

# Cimage e3-RM v5.0 by Cimage NovaSoft, Inc.

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## Cimage Certification Summary Report

The Joint Interoperability Test Command tested Cimage e3-RM 5.0 from July 8 through 18, 2003. This product was verified using version 7.0 of the Test Procedures and is compliant with DoD 5015.2-STD, dated June 2002. All mandatory requirements were satisfied.

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## 1. Product Identification

Cimage e3 provides an electronic records management, distribution, and retrieval system with security and access control, revision control, storage management, relationship management, check-in / check-out, and audit history. It can manage a wide range of electronic record types, such as database records, scanned paper drawings, CAD files, illustrations, textual documentation, spreadsheets, and technical manuals. It provides indexing and search/retrieval capabilities using industry-standard relational database technology, and it is specifically designed to operate in a heterogeneous environment, utilizing standard UNIX and Windows platforms. The Cimage software package, as tested, consisted of the following component programs and utilities:

- Cimage DM Server
- Cimage e3 API Toolkit
- e3 Desktop
  - Cimage e3-CM
  - Cimage e3-RM
- DM-NET Server
- DM for Outlook
- Cimage Web Services

Cimage provides utilities known as “table securities” and “security groups” that act on a series of database tables designed to manage records as they pass through their life cycle. The securities are available as shortcut menu options via right and left mouse clicks similar to the actions taken on files in a Microsoft Windows Explorer environment. Users see only those tables and securities available for use by people in their user group.

Cimage uses the term "index" to indicate filing of an electronic document into the RMA. The term "record" is consistently used to identify a row in one of the tables (a database record). "Create new record" is the command consistently used to add a row to a database table.

## **2. Test Configuration**

The initial testbed hardware configuration, located at the Cimage NovaSoft facility located in Burlington, Massachusetts, consisted of one Windows 2000 and one Sun Solaris server and a laptop with Windows 2000. The two separate software configurations tested were:

- Sun Solaris 2.8 with Oracle 9i
- Windows Server 2000 (SP3) and MS SQL Server 2000

PC workstation and server in each configuration included MS Office 2000 or XP (Word, Excel and PowerPoint).

## **3. RMA Mandatory Requirements**

### **3.1 *Managing Records [C2.1.1.]***

Cimage RMA manages both electronic and non-electronic records. The DM maintains the metadata that describes the records in a relational database. The electronic record documents are stored in their native file format in a file system managed by the DM Server.

### **3.2 *Accommodating Dates and Date Logic [C2.1.2.]***

Cimage stores and displays dates using a four-digit year format. The software recognizes leap years including the year 2000. Date validation routines are built into record profile forms, but are not used during searches.

### **3.3 *Implementing Standard Data [C2.1.3.]***

RMA comes configured with the data elements as defined in DoD 5015.2-STD. The records manager can configure ten (10) additional fields for custom use. The additional fields consist of six text fields, two date fields, and two numeric fields. Dialogs and screens are maintained in HTML and can be edited by any HTML or text editor. We used Edit Plus for the test. If more user-defined fields are needed, Cimage can create these elements as part of the pre-delivery configuration. Alternatively, a system administrator can be trained to use Application Builder or XML scripts for modification/adding of custom fields or tables. The DM Server can be used to import XML scripts for database management.

### **3.4 *Backwards Compatibility [C2.1.4.]***

This is the first test for this product against version two of DoD 5015.2-STD<sup>1</sup>, therefore test data from a previous test was not available to verify backwards compatibility.

### **3.5 *Accessibility [C2.1.5.]***

Cimage NovaSoft provided the 508 Voluntary Product Accessibility Templates (VPATS) provided as appendices to the detailed test report.

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<sup>1</sup> Backwards Compatibility is a new requirement in the June 2002 version of DoD 5015.2-STD.

### **3.6 Implementing the File Plan [C2.2.1.]**

Cimage provides the required capabilities for creating and maintaining a file plan (also known as a filing system).

Users must create disposition information before creating file category information. The records manager can create and amend all of the information needed for file plans. The RMA system administrator can delete disposition information and file categories.

