

## TECHNICAL MEMORANDUM

## 1. Changing this Document

Change requests (MRs) for this document are made by writing document MRs using COMPAS. The change history for this document can be found by listing the MRs in COMPAS written against this document.

## 2. Purpose

The purpose of this document is to provide detailed procedures for administering and controlling documents in COMPAS. These procedures are designed to comply with ISO 9000 Document Control Requirements.

## 3. Scope

This document describes a set of procedures for administering, controlling and tracking documents generated throughout the project life cycle. Quality records, objective evidence of completion of activities and milestones, do not require the same level of control as controlled documents. However, projects may elect to apply the storage and retrieval procedures described in this document to their quality records as well.

## 4. Glossary

<b>Controlled Document</b>	A controlled document contains, for example, instructions or guidance for personnel on what they should do or how they should do it. Examples include TPs, requirements, design specifications, procedural descriptions, test plans, and work instructions.
<b>Document Build Status</b>	The status of a document in COMPAS that reflects its position in the document life cycle. Refer to Figure 1 for an illustration of the document build statuses for a controlled document.
<b>Project Librarian</b>	Agent(s) designated by the project manager with responsibility for baselining documents and closing document MRs. They also have permission in the COMPAS database to access any document in the project and make changes to either the document or the document MRs. The project librarian is often responsible for obtaining approval of MRs and approval for document baselining.
<b>Quality Record</b>	A quality record documents the achievement, or otherwise, of the required quality and effective operation, or otherwise, of the quality system. Examples include review meeting minutes, approval sheets, test results, and inspection results.

<b>Software Item</b>	Any identifiable part of a software product at any intermediate step or at the final step of development. A project document would be a Software Item.
<b>Software Product</b>	Complete set of computer programs, procedures, and associated documentation and data designated for delivery to a user.

## 5. Establishing a Document Support Plan

At the beginning of each new project, product version, or product development cycle, COMPAS should be administered to support the identification, control, and tracking of documents and related information for the new project. This section describes administration of version control, the document life cycle, the document MR life cycle, document traceability, and document approval.

### 5.1 Project Organizational Structure

Documents in COMPAS are organized into a 3-level project designation hierarchy as shown in Figure 1. There must be at least one *Release* for a *System* and at least one *Subsystem* for a given *Release*. For example, a project could have a *System* name of Definity with multiple *Releases* Gxxx, and for each *release*, it could have *Subsystems* such as switch, call processing, tools, maintenance, system test, and admin. Another example is a project with a *System* name of Definity and a *Release* name of Quality and only one *Subsystem* name of Quality.

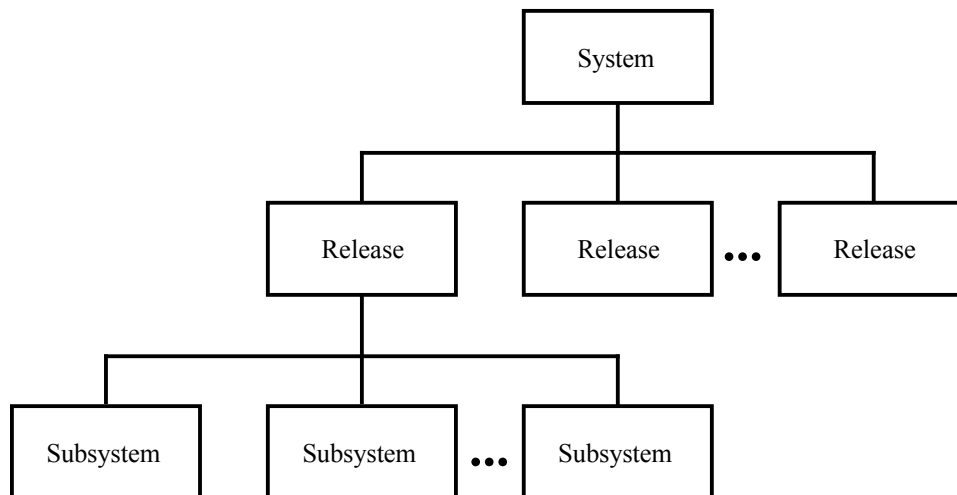


Figure 1 Project Organizational Structure

The advantage of the project organizational hierarchy is that documents can be retrieved and accessed using single relational queries. All the document entries for a project release can be retrieved by a query naming only that *System* and *Release*. This makes it easy for project members to access, track, and control project documents.

