



Infor LN Data Management

Release 10.8.x

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Contacting Infor

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If you have comments about Infor documentation, contact documentation@infor.com.

Object Data Management

Object Data Management (ODM) provides effective data management solutions in a product development scenario with embedded data management functionality. LN ODM ensures that the product data is handled properly and that the most stringent product lifecycle management processes are applied. ODM provides fully integrated document management, change management and folder management facilities for LN users. The package includes an object browser and an advanced query and report functionality. You can attach documents to LN objects, and view the corresponding files attached to documents.

You can use Object Data Management (ODM) to manage data related to ERP.

Object Data Management consists of the following modules:

- Change Management (CHM)
- Document Management (DOC)
- Folder Management (FMG)
- ODM Configuration (SYS)
- Queries and Reports

Document Management

Documents

Documents

Documents contain physical files or hard copies. Hard copies can be attached to a document revision. A document is a logical entity if no hard copies are attached to the document and is used to group other documents.

You can use the library to classify the documents. Documents are identified by a document ID and a document type. Two documents with different document types can have the same document ID. Based on the system configuration, the document ID is generated automatically by the mask or is specified by the user. The user privilege as defined in system configuration determine the actions various types of users can perform on documents and on revision system . The system to control revisions makes use of document type and document ID combination .

When you create a new document , the first document revision is automatically created. The document revision enables the user to process a document throughout the document's lifecycle. After a document completes the document lifecycle, the document is stored in a vault system and is approved by the relevant authority.

The document life cycle is of the following two types:

- **Standard Life Cycle:** Documents are submitted and approved before they can be released. The standard procedure is frequently used in case of engineering documents. Document management committee consists of reviewers, is used to review and approve the documents in a systematic manner.
- **Quick Release Life Cycle:** The light documents undergo Quick Release Life Cycle. These documents are line of business (LOB) and other non-engineering documents .

Document Revisions

A document revision enables you to track the life cycle status of document. Document revisions are created by default when a document is created. A document revision is uniquely identified by a document ID and document type.

Document revisions have the following status:

- In design
- Submitted
- Approved
- Rejected
- Released
- Expired
- Withdrawn

Files and hard copies can be linked to the document revision. File operations such as linking files can be performed according to the user authorizations and the document revision status. The ERP objects, such as an item or a bill of material line which are available in LN ODM for a document, can be linked to the document revision. These objects are termed document revision contents, which you can copy from one document to another. The user can access the document from the object, using a document link. The document link with the object that you can maintain through the object lifecycle, Engineering, Planning, Build, and Maintain. Example: when a bill of material line is taken into production, the document link is maintained from the bill of material line to the estimated material line of the production order.

You can link two types of documents, such as reference documents and child documents, to documents. The reviewers of the committee defined for the document can approve or reject a document.

Document Life Cycle

Document revision status

The following statuses identify the position of a document in the lifecycle:

- **In Design:** The document revision is either the first revision of a new document or a new revision of an existing document. You can link files, hard copies, related documents, child documents, and ERP objects to a document revision. The files are placed in the work area.
- **Submitted:** The document revision is submitted for review. If a document management committee is associated with the document, the reviewers can provide the recommendations for document approval. You cannot link objects to document revisions with this status. Files linked to the document revision are moved to the vault area defined according to the library of the document.
- **Approved:** The review process is completed successfully. No new objects can be linked to a document revision with this status.
- **Released:** The document revision is released. No new objects can be linked to a document revision with this status.
- **Rejected:** The document revision has been rejected at some stage of the review process. No new objects can be linked to a document revision with this status.
- **Withdrawn:** You can withdraw a document revision that has the Released status. The document revision has been withdrawn. The content is obsolete. No new objects can be linked to a document revision with this status.
- **Expired:** You cannot use the document revision in the document life cycle. You cannot link files, hard copies, related documents, child documents, ERP objects, and so on.

Note: For a document, only one document revision can have the **Released** status at any given time. When a document revision is approved, the status of the document revision with **Released** status changes to **Expired**.

Revise documents

You can revise all document revisions with **Released** status. If you revise a document, a new revision of the document with **In Design** status is created. The new revision is initially assigned a temporary revision value. The actual revision value is set when the document revision is released. All the files and hard copies linked to the released document revision are linked to the new revision if you click **Copy Document Revision Content** on the *appropriate* menu. Click **Yes** on the **Copy Document Revision Links to New Revision** window to enable the copy process. You must check out the linked files that you want to edit from the vault.

Redesign document revisions

You can redesign a rejected document revision. The status of the document revision changes to **In Design**.

Links between Document Revisions

You can set up two types of links between document revisions:

- Logical links
- Parent/Child links

To set up links between document revisions, you can select the relevant command from the Specific menu in the Document Revisions (dmdoc1520m000) session.

