

# Deltek PM Compass 8.4

## Technical Overview and System Requirements Guide

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## Introduction

PM Compass provides all the tools to view and manage complex programs from one central location. Deltek PM Compass is the industry's first project management platform specifically designed and built with program managers and project teams in mind. Complete with role-based dashboards and built-in data mining capabilities, Deltek PM Compass is a "command center" where practitioners can effectively monitor and control complex, interconnected projects from the convenience of a single, centralized view.

PM Compass will:

- Increase visibility and control
- Reduce your surprises that cause delays and cost overruns
- Increase accountability and overall efficiency within your organization
- Provide one version of the truth for all project information
- Maintain consistency and predictability in project processes—therefore reducing program risks
- Foster higher levels of communication and collaboration for key stakeholders throughout the organization

PM Compass delivers the project control and visibility you need to ensure that your business can effectively monitor multiple, complexly inter-connected projects—all while remaining focused on project success.

Deltek has designed several PM Compass deployment models to ensure the best fit with your firm's environment. PM Compass's tiers are all logical tiers, which can be collapsed or allocated to as many physical servers as needed by your firm.

It is important to note that the choices of hardware, database, and operating system in these examples represent guidelines, are subject to change, and do not replace a needs analysis and site survey with a Deltek Technical Consultant. Contact a Deltek Technical Systems Engineer for suitability of legacy equipment.

## Consulting

Deltek, Inc. can provide onsite consulting and training services as well as phone support on a contract or time-and-materials basis.

## Contact Information

Contact a Deltek Technical Systems Engineer ([techse@deltek.com](mailto:techse@deltek.com)) for more information.

## Additional Notes

**Legal Disclaimer:** The recommendations in this document are intended to convey general information and should not be relied upon as a substitute for a professional consultation with Deltek. All the information in this document is provided "as is" and without warranties of any kind, either expressed or implied.

The evolution of technology dictates the way IT professionals plan their network hardware and software environments. While this document does not account for all possible options in the deployment of Deltek software, it does provide specific recommendations based on testing metrics and years of experience working directly with Deltek customers.

## Introduction

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Prior to making assumptions on how specific 3rd party technologies will perform with Deltek applications, Deltek recommends contacting your sales representative to arrange a discussion with a Deltek Technical Systems Engineer who can help you plan for a cost effective and optimally performing application environment.

## Before You Begin Deployment

Before you begin deployment, it is important to understand the following:

- Logical Tiers
- Installation/Deployment Models
- Reporting Services
- Hardware and Software Requirements
- Supported Databases

**Attention:** See the [Deltek Product Support Compatibility Matrix Guide](#) for additional information.

This document available on the Knowledge Center tab of the Deltek Support Center site:  
(<http://support.deltek.com>).

## Logical Tiers Overview

PM Compass uses a multitier architecture. Various components of the PM Compass application are distributed to logical tiers for performance and scalability. Multiple tiers can exist on the same server but require different installation models.

For example:

- If your Web/Application server, Report server, and Database tier are all on the same machine, you must use the One Server installation model.
- If your Report server is on the same machine as the Database tier, you must use the Two-Server installation model, Configuration 1.
- If your Web/Application server and your Report Server are on the same server, you must use the Two-Server installation mode, Configuration 2.

The logical tiers are as follows:

- **Client Tier:** This is PM Compass' user interface layer. It presents input data to the application/Web server tier and displays the returned result in a format that you can understand. The client tier is installed on a workstation. PM Compass uses the ClickOnce deployment technology, a technology for delivering Windows-based applications to the user. The Deltek PM Compass Smart Client application uses this technology to check for new updates on the Web/Application Server each time the application is launched, and automatically installs them into the local user's profile (%USERPROFILE%\Local Settings\Apps\2.0\... ).
- **Web/Application Server Tier:** This tier performs PM Compass' functional process logic. After a request is sent by the client tier, this tier processes that request (such as retrieving stored data or performing a specific function) and then returns the result to the client tier. This tier also uses IIS to host the Deltek PM Compass and EPM Security Administrator applications.
- **Process Server Tier:** This tier allows the user to schedule processes and profiles to run automatically in the background. All reports and all scheduled alerts are examples of processes that can run on the Process Server.
- **Report Server Tier:** This tier handles all Reporting requests. It uses Microsoft SQL Server Reporting Services.

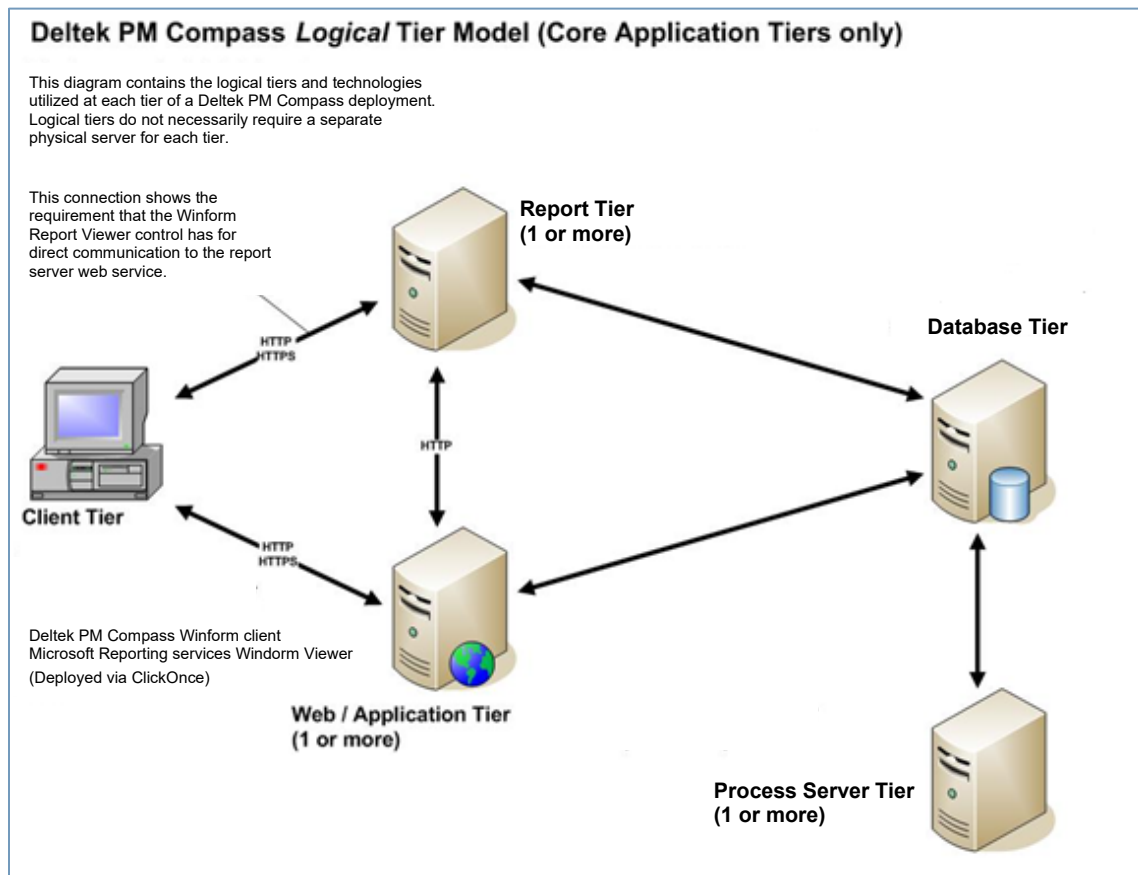
## Before You Begin Deployment

- **Database Tier:** This tier consists of Database Servers where the PM Compass data is stored and retrieved. This can either be an Oracle database or a SQL Server database.