### 5.2 Project Administration

Each project created for COMPAS has a unique System, Release and Subsystem name as described in Section 5.1. The Project created by COMPAS System Administration is configured to include review and

inspection generic copy-to lists, a librarian, administrators, review and inspection fault classification schemes, review notice template, document control options, MR control options, and access control options.

There is a feature called **Project Inheritance** that gives a project in COMPAS the ability to set every subproject under a specific system name to inherit their administration settings from that system. So, a project can establish administration controls at the system name level or at the subsystem name level. Furthermore, each subproject inheriting settings from the System name can override the settings and define their own. In any case, when a project inherits settings from the system, then all settings must be inherited and not selected ones.

The librarian, administrators and access control are described in more detail in this section. Document Control and MR Control are described in their own sub-sections in Section 5 of this document.

### 5.2.1 Librarian and Administrators

The **librarian** is an agent designated by the project manager with responsibility for helping project members with COMPAS questions and issues, baselining project documents and closing document MRs. They have permission in the COMPAS database to access any document in the project and make changes to either the document or the document MRs. The project librarian is often responsible for obtaining approval of MRs and approval for document baselining. When a review is scheduled, the review forms can be automatically sent to the librarian to help manage the review. The name and contact information is displayed to the user from the Document Detail Window by selecting the *Project Librarian* sidebar menu item. The librarian information is also provided to users who are denied access to project documents because of the access controls placed on the documents.

The librarian can designate many **Project Administrators** to assist with COMPAS project duties and responsibilities. A separate list of administrators exists for each project in COMPAS. They have super-user privileges like the librarian. The librarian administers their project by accessing the COMPAS Administration System via a java web applet.

### 5.2.2 Access Control

An administrator or the librarian administers the document access control level for a project in the COMPAS Project Administration System. One of 3 access control levels can be selected from a list of choices. They are *Employee Only*, *Contractor List*, and *Project List*. The Employee Only option is the default and prevents a project's documents from being accessed by contractors. The Contractor List option can be used to establish a list of contractors who are permitted access to project documents. The Project List option specifies a list of employees or contractors who can access documents in the project and no others. The list is a plain text file containing the COMPAS login names, one per line, of the contractors who are granted access. When an access control list is required, the administrator can import or edit the list via the administration system applet.

Projects with restricted access lists must be prepared and maintained by the project librarian or project administrators. The list must be a plain text file with each authorized handle (COMPAS login) on a separate line. Once the file has been created, it can be delivered to COMPAS via the project administration.

### 5.3 Project Version Control

Project version control is used in COMPAS to track the set of documentation for a specific release of a project. To access, organize, control, and track the documents for each release of a project, COMPAS uses the project designation hierarchy shown in Figure 1.

The *system* property represents the project, and the *release* property represents a project version. Once a new project system, release, and subsystem have been established, new document entries can be added to the project. A document entry can be created and added to that project release, or an existing document entry can be copied to a new COMPAS ID and added to the new project release, or an existing COMPAS ID can be *linked* from another project to this project. The details of these procedures are described in the section, “*Updating a Document*”.

A COMPAS document will be associated with at least one project version referred to as the *Primary Project Designation*. If a project wants to include a document in their domain that is owned by another project, then that document can be assigned to multiple projects using a *Secondary Project Designation*. Every document must have a single primary project designation and can have many secondary project designations. In that way, a document can be shared by many projects and that same document will appear in the project list as part of the single project query result.

ISO 9000-3 6.1.1 requires all document versions that together constitute a specific version of a complete product be identifiable. A single project search can be used to bring up all the documents used for any product release using this project version control strategy. The set of documents representing a specific product version is easily tracked by the project using document properties such as status to assess ongoing progress towards product milestones

### 5.4 Document Version Control

Document version control is used to track changes to a document. Each time a document is updated, a new version of that document is stored in COMPAS and the older version is retained by default. When a document is accessed, the user will automatically get the latest, most current version. However, it is possible to specifically request an older version.

Using the document version to track changes between releases of a product is not recommended. It would not be easy to determine which versions of a document belonged to a project release. Instead, we recommend using the procedure described in the section, “*Project Version Control*”.

### 5.5 Document Control Flow

When establishing a project plan, there are four distinct COMPAS document control flows that can be used by the project. They range from no control to rigorous control. To make sure the project meets all the ISO requirements for document control, the fourth control flow called Control Plus is recommended.