### **3.7 Scheduling Records [C2.2.2.]**

Cimage provides the capability to schedule any record by assigning a file code with an associated disposition based on a time period (chronological), a specified event (conditional), or both time and an event. The records manager can optionally specify cutoff criteria as part of the disposition instructions.

### **3.8 Declaring and Filing Records [C2.2.3.]**

Cimage provides four methods for "filing," e.g., adding records with profile information, to the established repository:

- a. Cimage Document Manager (DM) Desktop. From Cimage DM's main "New Records, Linking, Superceding" table, the user selects electronic items to "index" from any directory accessible to the workstation.
- b. Drag and Drop Filing. Users can select electronic items from any other program's file directory listing and drag/drop them onto the "New Records," "Supercedes," or "Linking" table to begin the filing process. Users can select multiple records to index and the interface will lead them through the profiles for each document. Using a right mouse click the user can copy a completed profile and paste that profile to be used or modified for the next document, reducing keystrokes.
- c. Embedded Filing. Cimage provides customized interfaces that embed Cimage buttons and menu options into applications such as MS Word, Outlook, Excel, PowerPoint, and AutoCAD. If the organization's applications have clearly-defined interface requirements, Cimage will create custom interfaces, clearly defined by the customer, as part of the pre-delivery configuration process. The user can file any document that is currently open in the application.
- d. Web Interface. The user can file documents from a Web browser tool such as Netscape via a web page interface that can be customized to the organization's standards. This feature was demonstrated during testing.

On indexing a file, Cimage makes a copy of the file in the database and leaves the original file in the original location. Cimage gives users the option of selecting "Delete File on Index" in the "Select Files to Index" dialog.

In the process of indexing a document, the user manually assigns values to the required document profile data fields and selects a file category code (with associated disposition instructions). Templates can be defined to ease the indexing process.

At the time of filing, Cimage applies a unique record identifier and a date/time stamp to each record. The date/time stamp serves as the required Date Filed profile field. The user cannot modify either of these fields.

### **3.9. Filing E-mail Records [C2.2.4.]**

Cimage supports the capture and import of e-mail messages and their associated attachments. Once installed for users who have access to e-mail filing, users may create an Electronic Document Management System (EDMS) folder in Outlook. The user is able to drag and drop or copy the message into the EDMS folder. After the message has been moved to the EDMS folder, a specialized "Saving your Email" message dialog window is automatically opened. The transmission and receipt information is automatically captured from the MAPI interface. The user need only add the record category information.

After the messages are filed, Cimage moves the filed message to the Deleted items folder. If users want to save them, they will have to copy the files to the EDMS folder, using the CTRL key, then drag and drop the e-mail instead of moving the file to the EDMS folder.

### **3.10 Storing Records [C2.2.5.]**

Cimage provides a filing system and access control mechanisms for storing, preserving and protecting electronic records. The file plan and profile data are stored separately from the actual records in a relational database. MS SQL Server and Oracle for Unix provided the databases in the certification test. PC workstations were the clients used in the certification test. The repository was stored in NTFS for the MS SQL certification and in Solaris for the Oracle certification. The database can be set up on any networked computer.

### **3.11 Screening Records [C2.2.6.1.]**

Cimage provides several perspectives into the metadata set. These perspectives are called tables. Depending upon the action to be taken, the user selects the appropriate table for that action and clicks the mouse right button to display the function drop down menu. The system administrator can configure these options. Records managers can screen from several tables, however they will only be able to amend records to update them from the tables for administering cutoff, freezing, unfreezing, and disposition processing. Selecting the "Search" table and choosing "New Search" from the shortcut menu will allow the records manager to choose from file code, disposition code – event or time, time/event, or for no disposition. The records manager can also freeze records from the "Freeze" table with identical search options as in the "Search" table. Frozen records are transitioned into the "Unfreeze Records" table." Frozen records can be found by choosing the "Unfreeze Records" table and doing a no specification or an empty search.

### **3.12 Closing Record Folders [C2.2.6.2.]**

Cimage offers records managers and privileged users the ability to close folders through the "Administer Folders" table.