Linking Objects to Documents and Document Revisions

To set up the link between **documents** and other objects, click **Document Attachment** on the *appropriate* menu in the Documents (dmdoc1510m000) session.

To set up the link between **document revisions** and other objects, click **Document Revision Attachments** on the *appropriate* menu in the Document Revisions (dmdoc1520m000) session.

Alternatively, you can use the Paperclip icon to link documents and document revisions to objects from other object sessions.

Object Masks

Object masks enable you to automatically generate unique object identifiers and with a constant format. The **ERP administrator** sets the object mask configurations to generate identifiers in the format the organization uses.

You can only set up masks for particular objects, and you can set up multiple mask configurations for some objects. For the objects for which you can set up multiple mask configurations, you must set up at least one mask configuration. If a user creates a new object, and no mask configuration is defined, the first default mask configuration is used. For example, you can set up different mask configurations to generate document IDs for different document types.

You must set up an object mask for some object, and, for others, a default mask is included in the initial system data when the system is installed. The **ERP administrator** can specify a default mask if none is supplied or change an existing default mask.

Defining Object Masks

Mask Codes

You can define mask codes for every object defined in ODM. One or more mask codes can be defined for every object. The mask code is system data that identifies the mask configuration to be used for the object attribute. If more than one mask code is defined for an object, LN determines which mask configuration of the active mask code will be used in each situation. One exception applies to the doc_rev and fldr objects that will have two mask codes. These two mask codes are required to generate the temporary revision and permanent revision in case of document revision and folder ID and folder revision in case of folders.

The **ERP administrator** can modify the default mask supplied by the system, or specify a mask if none was supplied.

If having a separate mask configuration is unnecessary, you can specify a default value and the mask is generated according to the specified value.

Mask Configurations

For each object attribute that supports masks, to specify the format to be used to generate values, you can define a mask configuration for the mask code.

The mask configuration includes a mask that is composed of one or more mask template segments. Four types of mask template segments can be used to generate the mask configurations:

- Fixed
- Generated
- System Variable
- Reference Variable

You must use at least one generated segment template while you create a mask configuration for a object mask. Use a pound sign (#) in the generated segment to generate numbers and use an asterisk in the generated segment to generate characters. If a mask contains more than one generated segment, the user must specify the incremented segment. For example, if the mask code for folder versions contains two generated segments, then when a user creates a new folder revision, the user can increment the relevant segment of the mask configuration to indicate whether the revision is a major revision or a minor revision.

Document Management Configuration Tasks

The **ERP administrator** is must perform the following tasks related to document management configuration:

Miscellaneous tasks

- Use the **Document Types (dmdoc2510m000)** session to define *document types*.
- Use the **Mask Configuration (dmcom0520m000)** session to define masks.

Tasks related to registering document hard copy details

- Use the **Location (dmdoc3110m000)** session to register all *locations* used to store the hard copies.
- Use the **Medium (dmdoc3130m000)** session to define all the *mediums* in which the hard copies are stored.
- Use the **Size (dmdoc3140m000)** session to define *page sizes* used to print information on the hard copies.

Tasks related to file management

- Use the **File Types (dmdoc4110m000)** session to define file types.
- Use the **Hosts (dmdoc5500m000)** session to register all network nodes to be accessed from Document Management as *hosts* and to register the hosts that have the vault server component that runs the nodes.
- Use the **Areas (dmdoc5120m000)** session to register all directories to be accessed from Document Management as *areas*.
- Use the **Work Area Assignments (dmdoc5130m000)** session to assign *work areas* to users.
- Use the **Mounted Areas (dmdoc5150m000)** session to register the path of *mounted areas* for each system that must be mounted.

Document Types

When a document is created, the document is assigned a document type. The document type determines, for example:

- The functions various users can perform on the document.

- The location where the document must be stored.
- The revision mode of the document and the change committee assigned to review the document

The **ERP administrator** must run the Document Types (dmdoc2510m000) session to define the type of new document. The definition of the document type specifies the revision mode to be used.

Assigning User Roles and Document Type Authorizations

The user can perform the file operations such as, view, edit, print, or redline files from the following two sessions:

- **Attached Files (dmdoc4540m000):** The file operations apply to particular files when they are invoked from the Attached Files (dmdoc4540m000) session.
- **Document Revisions (dmdoc1520m000):** The file operations apply to selected files when they are invoked from the Document Revisions (dmdoc1520m000) session. These files are referred to as the main files for the file operation.

The **ERP administrator** can use the Default File Extensions for File Operations (dmdoc4550m000) session to set up default file extensions which ERP uses to determine the main files for file operations.

