Getting Started

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Chapter 1

Overview

Topics:

- What is APM?

What is APM?

Production facilities often face problems related to recurring equipment failures, including:

- Unplanned downtime.
- The inability to maintain planned production rates.
- High costs of fixing problems that result from equipment failures.
- Threats to employee and environmental safety.

Data related to equipment failures and the impact that they have on a facility can be recorded using a data collection tool. Collecting failure data alone, however, cannot prevent the same problems from occurring in the future. What production facilities need is a tool that will analyze the failure data to help decrease the number of equipment failures, which will in turn increase profit margins.

The APM system fulfills this need.

You can use APM tools to analyze and process data that is collected in and transferred from an external system (e.g., SAP). After the data exists in APM, it can be analyzed to determine the state of your equipment and the reliability, trends, potential risks, and probability of failures associated with that equipment. Based on the gathered data and associated analyses, you can map out the impact of projected changes and then make recommendations and suggest strategies for future equipment maintenance.

Chapter 2

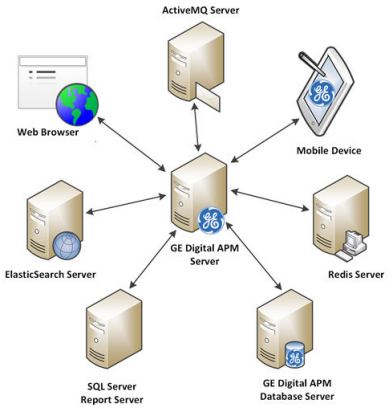
The Basic APM System Architecture

Topics:

- APM System Components
- The APM Server
- APM Database Server
- SQL Server Report Server

APM System Components

In its most basic implementation, the APM system consists of the machines shown in the following image.



The following are critical elements of the APM system::

- The APM Server
- APM Database Server
- The Redis Server
- The ElasticSearch Server
- The ActiveMQ Server
- The SQL Server Report Server
- Web Browser
- Mobile Device

The APM Server

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

- Contains and executes the APM business objects implemented using the .NET transaction management framework.
- Receives requests from a client, processes those requests, connects to the database to retrieve information, and returns that information to the client.
- Executes and enforces the business logic and business rules.
- Processes data.
- Performs calculations.

Your APM system could include multiple APM Server instances.

- APM Server machines that will receive and process requests from users are referred to as dedicated APM Servers. You can have one or more dedicated APM Servers in your implementation. The number of dedicated APM Servers that you need will depend upon the number of users you have.
- APM Server instances that exist to support other APM components are referred to as supporting APM Servers. We recommend that you install a supporting instance of the APM Server on every APM Server machine.

Refer to the documentation on Redis for information about its incorporation into server configurations.

APM Database Server

The computer on which the database software (Oracle or SQL Server) and the physical APM databases or schemas reside. Your Database Server may contain multiple APM databases or schemas (e.g., a test database and a production database). The APM Database Server answers requests for data from APM Servers. The APM database or schema contains the metadata (information about Entity families, fields, System Codes, etc.) and the tables containing actual data. The APM system allows for a single, central database. 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 APM, and when they are saved to the 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 easily viewed by other APM users.

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

Note that, while the SQL Server Report Server is part of the basic APM architecture, it is not considered a APM Server. Therefore, you are not required to install a supporting instance of the APM Server on the SQL Server Report Server machine. You will, however, need to install the APM Adapter for SSRS on this machine.

Chapter 3

Quick Start Guide

Topics:

- Getting Started

Getting Started

This topic is intended to get you started with the baseline deployment for APM.

Step 1: Obtain access to your APM software and documentation

Download the APM distribution package. To contact the Support team, go to: http://www.ge.com/digital/support.

Step 2: Review the product architecture

Review the system architecture to understand the various components that are required to work with APM.

Step 2: Review the prerequisites

Before you set up your system, it is important that you make sure the computer on which you want to install APM meets the minimum requirements. Use the following links to review the system requirements:

- Basic APM System Requirements
- Module System Requirements

Step 3: Install APM

Run the installer to install APM. Refer to Install the APM Server Components for further details on the Installation steps.

Step 4: Install additional components

After you complete the basic APM application server installation, install additional server components, and optionally extend the environment to include single-sign-on, mobile application, and non-English translations in APM. Refer to for further installation details, information about configuration options, and a description of steps to perform after installation.

Step 5: Activate licenses

License activation determines which modules and products will be available in APM. You require license activation for all the modules; only then you can use them. Refer to About Activating Licensing for information on how to activate a license.