been set up and properly configured according to the guidelines described in this topic.

The following image shows how these additional machines should be incorporated into the basic Meridium APM system architecture to support the SAP Interfaces.
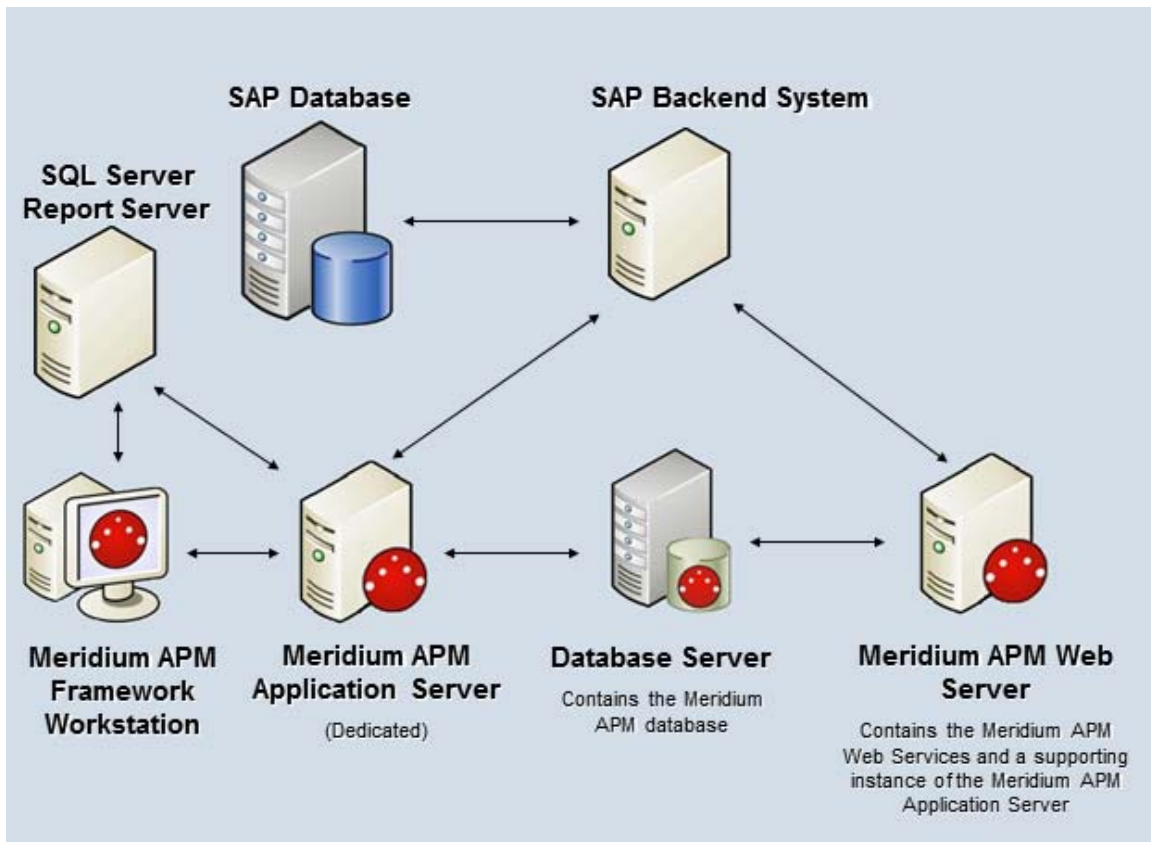
Additional requirements for PI-based SAP Interfaces implementations:

- **SAP PI Server.** Contains the PI content that facilitates communication between Meridium APM and SAP for the purpose of extracting SAP items using the PI-based approach. The SAP PI Server must contain the SAP Web Application Server 7.0 (ABAP + Java) with PI 7.0 or higher. Meridium APM has been tested using SAP Web Application Server 7.0 SP9 (ABAP + Java) with PI 7.0 and PI 7.3.

  IMPORTANT: For versions prior to SAP PI 7.3, a dual-stack installation (ABAP + Java) was required for all communications. Beginning with SAP PI 7.3, a single-stack Java installation is supported. Meridium APM, however, has been tested successfully only with a dual-stack installation (ABAP + Java) and may not work successfully with a single-stack Java installation.

- **SAP Enterprise Portal.** Contains the Meridium APM Query iView, which you can use to view Meridium APM Recommendation records in the SAP Portal.

> **Note:** The SAP Enterprise Portal is required only if you are using the Notification Creation Interface.

The SAP Enterprise Portal must meet *one* set of requirements below:

Option 1:

- SAP Web Application Server 6.40 SP22 or higher

- SAP Enterprise Portal 6.40 at the same service pack level as the Web Application Server

- SAP Portal .NET Runtime 2.5 (PDK for MS.NET 2.5)

Option 2:

- SAP Web Application Server (Java) 7.0 SP9 or higher with EP 7.0 at the same service pack level as the Web Application Server

- SAP Portal .NET Runtime 2.5 (PDK for MS.NET 2.5)

The following image shows how these additional machines should be incorporated into the basic Meridium APM system architecture to support the SAP Interfaces.
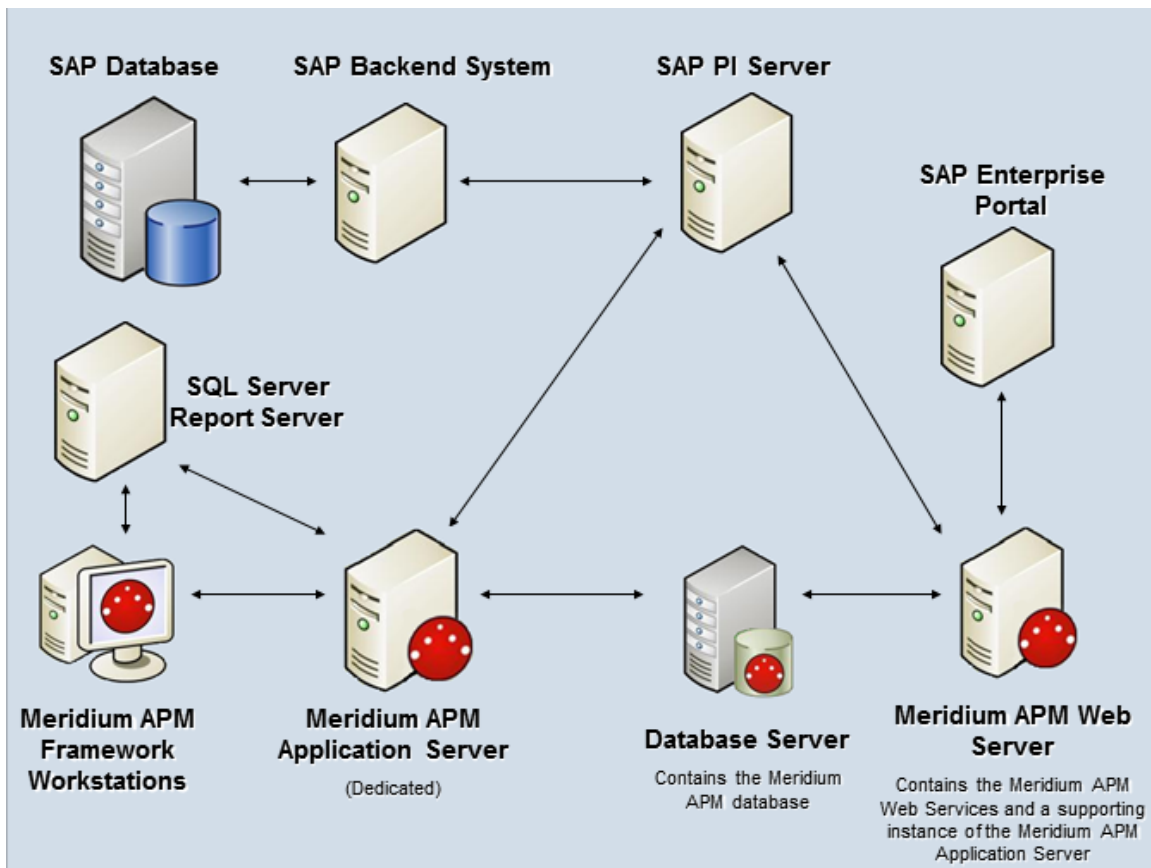
The following workflows do not support integration with SAP PI:

- Running the Work Management Interface (when managing work in the Meridium APM or in the SAP system).

- Configuring the Meridium APM system to extract characteristics.

- Creating an SAP Notification from a single RBI Recommendation.

Note: If you are running an SAP PI Server in these workflows, you can still complete them, but the Meridium APM system will connect to the SAP system using the non-PI method.

Oracle EBS eAM Interfaces System Requirements

The *Oracle EBS eAM Interfaces* feature allows you to integrate Meridium APM with your Oracle EBS eAM system. You can use either of the following approaches to connect to the Oracle EBS eAM Database Server:

- **Oracle SOA Gateway approach:** Allows the Meridium APM Application Server to connect to the Oracle EBS eAM Database Server through the Oracle web services, which reside on the Oracle EBS eAM Application Server.

- **Oracle DB Direct approach:** Allows the Meridium APM Application Server to connect directly to the Oracle EBS eAM Database Server.

Both approaches provide the same end-user functionality and only differ by the technical integration approach. The choice to use the Oracle SOA Gateway or the Oracle DB Direct approach is ultimately determined by your environment and standards. We recommend that you use the Oracle SOA Gateway approach if you:

- Have the SOA Gateway configured.

- Use Web Services as a corporate standard for data integration.

- Have firewalls between the Meridium APM Application Server and the Oracle EBS eAM Database Server that must block non-HTTP traffic.

You should use the Oracle DB Direct approach, however, if none of the preceding criteria applies to your deployment situation.

