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**Business Problem**

The Oracle Primavera P6 Professional client has traditionally been used in a LAN environment. P6 Professional Cloud Connect Server enables P6 Professional for the Cloud or Enterprise WAN by:

- Ensuring all communication between client and server are over standard Hypertext Transfer Protocol (HTTP or HTTPS) request/response calls.
- Ensuring security over the Internet.
- Compressing data to improve performance.

The P6 Professional application loads most of its required data up-front to significantly improve the performance of ensuing transactional requests. The price of loading data is paid mostly during login and when opening projects. This approach has a number of advantages:

- A responsive GUI for most purposes by eliminating or minimizing the need for repeated server requests for information.
- The ability to perform complex calculations on the client machine, including scheduling, leveling, and applying actuals.

The aggressive caching and potentially complex computations on the client side require the client machine to have a modern CPU (for example, an Intel Core i5 class or better) and enough memory (8 GB or more).

A higher bandwidth and lower latency will naturally help with faster data load times. For example, for a 1 MB compressed response, the bandwidth required between the server and the end-user is simply 1 MB divided by the time that the end-user is willing to wait over and above the time it took the server to perform the computation. For example, a 240 kbps DSL line would add about 30 seconds to the overall request and a 1 Mbps connection would add about 8 seconds. The latency, which is the time between the request dispatch and the arrival of the first byte of a response, adds an additional delay to each request.

To reduce the network time spent on data-hungry requests, P6 Professional Cloud Connect Server compresses data. P6 Professional Cloud Connect Server can be used for P6 in the Oracle Cloud or for an on-premises installation with your EPPM server.

**P6 Professional Cloud Connect Server vs. Citrix**

Citrix is one solution for slow WANs currently proposed for Project Management client users, and it has been shown to be a viable alternative for many customers. Citrix provides the benefits of reduced network bandwidth requirements, however it can require additional resources for configuration and maintenance.
P6 Professional Cloud Connect Server vs. Compression Server

The following is a comparison between P6 Professional Cloud Connect Server and Compression Server:

- P6 Professional Cloud Connect Server offers performance on a par with or better than Compression Server.
- As an installable component of P6 EPPM, P6 Professional Cloud Connect Server runs on all platforms supported by P6 EPPM. Compression Server runs only on a 32-bit Windows server platform.
- P6 Professional Cloud Connect Server supports secure communication over HTTPS. Compression Server supports HTTP only.
- Compression Server is approaching end of life and will be deprecated in 2016.

Overview

Figure 1: P6 Professional Classic Client-Server Architecture
Figure 2 illustrates the P6 Professional architecture client extended to connect to the P6 Professional Cloud Connect Server.

![Diagram of P6 Professional Client-Server Architecture with Cloud Connect Server](image)

Figure 2: P6 Professional Client-Server Architecture with Cloud Connect Server

A typical scenario for the flow of data can be described as follows:

1. The user logs into the application or opens a project.
2. A sequence of HTTP requests are made by the client to the server. Individual requests correspond to Client/Server SQL statements. A token corresponding to one of a known set of statements is embedded in the HTTP request along with any required parameters. Each request is individually encrypted.
3. P6 Professional Cloud Connect Server receives these HTTP requests, de-crypts and de-tokenizes the request, and then runs the SQL statement on behalf of the client.
4. P6 Professional Cloud Connect Server receives the result set from the database, encrypts and compresses the data and forms it into an HTTP response, and then sends the response across the WAN back to the client.
5. The client decodes and decompresses the data as required.

Note that P6 Professional Cloud Connect Server does not wait until the entire result set is obtained from the database. Rather, the data is compressed into blocks of a preset size and sent to the client, even as P6 Professional Cloud Connect Server is fetching additional rows of the same result set. This keeps the P6 Professional Cloud Connect Server memory footprint to a minimum, because it does not have to compile the entire result set into a huge block of compressed data. It also prevents the client from starving while P6 Professional Cloud Connect Server compiles a large result set.
**Batch SQL**

In order to reduce network traffic, the communication protocol between the client and P6 Professional Cloud Connect Server supports packing of multiple SQL requests and dataset responses. Using this Batch SQL feature, the client can further reduce the adverse impact of network latency and achieve improved throughput.

**Brief Configuration Details**

You can install P6 Professional Cloud Connect Server as a product component of P6 EPPM hosted in the same WebLogic server instance as the server for P6 EPPM, but as a different managed server. The P6 Professional Cloud Connect Server URL can be configured to use the same hostname and port as P6 Web or it can use a different hostname and port. P6 Professional Cloud Connect Server has a separate application context from the server for P6 EPPM. P6 Professional Cloud Connect Server is configured by the P6 EPPM Configuration Wizard.

Similarly, you can install the API Apps (Update Baseline, Schedule Compare, and XML Import) as product components of P6 EPPM configured by the P6 EPPM Configuration Wizard. Refer to Installing and Configuring P6 EPPM for installation instructions. After installation, click Use Remote Mode for P6 Professional Update Baseline, Schedule Compare, and XML Import and set the Integration API Server URL on the Application Settings page of the P6 EPPM server. Also, refer to the P6 EPPM Post Installation Administrator's Guide for other administration options.
P6 Professional users configure their connection to the P6 database using the P6 Professional Cloud Connect driver as shown in the Figure 3:

Figure 3: Configuring P6 Professional Cloud Connect Server

Document References

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