Users can override default file extensions for individual document revisions and use the Assigning Main Files for File Operations (dmdoc4540m001) session to specify the main files for each operation which is performed during document revision. You can start this session from the Document Revisions (dmdoc1520m000) session or the Attached Files (dmdoc4540m000) session from the *appropriate* menu.

Files

Files

You can save the contents of a document in one or more electronic files. To register any type of electronic file, you can link the electronic file to a document revision with the status **In Design**. The document type of the document revision determines whether the files are assigned with revisions, if any. The files must reside in directories that are registered in LN by the **LN administrator**. These types of directories are referred to as areas. The file types are defined for all the files registered in Data Management and are assigned a document type.

The files maintain document information and must be linked to the relevant document revisions. A file cannot be linked to the revisions of more than one document.

The file operations that a user can perform, such as Edit, View, Print, Redline, Email, Move, Copy, Archive, Check Out, and Undo Check Out, depend on the authorizations and the status of the document revision to which the file is linked. When you revise a released document revision, all the files and hard

copies linked to the released document revision are linked to the new revision when you select **Copy Document Revision Content** option from the *appropriate* menu. Click **Yes** in the **Copy Document Revision Links to New Revision** window to enable the copy process.

Note: Making a backup of files is the responsibility of the network system administrator and is not handled by the LN ODM Document Management module.

Import files to ODM

The capability to import files to ODM enhances the document management functionality, enabling the user to import the files from a legacy system to Data Management. You can link all the imported files to a single ODM Document or can link each of the files to a unique ODM Document. Additionally, you can link ODM Documents to ERP entities like service order, purchase order, engineering items and so on.

The user can import the files to the following two Area Types:

- **Work Area:** The user can import frequently modified files to the Work Area
- **Vault Area:** The user can import the files with restricted access, into the vault area. In case multiple vault areas are linked to a library, the imported files are copied into all the vault areas. When the user imports the files into a vault area the status of the Document Revision changes to **Released**.

Pre-requisites to import files to ODM

- Install ODM Vault client to transfer the files from/to any remote system. In this scenario the vault server program needs to run on the respective systems
- Use the **Employees-General (tccom0101m000)** session to create an employee to run the Import Files to ODM (dmdoc7100m000) session
- Use the **Roles (tcppl0160m000)** session to create a role for the employee
- Use the **Role by Employee (tcppl0170m000)** session to link the created role to the employee
- Use the Role Assignments (dmcom0135m000) session to assign required actions to the role

You can import the files with the following conditions:

- The documents to which the imported files are linked must be of the type Light .You must select the **Quick Approval Process** checkbox in the Documents (dmdoc1510m000) session. As part of the Quick Approval process, the Document is **Released** directly.
- The document revision selected must have the **In-Design** status

Process to Import Files

You must take the following steps to import the files:

- 1 Start **Import Files to ODM (dmcom7100m000)** session to import the legacy files to the Data Management package.
- 2 Specify the computer as a host .The files to be imported are present on this source computer. Click the browse arrow to select the host from the Hosts (dmdoc5500m000) session. . You can specify a computer as a **Remote Host** or as a **Local Host**.
- 3 When the **Local Host** checkbox is selected, the **Host Name** field is disabled. Select the Local Host checkbox to specify the computer as Local Host.

- **Local host:** When the files to be imported are present on the same computer on which the **Import Files to ODM (dmdoc71000m000)** session is run, the computer must be specified as Local Host.
 - **Remote Host:** When the files to be imported are present on any other computer on the network, the computer must be specified as Remote Host.
- 4 Specify the File path to the directory which contains the files to be imported in case of a remote host. or Local Host.
 - 5 In case you want to import all files, you must select the **All Files** check box. You can also select the files you want to import. Note: You cannot select the files when the Host is remote
 - 6 Specify the name of the files or use the browse button to select the required files which the user wants to import in case of a remote host or local host.
 - 7 Select the file document linkage type. The link is of the following types:
 - **Many-to-One:** The selected files are linked to a single document. The user can select or specify the document in the **Document** field from **Documents Overview (dmdoc1510m000)** session only when the link between the imported file and the document is **Many to One**.
 - **One-to-One:** Each file which is selected for import is linked to a unique document. The system automatically generates a document to which the respective imported files are linked If the linkage type is one-one the document field is disabled.
 - 8 Use **Libraries (dmsys0540m000)** session to create a library and link the vault area to the library. You can create one Primary and several Secondary vault areas to be linked to one library as per the requirement. Note: In case an existing document with library which is different from the library specified in the Library field is selected to link the imported file, the library of the selected document takes priority and LN prompts a confirmation before the value is changed in the Library field.
 - 9 Select an Area Type. The Area is of two type:
 - Work Area
 - Vault Area
 - 10 When you select the Work Area option, the files are imported into the Work Area directory as specified in the Work Area field and can be modified. The files are assigned the **Check Out** status and the related document has the status **In Design**. When you select the Vault Area option, the files are imported into the Vault Area and have restricted access The files are assigned the **Check In** status and the related documents have the status Released The **Work Area** field is disabled when you select the **Area Type** as Vault.
 - 11 Select the document type from Document Types (dmdoc2510m000) session. The selected Document Type is assigned to all the documents to which the imported files are linked
 - 12 Click the browse arrow to select the document from the **Documents Overview (dmdoc1510m000)** session. Note: In case the document type of the Document selected to link the imported files is different from the value specified in the **Document Type** field, the Document Type of the selected document takes priority and LN prompts a confirmation before the value is changed in the Document Type field. Note: The selected document must be of type Light . Note: When document type of document selected in the Document field and the value selected in the **Document Type** field are similar, the **Document Type** field is disabled.
 - 13 In case the selected document has only one revision, the revision ID is displayed in the **Document Revision** field. In case the user enters a revision manually and multiple revisions exist for the document, LN displays an alert message, allowing the user to select the specific revision.
 - 14 Select an object from the **Object (dmsys1511m000)** session, to link the document to the specified object instance.
 - 15 Check the **Print Error Report** checkbox to print the report of errors, if any.

