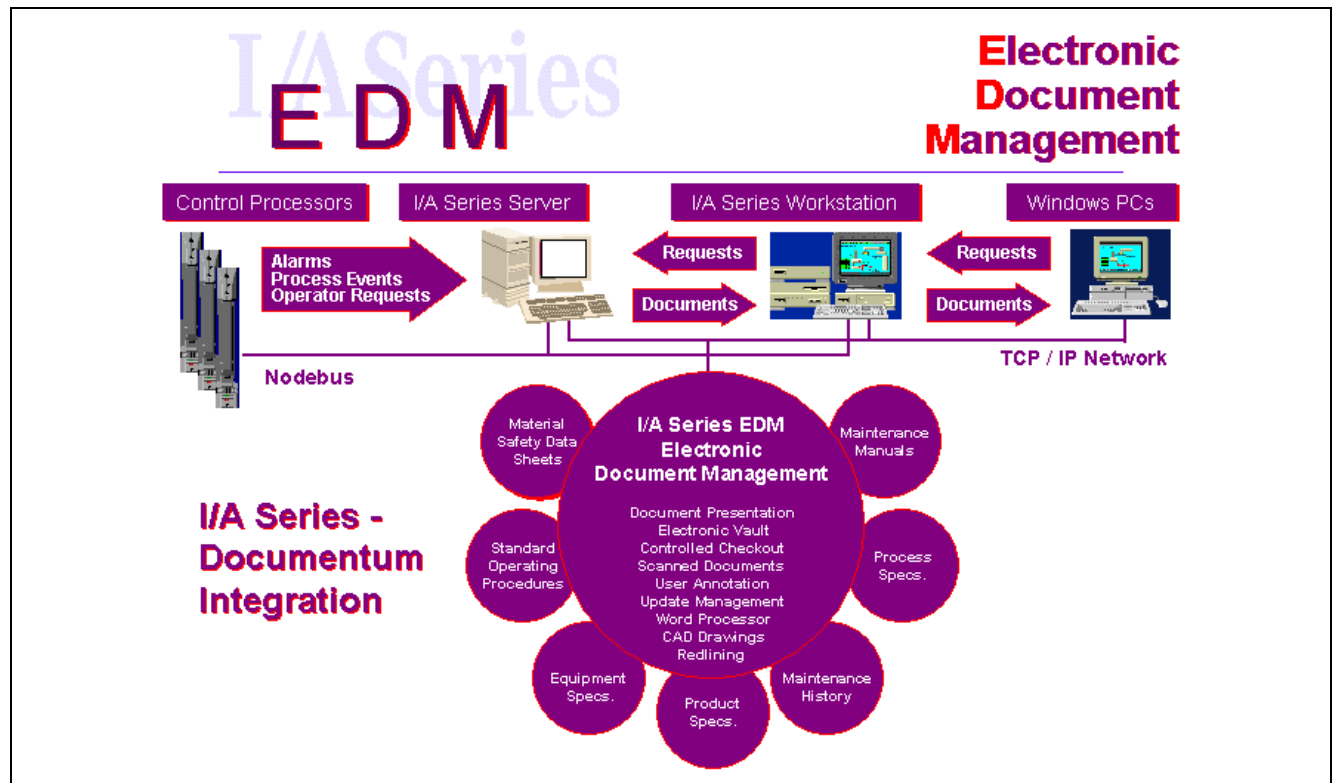# I/A Series® Software
EDM – Electronic Document Management

The I/A Series EDM system lowers the total cost of plant documentation such as operating procedures, MSDS sheets and CAD drawings. These documents are available to process operators and other authorized users on the network in response to alarms, processing events or user requests using I/A Series workstations and Windows® PCs.

OVERVIEW

Emergencies in a process plant stress the entire enterprise. This is most true in those organizations where safety of personnel, integrity of equipment and control of quality are paramount concerns.

The I/A Series EDM system links strategic documents to plant events allowing instant availability of Standard Operating Procedures (SOPs), Manufacturing Best Practices (MBPs), Material Safety Data Sheets (MSDSs) or maintenance manuals at all operating levels.

The emergency is not prevented but it is managed to the point where recovery at the lowest cost and highest availability is the probable outcome.

