

NETWORKING ARCHITECTURE

ELENA is available both on Microsoft®Windows™ 32Bit and 64Bit platforms and it has a wide range of use since it can run both in “standalone” and in “network” mode. The “network” mode is mainly used by big companies, while smaller companies can access ELENA directly on our servers, needing no installation at their premises. The following image represents a typical installation in “network” mode.

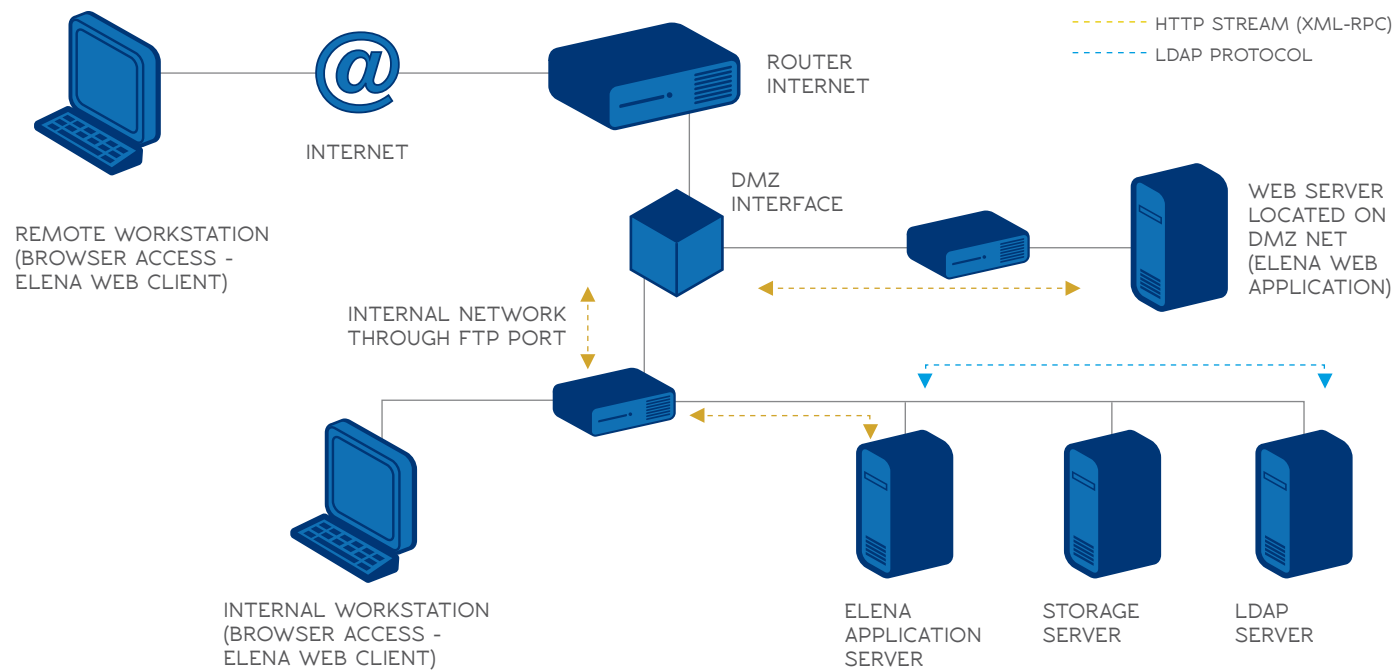
The Internet website hosting the client application of ELENA with WEB interface (ELENA Web Application) resides on the IIS™ Web Server, localized on the DMZ. This server communicates with Internet through the http or https protocols, depending on the security level that shall be applied.

The Internet website (ELENA WEB Application) and the application server (ELENA Application Server) communicate through the HTTP protocol. The application server sends ELENA commands through Web Services that can be called with the XML-RPC protocol (XML-RPC is a call protocol to a remote procedure using XML for call

coding and HTTP as transport protocol). The application server communicates with the storage server through the relevant ports set on the internal firewall. The application server and the relevant storage server are localized on the internal LAN and they communicate with each other and with Users' workstations through the policies of the internal LAN.