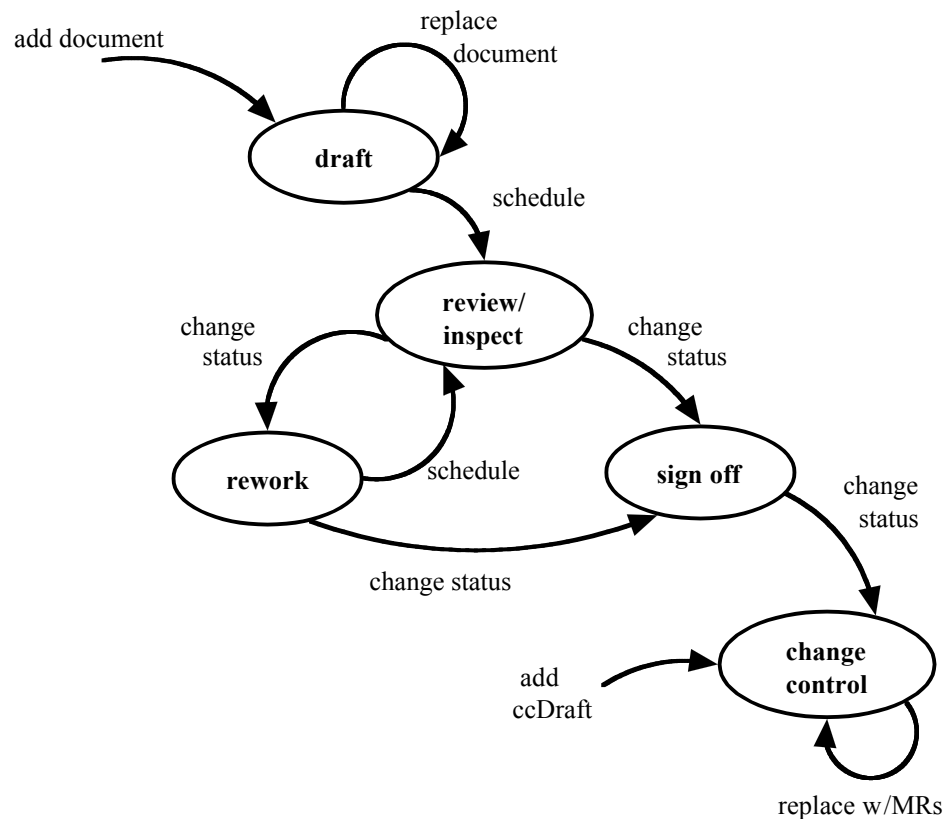
#### 5.5.1 No Control Flow

There are some projects that have documentation that does not need to be controlled. These projects can choose the No Control option for their documents. The document owner or project super users can change the document to any status at any time. There are also additional statuses that these documents may have such as **finished**. A document is not controlled by default when entered into COMPAS. Document versions may still be kept for documents that are not controlled. The project can choose to write MRs to track changes to these documents but that is optional. If an MR is written against one of these documents, then the MR Person Assigned or the MR Originator can change the MR to any MR status. An MR data flow is not enforced as it is in the other document control flow options. If the document property called *Controlled* is changed to **yes** for this type of document, then the document status is automatically set back to **draft** and the Librarian Control Flow process is in effect.

### 5.5.2 Owner Control Flow

Those projects that need to control their documents but do not have project librarians, or do not require rigorous control, can choose to select the Owner Control option. With this option, the document owner can change the status of the document. However, the document must follow the control flow shown in Figure 2.