**Note:** Deltek recommends, as part of best practice, to install all products in the PPM suite into the same database. The installations apply schema changes (tables, views, stored procedures, and so on) to your existing database in order to support the integration. While it is highly recommended that you install Wlnsight and Acumen into the same database, the integration between PM Compass, Open Plan, and Cobra requires it.

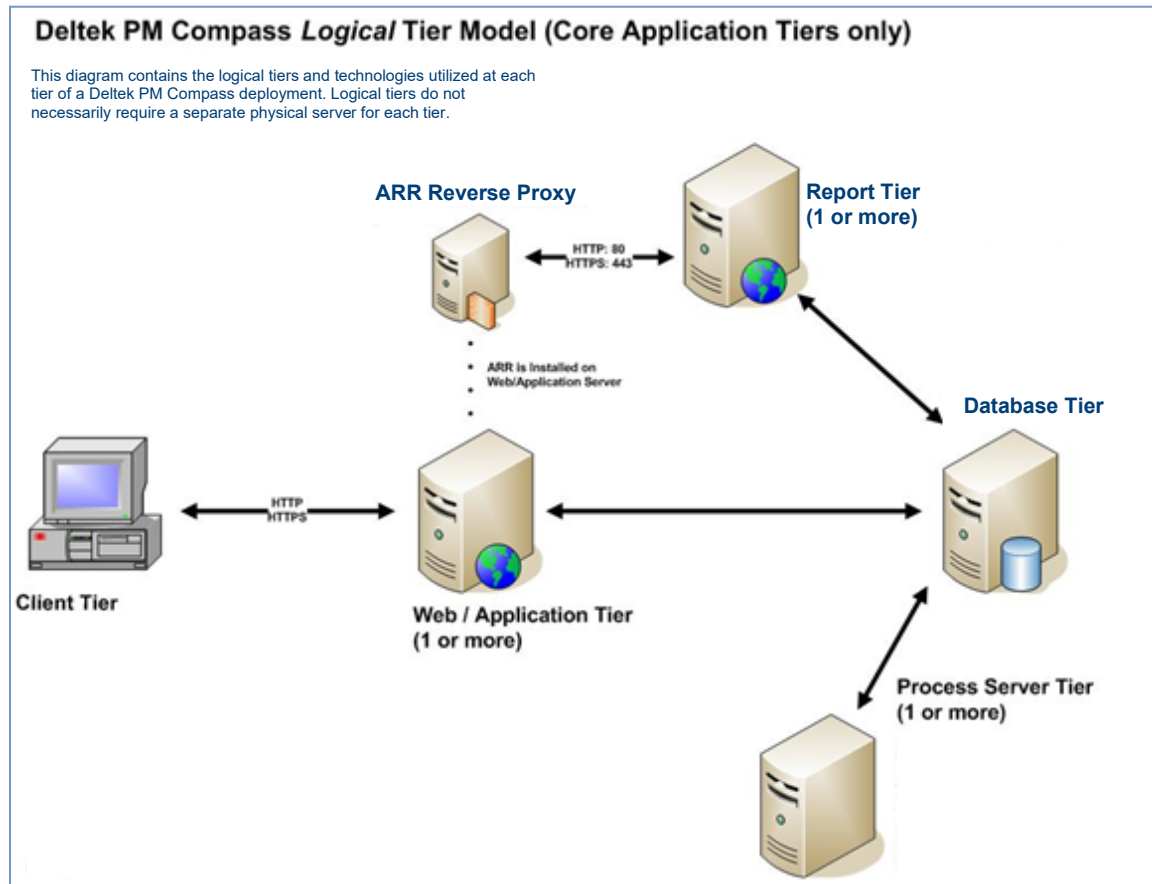
## Logical Tier Model

The following diagram provides information about the logical tiers and technologies utilized at each tier of a Deltek PM Compass deployment. Logical tiers do not necessarily require a separate physical server for each tier. In a single-server deployment model, each of the tiers below would be installed and configured on the single server.



## Logical Tier Model with Reverse Proxy

The diagram below displays how the IIS ARR Reverse Proxy has been implemented on a Web Server to serve as a proxy for handling requests to the Report Server to resolve the security issue.

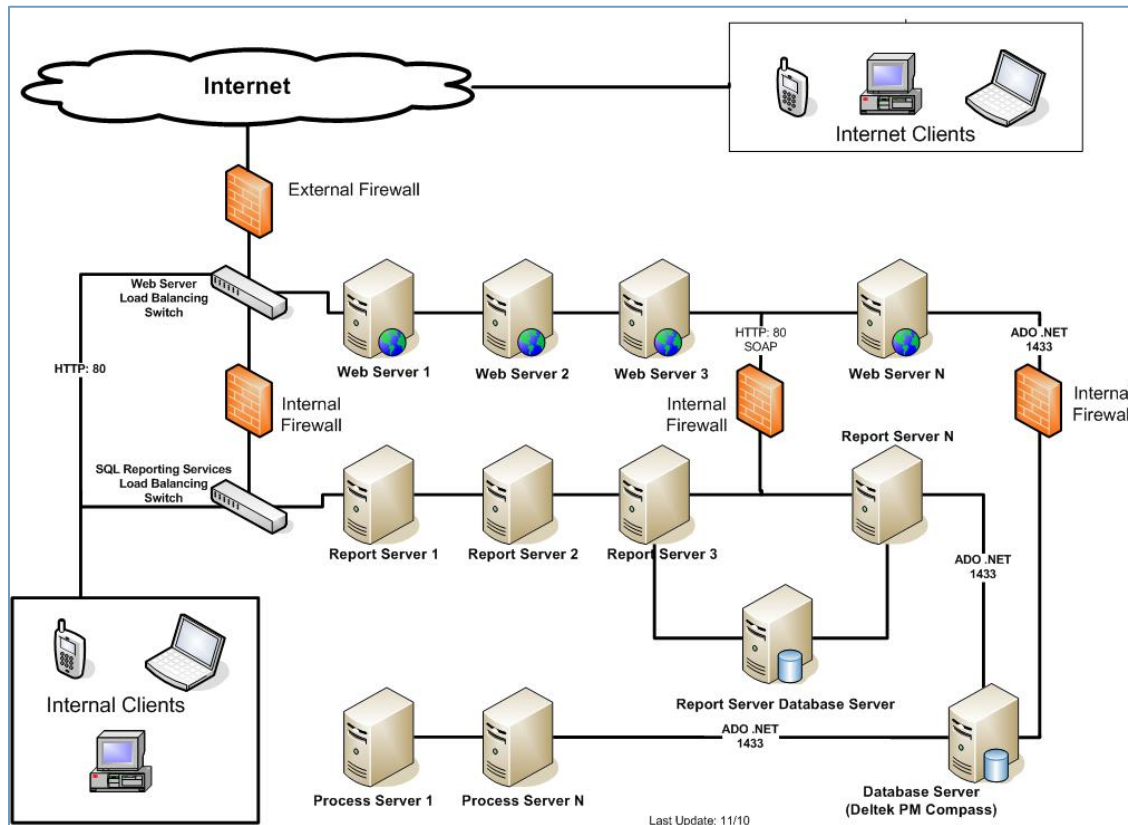


## Logical Tier Model with Three or More Servers

The following diagram is an example of a three or more server's deployment model.