The I/A Series EDM system integrates Foxboro I/A Series control system with Documentum® 4i Document Content Management (DCM) application. This allows any enterprise's processing events to focus attention on selected documents. The events in question are alarms, processing events and user/process operator requests.

Product Specifications

The I/A Series EDM system provides a centralized Electronic Vault for the secure storage of documents with an electronic librarian allowing access to authorized users. The corporate and regulatory requirement to store and retrieve SOPs, MBPs, MSDSs, drawings, and maintenance manuals is addressed by I/A Series EDM.

I/A Series EDM employs an advanced Document Content Management (DCM) application. As a result, users are guaranteed they are viewing the correct version of the documents needed to manage any crisis. This software alliance provides the means for an enterprise to administer the creation, maintenance and approval of all documents.

I/A Series EDM accepts documents from virtually any source. Electronic documents from word processors, desktop publishing systems, CAD drawings, and so forth. are imported as electronic files. Printed documents are scanned into the system. Once filed in the Electronic Vault, a document is available to any I/A Series workstation, Windows based PC, or web browser.

I/A Series EDM uses an n-tier architecture, linking the document server to I/A Series EDM's document manager, which in turn links to the I/A Series control system's database and the process operator's workstation. In this environment, a process event occurs and is interpreted. This results in the retrieval of one or more documents which are presented at the indicated process operator workstation. While the primary focus of this architecture is delivering specific document content to specific operational areas, other users are able to retrieve documents at desktop or web enabled terminals.

I/A Series EDM documents are also accessible from I/A Series process graphic displays. Users select a graphical object on a display, press the Related Documents button and see a list of documents relating to that object. The selected document is available for viewing on the I/A Series process operator's workstation.

Relating documents to I/A Series process alarms is simplified by I/A Series EDM's Librarian / Configurator application. With this software, users view these alarms in one pane and available documents in another pane. Associating elements of each pane is as simple as selecting a document and dragging it to the relevant variable or alarm. Linkage is activated once an alarm or process operator request occurs.

I/A Series EDM typically works with text documents but I/A Series EDM's document manager is capable of processing a wide range of document types including the most popular CAD drawings.

I/A Series EDM provides full administration of the creation, maintenance and approval of all documents. Depending on an organization's work flow, documents may be introduced to the document server at any point in the document creation, maintenance and approval cycle. Only approved documents are available to I/A Series EDM for operational viewing.

Users viewing a document may not alter the document, but they do have the option of making annotations or adding sticky notes to a document and red-lining is optionally permitted on CAD drawings.

SYSTEM REQUIREMENTS

I/A Series EDM is only offered in the following configurations:

Servers – Solaris™

- Any Sun™ Ultra™ SPARC™ 30 or Sun Enterprise 250 running Solaris 2.6 or higher operating system. All servers must have TCP/IP network connections.

- Other applications may use I/A Series EDM servers. However, I/A Series application software must be sited on separate processors.

- The above servers should have a minimum of 256 MB RAM memory and up to 512 MB RAM if there are 30 or more clients.

Servers – Microsoft® Windows NT®

- Pentium™ III 750 MHz processor minimum running Microsoft Windows NT Server V4.0 (Service Pack 5) or greater. All servers must have TCP/IP network connections.

- Other applications may use I/A Series EDM servers. However, I/A Series application software must be sited on separate processors.

- The above servers should have a minimum of 256 MB RAM memory.

Servers – Disk Storage

- Up to 9 GB of hard drive space is the typical requirement for a documentation database (docbase) containing upwards of 40,000 documents while 20 GB is recommended for a docbase with up to 80,000 documents. Disk space is dependent upon the number and types of documents. Electronic document files are the smallest and most economical form of storage while scanned image files tend to be large and the least economical form of document storage.

Clients - I/A Series

- I/A Series software V4.3 or greater running on Application Workstation 51 (AW51) or Workstation Processor 51 (WP51) Models B, C, D or E connected to a TCP/IP network.

- I/A Series software V6.2 running on Application Workstation 70 (AW70) or Workstation Processor 70 (WP70) with a TCP/IP network connection.

- At least 256 MB RAM memory minimum

- At least 2 GB of hard drive space minimum dedicated to client software and locally cached files

- All AW/WPs must communicate to the I/A Series EDM document server via a TCP/IP network.