The *Oracle EBS eAM Interfaces* license is required to take advantage of Oracle EBS eAM Interfaces functionality. In addition, your system must contain the basic Meridium APM system architecture and the following additional components:

- **Oracle EBS eAM Application Server:** An Oracle EBS eAM Application Server machine that is running version 12.1.1, 12.1.2, or 12.1.3.

- **Oracle EBS eAM Database Server:** A database that houses the Oracle EBS eAM data model and data and is running a version that is supported by the Oracle EBS eAM Application Server. For details on requirements of the Oracle EBS eAM Database Server, see the Oracle EBS eAM documentation.

Note that if you want to use the Oracle DB Direct approach versus the Oracle SOA Gateway approach when connecting with the Oracle EBS eAM database, the Meridium APM Application Server *must* contain ODP.NET 11.2.0.1.2.

Note: If you are using an Oracle Meridium APM database, your Meridium APM Application Server should already contain this component. If you are using a SQL Server Meridium APM database, you will not have installed this component as part of the Meridium APM Application Server deployment procedure.

After you have installed an configured the basic Meridium APM application, you will need to perform some configuration steps specifically for lick here for Oracle EBS eAM Interfaces.

The following images show how the additional machines should be incorporated into the basic Meridium APM system architecture to support the Oracle EBS eAM Interfaces.

Oracle SOA Gateway
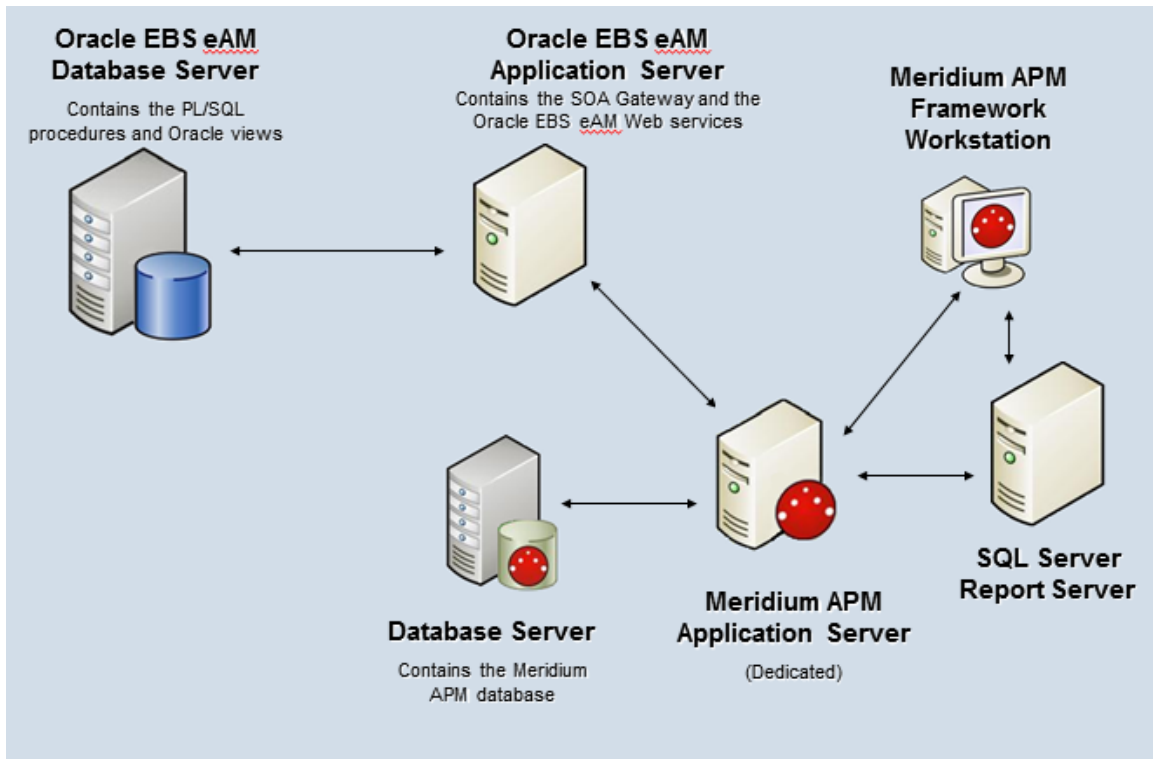
Oracle DB Direct
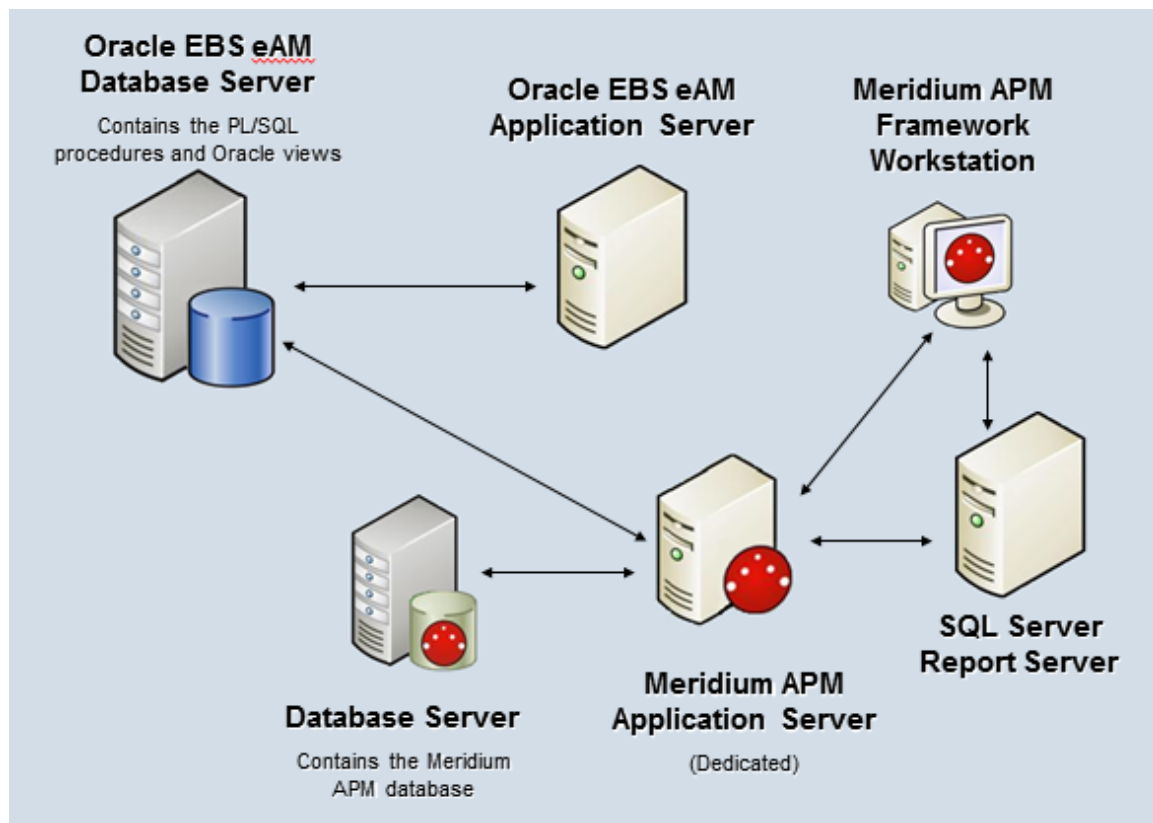
Maximo Interfaces System Requirements

The *Maximo Interfaces* feature allows you to integrate Meridium APM with your Maximo system. The *Maximo Interfaces* license is required to take advantage of Maximo Interfaces functionality. In addition, your system must contain the basic Meridium APM system architecture and the following additional components:

- **Maximo Application Server:** A Maximo Application Server machine that houses the Maximo Web Services and is running version 7.1 or 7.5.

  Note: Before users begin using the Maximo Interfaces, the Maximo Application Server must contain the following Web Services, which must be deployed and defined as object structure services: MIASSET, MIOPERLOC, MIWO, MIWODETAIL, and MISR.

- **Maximo Database Server:** A database that houses the Maximo data model and data and is running a version that is supported by the Maximo Application Server. For details on requirements of the Maximo Database Server, see the Maximo documentation.

- **Maximo Client Workstation:** A computer that is used to access the Maximo application. For details on the requirements of the Maximo Client workstation, see the Maximo documentation.

- **Maximo Administrative Workstation:** A computer that contains the Maximo application. For details on the requirements of the Maximo Administrative workstation, see the Maximo documentation.

After you have installed and configured the basic Meridium APM application, you will need to perform some configuration steps for Maximo Interfaces.