**Note:** For web server, sticky sessions for load balancing are required.





## Installation/Deployment Models

When you install PM Compass, you are asked to select an installation model. There are three different models used to deploy PM Compass. The model you choose depends on your organization's needs with regard to size, cost considerations, security requirements, and fault tolerance. The following table provides a summary of each model.

**Note: Oracle Users Only** — Deltek provides several deployment models. For all models, Deltek assumes that your Oracle Database Server is a separate machine. No installations are performed on this machine. All connections to your Database Server are made from the Web/Application or Report Server machines

**Note:** You can install PM Compass on your existing Cobra n-tier server. For additional Cobra n-tier information, see "Important Note for Cobra n-Tier Users" in the *Deltek PM Compass Installation Guide*.

Deployment Model	Overview	When Would I Use This Model?
<b>One-Server (Single Server)</b>	<ul style="list-style-type: none"> <li>Install PM Compass tiers (web, application, process)</li> </ul>	<ul style="list-style-type: none"> <li>Deployment needs are simple. For example, you are installing PM Compass on a test machine.</li> </ul>

Deployment Model	Overview	When Would I Use This Model?
	<p>server, report, and database) on the same machine.</p> <ul style="list-style-type: none"> <li>Option to install database on a different machine.</li> <li>Infrastructure security is not a concern with this model because all application usage is internal to the organization</li> </ul>	<ul style="list-style-type: none"> <li>All users are at a single location and will only access PM Compass in the office or over a Virtual Private Network (VPN) connection into the corporate network.</li> <li>Small organization (fewer than 25 employees)</li> <li>If your Web/Application server, Report server, and Database tier are all on the same machine, you must use this installation model.</li> </ul>
<b>Two-Server (Two-Tier) Configuration 1</b>	<ul style="list-style-type: none"> <li>Install the database and report components on a server machine and the Web/Application and Process Server components on a separate server machine.</li> <li>In this configuration the PM Compass client application needs a direct connection to the Report Server to run and view reports.</li> <li>Infrastructure security is not a concern with this model because all application usage is internal to the organization.</li> </ul>	<ul style="list-style-type: none"> <li>Your organization has one SQL Server license.</li> <li>All users are at a single location and will only access PM Compass in the office or over a Virtual Private Network (VPN) connection into the corporate network.</li> <li>Users are not accessing the application over the internet.</li> <li>Since the Database server is also on the Report server, it is not suitable for use in an environment with users accessing the application over the Internet.</li> <li>Small to medium organization that may not have a technical staff.</li> <li>If your Report server is on the same machine as your Database tier, you must use this installation model.</li> </ul>
<b>Two-Server (Two-Tier) Configuration 2</b>	<ul style="list-style-type: none"> <li>Install the database component on a server machine and the Web/Application, Process Server, and report components on a separate server machine.</li> <li>Reporting Services are installed on a server separate from the Database Engine.</li> </ul>	<ul style="list-style-type: none"> <li>Your organization has additional Microsoft SQL Server licenses and you split the Report Server (web service) from the Database Server hosting the Report Server database.</li> <li>Users are accessing the application over the internet.</li> <li>Small to medium organization that may not have a technical staff.</li> <li>If your Web/Application server and your Report Server are on the same server, you must use this installation model.</li> </ul>
<b>Three or More Servers</b>	<p>Install any of the following:</p> <ul style="list-style-type: none"> <li>A single Database Server</li> </ul>	<ul style="list-style-type: none"> <li>You have a large organization that has multiple locations, can afford multiple SQL Server licenses, and will use PM</li> </ul>

Deployment Model	Overview	When Would I Use This Model?
	<ul style="list-style-type: none"> <li>One or more Report Servers</li> <li>One or more Web/Application servers</li> <li>One or more Process Servers, each on its own machine</li> </ul>	<p>Compass on an internal Wide Area Network (WAN).</p> <ul style="list-style-type: none"> <li>Allows for additional report web/application, or process servers for load balancing, performance, security, or fault tolerance reasons.</li> <li>Organizations with complex deployment requirements and proficient firewall management.</li> </ul>

**Attention:** For detailed information and installation steps, see the following sections in the *Deltek PM Compass Installation Guide*:

- One Server Installation
- Two Server Installation
- Install on Three or More Servers

## Installation Order High-Level Overview

To install PM Compass correctly, the installation of the server roles must be performed in a specific order:

- Database Server tier** (SQL Server only or if you plan to use the sample database).
- Report Server tier.** Configures the Report Server with security settings required for PM Compass reporting.
- Web/Application Server tier.** Installs PM Compass; scripts get applied to the database to make PM Compass usable.
- Process Server tier.**

## Secure Transport Layer Security (TLS)

Transport Layer Security (TLS), and its predecessor, Secure Sockets Layer (SSL), are protocols that use cryptographic algorithms to provide secure communications between machines. Although there are several versions of TLS and SSL, only TLS 1.2 and TLS 1.3 are considered secure. Since TLS 1.3 is still relatively new and not fully implemented throughout the industry, best practices recommend using TLS 1.2 for secure communication between machines. Using the older protocols is considered a security risk. The industry standard is to enable TLS 1.2 and disable TLS 1.1, 1.0, and disable SSL 3.0, 2.0, 1.0.

For the Deltek application to communicate correctly between all tiers (Database, Application/Web, Report, and Client), the Operating System (OS) on all machines in the deployment must share the same TLS configuration. In addition, any components used by the application (the .NET Framework and database client drivers) must support the TLS version implemented on the OS.

If your company implements the secure TLS by enabling TLS 1.2 and disabling the older protocols on the machines in your environment, ensure the following are performed:

- The TLS configuration on all machines (servers and clients) must be the same.
- The Operating System must support TLS 1.2.

**Attention:** For more information, see <https://docs.microsoft.com/en-us/security/solving-tls1-problem#ensuring-support-for-tls-12-across-deployed-operating-systems>.

- The version of Microsoft .NET Framework in use must support TLS 1.2.

**Attention:** For more information, see <https://docs.microsoft.com/en-us/dotnet/framework/network-programming/tls#support-for-tls-12>

- If you are using load balancing, ensure that it is configured to support the hardened TLS settings.
- If you use Oracle, TLS 1.2 is supported with Oracle client versions 12.0.1 and higher. Oracle 11.2.0.4 is supported but may require patches.
- If you use SQL Server, the default Microsoft OLE DB Provider only supports TLS 1.0. The following Microsoft drivers support TLS 1.2:
  - SQL Server Native Client 11.0
  - Microsoft OLE DB Driver
  - Microsoft OLE DB Provider for SQL Server
    - Supported on Windows 10 (Open Plan Client)
    - Supported on Windows Server 2019 with this specific Windows update applied: [October 20, 2020—KB4580390 \(OS Build 17763.1554\)](https://support.microsoft.com/help/4023043/windows-10-kb4580390).

For more information on TLS 1.2 on Windows Operating Systems and the Microsoft .NET Framework, refer to this link: <https://docs.microsoft.com/en-us/dotnet/framework/network-programming/tls#support-for-tls-12>.