Clients - Personal Computers

- Pentium III 550 MHz processor minimum running Microsoft Windows NT Server V4.0 (SP5) or greater connected to a TCP/IP network

- At least 256 MB of RAM

- At least 2 GB of hard drive space minimum dedicated to client software and locally cached files

- Web Client - Java™ enabled web browsers.

PRODUCT CONFIGURATION

Customer Prerequisites

Successful operation of I/A Series EDM requires a relational database, a TCP/IP network, training and an Internet browser. All software components must meet I/A Series EDM's current software version requirements for I/A Series EDM. A list of these requirements is available on the I/A Series EDM web page (refer to "I/A Series EDM Web page").

Licenses for a relational database are available with I/A Series EDM. Alternately, an enterprise's existing relational database capability will be integrated as long as this capability meets the current version requirements.

A functioning TCP/IP network, meeting current version requirements, is a prerequisite and is the sole responsibility of the end user.

To manage and contribute documents contained in an electronic vault, I/A Series EDM's new users generally require document content management training. A list of the currently available course on document content management is available on the I/A Series EDM web page (refer to "I/A Series EDM Web page").

Finally, web browsers work with I/A Series EDM. These are now available – free of charge – from either Microsoft or NetScape™. Users are encouraged to select and install one of these for use with I/A Series EDM.

I/A Series EDM Base Package (Required)

The required I/A Series EDM base package includes:

- I/A Series EDM Server

- I/A Series EDM Librarian / Configurator

- I/A Series EDM User Manuals (on electronic media)

- I/A Series EDM to I/A Display Manager (FoxDraw) Interface

- Administrator license

- Foundation licenses for 10 clients (minimum clients).

The I/A Series EDM server is comprised of the combined installation of the user's relational database, several components from the document content management application software and software supplied from Invensys Process Systems. The I/A Series EDM server is available on both Windows and UNIX® platforms and must be connected to a TCP/IP network.

The I/A Series EDM Librarian / Configurator is I/A Series EDM's only configuration tool. It is an easy-to-use document check-in and document administration tool. One copy is required for each I/A Series EDM installation and is provided with the base package. The I/A Series EDM Librarian / Configurator is only available on a Windows based PC which is connected via a TCP/IP network to the remainder of the system