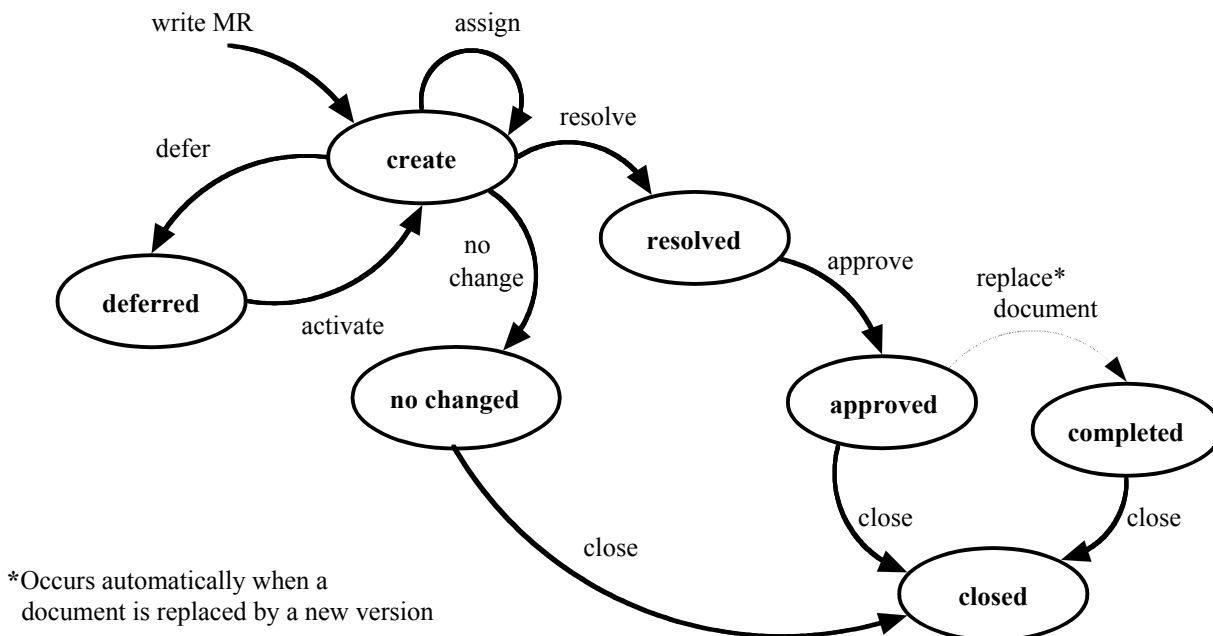
The build status of a controlled document is identified by the COMPAS properties **draft**, **review**, **inspect**, **rework**, **sign\_off**, or **chg\_ctl**. Figure 2 shows the document life cycle for an owner-controlled document. To identify the build status of a document, retrieve the document and look at the document property called *status*. A project can access their documents with a single query and generate a Document Status Report. This report will help the project track and control their documentation, and the progress of the project towards its milestones.



**Figure 2 Document Control Flow**

When a document is delivered to COMPAS, it is automatically assigned the status of **draft**. When a review or an inspection is scheduled via COMPAS, the status is automatically changed to **review** or **inspect** respectively. If problems are found during the review or inspection that required an update to the document, then the owner or authorized agent should change the status to **rework** so that the document can be updated. At this point, either a new review is needed or the status is changed to **sign\_off** while the document is submitted to the review team for approval. If the approval is given at the conclusion of a review or inspection, then the status of **sign\_off** is bypassed and the document status is changed directly to **chg\_ctl** and the document is considered to be *baselined*. The project should retain sign-off approval sheets as quality records.

Document versions are required and cannot be turned off when using the owner control flow. When a document entry is created, the document property called *controlled* must be set to yes. If a document is in the status of *chg\_ct1*, then an *approved* MR is required before the documents current version can be replaced with a new version. Refer to the MR Control Flow shown in Figure 3 to see the required MR control flow for this type of document.



**Figure 3 Document MR Data Flow**

Unique COMPAS Modification Request (MR) numbers are assigned to a document to identify all requests for modifications or changes to a document. All of the users who have printed, browsed, or copied a document and who added themselves to the *Document Change Notification List* will be automatically notified when an MR is created. After an MR is created, it is tracked through the various statuses shown in Figure 3. MRs can be created for documents in any document status. When documents are retrieved from COMPAS, the open MRs associated with those documents are automatically retrieved and delivered to the user. Consequently, when a document is retrieved from COMPAS, all approved updates are also delivered.

When an MR is created for an owner-controlled document, the document owner is automatically assigned to resolve the MR. The MR *Person Assigned* can change the status of the MR without special user privileges. Only the MR *Originator* or Super User can approve or close an MR. At least one MR must be in the *approved* status before a document in the *chg\_ct1* status can be updated or replaced.

### 5.5.3 Librarian Control Flow

This is the most common document control flow and is the system project default. The Librarian Control Flow is identical to the Owner Control Flow except only the Librarian can change the status of a controlled document to or from *chg\_ct1*.

### 5.5.4 Control Plus Flow

The Control Plus flow is used by projects that need the most control possible for their documents. It is identical to the Librarian Control Flow with the exception that a document MR can only be approved or closed by the Librarian. Also, the approved MR will automatically move to the *closed* status when the document is replaced by a new version instead of the *completed* status.

## 5.6 Document Traceability

Each document in a project should be traceable from the requirements to the test plans. Document traceability can be accomplished using the COMPAS document links feature and relational organization as described in this section.

