

# AGILE ENGINEERING COLLABORATION 1.3 README

October 10, 2007

## Agile Engineering Collaboration

### What's new

This section lists new features for this release.

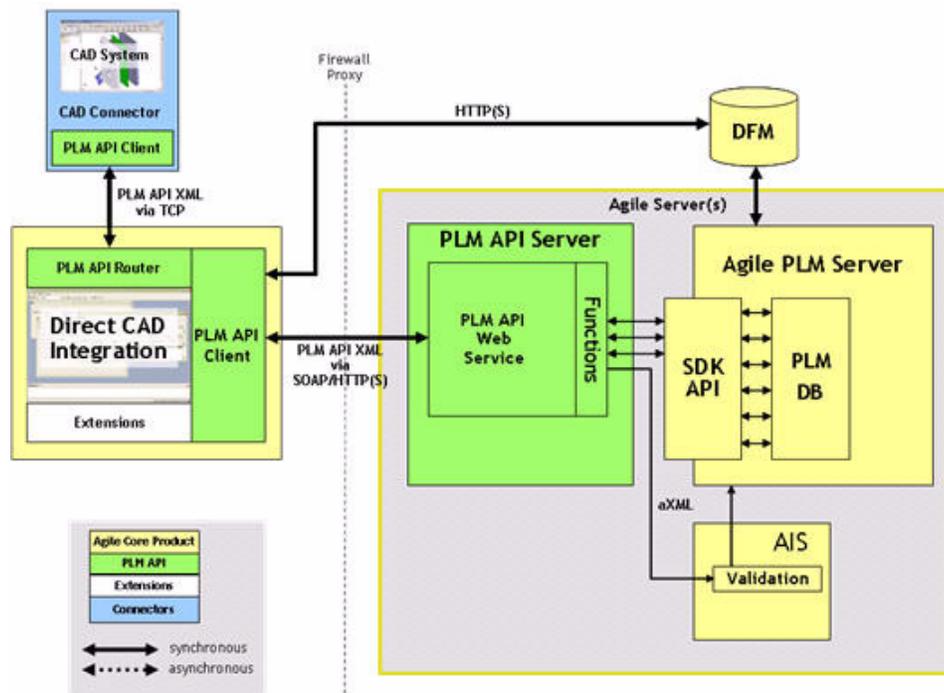
### Introduction

EC 1.3 is the latest generation of Agile's Engineering Collaboration platform. It is designed to provide a complete framework for developing integrations between CAD authoring tools and Agile PLM. In addition to providing the basis for Agile's standard CAD connector products, it can also be used for partner or customer-developed integrations, either to CAD systems or CAD data managers.

The focus of the EC 1.3 release was to build out the capabilities of the PLM API, which is a high-performance web services-based communications infrastructure focused on CAD requirements. This release includes enhanced communication, an improved extensions framework, and a set of pre-packaged extensions that can be used for connector development.

Figure 1 shows one use of the PLM API, as a basis of direct CAD connectors, such as the standard Agile connectors which use the EC Client. This approach employs synchronous communication to the server, and two types of PLM API communication – between the EC Client and the PLM server, and also between the CAD connector and the EC Client.

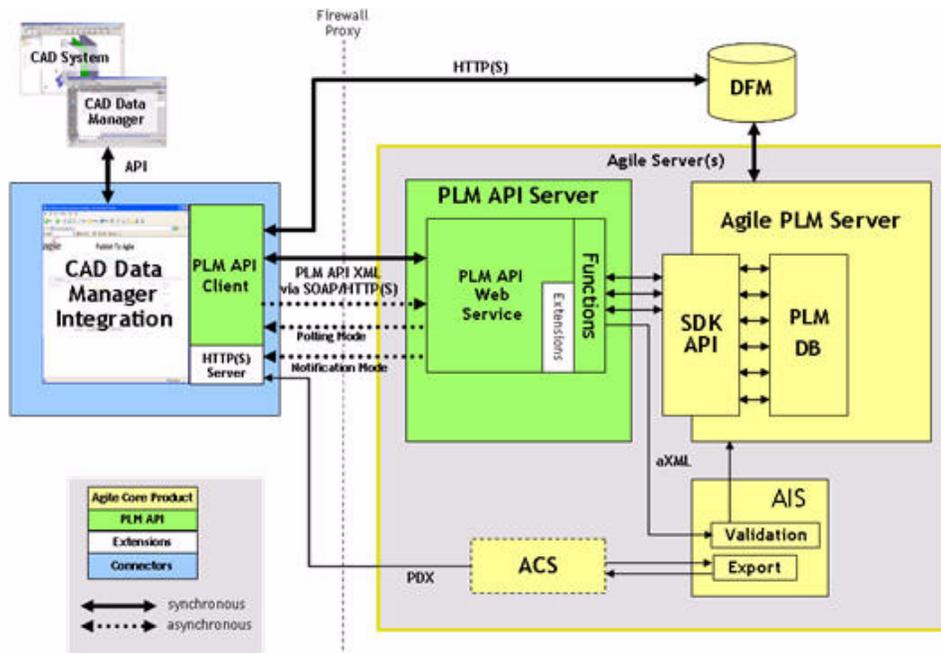
Figure 0-1: Example use of PLM API for Direct CAD Integration



**Note** Since the EC 1.3 release is focused on the PLM API framework only, the Agile EC Client and CAD Connectors will not be supported on top of this framework until a later release. The Agile EC Client and CAD Connectors are currently available on the EC 1.1 SDK platform.