Physical servers shown in the image are an example only; they can be replaced with virtual servers on VMware® ESX™ architecture, or, for a minimalist configuration, Application Server and File Server could be installed on the same physical or virtual server.

In “network” mode, Users are authenticated by Microsoft® Windows™ Active Directory™ (via server LDAP™), so that Users and their passwords do not have to be coded within ELENA database.



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ELENA

UNIVERSAL 3D CAD INTERFACE



OVERVIEW

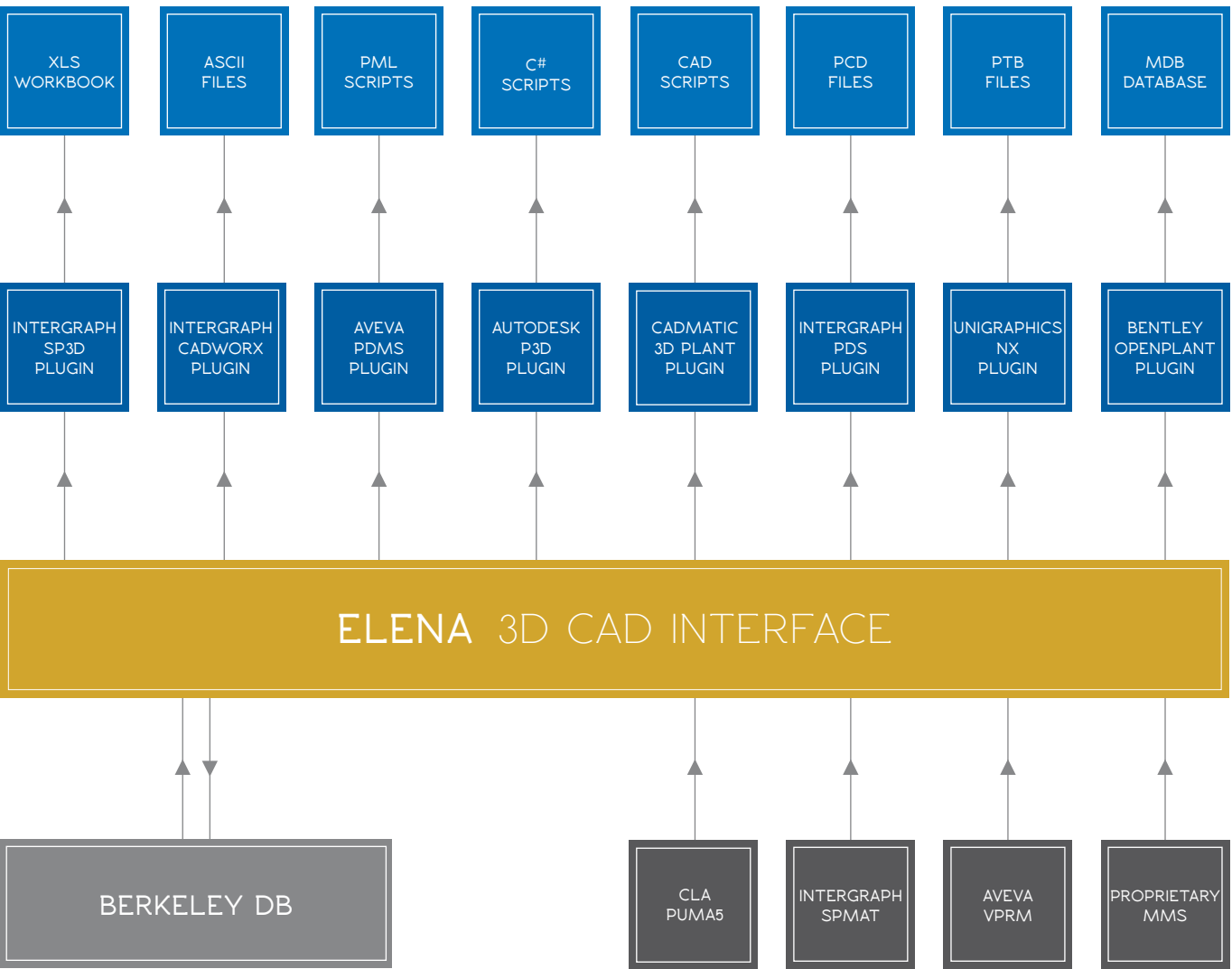
ELENA is an application engineered for companies working in the industrial plants market (EPC Contractors and Owner Operators). It is an independent software platform whose main function is integrating heterogeneous 3D CAD systems with heterogeneous Material Management Systems (MMS).