### 5.6.1 Document Links

COMPAS has a feature called **Document Links** that is used to facilitate traceability. The Document Links feature can be used to *link* related documents together. Any given document can have related documents and those related documents could have related documents.

Examples of the benefits of document links are:

- ❑ You can store review or inspection results, document attachments, related information and so on with a document and they have their own attributes, versions, and document format type.
- ❑ You can store a mix of various document formats with a document (word, excel, troff).
- ❑ Related document -> related document -> related document provides document hyperlinks.
- ❑ A Master Document concept can be used to link project procedures, or book chapters, and so on.
- ❑ The same or similar document contained in multiple Project Versions can be linked.
- ❑ Project requirements can be linked to architecture and design, which can be linked to test plan, which can be linked to code module.

You can easily link documents to any other document. Those documents in turn may also have links. Hyperlinks can be inserted easily regardless of document format. The related document links can be browsed from the search result list window or the document detail window.

### 5.6.2 Relational Organization

The related requirements, architectures, designs, and test plans can be identified for each version of a project by querying on the document property called document type. A query on the system, release, and subsystem properties of documents together with the document type such as "requirements" will retrieve all the requirements documents for a project version. This can also be done to group and trace architectures, designs, test plans and so on. A particular feature name can be used in the document property called title to refine the query to all the requirements, architecture, design and test plans for a given feature of a given project version. It is the projects responsibility to provide guidance in choosing the appropriate document types for the project and in providing a consistent naming scheme for features in document titles.

## 5.7 Document Approval

It is the responsibility of the project to establish the approval team for controlled documents and their associated MRs. The project librarian should receive written approval from this team prior to baselining a document or closing a document MR. These approval sheets are maintained by the librarian as quality records. To expedite the document approval process, projects can choose the approval team to be the team of reviewers. The teams can record the review meeting minutes electronically, and store them as *links* in COMPAS to the reviewed document.

## 6. Accessing Document Information

### 6.1 Available

The pertinent issues of all the appropriate project documents should be stored in COMPAS so they are available to all locations where operations essential to the effective functioning of the project are performed. Using the Enterprise version of COMPAS, projects can run clients from anywhere in the world and access their project data. All document information is immediately available since each installation of COMPAS accesses the same central base servers using different middle-tier API servers. Each transaction to these base servers is performed in real time and the data is not replicated so it is always current. A user does not need to log into the system to find out if a review has been scheduled or to get notified when a document has changed or an MR has been written. COMPAS uses internet electronic mail to notify users of document changes, MRs, and reviews.

### 6.2 Current

A document obtained from COMPAS is by default the latest revision of the document. To obtain older versions of a controlled document, the user must specifically request the older version. If a hardcopy of the document is printed, it is the user's responsibility to ensure that they have the latest revision in the following way.

1. Verify that the date printed on the document is not older than the latest version date stored in the system. A document hardcopy is not a controlled copy unless specifically stated otherwise by the project. The document user should access COMPAS and compare the revision date of the printed document with the document property called Version Date to ensure the printed document is current.
2. After obtaining a document, the user can be added to the Automatic Change Notification List. They will be notified via electronic mail whenever the document is updated or replaced or when an MR has been created for that document.
3. Obtain the latest approved MRs that together provides a more current representation of the information contained in the document.

### 6.3 Accessible

There are several methods available to the user for accessing COMPAS document information. The desktop application is recommended. However, for those who like running applications in the web browsers, there is the full-featured Java Applet and the minimal-featured Simple HTML Forms interface. These methods are described in this section.

#### 6.3.1 Desktop

The desktop application is a full-featured client that can run on Windows, Unix, and Macintosh platforms. Documents are accessed using one of several popular methods described below. Once a document is obtained, the system will automatically present the user with a choice of also obtaining the open MRs for that document.

1. **Power Search:** From the main window of the client application, select the Advanced Document Search button on the toolbar. The advanced search provides a powerful search engine so you can combine relational attributes (document properties) with the words or phrases contained in documents using relational operators to retrieve a list of documents. There are four distinct ways to search for and retrieve documents with COMPAS, using: (1) the unique COMPAS ID assigned to the document, (2) attributes (document properties), (3) text (word or phrase content), or (4) combinations of attributes and text.