The following image shows how the additional Maximo machines should be incorporated into the basic Meridium APM system architecture to support the Maximo Interfaces.
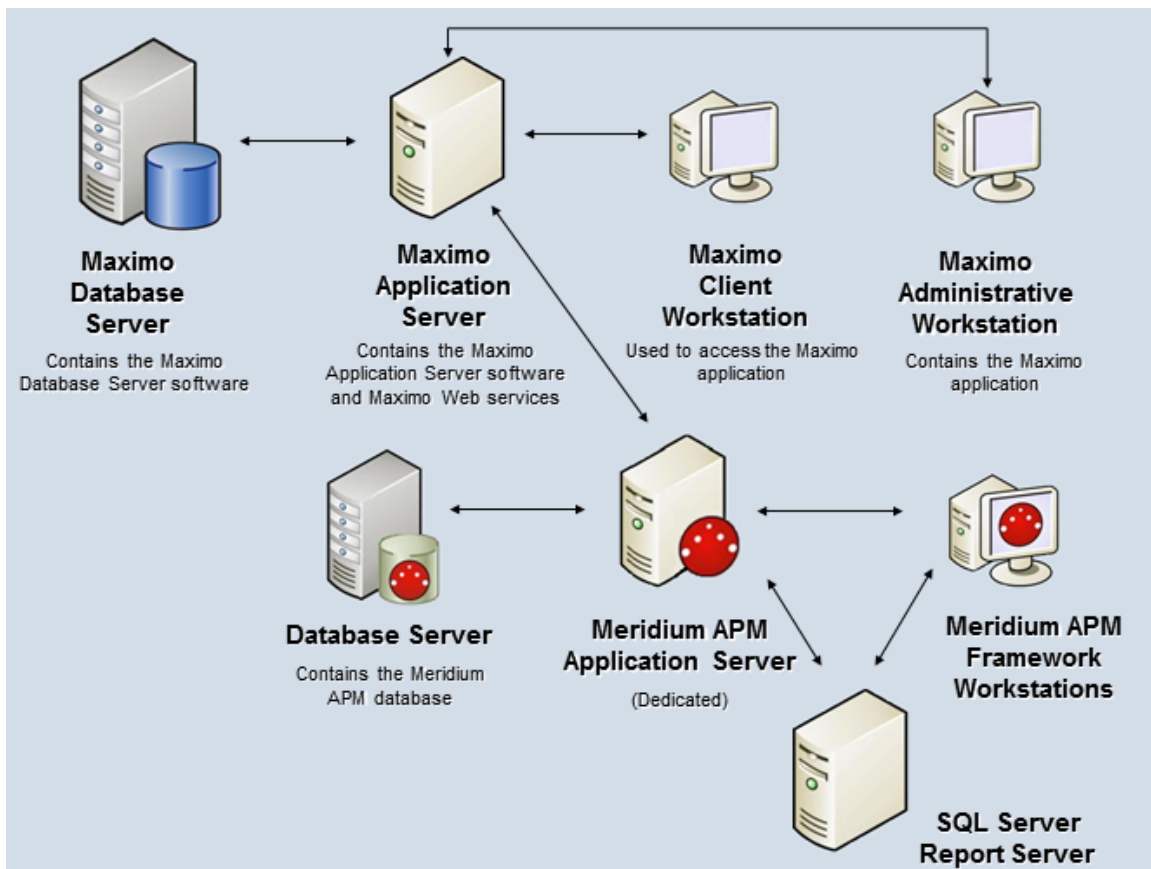
AMS Analytics System Requirements

To implement the AMS Analytics module, your Meridium APM system must meet the requirements of the basic architecture, and the *AMS Analytics* license must be activated. In addition, you will need to deploy the following additional machines and components:

- **Meridium APM Web Server machine**: Hosts the *Meridium APM Web Services* software and a supporting instance of the Application Server. If you choose to implement AMS Analytics within your system, we recommend using a configuration in which the Web Server exists on a machine that is *separate* from the Meridium APM Application Server (dedicated).

  Meridium APM Web Services requires the components listed in the following table.

Software Name and Version	Where You Can Obtain It	Required?	Behavior of Meridium APM Server and Add-ons Installer
Microsoft.net 3.5 SP1	Microsoft	Yes	If this is not found, the installer will close.
ReportViewer2008	Microsoft	Yes	If this is not found, the installer will install it automatically.
Micorosft WSE 3.0 Runtime	Microsoft or Meridium APM 3rd party DVD.	Yes	If this is not found, the installer will close.
Windows 2008R2 or newer	Microsoft	Yes	If this is not found, the installer will close.
Internet Explorer 8.0, 9.0, or 10.0	Microsoft	Yes	If this is not found, the installer will close.

IIS 7.0 or later	Microsoft	Yes	If this is not found, an error message will appear, and the installer will close.
IIS 6 WMI Compatibility	Microsoft	Yes	If this is not found, the installer will close.
MSXML 3.0 MSXML3 Exception INF	Microsoft Internet Explorer. This is installed automatically with Internet Explorer 6.0 and later.	Yes	None
Visual C++ 8.0 CRT (x86) WinSXS MSM Visual C++ 8.0 MFC (x86) WinSXS MSM Visual C++ 10.0 CRT (x86) Visual C++ 9.0 CRT (x86) WinSXS MSM Visual C++ 10.0 ATL (x64) Visual C++ 9.0 ATL (x86) WinSXS MSM	Meridium APM	Yes	If this is not found, the installer will install it automatically.

If you are using a virtual machine (VM) to host your Meridium APM Web Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

- AMS Machinery Health Manager, which is a third-party component and exceeds the scope of this documentation.

- AMS Device Manager, which is a third-party component and exceeds the scope of this documentation.

The following illustration shows how the Meridium APM Web Server connects to the basic Meridium APM system architecture and the third-party machines.
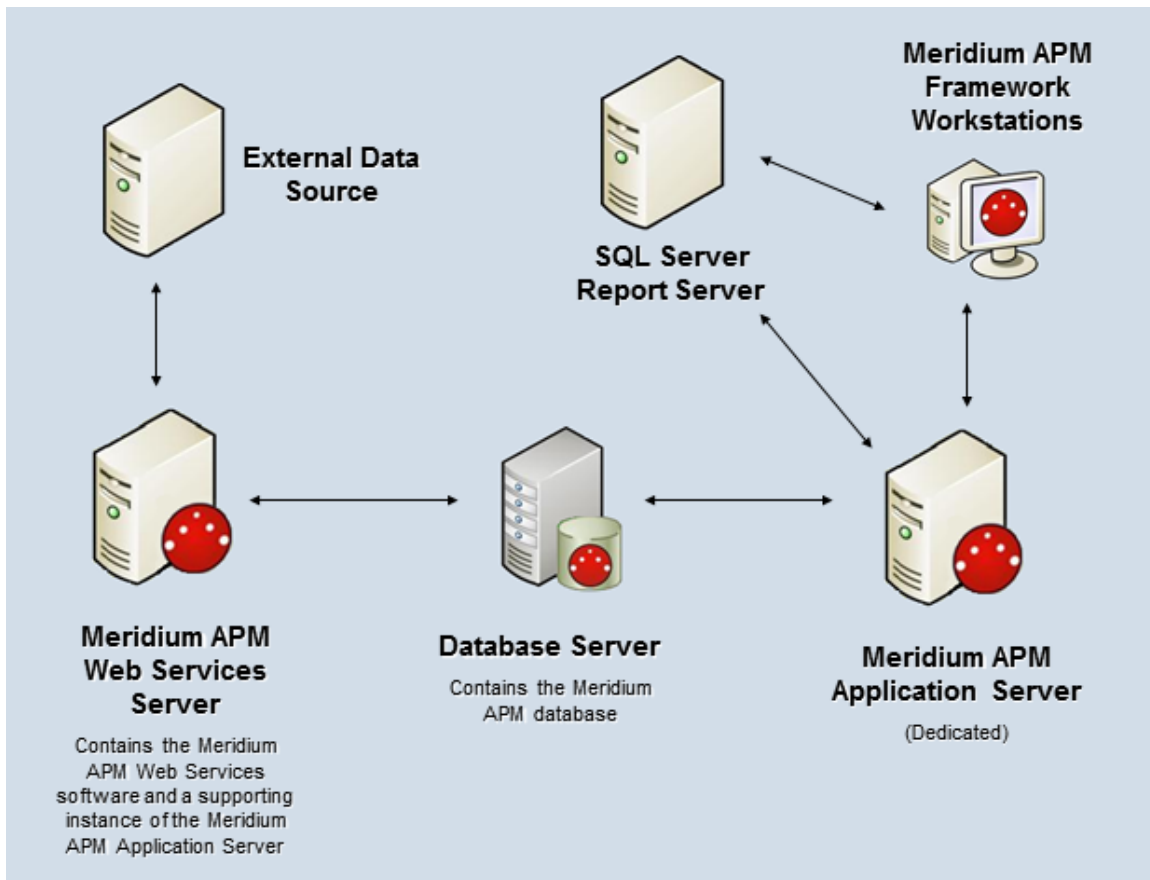
Note: While this image depicts only a single, dedicated Meridium APM Application Server, keep in mind that your implementation may contain one or more of these machines. The purpose of this image is to depict the interaction of the Meridium APM Web Server with the basic Meridium APM components and the third-party machines.

Process Data Integration System Requirements

The Process Data Integration (PDI) feature allows you to collect data from OPC-compliant process historians, which are specialized databases used for recording real-time process data, such as temperature or pressure. For example, you can use the PDI feature to collect data from the OSIsoft® PI Server software.

The *Meridium APM Framework Tools* license is required to take advantage of Process Data Integration functionality. In addition, your system must contain

the basic Meridium APM system architecture and the following additional components:

- **Meridium APM Process Data Integration Server:** A machine on which the Meridium APM Process Data Integration Service is installed. The Meridium APM Process Data Integration Server must contain the following components:

  - Microsoft Message Queuing (MSMQ)

    Note: While MSMQ is not a prerequisite to installing the Meridium APM Process Data Integration Service, it must exist on the machine before users begin using the Process Data Integration feature.

  - Oracle Data Access Components 11.2, including ODP.NET and Oracle Services for MTS

    This requirement applies only if the Meridium APM Database Server is an *Oracle* database server. Both 32-bit and 64-bit Process Data Integration Servers require the 32-bit version of ODP.NET and Oracle Services for MTS.

    Note: The process for installing Oracle Data Access Components on the Meridium APM Process Data Integration Server is the same as the process for installing it on the Meridium APM Application Server.

If you are using a virtual machine (VM) to host your Meridium APM Process Data Integration Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

- **OPC Server:** A machine on which the OPC-compliant server software is installed. The software requirements of this server are determined by the third-party distributor of the software.