## Load Balancing

Configure load balancing according to your vendor's (for example, Microsoft Windows Server) recommendations. Make sure that you set the affinity to Single or Sticky (terminology depends on the vendor). This ensures that user sessions are maintained on the same server as long as a user remains logged on.

In addition, consider configuring the database session state for PM Compass and setting up a shared location for Databases.enc.

- **Configure Database Session State for PM Compass:** Session state information is typically stored in memory on the web server in the IIS Application Pool process serving the application (w3wp.exe). Database session state is normally not a consideration unless you will be load balancing multiple front-end PM Compass Web/Application servers and you would like to isolate your user's session information from a failure or error on one web server where their session information may be lost.

One benefit of storing the session state in the database is that, when there is a Web Server failover, the work that was being performed at the time is not lost.

- **Configure a Shared Location for Databases.enc:** If your PM Compass deployment includes multiple web/application servers, or even just a dedicated Process Server, configuring a shared location for the databases.enc file eliminates the need to synchronize changes made to the databases.enc file across your servers.
- **Loading Reports onto Load Balanced SSRS Web Service Servers:** When you have multiple SSRS servers in a load balanced environment, they all have a common URL; therefore, you don't

know which web server you are connecting to. The only way to ensure that all SSRS Servers are updated with the latest PM Compass reports is to run a batch file that updates each individual SSRS Server by its NetBIOS or host name.

**Attention:** For more information, see the following topics in the *Deltek PM Compass Advanced Administration Guide*:

- [Configure Database Session State for PM Compass](#)
- [Configure a Shared Location for Databases.enc](#)
- [Loading Reports onto Load Balanced SSRS Web Service Servers](#)

## Unsupported Scenarios

Deltek does not support the following scenarios because they can cause significant issues in the performance, reliability, and functionality of your PM Compass application, as well as with other applications on your network.

- Deltek PM Compass and previous versions cannot be run at the same time on the same Web/Application server.
- You cannot perform a single-server deployment on the Microsoft Essentials Edition of Windows Server. Only the PM Compass SQL Server database tier and/or report tier can be installed on this server.
- You cannot install any PM Compass tier on the Microsoft ISA server or on any other software-based firewall (except Windows firewall).
- You cannot install any PM Compass tier on any server with Citrix configured as a Remote Desktop Session Host Server.
- Server administration via a remote desktop connection is fully supported.
- PM Compass does not support using desktop operating systems for production server installation.
- You cannot install any PM Compass tier on:
  - A Domain Controller
  - Any version of Microsoft Exchange Server
  - Any version of Microsoft SharePoint Server

## System Requirements

Your organization has made a substantial commitment to ensure it has a fully integrated earned value management (EVM) solution. To support that commitment, Deltek recommends that you carefully consider the hardware requirements necessary to run PM Compass properly.

### Platform Virtualization

Platform Virtualization is a technology that allows multiple operating systems and platforms to run simultaneously as separate virtual machines on a single set of server hardware.

Deltek recognizes the growing use of virtual environments by our customers. Virtual environment software, such as VMware®, resides in the hardware layer underneath the operating system and is used by customers to partition a single server into a multiple server/multiple operating system environment. Deltek's product development makes limited use of virtual environments at this time.

### Support of Virtual Environments

Deltek supports customers who run its products on any of the supported native operating systems (whereby "native operating systems" means any operating system specified in the Deltek Product Support Compatibility Matrix available on the Deltek Support Center site), irrespective of whether or not they are running in a cloud and/or a virtualized environment. However, Deltek does not have the capacity to rigorously test its products inside the many available cloud and virtualized environments.

Each cloud and virtual environment software supports a set of operating systems and hardware certified by the software operating system and cloud/hardware vendors. The customer and virtualization vendor are responsible for any interactions and/or issues that arise at the hardware or operating system layer as a result of their use of a cloud-based environment and/or virtualization software. Virtualization software is supplied in both production and non-production versions. Deltek will only support the use of its products inside virtualization products that are recommended by the virtualization vendors for enterprise production use, and as further described below.

### Troubleshooting and Fixes

The following requirements apply to those Deltek customers who experience issues with the Deltek software while using such products inside cloud and/or virtual environments:

- Deltek customers will not be required to recreate and troubleshoot every issue in a non-cloud or non-virtualized environment.
- Deltek may request its customers to diagnose issues in a native certified operating system environment without the use of virtualization and/or within a non-cloud-based environment. Deltek will only make this request when there is reason to believe that the cloud or virtual environment is a contributing factor to the issue.
- Software problems will only be fixed if they can be replicated in a dedicated local hardware and operating system environment without the use of virtualization.

Deltek Customer Support is unable to accept virtual images from customers in order to evaluate problems in deployments using virtualization.

### Performance

The use of cloud-based environment and/or virtualization software adds software overhead which may impact performance or scalability of all Deltek software products. Customers should not interpret any

Deltek performance recommendations for the Deltek software on a dedicated hardware platform as directly applicable to one or more cloud or virtual environments running on the same or similar hardware. The customer should consult with its cloud and/or virtualization software vendor with respect to virtual system performance and tuning.

## Recommendation

Deltek will continue to develop knowledge about the use of virtualization software solutions as these solutions continue to mature and extend into our user communities' information technology infrastructure. Deltek strongly recommends that its customers deploy the Deltek software in a nonproduction environment when initially utilizing virtualization technology as a first step. By doing so, the customer will allow for resolution of any issues and customer specific performance data to be developed for the virtual environment solution, without having an adverse impact on production operations. Contact Deltek Customer Support for additional information on the use of the Deltek software in a virtualized environment.

## Display Settings

The Deltek Product installation is created using Flexera's InstallShield that requires the color display depth on the server (via the console or through a remote desktop session) to be greater than 256. If the color display depth is set to 256 or lower, the following error is displayed when you try to launch the installer:

**Error Number:** 0x80004005

**Description:** Unspecified error

Setup will now terminate.

The following Microsoft TechNet link provides steps for setting the values for Remote Desktop Sessions: <http://technet.microsoft.com/en-us/library/cc753755.aspx>.

PM Compass does not support large fonts.

## Using PM Compass with Citrix or Remote Desktop

PM Compass is a smart-client application that does not need Citrix or Remote Desktop; however, if you want to use it, please review this section.

The Deltek Smart Client application uses the Microsoft .NET Framework ClickOnce deployment technology, which makes it easy for administrators to deliver Windows-based applications to end-users by sending them a URL.

## Hardware Sizing Considerations

There are several factors that go into sizing an appropriate server infrastructure. The number of concurrent users accessing the system at any given time, the amount of data being analyzed, and growth expectations all have an impact on the initial sizing plans. The hardware profiles are intended as a starting point for deployment. It is expected that our clients will use the product in many ways. Plans for future releases and client customizations will all impact the growth and scaling of the overall solution. Further in-depth discussion of the business needs of the solution during application implementation will provide final guidance on hardware requirements.

## Memory Requirements for a Typical/Average Use

Below are details on the memory footprint of the product.