The base package also includes one Administrator license and 10 Foundation (client) licenses as well as an I/A Series EDM to I/A Series Display Manager (FoxDraw) Interface.
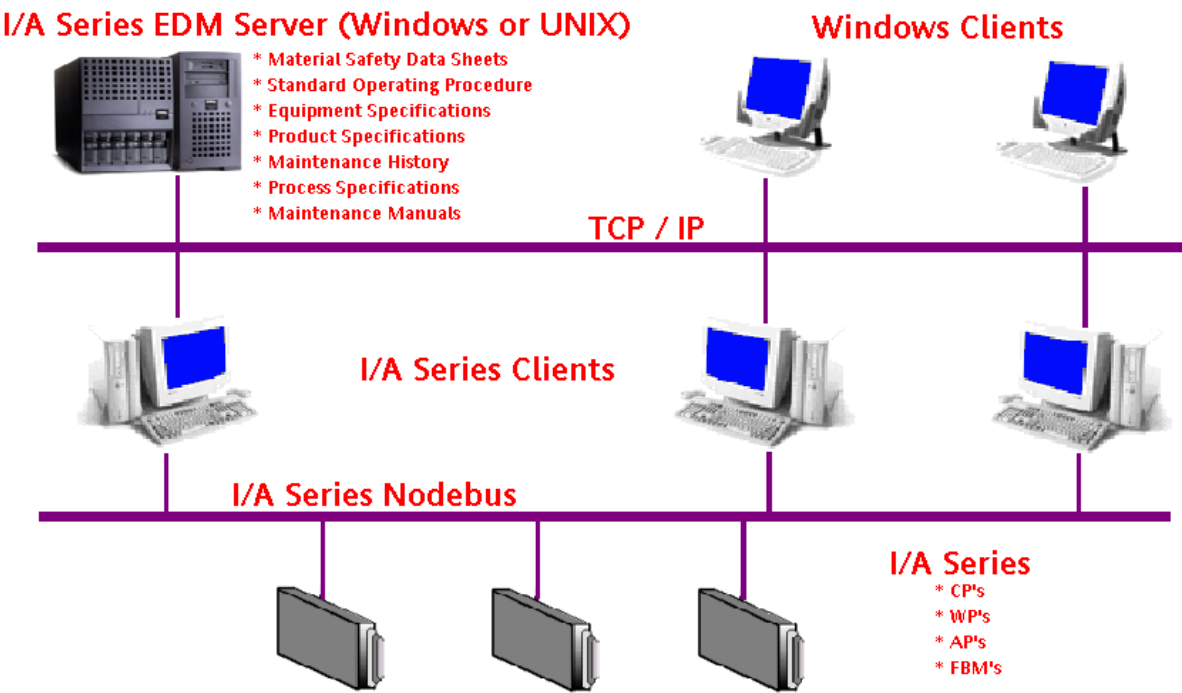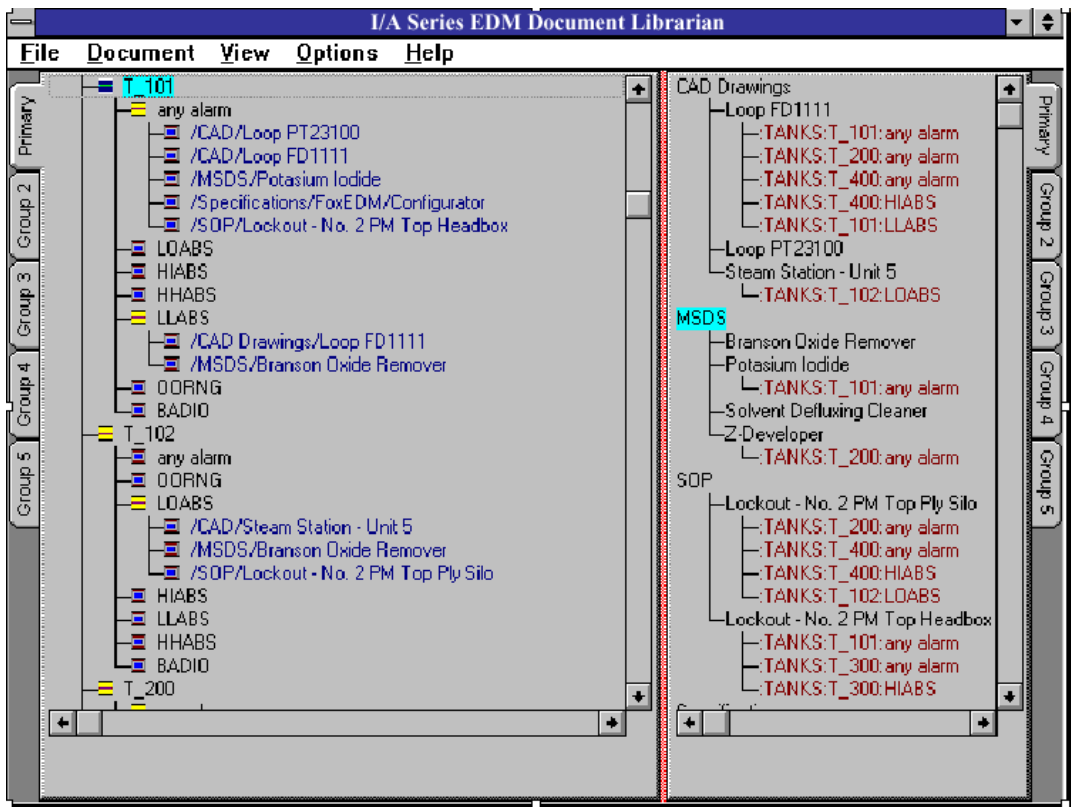
Figure 1. System Architecture

Figure 2. I/A Series EDM Librarian / Configurator

Installation, Support and Training

All I/A Series EDM software components and documentation are delivered to customers on electronic media (CD-ROMs). I/A Series EDM is an engineered product. Therefore, separate software installation, training and system's commissioning are essential services and are separately provided by Invensys Process Systems Professional Services.

Scalability

I/A Series EDM is scaled to provide cost-effective solutions to service the number of users needed. A minimum of ten clients is required.