  To reduce your number of configuration tasks, (i.e., to avoid configuring a COM connection), we recommend that this be the *same* machine as the Meridium APM Process Data Integration Server, (i.e., the machine on which the Meridium APM Process Data Integration Service is installed). If, however, your company prefers to restrict the installation of additional applications on the OPC Server, the Meridium APM Process Data Integration Server may be a *separate* machine from the OPC Server. Note that if you choose this deployment method:

  - The OPC Server must be accessible from your Meridium APM Process Data Integration server.

  - The Meridium APM Process Data Integration Server must connect to the OPC Server using a COM connection. This documentation does not provide details for configuring this connection.

- **Process Historian:** A computer that contains the process historian software. The software requirements of this machine are determined by the third-party distributor of the software.

Only the following OPC Servers and process historians are supported for the PDI feature. Other OPC Servers and process historians have not been tested and are not supported by Meridium, Inc.:

- OSIsoft® PI Server versions 3.4.375.80 and 3.4.390.16 with PI OPC DA/HDA Server version 1.2.6.0.

- Matrikon Simulation tool, which simulates the MatrikonOPC Historical Data Access Suite.

- IP21 (Aspen ONE V8.0) Version 12.0.0.20.

- IP21 (Aspen ONE V8.0) Version 12.0.0.20 with MatrikonOPC IP21 Server Version 2.2.1.3763.

If users plan to import tags from the OSIsoft® PI Server directly (versus using OPC Xi), which they can do only if the *OSI PI Interfaces* license is active, in addition to meeting the standard hardware and software requirements, the Meridium APM Application Server must also contain PI SDK Version 1.3.6. The format of PI SDK must correspond to the format of the Meridium APM Application Server operating system (i.e., 32-bit or 64-bit).

The following image shows how these additional machines should be incorporated into the basic Meridium APM system architecture if you plan to house the OPC Server software and the Meridium APM Process Data Integration Services on the same machine.
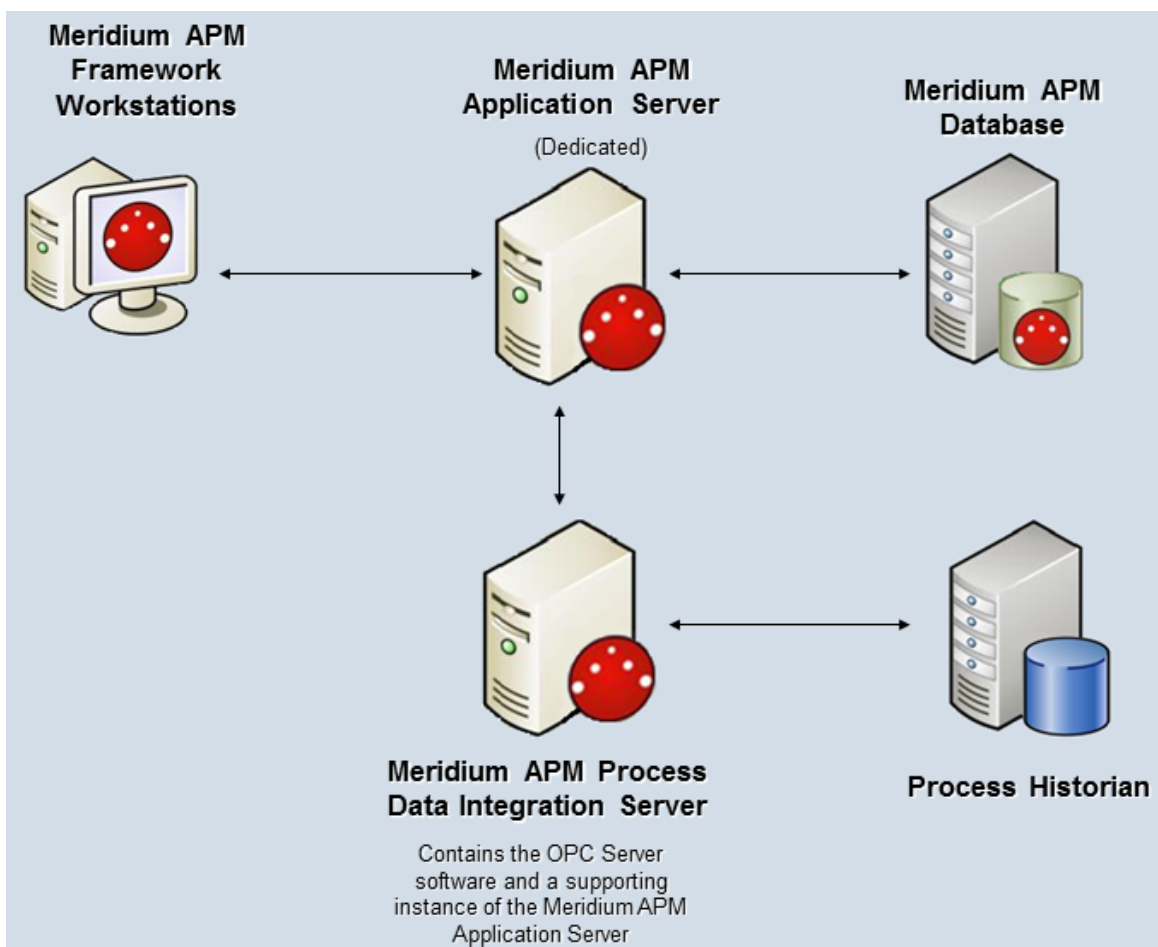
Regardless of the deployment option that you choose, after you have installed and configured the components in the basic Meridium APM system architecture, you will need to perform some configuration steps that are specific to PDI.

Operator Rounds System Requirements

The *Operator Rounds* license is required to take advantage of Operator Rounds functionality. In addition, your system must contain the basic Meridium APM system architecture and the following additional components:

- **Meridium APM Sync Server:** This computer houses the Meridium APM Sync Services and the Microsoft Sync Framework, which provides the infrastructure for the Operator Rounds solution. The Meridium APM Sync Server provides a connection between handheld devices and the Meridium APM Application Server so that data can be synchronized between the devices and the Meridium APM database.

  A *supporting instance of the Meridium APM Application Server* resides on the Meridium APM Sync Server to facilitate the connection between handheld devices and the database. This documentation assumes that the Sync Server machine has been configured according the system requirements for the Application Server.

  Meridium APM Sync Services requires that the following components exist on any machine where it is installed:

  - **Microsoft Sync Framework v2.0**, which includes Microsoft Sync Framework Services and Microsoft Sync Services for ADO. This component should be installed after Meridium APM Sync Services is installed. Meridium APM V3.6.0.0.0 has been tested using *only* the English version of the Microsoft Sync Framework.

  - **A database must exist to house several database tables that are used by Meridium APM Sync Services**. After you install Meridium APM Sync Services, you must specify the connection information to this database. We recommend that you use a database other than the Meridium APM database to store these database tables.

  If you are using a virtual machine (VM) to host your Meridium APM Sync Server, we recommend that:

  - You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

  - You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

- **Handheld Device(s):** You can use Meridium APM Operator Rounds on as many handheld devices as you like. On each device, you will need to install the Meridium APM Mobile Framework software and the Operator Rounds application itself. The type of device that you use will depend upon the Operator Rounds add-on(s) that you use. The following table lists the supported devices associated with each add-on and information about which devices are used in the Meridium, Inc. testing environment.

Operator Rounds add-on	Supported devices	Device used in the Meridium, Inc. testing environment	Supported ID Types
Barcode	Intermec and Motorola scanners	• Intermec CN70 device • Motorola MC9500-k series device*	Code 39 barcodes
RFID	Intermec 70 series scanners with the Intermec IP30 Handheld RFID reader	Intermec CN70 device with an Intermec IP30 Handheld RFID reader	• International Standards Organization 18000-6B Generation 2 • Electronic Product Code Global Class 1 Generation 2

*Full testing of the Meridium APM Mobile Framework and the Operator Rounds application has not been completed on this device. Rather, only the functionality associated with the barcode add-on has been tested on this device.

The handheld devices that you want to use to collect data for Operator Rounds must use one of the following operating systems:

- Windows Mobile 2003

- Windows Mobile 5.0

- Windows Mobile 6.0

- Windows Mobile 6.5

- Windows Embedded Handheld 6.5

Additionally, you must install the following prerequisites on the handheld devices:

- .NET Compact Framework 3.5

- Microsoft SQL CE 3.5 SP1

- Microsoft Sync Services for ADO.NET 1.0 SP1

Note: The .NET Compact Framework, Microsoft SQL CE, and Microsoft Sync Services for ADO.NET are distributed by Meridium, Inc. and included in the Meridium APM Sync Services installation. They can be downloaded from the Meridium APM Sync Server to a device after Meridium APM Sync Services has been installed.

After you have installed and configured the basic architecture, you will need to perform some configuration steps specifically for Operator Rounds.