Tier	Memory*
<b>Client Tier</b>	<ul style="list-style-type: none"> <li>200 MB - 250 MB for PMC when progressing a single project with 500 – 1,000 activities.</li> </ul>
<b>Application Tier</b> (Citrix/Terminal Server only)	<ul style="list-style-type: none"> <li>75 MB – 100 MB per concurrent user.</li> </ul>
<b>Reporting Tier</b>	<ul style="list-style-type: none"> <li>350MB – 500MB for PM Compass per concurrent user per report when running reports with 900 activities and 75-100 control accounts with 300-400 work packages.</li> </ul>
<b>Database Tier</b>	<ul style="list-style-type: none"> <li>Database instance memory should be 10% - 15% of the database size. For example, if database size is expected to be 500GB then allocate 50GB - 75GB memory.</li> </ul>

\* Per concurrent client instance and in addition to any memory needed for the operating system and other applications that may run in parallel with this product.

## Definition of Typical/Average Use

A user using PM Compass when progressing a single project (500 – 1,000 activities) using the Progress view.

## Hardware Requirements

**Note:** Specific server hardware configurations may have an impact on your overall Deltek product licensing requirements. It is recommended you confirm with a Deltek Technical Sales Engineer the server hardware you plan to deploy is in line with your Deltek license agreement and how overall server infrastructure expansion in the future may affect your Deltek licensing.

The number of people using PM Compass, the PM Compass processes they are using, and the size of your database all have an effect on the hardware and software requirements for your servers.

You must install Microsoft .NET Framework 4.8 on your servers and client workstations.

## Single-Server Deployment (One Physical Server)

The following table lists the recommended minimum hardware requirements for a PM Compass single deployment.

Installation for 1 to 25 Concurrent Users

Tier	Hardware Required	Determining Factors
<b>Database / Web / Application / Reporting Tier</b>	<b>Server Class Machine</b> <ul style="list-style-type: none"> <li>1 x Logical processor 2.8 GHz or faster CPU</li> <li>6 GB Physical Memory</li> </ul>	



## Two-Server Deployment (Two Physical Servers)

The following table lists the recommended minimum hardware requirements for a PM Compass two-server deployment.

Installation for 25 to 200 Concurrent Users

Tier	Hardware Required	Determining Factors
<b>Database Tier /Reporting Tier</b> *Report Tier can be installed on either the Web Server or the SQL Server (Additional SQL licensing costs may be incurred if installing SQL Reporting Services on PM Compass Web Tier)	<b>Server Class Machine</b> <ul style="list-style-type: none"> <li>1 - 2 x Logical processor 2.6 GHz or faster CPU</li> <li>8+ GB Physical Memory</li> </ul>	<ul style="list-style-type: none"> <li>Database Size</li> <li>Database Growth</li> </ul>
<b>Web/Application/Reporting Tier</b> *Report Tier can be installed on either the Web Server or the SQL Server (Additional SQL licensing costs may be incurred if installing SQL Reporting Services on PM Compass Web Tier)	<b>Service Class Machine</b> <ul style="list-style-type: none"> <li>1 - 2 x Logical processor 2.6 GHz or faster CPU</li> <li>8+ GB Physical Memory</li> </ul>	<ul style="list-style-type: none"> <li>Total Users</li> <li>Power Users</li> <li>User Location</li> <li>Database Size</li> </ul>

## Three-or-More Server Deployment (Three or More Physical Servers)

The following table lists the recommended minimum hardware requirements for a PM Compass three-or-more server deployment.

Installation for 200+ Concurrent Users

The three-or-more-servers installation model is designed for large organizations. There might be additional Report, Application, or Web Servers required for load balancing, performance, security, or fault tolerance reasons. You can use additional machines to run multiple Reports, Application, or Web Servers on additional machines. Contact your Deltek Technical Services representative for instructions.

Tier	Hardware Required	Determining Factors
<b>Database Tier</b> Reporting Services on PM Compass Web Tier)	<b>Server Class Machine</b> <ul style="list-style-type: none"> <li>2 x Logical processor 2.8 GHz or faster CPU</li> <li>16+ GB Physical Memory</li> </ul>	<ul style="list-style-type: none"> <li>Database Size</li> <li>Database Growth</li> <li>PM Compass Processes</li> </ul>
<b>Reporting Tier</b>	<b>Server Class Machine</b>	<ul style="list-style-type: none"> <li>Total Users</li> </ul>

Tier	Hardware Required	Determining Factors
*Additional SQL licensing costs may be incurred if installing SQL Reporting Services on a dedicated report server	<ul style="list-style-type: none"> <li>12 x Logical processor 2.6 GHz or faster CPU</li> <li>6+ GB Physical Memory</li> </ul>	<ul style="list-style-type: none"> <li>Power Users</li> </ul>
<b>Web/Application Tier</b>	<b>Server Class Machine</b> <ul style="list-style-type: none"> <li>2 x Logical processor 2.6 GHz or faster CPU</li> <li>8+ GB Physical Memory</li> </ul>	<ul style="list-style-type: none"> <li>Total Users</li> <li>Power Users</li> <li>User Location</li> <li>Database Size</li> </ul>

## Workstation Deployment (Client Tier)

The following table lists the recommended minimum hardware requirements for the client tier (web application only).

Client Tier	Hardware Required	Determining Factors
<b>Minimum</b>	<ul style="list-style-type: none"> <li>Intel 1.8 GHz or higher</li> <li>1 GB RAM</li> <li>40 GB Hard Drive</li> <li>1024x768 SVGA Video Display</li> </ul>	Usage (for web application only, not for workstations running the Smart Client application)
<b>Recommended</b>	<ul style="list-style-type: none"> <li>Intel 2.0 GHz or higher</li> <li>2 GB RAM</li> <li>40 GB Hard Drive</li> </ul>	Usage

## Software Requirements

Various parts of the PM Compass application are distributed to logical tiers for performance, scalability, and security purposes. These logical tiers are distinct technologies required to run PM Compass, such as Report Server software or Web server software. They may or may not be hosted on the same machine. The method you use to distribute PM Compass's logical tiers across physical tiers or actual machines depends on your organization's needs.

The software requirements for each logical tier are listed in the tables below.

- Supported Versions:** Supported versions are the currently actively tested versions of technologies used to deploy PM Compass. Except for the Deltek Integrated Products, these technologies are not directly supported by Deltek. Changes to these technologies occur at the discretion of the individual technology vendors.
- Compatible Versions:** Compatible versions are the recent previously supported and tested technologies used to deploy PM Compass. These are not actively being tested but are believed to be compatible with PM Compass. Deltek does not recommend these technologies for new deployments but will make its best effort to answer questions concerning these technologies. These technologies may not be available for troubleshooting at Deltek.

## Database Server (Oracle)

**Note:**

- Standard and Enterprise editions supported.
- 64-bit (x64) Database Server supported.

### Supported Technology

This table lists the supported minimum software requirements for a complete installation of Deltek PM Compass Database Tier with Oracle.

<b>Operating System</b>	<ul style="list-style-type: none"> <li>▪ Windows Server 2016</li> <li>▪ Windows Server 2019</li> <li>▪ Windows Server 2022</li> </ul>
<b>Database Platform</b>	<ul style="list-style-type: none"> <li>▪ Oracle RDBMS 19c (Deltek recommends 19.10 or higher)</li> </ul> <div> <b>Note:</b> <ul style="list-style-type: none"> <li>▪ JServer Java Virtual Machine</li> <li>▪ Supported on Linux, Unix, and Exadata</li> </ul> </div>

## Database Server (Microsoft SQL Server)

**Note:**

- Only 64-bit (x64) Database Server supported
- Deltek supports Unicode only

### Supported Deployment Technology

This table lists the supported minimum software requirements for the complete installation of Deltek PM Compass Database Tier with Microsoft SQL Server.