### **3.13 Cutting Off Record Folders [C2.2.6.3.]**

To cutoff records, records managers search the "Approve for Cutoff" table to find records eligible for cutoff as of the current date. To identify folders eligible for cutoff, the records manager searches the "Approve Folder for Cutoff" table. By cutting off the folder, all records within that folder are cutoff as well. Once records and/or folders are approved for cutoff, the records manager will select the rows in the results list and mouse right click to display the drop down menu. Then they will update the status field to YES from PENDING, propagate the changes to all records and select "amend all" to save the changes to all the selected records/folders. Cimage automatically calculates all lifecycle dates for time-based dispositions when the record is created. It calculates the lifecycle dates for event and time-event based dispositions when the record or folder is cut off.

### **3.14 Freezing/Unfreezing Records [C2.2.6.4.]**

Cimage provides folder and record level freezing/unfreezing from the “Freeze,” “Freeze Folders,” “Unfreeze,” and “Unfreeze Folders” tables. Frozen records and folders do show up in screening searches, and may be cutoff, but will not be transferred or destroyed.

### **3.15 Transferring Records [C2.2.6.5.]**

Cimage requires the records manager to set up the transfer locations in the Tools menu before transferring records. Cimage did not allow frozen records to be transferred. After records are transferred and the transfer is verified, the records manager should delete the original record metadata and the electronic file.

### **3.16 Destroying Records [C2.2.6.6.]**

During disposition processing, all records in the Cimage database marked for destruction were deleted from the database. The associated record profile data was also deleted. The records were deleted in such a way that they could not be reconstructed by a file recovery utility.

### **3.17 Cycle Vital Records [C2.2.6.7.]**

Cimage provides the ability to gather records based on cycling dates and to do bulk updates of cycle dates after records have been reviewed. During the test, Cimage attached logic to the vital record review date fields that sent email to a specified records manager when the folders were due for vital records review.

### **3.18 Searching and Retrieving Records [C2.2.6.8.]**

The “Search” table’s “New Search” shortcut allows all records to be searched. The “New Search” utility presents the search results in a spreadsheet. Users can search on all profile data items. An “empty search” lists all the records in the results.

Each record included in a search results list can be viewed, retrieved, printed, e-mailed or launched in its native application program. The embedded viewer, ImageMaster, provides the capability for viewing over 200 document formats.

### **3.19 Access Control [C2.2.7.]**

The Cimage RMA provides the capability to define and maintain group and user accounts. Access control is provided by assigning group permissions. For each group, access can be granted to specific Cimage functions and to portions of the file plan for document filing and search/retrieval. Users are granted access based on their group assignment. The only way to grant rights to individual users is to create separate groups with one member. Cimage groups must be created before Cimage user accounts.

Cimage group permissions do not accumulate, so the user must log in with a specific group to get a specific set of accesses. Cimage allows a user to be logged in multiple times using different groups so that the user can switch between windows to perform different functions. This approach reduces the number of tables presented and constrains options to a specific role. Filters and Pathwalks are other mechanisms used to constrain and customize access.

### **3.20 System Audits [C2.2.8.]**

Cimage’s RMA Systems Administrator program and the rights granted to the records manager, satisfy all required auditing requirements. Cimage recommends that auditing never be removed in RMA.

### **3.21 System Management Requirements [C2.2.9.]**

The RMA System Administration Program provides the required system management capabilities. Supporting operating systems and database management systems provided necessary backup and restore functionality.

## **4. Non-Mandatory Features Demonstrated**

### **4.1 Global Changes [C3.2.1.]**

The Cimage RMA provides the capability to make global changes to multiple records using the Amend record and Propagate change utility.

### **4.2 Bulk Loading [C3.2.2.]**

Cimage provides the ability to add multiple documents at one time by dragging the selected documents to a previously created template. As each document is added to the database, Cimage checks to ensure there are no discrepancies in the template. If discrepancies are noted, the process is halted while the records manager makes corrections. Cimage then files the document and continues to the next document automatically. Additionally, ODBC connectivity supports bulk database transfers. Cimage's DM Import utility allows users to import documents and metadata from another DM database or files created during the scanning process. The DM Server will also import information from XML files.

### **4.3 Interface to other Software Applications [C3.2.3.]**

Cimage interfaces with MS Office, AutoCAD, and Microstation with toolbar macros. The Explorer interface is via mouse right menu options. Other interfaces can be provided on request.