The following image provides an illustration of the components that are required for deploying Operator Rounds.
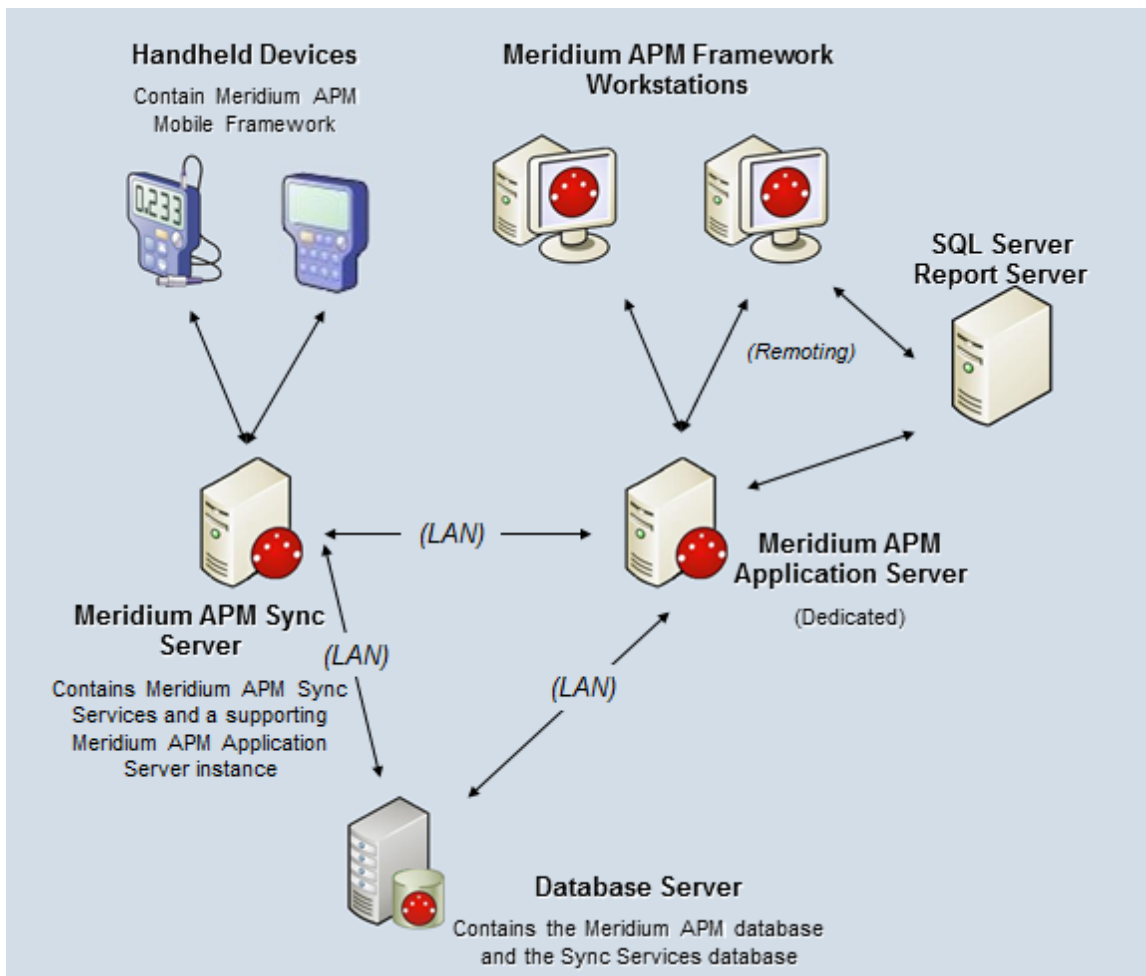
Note: While this image depicts only a single, dedicated Meridium APM Application Server, keep in mind that your implementation may contain one or more of these machines. The purpose of this image is to depict the interaction of the Meridium APM Sync Server with the basic Meridium APM components and not to provide details on the basic components themselves.

Lubrication Management System Requirements

The *Lubrication Management* license is required to take advantage of Lubrication Management functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Lubrication Management feature.

Recommendation Management System Requirements

The *Meridium APM Framework Tools* license is required to take advantage of Recommendation Management functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Recommendation Management feature.

Risk Assessment System Requirements

The *Meridium APM Framework Tool* license must be activated before you can take advantage of Risk Assessment functionality. In addition, your system must contain basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, risk assessment will be ready to use. If, however, you want to use a custom risk matrix, you will need to perform some configuration tasks.

Core Analysis System Requirements

The *Meridium APM Framework Tools* license is required to take advantage of Core Analysis functionality. In addition, your system must contain the basic architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Core Analysis tools.

The Meridium APM Framework contains a feature that allows you to share dashboards via email. This feature is supported only on specific browsers and mobile operating systems.

Policy Manager System Requirements

The *Policy Manager* license is required to take advantage of Policy Manager functionality. In addition, your system must contain the basic Meridium APM system architecture and the following additional components:

- **Meridium APM Policy Execution Server:** The machine that houses the Meridium Policies Execution Service. The Meridium Policies Execution Service works in combination with the Meridium Policies Trigger Service to execute policies. The Meridium Policies Trigger Service is installed automatically on the Meridium APM Application Server machine and the Meridium APM Process Data Integration Server.

  The Meridium Policies Execution Service is installed by the Meridium APM Server and Add-ons installer when you select the *Meridium APM Policy Execution Service* option in the installer. A supporting instance of the Meridium APM Application Server and Add-ons should also be installed on the Meridium APM Policy Execution Server.

  Depending upon the number of policies that you will need to manage in your system, you may have multiple Meridium APM Policy Execution Server machines. In that case, you will need to perform all the installation and configuration steps on each machine.

  About the Policy Execution Server and the Application Server

  Policies will be executed according to a defined schedule or on an as-needed basis when the values in the records that are included in the policy change. If the records included in a policy belong to families *other than* the Xi Tag family (e.g., the Equipment family), when the policy is executed, the Meridium Policies Trigger Service on the *Meridium APM Application Server* is used in combination with the Meridium Policies Execution Service on the Meridium APM Policy Execution server.

  The following hardware is the *minimum* requirement for any machine that will serve as the Meridium APM Policy Execution Server. These requirements account for the Meridium APM software only. Additional hardware may be required on machines where other components are

installed. These requirements may not be sufficient, depending upon how your system is configured.

- Two Process Cores, 2+ GHz

- 4 GB RAM

- 20 GB Hard Drive space

The Meridium APM Policy Execution Service requires that the following software components exist on the machine where it will be installed. A supporting instance of the Meridium APM Application Server is also required. Click here for the APM Application Server software requirements. This table is intended to be used as a reference of the behavior of the Meridium APM Application Server and Add-ons installer as it relates to each component.

Software Name and Version	Description	Where You Can Obtain It	Behavior of Meridium APM Server and Add-ons Installer
Microsoft.net 3.5 SP1	Microsoft software framework	Microsoft	If it is not found, the installer will close.
Microsoft.net 4.0	Microsoft software framework	Microsoft	If it is not found, the installer will close.
MSMQ	Message queuing service	Microsoft	If it is not found, you can continue through the installer. It can be activated through roles in Server Manager.
Windows 7 or 2008 R2	Microsoft operating system	Microsoft	If it is not found, a message will appear, indicating that the environment is not supported, but you can continue through the installer.
64-bit operating system	Microsoft operating system	Microsoft	If it is not found, the installer will close.

ODP.net 2.112.1.0 or later	Oracle Data Provider	Oracle	If it is not found, a message will appear indicating that if you are using Oracle as your database provider, the software is required, but you can continue through the installer.
Merge Modules: Visual C++ 8 CRT (x86) Win SXS MSM Visual C++ 8.0 MFC (x86) WinSXS MSM Visual C++ 10.0 CRT (x64) Visual C++ 9.0 CRT (x86) WinSXS MSM Visual C++ 10.0 ATL (x64) Visual C++ 9.0 ATL (x86) WinSXS MSM	Third-party merge modules that support C++ runtime.	Meridium APM	If this is not found, the installer will install it automatically.

- Meridium APM Process Data Integration Server: The machine on which the Meridium Policies Trigger Service is installed. This server also contains the OPC Server software and a supporting instance of the Meridium APM Application Server and Add-ons.

  This machine is required *only if you want to use Xi Tag records in your policies*. If a policy includes an Xi Tag record, the policy will be executed automatically when the reading value for that tag changes in the process historian. In this case, the Meridium Policies Trigger Service on the Meridium APM Process Data Integration Server is used in combination with the Meridium Policies Execution Service on the Meridium APM Execution Server. The Meridium Policies Trigger Service is installed by the Meridium

APM Server and Add-ons installer when you install the *Process Data Integration Services* software.

After you have installed and configured the basic Meridium APM system architecture, you will need to perform some configuration steps specifically for Policy Manager.

If you are using a virtual machine (VM) to host your Meridium APM Policy Execution Server or your Meridium APM Process Data Integration Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