<b>Operating System</b>	<ul style="list-style-type: none"> <li>▪ Windows Server 2016</li> <li>▪ Windows Server 2019</li> <li>▪ Windows Server 2022</li> </ul>
<b>Database Platform</b>	<p>The Microsoft SQL Server Database Engine and Reporting Services (64-bit) supported versions:</p> <ul style="list-style-type: none"> <li>▪ Microsoft SQL Server 2016</li> <li>▪ Microsoft SQL Server 2017 (Also supported on Linux and Unix)</li> </ul>

Supported Deployment Technology	
	<ul style="list-style-type: none"> <li>Microsoft SQL Server 2019 (Also supported on Linux and Unix)</li> </ul>
<b>.NET Framework</b>	<ul style="list-style-type: none"> <li>Microsoft .NET Framework 4.8</li> </ul>
<b>Database Compatibility Level</b>	<ul style="list-style-type: none"> <li>SQL Server 2016 (130)</li> <li>SQL Server 2017 (140)</li> <li>SQL Server 2019 (150)</li> </ul>

## Report Server (Microsoft SQL Reporting Services)

### Note:

- Only 64-bit (x64) Report Server supported.
- Microsoft SQL Server Reporting Services are supported in Native Mode configuration only. The SharePoint Integrated Mode is not supported.

Supported Deployment Technology	
This table lists the supported minimum software requirements for the complete installation of Deltek PM Compass Report Server Tier with Microsoft SQL Server.	
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows Server 2016</li> <li>Windows Server 2019</li> <li>Windows Server 2022</li> </ul>
<b>Database Platform for Database Engine and Reporting Services</b>	<p>The Microsoft SQL Server Database Engine and Reporting Services (64-bit) supported versions:</p> <ul style="list-style-type: none"> <li>Microsoft SQL Server 2016</li> <li>Microsoft SQL Server 2017</li> <li>Microsoft SQL Server 2019</li> </ul>
<b>Report Server</b>	<ul style="list-style-type: none"> <li>Microsoft SQL Server Reporting Services 2017</li> <li>Microsoft SQL Server Reporting Services 2019</li> </ul>
<b>Oracle Client</b> For Oracle databases only	<div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> <p><b>Warning:</b> You must install the supported .NET Framework <u>before</u> installing the Oracle client.</p> </div> <ul style="list-style-type: none"> <li>Oracle 19c 64-bit client only. Deltek recommends 19.3 or higher. <sup>1</sup></li> </ul>

Supported Deployment Technology	
	<p><b>Note:</b></p> <ul style="list-style-type: none"> <li><sup>1</sup> If you upgrade to Oracle 19 client version after you install PM Compass, you may encounter some errors. For more information, refer to KB 93397 or see “Register your Oracle Client” in “Appendix E: Using Oracle with PM Compass” of the <i>Deltek PM Compass Installation Guide</i>.</li> <li>JServer Java Virtual Machine required</li> <li>Supported on Linux, Unix, and Exadata</li> <li>Must match the OS platform</li> <li>The version must match the Oracle database server.</li> <li>Oracle <b>Server name/SID</b> defined in <b>tnsnames.ora</b> must be the same on your PM Compass Application Server, Report Server, and Process Server tiers.</li> <li>If Reporting Services is not already configured, refer to the steps in “How to Configure Microsoft SQL Server Reporting Services” in “Appendix B: Microsoft SQL Server Reporting Services” of the <i>Deltek PM Compass Installation Guide</i>.</li> <li>You must know the Report Server Virtual Directory and database names in order to answer the prompts from the installation when it tries to connect to the Report Server. If Reporting Services is configured but you are not sure how to obtain this information, refer to “How to Connect to the Report Server Web Service” in “Appendix B: Microsoft SQL Server Reporting Services” of the <i>Deltek PM Compass Installation Guide</i> for steps on how to obtain the information.</li> </ul>
<b>.NET Framework</b>	<ul style="list-style-type: none"> <li>Microsoft .NET Framework 4.8</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li><b>SSL supported:</b> Steps to configure PM Compass for use with SSL are detailed in the Configure the Secure Sockets Layer (SSL) section of the <i>Deltek PM Compass Advanced Administration Guide</i>.</li> </ul> <p>The SSL architecture of PM Compass is such that, if you are using SSL for PM Compass, you must use SSL for Reporting Services. You cannot run SSL for PM Compass without an SSL binding configured for Reporting Services. You cannot run PM Compass without SSL and still use SSL for Reporting Services</p>

## Web/Application Server

Supported Deployment Technology
<p>This table lists the supported minimum software requirements for the complete installation of Deltek PM Compass Web Tier.</p>

Supported Deployment Technology	
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows Server 2016, with Microsoft Internet Information Services (IIS) 10 Role enabled</li> <li>Windows Server 2019, with Microsoft Internet Information Services (IIS) 10 Role enabled</li> <li>Windows Server 2022, with Microsoft Internet Information Services (IIS) 10 Role enabled</li> </ul>
<b>Transport Layer Security (TLS)</b>	If you have implemented TLS, review <a href="#">Secure Transport Layer Security (TLS)</a> .
<b>Oracle Client</b> For Oracle databases only	<div style="border: 1px solid red; padding: 5px; margin-bottom: 10px;"> <b>Warning:</b> You must install the supported .NET Framework <u>before</u> installing the Oracle client. </div> <ul style="list-style-type: none"> <li>Oracle 19c 64-bit client only. Deltek recommends 19.3 or higher.<sup>1</sup></li> </ul> <p>Oracle <b>Server name/SID</b> defined in <b>tnsnames.ora</b> must be the same on your PM Compass Application Server, Report Server, and Process Server tiers.</p> <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <b>Note:</b> <sup>1</sup> The Oracle client installations do not register the data access components. Refer to the “Register your Oracle Client” section in “Appendix E: Using Oracle with PM Compass” of the <i>Deltek PM Compass Installation Guide</i> for details to register the Oracle data components to avoid an error in the PM Compass application when it tries to connect to the Oracle database. </div>
<b>.NET Framework</b>	<ul style="list-style-type: none"> <li>Microsoft .NET Framework 4.8</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li><b>Regional Language:</b> The <b>Format</b> field (Control Panel » Region » Formats tab) on the server should be the same as the end user’s setting.</li> <li><b>Solid PDF Converter</b> (PM Compass installs it if not detected during installation).</li> <li><b>SSL supported:</b> Steps to configure PM Compass for use with SSL are detailed in the “Configure the Secure Sockets Layer (SSL)” section of the <i>Deltek PM Compass Advanced Administration Guide</i>.  The SSL architecture of PM Compass is such that, if you are using SSL for PM Compass, you <b>must</b> use SSL for Reporting Services. You cannot run SSL for PM Compass without an SSL binding configured for Reporting Services. You cannot run PM Compass without SSL and still use SSL for Reporting Services.</li> <li>Microsoft Visual C++ 2017 Redistributable Package</li> </ul>