### **4.4 Report Writer Capability [C3.2.4.]**

Cimage uses ODBC so any commercial report writer, such as Crystal Reports, will integrate cleanly to provide custom reporting capability. Search results return all columns in the database and can be arranged and sorted on screen prior to copying the rows to the clipboard and into a third party spreadsheet such as Excel. Cimage will provide custom reporting utilities as a value-added option at the client's request.

### **4.5 On-Line Help [C3.2.5.]**

Cimage has an on-line help facility that contains all the material found in the hard-copy documentation provided with the software. On-line help is available through F1 and on all RMA screens. Context sensitive screen help is available on all screens. Help is customized during the pre-installation configuration process. Help is extensible as HTML.

### **4.6 Document Imaging Capability [C3.2.6.]**

Using ImageMaster, records can be scanned directly into DB or any bulk scanning tool can scan to a monitored directory, which is indexed via the attribute file.

### **4.7 Retrieval Assistance [C3.2.9.]**

Cimage incorporates the Fulcrum SearchServer full-text search and retrieval engine. It provides search term highlighting, proximity, relevance ranking, fuzzy searching, and others. The full-text search can be used to search the contents of the record repository (document text) and the (profile fields, and subject file titles/descriptions).

#### **4.8 File Plan Component Selection/Search Capability [C3.2.10.]**

Users can search the file plan from the “File Plan/File Codes” table. Authorized users will be able to add and amend the file codes, while typical users will not, based upon table and group security.

#### **4.9 Workflow/Document Management Features [C3.2.11.]**

The Cimage e3 Workflow product provides functionality for automating distribution, document control and records management business processes. It aids in the document life cycle process by automating the way users distribute, change and track information in business processes.

Features are provided to fully support electronic approval and signature of documents within the lifecycle. Secure historical auditing helps manage closed-loop business improvement and corporate regulatory audit requirements.

The Graphical Workflow Designer (GWD) is a Java based application that leverages XML for data storage and communication with the e3 system. It is a modeling tool that allows non-IT personnel the ability to design and configure workflow processes – called workflow templates. Using GWD, a workflow designer would specify the actions (tasks) that need to be taken, who should perform each action, and the order in which these actions need to be processed

#### **4.10 Internal Viewer [C3.2.17.]**

Cimage utilizes Image Master for viewing documents. Image Master provides the capability for viewing over 200 different file formats..

#### **4.11 Web Capability [C3.2.15.]**

Cimage provides web capability either as a full feature product, DM-Net, or by using the Cimage e3 Web Services to enable DM function to web-based applications.

DM-Net is a server-based product. DM-Net utilizes the networking capabilities of the Internet to provide an access path to information contained within a Cimage Document Management (DM) system.

The Cimage DM system has a client/server-based architecture, which typically connects workstations running the Cimage Document Manager Desktop to one or of many Cimage DM Servers. When using DM-Net, the same client/server architecture is employed with the exception that the client workstation utilizes a standard WEB Browser, such as the Netscape Navigator or MS Internet Explorer, combined with a Cimage provided Java application, in order to gain access to the document management functionality provided by the Cimage Document Management system. No additional DM software is required at the local workstation, just a browser. The full complement of Document Manager capabilities is supported, including the security authorizations required to gain access to the Document Manager data.

Cimage e3 Web Services enable web-based applications to access Cimage DM system functionality via the web. The Web Services provide a standardized, fully functional interface that is compatible with most web-based applications development and run-time environments. Cimage e3 Web Services enables portals and third party applications that are built upon standard products such as IBM WebSphere, BEA WebLogic, Oracle Application Server and Microsoft .NET to easily access e3 DM functions across the web. The Cimage e3 Web Services:

- Provide a Web Service architecture to allow for distributed document management.
- Allow exposure of most Cimage API capabilities via a distributed Internet model.

- Can be used with Microsoft .NET, but also allow integration of the Web Services with other J2EE consumers/users of web services, such as Oracle's Jdeveloper, IBM WebSphere and BEA WebLogic.
- Are designed to be easily enhanced to include future DM system functionality.

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