The following image provides an illustration of the architecture components that are required for deploying Policy Manager. This image shows the system architecture for a Policy Manager deployment that does not include Process Data Integration.
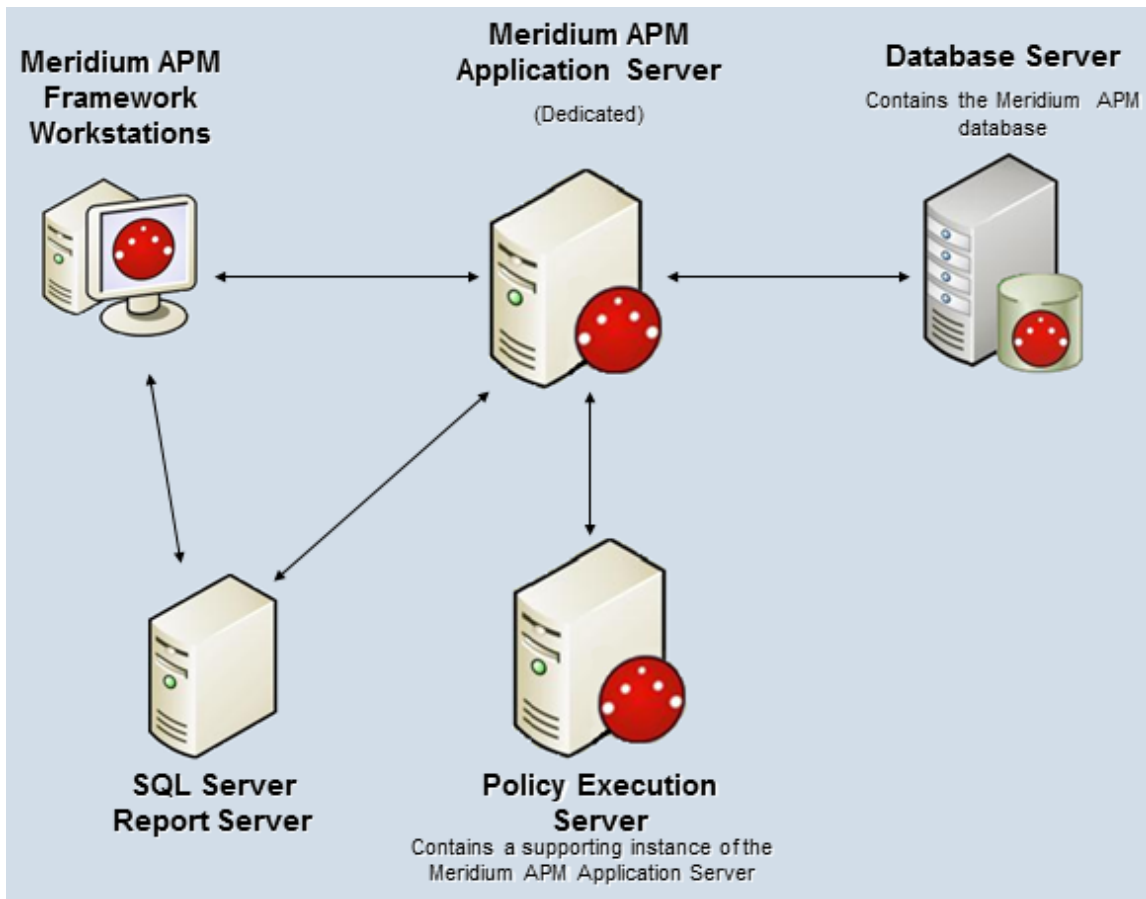
The following image provides an illustration of the architecture components that are required for deploying Policy Manager, including Process Data Integration.
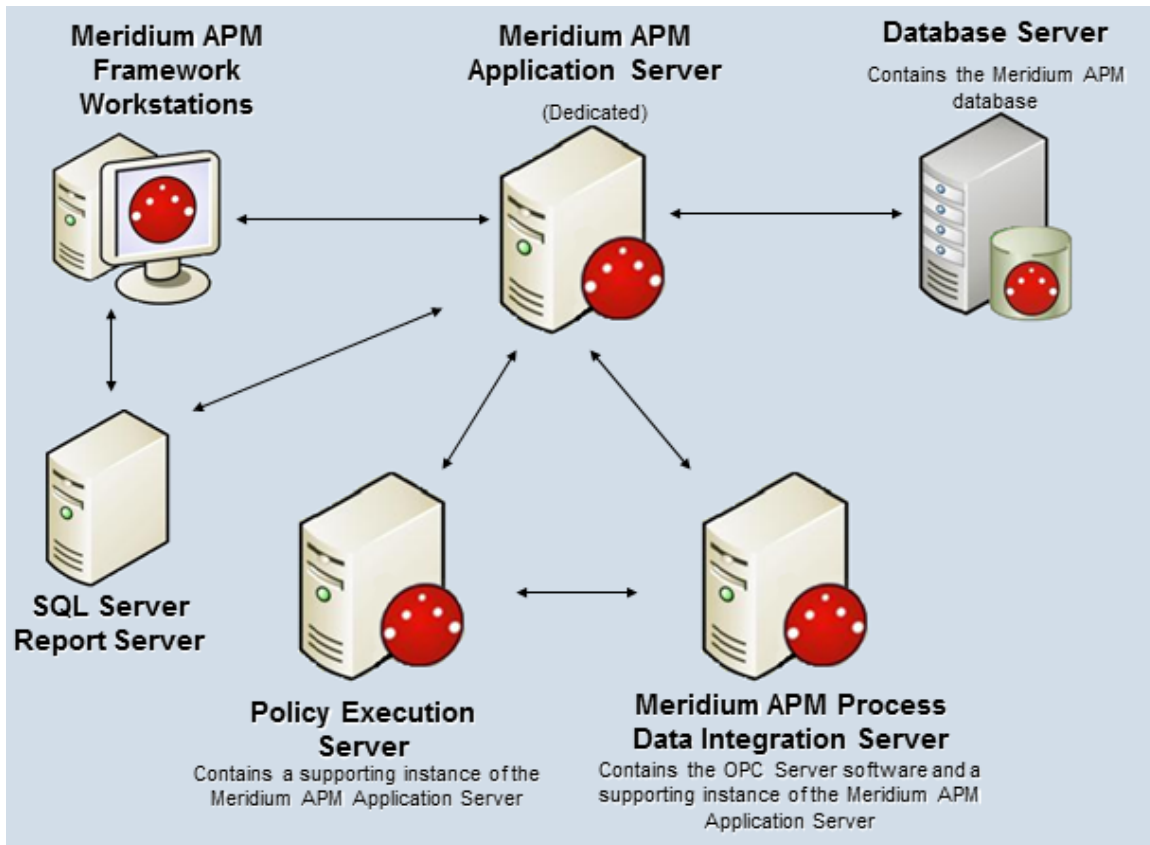
Web Framework System Requirements

The Meridium APM Web Framework license Meridium APM Web Framework license is required to take advantage of Meridium APM Web Framework functionality. In addition, your system must contain the basic Meridium APM system architecture basic Meridium APM system architecture and a *Meridium APM Web Framework Server* machine. The Meridium APM Web Framework Server is the computer on which the Meridium APM Web Framework software is installed. The Meridium APM Application Server software should also be installed on the Meridium APM Web Framework machine. The Meridium APM Web Framework will connect to that supporting Application Server instance via a Local Connection.

If you want to use custom translations custom translations in the Meridium APM Web Framework application, the Meridium APM Web Framework Server machine must include the Configuration Manager application for the purposes of uploading the translations to the Meridium APM Application Server instance on that machine. Before you can install the Configuration Manager application, the required prerequisites required prerequisites must be installed.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Meridium APM Web Framework application.

Note: Throughout the Meridium APM documentation, whenever we refer to the Meridium APM Application Server within the context of the Meridium APM Framework, unless otherwise specified, we are referring to the supporting Meridium APM Application Server instance that is installed on the Meridium APM Web Framework Server machine.

The following hardware is the *minimum* requirement for any machine that will serve as the Meridium APM Web Framework Server. These requirements account for the Meridium APM software only. Additional hardware may be required on machines where other components are installed. These requirements may not be sufficient, depending upon how your system is configured.

- Four Processor Cores, 2+ GHz

- 4GB RAM

- 20GB Hard Drive space

If you are using a virtual machine (VM) to host your Meridium APM Web Framework Server, we recommend that:

- You increase the physical server CPU and hard drive space requirements by 20% to ensure that the application will perform equivalently in a virtualized environment.

- You double the physical server memory requirements.

- Each VM have its own dedicated processor cores and memory allocation to ensure appropriate performance.

Meridium, Inc. supports Hyper-V and VMWare platforms.

These requirements may not be sufficient, depending upon how your system is configured. Parameters that affect the hardware requirements include the number of users, modules purchased, database size, and other factors that can vary from one customer to another. For help refining your specific system requirements, consult a member of the Meridium Inc. Global Support Services or Professional Services department.

The Meridium APM Web Framework requires that the following software components exist on the machine where it will be installed. If you also install a supporting instance of the Meridium APM Application Server on the same machine, then additional prerequisites may be needed. Click here for the APM Application Server software requirements. This table is intended to be used as a reference of the behavior of the Meridium APM Application Server and Add-ons installer as it relates to each component. This list contains the components that are required or installed by the installer.

Software Name and Version	Where You Can Obtain It	Behavior of Meridium APM Server and Add-ons Installer
Microsoft.NET 3.5 SP1	Microsoft	If it is not found, the installer will close.
ReportViewer 2008	Meridium	If it is not found, the installer will install it automatically.
Windows 2008 R2 -or- Windows 2012	Microsoft	If it is not found, a message will appear, indicating that the environment is not supported, but you can continue through the installer.
Microsoft WSE 3.0 Runtime	Meridium, Inc. distribution package	If it is not found, the installer will close.
Internet Explorer 8.0 or 9.0	Microsoft	If it is not found, the installer will close.*
IIS 7.0 or later	Microsoft	If it is not found, the installer will close.
Microsoft Silverlight 3 Note: This software is also required on any workstation that will access the Meridium APM Web Framework application.	Microsoft	The installer does not check for this software.

| Merge Modules:
Visual C++ 8 CRT (x86) Win SXS MSM

Visual C++ 8.0 MFC (x86) WinSXS MSM

Visual C++ 10.0 CRT (x64)

Visual C++ 9.0 CRT (x86) WinSXS MSM

Visual C++ 10.0 ATL (x64)

Visual C++ 9.0 ATL (x86) WinSXS MSM | Meridium APM | If this is not found, the installer will install it automatically. |

1. Any machine that you will use to access the Web Framework application must have Internet Explorer 8.0, 9.0, 10.0, or 11.0 installed.

The following image provides an illustration of the architecture components that are required for deploying the Meridium APM Web Framework.

mobileAPM System Requirements

The *mobileAPM* feature lets you perform inspections and access equipment and location information using a mobile device or desktop computer. It consists of the following components:

- The mobileAPM server components

- The mobileAPM application

The mobileAPM server components are installed automatically when you install the Meridium APM Application Server. In addition to the Application Server, your system must contain the other basic Meridium APM architecture components.

To access the mobileAPM application, you must use one of the following types of supported devices:

- Mobile devices, such as Apple iPads, that contain the mobileAPM App.

- Desktop computers that use a Web browser.