2. **Explore Projects:** You do not have to know what you are looking for in COMPAS before you can use the system. For those who don't really have a search criterion, but want to browse around and just see what is available in the system, you can use the Explore Projects feature. The Explore Projects feature displays a list of project names that are organized by the system, release, and subsystem project hierarchy. This display is similar to the Microsoft Windows Explorer view, which is a tree view of project information. After navigating to a project, you will see a list of documents by title and author. Selecting a document will launch the document browser.
3. **Workspace Folders:** There are usually sets of documents that you frequently access such as process documents, methodology, related features, your own documents, and so on. The Workspace Folders feature helps you organized these documents into folders that are used to provide quick access to the documents. These folders are icons named by you that sit in your main COMPAS window.

### 6.3.2 Web Page Hosting

For those who use a web site to host COMPAS documents, there are some methods that can be used to ensure documentation is current and complete.

#### Retrieve latest document version:

The **wwwcompas** cgi-bin script can be used to provide access to a document in COMPAS by providing a link to that document from a web page. For example, an HTML page would reference the COMPAS document with the following link:

```
href="http://yourserver/cgi-bin/wwwcompas?prodid=XXX&dformat=YYY[&version=Z]"
```

where XXX is the COMPAS ID of the document, YYY is the format to return the document, and Z is the optional version number of an old version of the document. Valid formats are "raw", "pdf", "postscript", and "ascii". The link, when selected, will download to the browser the document in the format requested.

#### Retrieve MRs:

The **mrSrch** cgi-bin script can be used to provide access to the MRs of a document in COMPAS by providing a link to those MRs from a web page. For example, an HTML page would reference the COMPAS document MRs with the following link:

```
href="http://yourserver/cgi-bin/mrSrch?prodid=XXX&QUERY"
```

where XXX is the COMPAS ID of the document with MRs and QUERY is a relational query used to select the set of MRs. A typical QUERY string might be "mrstatus!=completed&mrstatus!=closed" which will retrieve the open MRs.

#### Automatic change notification:

The **notifyMe** cgi-bin script can be used to add someone to the Automatic Change Notification List for a given document by providing a link in a web page. For example, an HTML page would reference the notification script with the following link:

```
href="http://yourserver/cgi-bin/notifyMe?prodid=XXX&handle=YYY"
```

where XXX is the COMPAS ID of the document and YYY is the lucent handle of the user to be added to the document notification list.

### 6.3.3 Web Browser

For those who prefer to access documents using their web browser, there are two methods supported by the COMPAS project.

1. **Java Applet:** The Java Applet is a full-featured application that can be run in a web browser. However, there are some setup operations that must be performed first to give the applet permission to read and write files on your local machine and to ensure the applet runs from the latest Java Virtual Machine (JVM). The permissions are needed to copy documents or to access documents that are transferred to COMPAS.
2. **Simple HTML:** The Simple HTML Forms Interface can be run in a web browser. It is limited in that the user can only search for and browse documents or document MRs. The search is also limited to only a few document properties together with the words and phrases in documents.

### 6.3.4 Command-Line Batch Process

The command line interface can be used to access documents. It implements all the COMPAS features via command line options. In particular, the user can access documents via the UNIX command line:

`compasc1 -gdoc XXX > myFile` where XXX is a COMPAS ID and myFile is some file to contain the retrieved document. The command-line interface runs on UNIX and Windows platforms.

### 6.3.5 Custom Interface

For those who prefer to create their own interface to document management features provided by COMPAS, there is an application programmable interface (API) that can be used. The COMPAS Java client application, the UNIX command line interface, the Java Applet, the Simple HTML Interface, and the cgi-bin scripts all use this API to perform document management functions. The API uses a custom protocol over network sockets using TCP/IP.

## 7.0 Creating Document Entries

When a document is entered into the database, it is assigned a unique COMPAS ID, and is immediately available to all instances of Enterprise COMPAS. All document formats are accepted. These formats include but are not limited to Troff, PostScript, PDF, HTML, ASCII, Frame Maker, MS Word, MS Excel, MS Project, and MS PowerPoint. COMPAS detects the format of a document and generates an intermediate PDF format that is stored with the original source document. The document can be browsed on any platform using the default Adobe Acrobat Reader with the PDF document. However, each user can establish the programs that should be launched for each type of document format overriding the Adobe Reader if desired.

All of the words and phrases contained within the documents are indexed so that they can be used in the search engine. In addition, reverse-delta versions are stored for each document. A reverse-delta is a file containing only the differences between the current document and the previous document. Applying the differences in reverse to the current document will regenerate the previous document. In this way, all the versions are difference files except the most current document.