## Business Applications

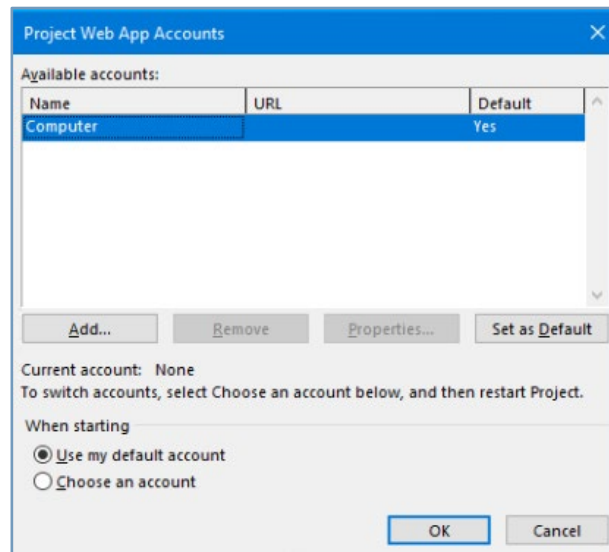
### Scheduling Tool: Microsoft Project Files (.mpp files)

For PM Compass to integrate with Microsoft Project files (.mpp files):

- You must install one of the following on the PM Compass server:
  - Microsoft Project Professional 2013\* (on Windows Server 2016 and 2019)
  - Microsoft Project Professional 2016 \*\* (on Windows Server 2022)
  - Microsoft Project Professional 2019
  - Microsoft Project Professional 2021 \*\*

#### AND

- You must configure the Project Server accounts on the Project Web App Accounts setting menu by selecting the following:
  - Computer Account
  - Set as Default



**Warning:** \* Microsoft Project Professional 2013 is not supported on Windows Server 2022.

**Warning:** \*\* If you encounter any errors when running the Microsoft Project integration, you may need to modify the DCOM Config setting to specify the Windows Account used by the Process Server Windows service.

See the "Configure Microsoft Project for Automation in DCOM" section in the *Deltek PM Compass Installation Guide* for more information.

**Scheduling Tool: Microsoft Project Server (Project Web Application 2013, 2016)**

For PM Compass to integrate with Microsoft Project Server, the PM Compass server requires Microsoft Project Professional 2013 SP1 64-bit version only with the Nov 10, 2015 update applied on the server.

**Warning:** <sup>1</sup> PM Compass supports integrating/connecting to Microsoft Project Server but it **REQUIRES** that the Microsoft Project Professional 2013 64-bit client be installed on the PM Compass Web/Application and Process Server.

Do not install Microsoft Project Professional 2016 on the PM Compass Web/Application and Process Server.

Windows Server 2022 does not support Microsoft Project Professional 2013 installation and license activation.

PM Compass does not support connection to Project Web Application 2019.



## Process Server

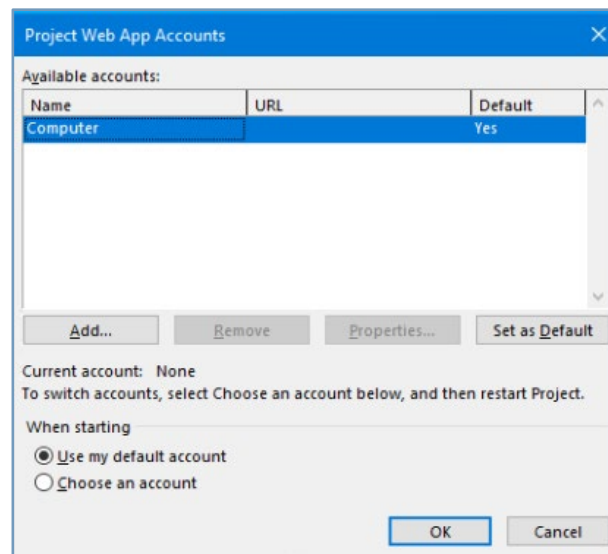
Supported Deployment Technology	
This table lists the supported minimum software requirements for the complete installation of Deltek PM Compass Process Server tier.	
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows Server 2016</li> <li>Windows Server 2019</li> <li>Windows Server 2022</li> </ul> <p><b>Note:</b> If you are using MS Project integration, Windows Server 2022 may not support Microsoft Project Professional 2013 64-bit client that is required on the PM Compass Web/Application and Process Server.</p>
<b>Transport Layer Security (TLS)</b>	If you have implemented TLS, review <a href="#">Secure Transport Layer Security (TLS)</a> .
<b>Oracle Client</b> For Oracle databases only	<p><b>Warning:</b> You must install the supported .NET Framework <u>before</u> installing the Oracle client.</p> <ul style="list-style-type: none"> <li>Oracle 19c 64-bit client only. Deltek recommends 19.3 or higher.<sup>1</sup></li> </ul> <p>Oracle <b>Server name/SID</b> defined in <b>tnsnames.ora</b> must be the same on your PM Compass Application Server, Report Server, and Process Server tiers.</p> <p><b>Note:</b> <sup>1</sup> The Oracle client installations do not register the data access components. Refer to the “Register your Oracle Client” section in “Appendix E: Using Oracle with PM Compass” of the <i>Deltek PM Compass Installation Guide</i> for details to register the Oracle data components to avoid an error in the PM Compass application when it tries to connect to the Oracle database.</p>
<b>SQL Server Database Drivers</b>	<ul style="list-style-type: none"> <li>Microsoft ODBC Driver 17.3 for SQL Server</li> <li>Microsoft Command Line Utilities 15 for SQL Server</li> <li>Microsoft SQL Server 2012 Native Client</li> <li>Microsoft Visual FoxPro OLEDB Provider</li> </ul>
<b>.NET Framework</b>	<ul style="list-style-type: none"> <li>Microsoft .NET Framework</li> </ul>
<b>Business Applications</b>	<p><b>Scheduling Tool: Microsoft Project Files (.mpp files)</b></p> <p>For PM Compass to integrate with Microsoft Project files (.mpp files):</p> <ul style="list-style-type: none"> <li>You must install one of the following on the PM Compass server: <ul style="list-style-type: none"> <li>Microsoft Project Professional 2013* (on Windows Server 2016 and 2019)</li> </ul> </li> </ul>

## Supported Deployment Technology

- Microsoft Project Professional 2016 \*\* (on Windows Server 2022)
- Microsoft Project Professional 2019
- Microsoft Project Professional 2021 \*\*

### AND

- You must configure the Project Server accounts on the Project Web App Accounts setting menu by selecting the following:
  - Computer Account
  - Set as Default



**Warning:** \* Microsoft Project Professional 2013 is not supported on Windows Server 2022.

**Warning:** \*\* If you encounter any errors when running the Microsoft Project integration, you may need to modify the DCOM Config setting to specify the Windows Account used by the Process Server Windows service.

See the "Configure Microsoft Project for Automation in DCOM" section in the *Deltek PM Compass Installation Guide* for more information.

### Scheduling Tool: Microsoft Project Server (Project Web Application 2013, 2016)

For PM Compass to integrate with Microsoft Project Server, the PM Compass server requires Microsoft Project Professional 2013 SP1 64-bit version only with the Nov 10, 2015 update applied on the server.