Thanks to a completely automated process, ELENA can produce the components catalogue complete with the dimensional data, the piping specs and the accessories tables which are needed by 3D modelers in order to be ready for modeling.

According to ELENA workflow, the CAD department owns full control over their key data relating to any piping element of the project. The application has a fully configurable data model, making ELENA flexible and adjustable to any specific needs of the projects; it also lets Users manage different 3D modeling systems simultaneously from a single material management system.

ELENA guarantees independence from the suppliers of material management systems and from the suppliers of 3D modeling systems, thus representing the linking point between the key software applications used for plant engineering and, in particular, between material management systems and 3D modelers.

PLUG-IN ARCHITECTURE



BUSINESS BENEFITS

Quick learning curve thanks to the Microsoft® Office™ Excel-like User Interface; the same approach is used for the configuration and use of the different 3D modeling systems with which the application is interfaced. Strong cost-saving effect.

Its controlled workflow reduces the impact of project piping specs modification thanks to a powerful system of modification detection.

Data model and generation system are configured through

a template which makes it flexible and adjustable to the specific needs of the projects.

It protects your initial investment thanks to its independence from material management systems suppliers and from 3D modeling systems suppliers.

Inconsistencies are not permitted because they get early detected by a powerful integrity data check.

Easy integration with external systems thanks to its modular architecture which is fully customizable through a powerful programming language.

KEY FEATURES

DATABASE PLATFORMS

Scalable and multi-user, multi-process architecture, independent from the commercial database, ELENA uses Berkeley DB open database architecture, cost-free and does not require any database administration.

GLOBAL NETWORKING

Wide range of use: ELENA can be used both in "standalone" and in "network" mode. The "network" mode is particularly suitable for those big companies who need to access the system from remote locations but still keeping a centralized installation and administration. For this mode, ELENA uses a WEB interface, which allows a remote access with no installed part on Client's side.

ACCESS CONTROL

In "network" mode each engineering site retains full control over their own data and, at the same time, roles and permissions can be differentiated for each User who works on the project. In "network" mode User authentication is done through Windows® Active Directory™, so that redundancy of user names and passwords is eliminated.

REVISION CONTROL AND DATA COMPARE

A powerful revision control lets User keep both working and issued versions of each piping specs. The atomic data model architecture can keep a complete history of the modifications operated on the single data and allows undoing the data modification from any point in time. Changes are automatically saved in the database. Changed data can be viewed by Users through a powerful compare system.

DATA AND WORKFLOW MANAGEMENT

ELENA uses the same source of data for all 3D modelers. Every update is managed by a global transaction and it is possible to discard any modification by executing a single rollback operation at any time. Its controlled workflow reduces the impact of project piping specs modification thanks to a powerful system of modification detection.

HIGHLY CONFIGURABLE

Data model and generation system are configured through a template which makes ELENA flexible and adjustable to the specific needs of the projects. Easy integration with external systems thanks to its modular architecture which is fully customizable through a powerful programming language "Python-like".

EASY-TO-USE USER INTERFACE

Microsoft® Office™ Excel™ User Interface makes the product learning curve quick and the product easy to use. Users interact with the database via familiar spreadsheet functionalities.

REPORTING

During each issuing process, besides the loading files in native format for 3D modelers, ELENA produces reports in Microsoft® Excel™ format for an easy review by the User and, on each report, modifications occurred since the last issue are highlighted.

