

# Microsoft's 2013 Enterprise Project Portfolio Management (PPM/EPM) System

## Diagram of the General Architecture

Client



### Microsoft Project Professional 3013



Internet Explorer 8 - 10  
 Mozilla FireFox on Windows, Mac OS-X and Linux/Unix  
 Chrome  
 Safari on Windows and Mac OS-X

Project Cache    Global Cache

LOB Applications

3rd Party Applications



Project Web App Home

Server Application

Required services:  
 Excel Services (for reporting)  
 PerformancePoint Service (for reporting)  
 Secure Store Service (for reporting)  
 State Service (for charting)  
 Project Service Application (for hosting PWA instances)



Microsoft Project Server is a SharePoint 2013 application

Scheduling Engine  
 Queuing System  
 Eventing System  
 Workflow System

PSI Forwarder

HTTP

WCF or ASMX over SOAP/HTTP

ASPX Pages

ASMX Web Services  
WCF Services

Project Server Interface (PSI)

Business Objects

Projects  
 Tasks  
 Resources  
 Assignments



Database



Some of the required databases

Working

Published

Backup

Reporting ...

Configuration

Content ...

Microsoft's Enterprise Project Portfolio and Project Management (PPM/EPM) 2013 system (also referred to as Project Server 2013) is a multi-tiered system. The architecture includes Microsoft Project Professional 2013 and Internet Explore (Project Web App) clients in the front-end tier. The front-end applications communicate with the middle tier (server application tier) through the Project Server Interface (PSI) Web services, which in turn communicates with the business objects layer.

### Terms used in Chart 1

**ASPX Pages:** ASP.net web pages. ASP.net is web application framework for building dynamic web sites, web application and web services.

**Business Objects:** Logical entities that can be classified into three types: **Core entities** are objects such as projects, tasks, assignments, resources, and calendars. The core entities include basic business logic such as permissions and naming rules. **Business entities** are objects such as timesheets, portfolios, and models. Business entities include additional business logic and usually are built from a combination of the core entities. **Support entities** are objects such as security and validation.

**DAL:** The Data Access Layer provides communication between the middle tier and the database. All Project Server data is stored in Microsoft SQL Server databases.

**HTTP:** Hypertext Transfer Protocol is a networking protocol and the foundation of data communication for the internet.

**LOB:** Line-of-business application. A critical application perceived as vital to running an enterprise.

**DAL:** Data Access Layer which provides communication between the middle tier and the database.

**PSI:** The Project Server Interface is the API (application program interface) of Project Server. The PSI object model exposes Project Server functionality to all external applications. Project Professional 2013, Project Web App, LOB, and other third-party applications use the PSI to access Project Server data in the Draft, Published, and Backup databases. The PSI is available through WCF services and through ASMX Web service calls by back-end LOB applications, or through a PSI proxy.

**PSI Forwarder:** The PSI Forwarder consists of two components, a WCF Forwarder and a Web Service Forwarder. Clients that use the ASMX interface call the PSI through the Web Service Forwarder. Clients that use the WCF interface call the PSI through the WCF Forwarder.

**SharePoint 2013:** The new version of Microsoft Windows SharePoint Services.

**SOAP:** Simple Object Access Protocol is a specification for exchanging structured information of Web Services in a computer network.

**WCF:** Windows Communication Foundation is part of the .NET Framework that provides a unified programming model for rapidly building service-oriented applications that communicate across the web and the enterprise.

### Primary Function of the Required Databases:

**Working (Draft) database:** Contains tables for saving unpublished projects from Microsoft Project Professional 2013. Project data in the Draft database cannot be accessed by using Microsoft Project Web App.

**Published database:** Contains all of the published projects and enterprise resources, the enterprise global template, and other project templates. The Published database also contains tables that are specific to Project Web App (timesheets, models, views, and so on), and global data tables (custom fields, lookup tables and security). Published projects are visible in Project Web App.

**Backup (Archive) database:** Saves backed-up and older versions of projects.

**Reporting database:** Serves as the staging area for generating reports and online analytical processing (OLAP) cubes. Data in the Reporting database is updated almost in real-time, is comprehensive, and is optimized for read-only report generation.

**Configuration database:** Contains site setup information for project.

**Content database:** A dedicated content database to store the Project Web App content and all project workspace data (such as Issues/Risks/Deliverables and project documents).