Note: Throughout the documentation, we refer to devices (mobile and desktop) that access the mobileAPM application as *mobileAPM workstations*.

The Operator Rounds license is also required to take advantage of mobileAPM functionality.

The following image provides an illustration of the architecture components that are required for deploying mobileAPM.
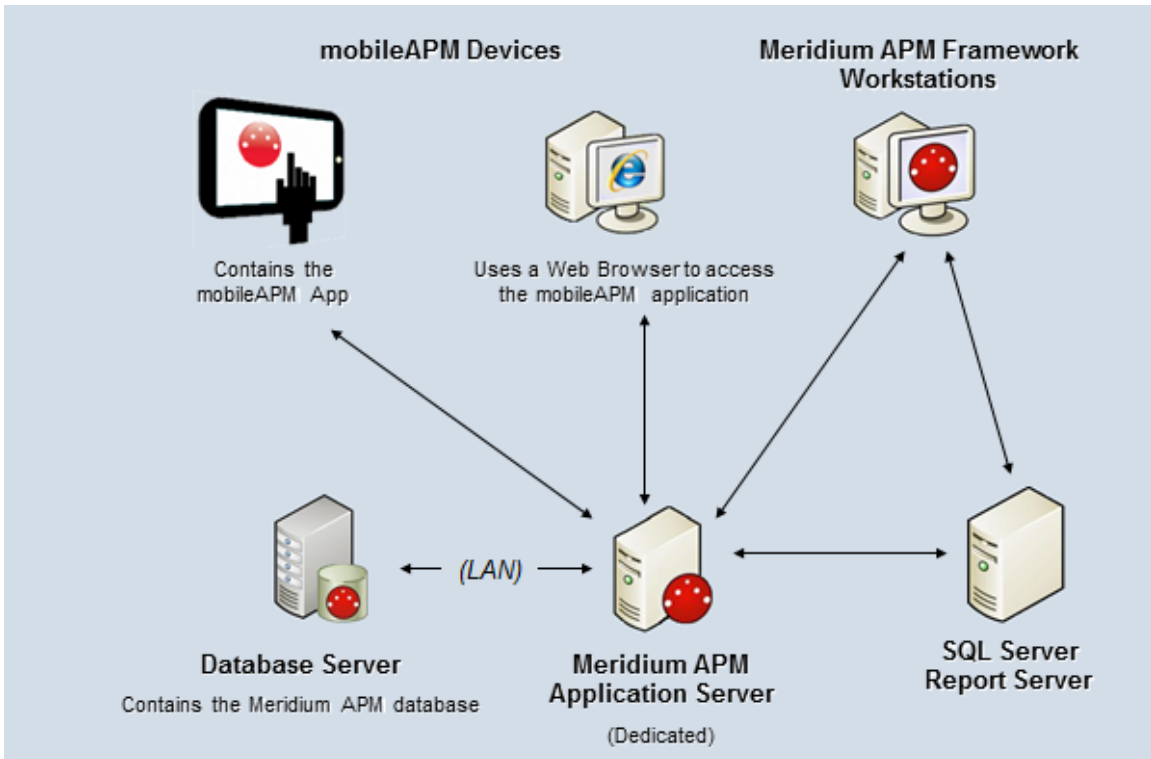
The following table lists the minimum requirements, recommendations, and tested environments for mobileAPM workstations.

Workstation	Requirements	Recommendations	Tested Environments
Mobile Device	**Operating System:** • iOS 7 • Android Jelly Bean 4.1.x and higher	When using a mobile device, we recommend that you access mobileAPM using the App instead of a Web browser.	• Google Nexus 4 phone: Android 4.4.2 • Google Nexus 7 tablet: Android 4.2.2 • Google Nexus 10 tablet: Android 4.2.2 (KitKat) • Dell tablet: Android 4.2.2 • Apple iPad: iOS 7.0.4
Desktop Computer	**Operating System:** • Windows XP • Windows 7 • Windows 8.1 **Web Browser:** • Google Chrome 31 and above • Apple Safari 7 and above • Internet Explorer 11	No specific recommendations.	• Windows 7 with Google Chrome 31.0.1650.63 m and 32.0.1700.72 m • Windows 8 with Google Chrome 31.0.1650.63 m and 32.0.1700.72 m • Windows 8.1 with Internet Explorer 11.0.9600.16476 • Windows 7 with Internet Explorer 11.0.9600.16476

Failure Elimination Work Process

Multiple licenses are required to take advantage of Failure Elimination modules. In addition to the following licenses, your system must contain the Meridium APM system architecture:

- Production Loss Accounting

- Generation Management

- Metrics and Scorecards

- Root Cause Analysis

- Reliability Analytics

- Asset Answers Integration

After you have configured the basic system architecture and licensed these modules, you will need to perform configuration steps for each module.

PLA System Requirements

The *Production Loss Accounting* license is required to take advantage of PLA functionality. In addition, your system must contain the basic Meridium APM system architecture.

Hint: Details on the system requirements for the basic architecture and activating licenses can be found in the Installation, Upgrade, and System Administration section of the Meridium APM Help system.

After you have installed and configured the basic architecture, you will need to perform some configuration tasks specifically for the PLA feature.

Additionally, if you want to view Metric Views that are provided as baseline PLA content, you will need to deploy the Metrics and Scorecards module. This module requires additional hardware and software.
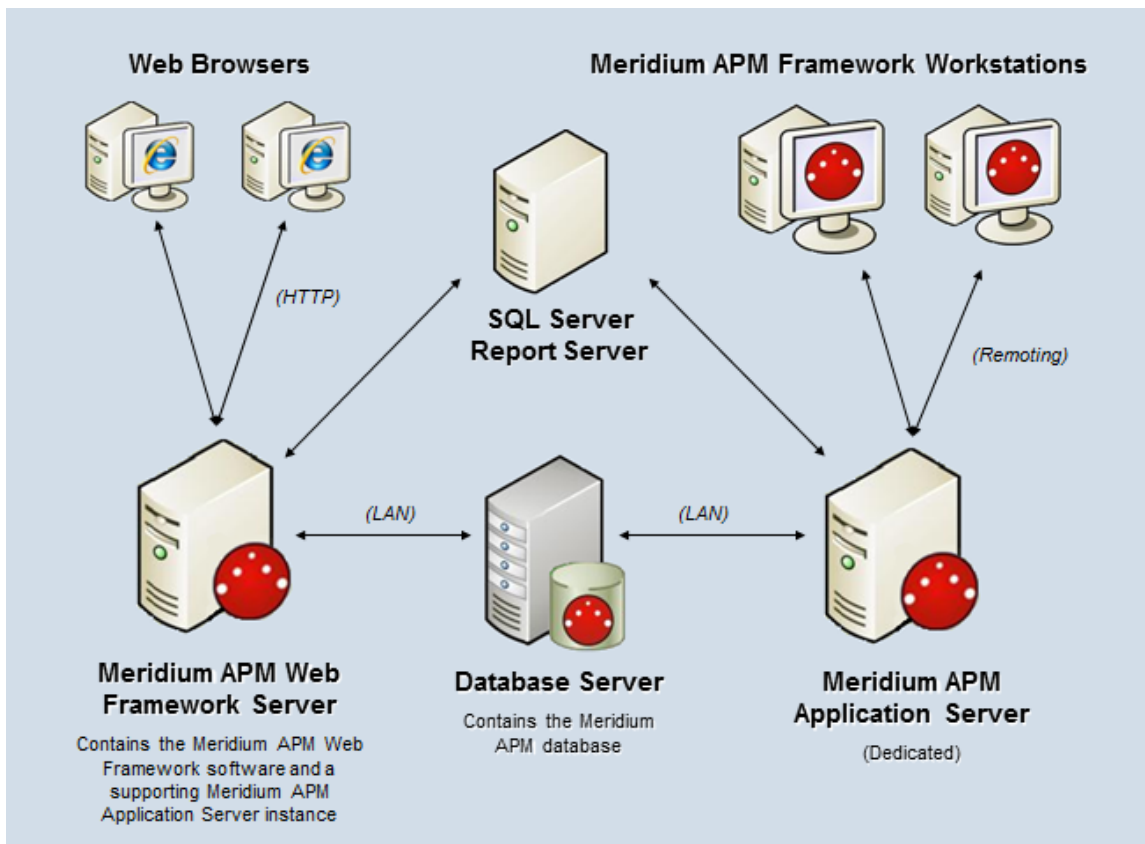
Note: While this image depicts only a single, dedicated Meridium APM Application Server, keep in mind that your implementation may contain one or more of these machines. The purpose of this image is to depict the interaction of the Meridium APM Web Framework Server with the basic Meridium APM components, not to provide details on the basic components themselves.

GM System Requirements

The *Generation Management* license is required to take advantage of Generation Management (GM) functionality. In addition, your system must contain the basic Meridium APM system architecture.

Hint: Details on the system requirements for the basic Meridium APM system architecture and activating licenses can be found in the Installation, Upgrade, and System Administration section of the Meridium APM Help system.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the GM module.