Figure 2 shows another use of the PLM API, for CAD Data Manager integrations. Additional features are shown here, such as asynchronous communication, the extensions framework, and export of PDX using the optional Agile Content Server (ACS).

Figure 0-2: Example use of PLM API for CAD Data Manager Integration



## New Features

EC 1.3 represents an extensive improvement in the PLM API capability first introduced with EC 1.2. The main areas of improvement are as follows:

- ❑ **Support for asynchronous function execution** – Certain CAD use cases and customer environments demand the ability to communicate asynchronously with the PLM server. When using asynchronous mode, communications back to the client can be accomplished in two ways: Polling mode, which is accessed within the PLM API client-side library, and Notification mode, which requires configuration of an HTTP server on the client.
- ❑ **Improved extensions framework** – The new extensions framework enables a much greater range of flexibility, for example to create new callable which can reduce the amount of coding required on the client side.
- ❑ **Support for HTTPS protocol** – All aspects of the PLM API now support secure communication using HTTPS.
- ❑ **Enhanced PLM data model support** - Additional PLM object classes are now supported through the API, including Projects, Manufacturers and Manufacturer Parts.
- ❑ **Support for AIS Validation** – When using the validation capability, certain operations that the CAD integration wants to perform within PLM can be checked ahead of time, to insure that they will complete successfully. Validation is currently limited to Part and Document objects; at this time it does not include Change objects and File Folders.
- ❑ **Use of PDX export** – When used with the optional Agile Content Server (ACS), Agile PLM can export PDX format files which can be used in the context of CAD integrations. While not directly a part of EC 1.3, this function is triggered by change process workflows created through the PLM API.

- **Advanced file management** – EC 1.3 supports the new DFM “chunking” capability introduced in Agile 9.2.2.1, meaning that file operations can be broken into more manageable chunks to reduce errors due to large file sizes and network timeouts. In addition, DFM communication occurs from the PLM API client directly to the user’s local DFM, which greatly improves overall performance since the file is only transmitted once.

## Pre-packaged Extensions

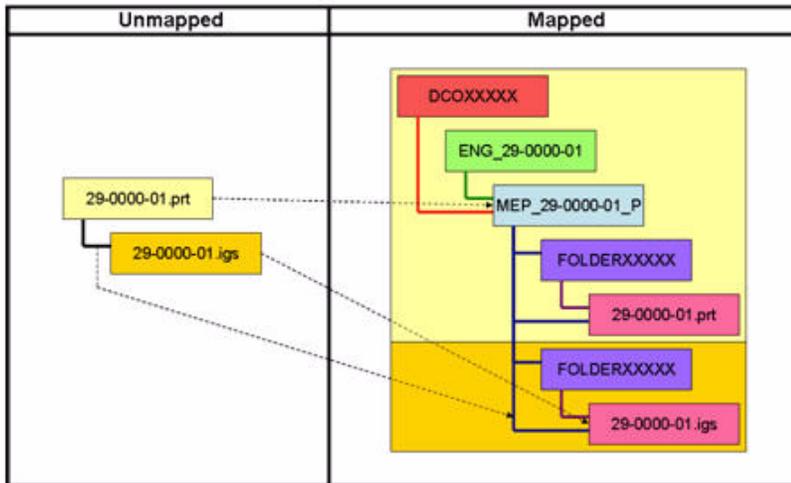
EC 1.3 includes a set of pre-packaged extensions, which support higher-level calls from the client side. This can greatly simplify the development of CAD integrations. The operations supported by the extensions are shown in Table 1.

Table 1: List of supported use cases and callables

Use Case	Callable Functions
Search	Search
Browse	Item
	Mfr
	Mfr Part
	Change
	File Folder
	Program
Check Out	Mapping
	Check Status
	Reserve
	Download
Check In	Mapping
	Check Status
	Reserve
	Validate
	Upload
	Update
	Release
	Cancel Reserve
Change Synchronize	Create
	Update
	Get
	Move

These callables are supported by a new advanced mapping capability, for defining the mapping between basic CAD structures and complex PLM data models. Figure 3 shows how a simple CAD structure (a native-format part file and a related IGES file) can be transformed into a more complex data model in PLM. Once this mapping is set up within configuration files, all the pre-packaged extension callables will obey this mapping and perform many operations that the CAD integration would normally have to care for.

Figure 0-3: Example of the mapping capability within the pre-packaged extensions



## Agile Version Support

EC 1.3 supports the following platforms:

- ❑ Agile PLM 9.2.2.1
- ❑ WAS application server 5.1.1

## Known Issues

Issue: When using the pre-packaged extension callables, the standard PLM API function calls may not operate correctly, and vice versa. CAD connector applications should be written exclusively using one or the other approach.

Root Cause: This is due to different mapping used for the standard vs. extension callables.

Workaround: No workaround available.