Client licensing is provided at the following levels with price incentives on increased quantities:

- 1 to 99 clients
- 100 to 249 clients
- 250 to 499 clients.

CLIENT OFFERINGS

The minimum I/A Series EDM order must include the base package. Additional client licenses are available in any combination. These licenses are available for both UNIX and Windowsplatforms.

I/A Series EDM to I/A Series Display Manager Interface

This module is the basic interface between stored documents and the alarms, processing events or process operator requests occurring at I/A Series workstations. This is the software agent causing one or more documents to be listed or displayed on a workstation. Users open documents from the selection provided on their workstation. Alternately, a control node is selected and users click on the Related Documents button. The application provides a short list of related documents. Following document selection, users may view a text, CAD or scanned document.

Each I/A Series EDM to I/A Series Display Manager Interface relates to one instance of an I/A Series Display Manager.

Foundation License

The Foundation license offers a range of functionality that is dynamically tailored to match the varied roles and requirements of different enterprise users. With this license, client software is deployed with a range of capabilities. Depending on the privileges of each individual, these capabilities are dynamically tailored at the onset of each client's operation.

For content contributors, the Foundation license offers robust functionality for creation, review, approval, and control of operational documentation. With a client configured for content maintenance, users have seamless access to their content, using the tools of their choice: a web browser, a desktop application such as Microsoft Word, or even Microsoft Windows Explorer.

For information consumers, I/A Series EDM includes applications which provide easy viewing of approved operational documents.

I/A Series EDM's clients permit user access based on each user's privileges. What makes each client unique, however, is the assurance that content is completely current and has been subjected to the enterprise's documentation life cycle.

Each Foundation License relates to either an I/A Series client or PC client.

Administrator License

The Administrator is a full featured, drag-and-drop advanced document management application. This application is designed for information coordinators who need to perform library services and workflow activities, develop the structure of virtual documents, or perform system administration functions.

One copy of the Administrator is required for each I/A Series EDM installation to perform system administration tasks. This application operates in a Microsoft Windows Explorer mode and is accessible as an Internet client.

For those situations where the needs of power users are best addressed by this type of functionality, multiple Administrators are available for installation.
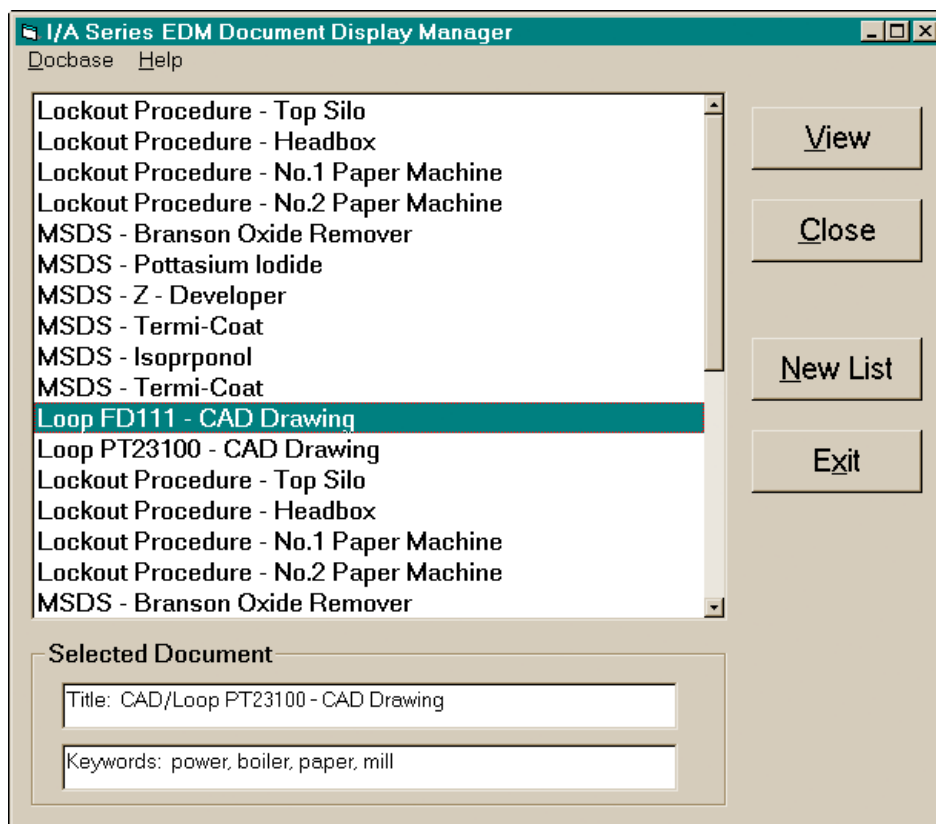
Figure 3. I/A Series EDM Document Display Manager