Supported Deployment Technology	
	<p><b>Warning:</b> <sup>1</sup> PM Compass supports integrating/connecting to Microsoft Project Server but it <b>REQUIRES</b> that the Microsoft Project Professional 2013 64-bit client be installed on the PM Compass Web/Application and Process Server.</p> <p>Do not install Microsoft Project Professional 2016 on the PM Compass Web/Application and Process Server.</p> <p>Windows 2022 does not support Microsoft Project Professional 2013 installation and license activation.</p> <p>PM Compass does not support connection to Project Web Application 2019.</p>
Other	<ul style="list-style-type: none"> <li>▪ <b>Regional Language:</b> The Format field (Control Panel » Region » Formats tab) on the server should be the same as the end user's setting.</li> <li>▪ <b>Solid PDF Converter</b> (PM Compass installs it if not detected during installation)</li> </ul>

## Client Software Requirements

Supported Deployment Technology	
Client Operating System	<ul style="list-style-type: none"> <li>▪ Windows 10 64-bit (x64)</li> <li>▪ Windows 11</li> </ul>
Transport Layer Security (TLS)	If you have implemented TLS, review <a href="#">Secure Transport Layer Security (TLS)</a> .
Web Browsers	<ul style="list-style-type: none"> <li>▪ Microsoft Edge</li> </ul> <p><b>Note:</b> You can launch PM Compass from Edge if ClickOnce is enabled. ClickOnce is enabled by default from <a href="#">Edge build 87 (Nov 2020)</a>.</p> <ul style="list-style-type: none"> <li>▪ Google Chrome</li> </ul> <p><b>Note:</b> You can launch PM Compass from Chrome with a Chrome web store third-party ClickOnce extension. For example, Windows ReMix ClickOnce helper, Meta4 ClickOnce Launcher, or ClickOnce for Google Chrome by Menarva.</p>
Business Applications	<p><b>Microsoft Office</b></p> <ul style="list-style-type: none"> <li>▪ Microsoft Excel 2016</li> <li>▪ Microsoft Excel 2019</li> <li>▪ Microsoft Excel 2021</li> <li>▪ Microsoft Excel 365</li> </ul>

Supported Deployment Technology	
	<ul style="list-style-type: none"> <li>Microsoft Word 2016</li> <li>Microsoft Word 2019</li> <li>Microsoft Word 2021</li> <li>Microsoft Word 365</li> <li>Microsoft Project Professional 2016 (32-bit)</li> <li>Microsoft Project Professional 2019 (32-bit)</li> </ul> <p><b>Oracle Primavera</b></p> <ul style="list-style-type: none"> <li>Oracle Primavera P6 18.8</li> <li>Oracle Primavera P6 19.12</li> <li>Oracle Primavera P6 20.12</li> <li>Oracle Primavera P6 21.12</li> <li>Oracle Primavera P622.12</li> </ul> <p><b>Other</b></p> <ul style="list-style-type: none"> <li>CSV (Comma Separate Value)</li> <li>Adobe Reader (for exporting reports in PDF format)</li> <li>Microsoft Visual C++ 2017 Redistributable Package</li> </ul>
<b>.NET Framework</b>	<ul style="list-style-type: none"> <li>Microsoft .NET Framework 4.8</li> </ul>

Compatible Technology	
<b>Business Applications</b>	<ul style="list-style-type: none"> <li>Oracle Primavera P6 17.12</li> </ul>
<b>Scheduling Tools</b>	<ul style="list-style-type: none"> <li>Microsoft Project Professional 2013</li> <li>Microsoft Project Server 2013</li> </ul>
<b>Microsoft Office</b>	<ul style="list-style-type: none"> <li>Microsoft Excel 2013</li> <li>Microsoft Word 2013</li> </ul>

## Delttek Integrated Products

Supported Deployment Technology
<p>The versions listed below are the minimum supported versions. Subsequent cumulative update (CU) releases within the listed major/minor release will be supported unless otherwise noted in the Technology No Longer Supported with this Release table. Subsequent major/minor releases are not supported.</p>

## Supported Deployment Technology

**Note:** The current PM Compass version may support operating system and database releases that are not supported by prior versions of Deltek Cobra and Deltek Open Plan.

Review the Cobra and Open Plan Installation Guides to ensure that the versions you are using are supported on any new database or operating platform you are using with PM Compass.

### Deltek Cobra

- Cobra 8.4 Cumulative Update 23 and higher
- Cobra 8.5

**Important:** Cobra 8.5 already has support for the PPM Encryption Conversion Utility. To avoid any potential issues, for example, getting an invalid username or password when logging into Open Plan, it is recommended that you follow the correct installation sequence.

For more information, see "Appendix Q: PPM Encryption Conversion Utility" in the *Deltek PM Compass Installation Guide*.

Cobra Web Services updates are included in the PM Compass Web and Process Server installation. Cobra Web Services uses port 8000.

**Note:** The PM Compass Change Management process integrates with Cobra using the Cobra Web Services (Cobra Engine) on the PM Compass Server to execute Cobra processes. Depending on the version of Cobra you are using, you may have to download and install the correct **CobraXXIntegrationforPMCompass83.exe** file.

For more information, see "Cobra Web Services Integration (Cobra Engine)" in "Appendix K: Integrating with Cobra" of the *Deltek PM Compass Installation Guide*.

### Deltek Open Plan 64-bit

- Open Plan 8.6
- Open Plan 8.7 (Beginning with PM Compass 8.4 Cumulative Update 06)

**Note:** Confirm that the Open Plan Engine files have been applied on your server(s) or your workflow processes may fail.

For more information and steps, see "Install the Open Plan Integration Files (Open Plan Engine)" in "Appendix L: Integrating with Open Plan" of the *Deltek PM Compass Installation Guide*.

#### Deltek Open Plan Add-In for PM Compass

- Install the Add-In on the Open Plan client machine.
- Open Plan Add-In for PM Compass 8.4

Supported Deployment Technology	
	<p><b>Note:</b> Perform "Open Plan Database Prerequisite Steps" in "Appendix G: Unicode and Case-Insensitive Prerequisites for Cobra and Open Plan Databases" of the <i>Deltak PM Compass Installation Guide</i>.</p>
<b>Integration Installer</b>	<p>Install the appropriate engine files on the PM Compass Server. The files are located in DSM under the PM Compass folder.</p> <ul style="list-style-type: none"> <li>▪ Cobra 8.4 Integration for PM Compass 8.4</li> <li>▪ Cobra 8.5 Integration for PM Compass 8.4</li> <li>▪ Open Plan 8.6 Integration for PM Compass 8.4</li> <li>▪ Open Plan 8.7 Integration for PM Compass 8.4</li> <li>▪ Open Plan 8.7 Integration with PM Compass 8.4</li> <li>▪ MSP (Microsoft Project) Server Integration for PM Compass 8.4 (Provides Project Server integration with Progress support for non-Open Plan users.)</li> <li>▪ Primavera P6 Server Integration for PM Compass 8.4 (Provides Primavera P6 integration for non-Open Plan users.)</li> </ul>

## Open-Source Software Included with PM Compass

PM Compass includes the following open-source software:

Software	Company
Oracle Data Access Components 4.122.1.20161216	Oracle
Pcrypt	Public domain Password encryption based on D3DES
Newtonsoft Json.NET 12.0.3.23909	Newtonsoft



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## About Deltek

Better software means better projects. Deltek delivers software and information solutions that enable superior levels of project intelligence, management and collaboration. Our industry-focused expertise makes your projects successful and helps you achieve performance that maximizes productivity and revenue. [www.deltek.com](http://www.deltek.com)