Each document in COMPAS contains a History file and an Automatic Notification file. The history file contains every transaction made against the document along with the handle that performed the transaction and the date of the transaction. The notification file contains the list of handles of the users who obtained the document for viewing, or printing. The user is given an option to subscribe to automatic notification for each document they obtain. When that document changes or when an MR is written against that document, email is sent to all those users who subscribed to automatic notification and they are notified that their copy may now be obsolete. In that email, they are given a link to browse the updated document and also a link to obtain the approved MRs or all open MRs.

Document properties are stored into a relational database for each document entry. These properties are assigned values when the document is first entered into the system, and as the document matures and goes

through different stages and statuses of the document life cycle. The document properties are title, authors, system, release, subsystem, type, subtype, area, owner, date, status, status date, size, number of versions, format type, number of open MRs, and so on. A document is initially assigned the status of **draft** automatically by the system.

If a document entered into the system is related to other documents already in the system, as an attachment or other relationship, then the user should establish a link to all the related documents. Each document can have as many links to other documents as needed.

It is the document owners' responsibility to make sure they enter the document under the proper project version as represented by the system, release, and subsystem properties. If the document is a controlled document, the document property called Controlled must be set to the value yes.

## 8.0 Scheduling Document Reviews

The status field of the COMPAS document is used to determine if the document has been scheduled for review or has been approved. If the document has the status of **review** then a review has been scheduled. The status of **sign-off** indicates that the document has been submitted for approval. The completed review meeting documentation should be stored as a quality record and the status of the document should be changed to **chg\_ct1**.

When COMPAS is used to schedule a review, the status of the document is automatically changed to **review**. Review notices and forms are automatically printed to aid in the administration of the review process. The information describing the review is stored in the database and can be used to determine when reviews have been scheduled for tracking and to resolve schedule conflicts, to generate status reports, and to generate statistics reports about the effectiveness of the review process.

After the review, the forms are completed and delivered to the approval team. The project librarian manually changes the status of the document to **sign-off**. The review meeting documentation is stored as a quality record. The librarian changes the document status to **chg\_ct1**.

Procedures for holding a technical review or inspection are beyond the scope of this document. Each project should document and establish its review procedures.

## 9.0 Creating Document MRs

Changes to controlled documents in the status **chg\_ct1** must have an **approved** COMPAS MR written against them before the documents can be updated. When the updated document is delivered to COMPAS, the system will display the approved MR numbers, and automatically store the version of the document and the Date Fixed as part of the MR. The status of that MR is then automatically changed to **completed**.

The document owner is generally the person assigned to resolve an MR and should ensure the MR description has sufficient detail to identify the nature of the requested change. The MR approval team as background information uses the MR description and resolution information together with the document information stored in COMPAS. Unless specified otherwise by a project, the document MR originator should approve MRs once they have been resolved by the document owner. After an MR has been approved, and the status of the MR is changed to **approved**, the document owner should deliver the updated document to COMPAS. If it is not practical to update a document for each MR, refer to the section on *Re-Issuing a Document* for the procedure on closing multiple MRs.

If a document in COMPAS has an MR against it, the MRs can be browsed online or in the case where the document is printed, MRs that are not **closed** will be electronically mailed to the user. For that reason,

COMPAS MRs should not be **closed** until the document text is updated and delivered to COMPAS. A closed MR is not removed for the system and can be browsed online or printed at any time.

## 10.0 Updating a Document

Document owners should verify that their document is stored under the proper version of the project. If the document is to be updated for a new project version, a new COMPAS ID should be created and the document delivered under the new ID and the new project version (see Section 5.4, Project Version Control).

When a controlled document is updated, versions of that COMPAS ID are automatically created and maintained by the system. These documents are uniquely identified by the automatically assigned COMPAS ID, the version number, and the system, release, and subsystem under which the document is stored. A controlled document can be updated while in the **draft** and **rework** statuses without creating an MR. However, if the document is in the **chg\_ct1** status, an **approved** MR must exist before the document can be updated. Prior to having an approved MR, the document owner can deliver a draft of the updated document using the CCDraft feature. The approvers can then review the changes before approving the MR. After delivering an updated document using approved MRs, the MRs will be updated automatically to reflect the version and date fixed.

### Document Check-In and Check-Out

Simultaneous updates to documents are prevented by COMPAS because there is only one owner for each controlled document with permission to change it. The person who creates the document entry in COMPAS and delivers the original draft document is designated as the owner of that document. A document owner can designate a new owner of the document in COMPAS but there is one and only one owner at a time.