Metrics and Scorecards System Requirements

The *Metrics and Scorecards* license is required to take advantage of Metrics and Scorecards functionality. In addition, your system must contain the basic Meridium APM system architecture and a *SQL Server Analysis Services Server* machine that will host the Microsoft SQL Server Analysis Services software. The following versions of SQL Server Analysis Services are supported in this version of Meridium APM:
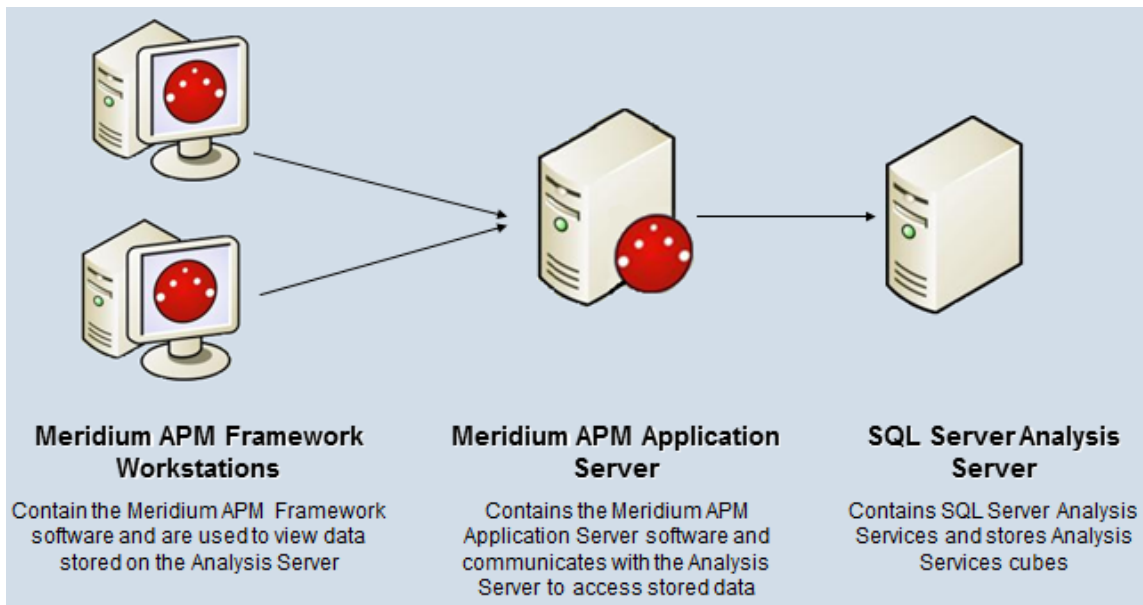
- Microsoft SQL Server Analysis Services 2008 R2

- Microsoft SQL Server Analysis Services 2012

Note: The Meridium APM testing environment uses SQL Server Analysis Services 2008 R2 *SP2* and SQL Server Analysis Services 2012.

Microsoft SQL Server Analysis Services provides the ability to analyze large amounts of data quickly and easily. Analysis Services provides a means for accessing warehouses of data by letting you create dimensional cubes from information in the database and dimension tables. Numeric measures can be summed into pre-aggregated values while cubes are being created. Cubes can contain data that is summarized, copied, or read directly from the data warehouse. Cubes, dimensions, and partitions can be processed (i.e., updated) to incorporate new or changed data from the data warehouse. Time, location, equipment type, or sizes are common dimensions against which measures are calculated and displayed in Meridium APM. Note that the data warehouse can be created as a separate database, combining information from Meridium APM and other data sources. On the other hand, dimensional cubes can be created by accessing the Meridium APM database directly.

Together, Microsoft SQL Server Analysis Services and the Meridium APM Metrics and Scorecards module functionality provide Meridium APM users with the ability to analyze data in the Meridium APM database using the features of Analysis Services through the Meridium APM Framework interface. To use the Meridium APM Metrics and Scorecards functionality, you must incorporate SQL Server Analysis Services into your Meridium APM system.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Metrics and Scorecard module. If you choose to implement the Metrics and Scorecards module within your system, we recommend using a configuration in which the Analysis Server exists on a machine that is *separate* from the Meridium APM Application Server. This deployment scenario most accurately reflects the Meridium APM testing environment. The following illustration shows how the SQL Server Analysis Services Server connects to the basic Meridium APM System architecture.

Meridium APM Framework Workstations

Contain the Meridium APM Framework software and are used to view data stored on the Analysis Server

Meridium APM Application Server

Contains the Meridium APM Application Server software and communicates with the Analysis Server to access stored data

SQL Server Analysis Server

Contains SQL Server Analysis Services and stores Analysis Services cubes

Note: While this image depicts only a single, dedicated Meridium APM Application Server, keep in mind that your implementation may contain one or more of these machines. The purpose of this image is to depict the interaction of the SQL Server Analysis Server with the basic Meridium APM components not to provide details on the basic components themselves. Note that while your Meridium APM system may contain multiple dedicated Application Servers, it will contain only a single SQL Server Analysis Server that ALL of those Application Servers will access.

RCA System Requirements

The *Root Cause Analysis* license is required to take advantage of RCA functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the RCA module.

Reliability Analytics System Requirements

The *Reliability Analytics* license is required to take advantage of Reliability Analytics functionality. In addition, your system must contain the basic Meridium APM system architecture.

Hint: Details on the system requirements for the basic architecture and activating licenses can be found in the Installation, Upgrade, and System Administration section of the Meridium APM Help system.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Reliability Analytics feature.

Asset Strategy Work Process

Multiple licenses are required to take advantage of Asset Strategy functionality. In addition to the following licenses, your system must contain the basic Meridium APM system architecture:

- Asset Strategy Management (ASM)

- Asset Strategy Implementation (ASI)

- Asset Strategy Optimization (ASO)

- Reliability Centered Maintenance (RCM) and Failure Modes and Effects Analysis (FMEA)

After you have configured the basic system architecture and licensed Asset Strategy modules, you will need to perform some configuration steps.

ASM System Requirements

The *ASM and ASI* license is required to take advantage of ASM. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the ASM module.

When the ASM module is active, the Asset Strategy Implementation (ASI) module is also activate. To use the ASM and ASI integration to its full advantage, you will need to perform some configuration tasks specifically for the ASI module. This module may require additional hardware or software.

ASI System Requirements

The following licenses are required to take full advantage of ASI functionality:

- *ASM and ASI*

- *ASI for SAP*

In addition, your system must contain the basic Meridium APM system architecture and the following additional components:

- **The Asset Strategy Management (ASM) module**. ASI allows you to build *Implementation Packages*, which are containers of records that dictate the work that you want to perform *and* the Asset Strategies that contain the original work requests (Action Revision records). Asset Strategies are created in ASM. This documentation assumes that you have deployed and configured the ASM module.

- **An SAP System.** This component is required only if you want to create items such as Maintenance Plans, Maintenance Items, and Task Lists from ASI. To take full advantage of the ASI module, we recommend that you integrate ASI with SAP, so this documentation provides details on performing the steps required to integrate ASI with SAP.

  Note: For all ASI workflows, the Meridium APM system does not support integration with SAP through SAP PI.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the ASI module.

ASO System Requirements

The following licenses must be active to take advantage of ASO:

- *Asset Strategy Optimization*

- *ASM and ASI*

The *ASM and ASI* license activates the ASM module. This documentation assumes that you have deployed ASM. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the ASO module.

RCM System Requirements

The *RCM and FMEA* license is required to take advantage of RCM functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic architecture, you will need to perform some configuration tasks specifically for the RCM module.

When the RCM module is active, the Failure Modes and Effects Analysis (FMEA) modules is also active. You will also need to perform some configuration tasks specifically for FMEA.

FMEA System Requirements

The *RCM and FMEA* license is required to take advantage of FMEA functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the FMEA module.

When the FMEA module is active, the Reliability Centered Maintenance (RCM) modules is also active. You will also need to perform some configuration tasks specifically for RCM.

Mechanical Integrity Work Process

Multiple licenses are required to take advantage of Mechanical Integrity modules. In addition to the following licenses, your system must contain the basic Meridium APM system architecture:

- Risk Based Inspection (RBI)

- Inspection Management

- Thickness Monitoring (TM)

After you have configured the basic system architecture and licensed these modules, you will need to perform configuration steps for each module.

RBI System Requirements

The *Risk Based Inspection* license is required to take advantage of RBI functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the RBI feature.

Inspection Management System Requirements

The *Inspection Management* license is required to take advantage of Inspection Management functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Inspection Management module.

TM System Requirements

The *Thickness Monitoring* license is required to take advantage of TM functionality. In addition, your system must contain the basic Meridium APM system architecture and the files that support certain devices that you may use to collect and transfer data to the Meridium APM system.

After you have installed and configured the basic architecture, you will need to perform some configuration tasks specifically for the TM feature.

Asset Safety Work Process

Multiple licenses are required to take advantage of Asset Safety modules. In addition to the following licenses, your system must contain the basic Meridium APM system architecture:

- Hazards Analysis

- SIS Management

- Calibration Management

After you have configured the basic system architecture and licensed these modules, you will need to perform configuration steps for each module.

Hazards Analysis System Requirements

The *Hazards and Operability Analysis* license is required to take advantage of Hazards Analysis functionality. In addition, your system must contain the basic Meridium APM system architecture.

In order to use the integration between Hazards Analysis and SIS Management, the *SIS Management* license is also required.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Hazards Analysis feature.

SIS Management System Requirements

The *SIS Management* license is required to take advantage of SIS Management functionality. In addition, your system must contain the basic Meridium APM system architecture.

In order to use the integration between SIS Management and Hazards Analysis, the *Hazards Analysis* license is also required.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the SIS Management feature.

Calibration Management System Requirements

The *Calibration Management* license is required to take advantage of Calibration Management. In addition, your system must contain the basic Meridium APM system architecture and the files that support the device(s) that you will use to perform automated calibrations. The following devices are supported by Calibration Management:

- **Beamex MC5 Documenting Process Calibrator:** You can install the supporting files for this device using the Meridium APM Drivers installer, which is provided in the Meridium APM 3rd party distribution package.

- **Fluke 74x Documenting Process Calibrator:** The supporting files for this device are installed automatically when you install the Meridium APM Framework application using the Meridium APM Framework installer.

- **Meriam MFT4010 Documenting Process Calibrator:** You can install the supporting files for this device using the Meriam installer, which is provided in the Meridium APM 3rd party distribution package.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Calibration Management module.