OPTIONS

The following third-party product options are available with the I/A Series EDM system. Current version information for these options is available on I/A Series EDM's web page (refer to "I/A Series EDM Web page").

Database Products

The I/A Series EDM system requires the use of a relational database. An enterprise's existing relational database capability can be integrated as long as this capability meets current version requirements (refer to "I/A Series EDM Web page"). For those enterprises, with no established database vendor, two options are offered – Microsoft SQL Server or Oracle™ Enterprise Edition.

In either case, the version of the supplied relational database is the latest available, meeting the current system software version requirements.

The license for Microsoft SQL Server is a processor license. This means there is no physical limit to the number of client serviced by this product. Generally, there is a capacity issue with these types of licenses and care must be exercised if a large number of concurrent users is expected.

The Oracle Enterprise Edition is a per client (seat) license. To calculate the seat requirement for this database, combine the number of clients with the number of I/A Series processors and add one (for the Administrator).

Adobe Acrobat

Although Microsoft Windows and Solaris operating systems include basic text viewers, many documents are viewed only with their authoring application. For example, Microsoft Word or WordPerfect™ documents are viewable by either of these applications, but are not available on a Solaris system. This issue is overcome with Adobe™ Acrobat™ software which converts most documents to a Portable Document Format (PDF). Documents in this format are viewable on either Windows or Solaris systems.

Acrobat software permits users to annotate documents with electronic sticky notes. These sticky notes are located anywhere on a PDF document. They do not alter the document in any way.

Adobe Acrobat software is recommended for use with I/A Series EDM wherever multi-platform access to text documents is required or where text document viewing is required on a computer not running the authoring application.

Generally, only one copy of Adobe Acrobat is required per installation. However, installations using the Adobe Acrobat sticky notes feature usually purchase licenses of this product on each client.

Current version information for Adobe Acrobat is available on the Foxboro web page (refer to "I/A Series EDM Web page").

Cimmetry™ for Windows and Solaris

As with text processors, there are hundreds of CAD applications and none of these have full compatibility with documents prepared elsewhere. This is true for both text and drawn documents. As it is impractical to install a wide range of document viewing application in a plant environment, a number of Cimmetry Systems, Inc. AutoVue™ products are offered for both Windows and Solaris platforms. Cimmetry software is capable of presenting a very wide range of CAD drawing. In one instance, it also offers red-lining and sticky notes.

Current version information for Cimmetry products is available on I/A Series EDM's web page (refer to "I/A Series EDM Web page").

Cimmetry AutoVue provides a versatile application that provides users with a single uniform interface for their CAD drawing documents. Cimmetry AutoVue operates on all Windows platforms.

Cimmetry AutoVue Standard (UNIX) is the companion on Cimmetry Auto and offers the same features on a UNIX platform.

Cimmetry AutoVue Professional is an upgrade of Cimmetry AutoVue adding red-lining and sticky notes. Cimmetry AutoVue Professional operates on all Windows platforms.

I/A Series EDM Web Page

Current Version Requirements for Third-Party Software

Software versions, which are currently approved for use with Foxboro I/A Series EDM, are listed in a document named *I/A Series EDM's Current System Software Version Requirements for Third-Party Software* located at www.foxboro.com/iaseries-edm.

This includes information on Microsoft SQL Server or Oracle Enterprise Edition relational database, Adobe Acrobat and the applicable Cimmetry products available with I/A Series EDM.

Available Document Content Management Training

Training on various aspects of document content management is available from Documentum, Pleasanton, CA. Their web address is www.documentum.com.

A list of courses is given in the document named *Available Document Content Management Training at Documentum* located at www.foxboro.com/iaseries-edm.

Available Assistance

Emails to IA.Series.EDM@Invensys.com will generally receive attention within one normal business day.