COMPAS provides coordination for updating of multiple projects in one or more locations by having a central database and document store that is accessed by all locations in real-time. The single document database is accessed via a network and coordination of updates is managed by a distributed database management system. A document can only be updated by the owner or coordinator designated as the owner. When the document is updated, the update is immediately available and visible to all locations.

The Version Date of the document is automatically changed to the date the document is updated. It is the document owner's responsibility to hard-code the date in the document text and to update the date each time the document is updated. If they do not, then the printed document will appear erroneously to be older than the document Version Date and perceived as out-of-date.

The people using the document will be automatically notified that the document has changed and their current copy is now obsolete.

## 11.0 Re-Issuing a Document

Assuming that a document is not updated each time a COMPAS MR is written, documents with a sufficient number of MRs, as defined by the project, should be re-issued and reviewed as described in the procedure *Scheduling a Review*. The project librarian should set the status of the document to the review status. After the new issue is approved, the MRs should be closed and the new issue delivered to COMPAS. The project librarian should then set the document status to **chg\_ct1**.

## 12.0 Quality Records

Quality records need not be placed under document control. However, COMPAS can be used to meet the requirement of quality records since review data, inspection data, and review notes can be stored as documents in COMPAS

The definition of a quality record is defined in this document. The ISO requirements for quality records are listed in bullet form below.

- The supplier shall establish and maintain procedures for identification, collection, indexing, filing, storage, maintenance, and disposition of quality records.
- Quality records shall be maintained to demonstrate achievement of the required quality and the effective operation of the quality system.
- Pertinent sub-contractor quality records shall be an element of these data.
- All quality records shall be legible and identifiable to the product involved.
- Quality records shall be stored and maintained in such a way that they are readily retrievable to minimize deterioration or damage and to prevent loss.
- Retention times of quality records shall be established and recorded.
- Where agreed contractually, the purchaser or the purchaser's representative shall make quality records available for evaluation for an agreed period.

### 13.0 ISO Requirements for Document Control

The overall purpose of the document control system is to address the following clause from Section 4.5 of ISO 9001. "The supplier shall establish and maintain procedures to control all documents and data that relate to the requirements of this Standard."

Specific requirements detailing how to accomplish this task are sprinkled throughout the 9001 and 9000-3. They have been collected and reproduced in the table below. This table also contains a reference to the sections in this document that address the requirement. The requirements for quality records differ from those of controlled documents. Quality records are addressed in Section 12 of this document.

ISO Requirement	Reference Section	Fulfilling Requirement
Documents shall be reviewed and approved for adequacy by authorized personnel prior to issue.	9001 4.5.1	Section 5.4, 5.6, 8
Pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed	9001 4.5.1	Section 6
Obsolete documents are promptly removed from all points of issue or use	9001 4.5.1	Section 6
Changes to documents shall be reviewed and approved by the same functions/organizations that performed the original review unless specifically designated otherwise. The designated organizations shall have access to pertinent background information upon which to base their review and approval.	9001 4.5.2	Section 5.4, 5.6, 8, 9
Where practical, the nature of the change shall be identified in the document or the appropriate attachments.	9001 4.5.1	Section 5.4, 9, 10
A master list or equivalent document control procedure shall be established to identify the current revision of documents in order to preclude the use of non-applicable documents.	9001 4.5.1	Section 6

Documents shall be reissued after a practical number of changes have been made.	9001 4.5.2	Section 10, 11
Identify uniquely the versions of each software item.	9000-3 6.1.1	Section 6, 8, 11
Identify the versions of each software item, which together constitute a specific version of a complete product.	9000-3 6.1.1	Section 6.1, 7, 11
Identify the build status of software products in development or delivered and installed.	9000-3 6.1.1	Section 5.1, 5.2, 5.3, 5.5
Control simultaneous updating of a given software item by more than one person.	9000-3 6.1.1	Section 10
Provide coordination for multiple products in one or more locations as required.	9000-3 6.1.1	Section 6.1
Identify and track all actions and changes resulting from a change request, from initiation through to release.	9000-3 6.1.1	Section 5.4, 9
The supplier should establish and maintain procedures for identifying software items during all phases starting from specification through development, replication, and delivery.	9000-3 6.1.3	Section 5.4, 5.5
Procedures should be applied to ensure that the functional and technical specifications can be identified for each version of a software item.	9000-3 6.1.3.1	Section 5.5
Procedures should be applied to ensure that all documents and computer files related to the software item can be identified for each version of a software item.	9000-3 6.1.3.1	Section 5.5
For released products, there should be procedures to facilitate traceability of the software item or product.	9000-3 6.1.3.1	Section 5.5