16 Click **Import** to execute the import process.

Object Instance

On the basis of the object you specified in the **Object** field in the **Import Files** tab in the **Import files to ODM (dmdoc7100m000)** session, you can select the object instance to link the document. Example If you select the object EITEM_REV (E-Item Revision), the fields displayed in the **Linked Object Instance Details** tab are Engineering Item and Engineering Item Revision.

You can enter a value in the first field. Use the browse arrow to select the value. The subsequent disabled fields are populated on the basis of the value you select in the first field.

File Transfer Process Scenarios

The functionality of the following fields remains unchanged for all the file transfer scenarios:

- **All Files** checkbox
- Document Linkage Type
 - Many-to-One
 - One-to-One
- Object
- Object Instance in the **Linked Object Instance Details** tab

The following are the possible file transfer scenarios from a legacy system to LN ODM package:

- **From Remote to Remote Vault:** When the source directory from where the files are copied is present on a remote system and the target is the vault area of a remote system, the status of the document to which these files are linked changes to **Released** and the status of the files change to **Check In**. In case you select the File-Document Linkage Type as Many-to-One, you can select the Document Type and Document. All the imported files are linked to a single **Document**. In case you select One-to-One as the option, each imported file is linked to a new document and you cannot specify a document. The document ID's are automatically generated by the system.
- **From Remote to Remote Work:** When the source directory from where the files are copied is present on a remote system and the target is the work area of a remote system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**. You must select **All files** checkbox to import all the files present in the work area directory. When the **All Files** checkbox is cleared, you can specify the name of the files you want to import.
- **From Local to Remote Vault:** When the source directory from where the files are copied is present on a local system and the target is the vault area of a remote system, the status of the document to which these files are linked changes to **Released** and the status of the files change to **Check In**. You can select an object to link the document. Additionally, on the **Linked Object Instance Details** tab, you can also select an Object Instance to which you want to link the document.
- **From Local to Remote Work:** When the source directory from where the files are copied is present on a local system and the target is the work area directory of a remote system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.
- **From Local to ERP server (Work Area):** When the source directory from where the files are copied is present on a local system and the target is the work area directory of a ERP system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.

- **From Remote to Local Work:** When the source directory from where the files are copied are present on a remote system and the target is the work area directory of a Local system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.

Hard Copies

Hard copies

A document and the documents contents can be stored as a hard copy in the form of paper, polyester film, and so on. The hard copies are stored in a specific location, depending on the ease of use and requirements. The definition of a hard copy includes the specification of the storage medium and the location. To register hard copies in LN ODM, you must link the hard copies to a document revision. You cannot register hard copies independently. The document type of the document revision determines whether the hard copy has revisions, if any.

You can change the location of a hard copy if the hard copy's document revision has any of the following statuses:

- In Design
- Submitted
- Approved
- Released

The **ERP administrator** is responsible for registering the storage mediums and locations in LN.

Import files to ODM

The capability to import files to ODM enhances the document management functionality, enabling the user to import the files from a legacy system to Data Management. You can link all the imported files to a single ODM Document or can link each of the files to a unique ODM Document. Additionally, you can link ODM Documents to ERP entities like service order, purchase order, engineering items and so on.

The user can import the files to the following two Area Types:

- **Work Area:** The user can import frequently modified files to the Work Area
- **Vault Area:** The user can import the files with restricted access, into the vault area. In case multiple vault areas are linked to a library, the imported files are copied into all the vault areas. When the user imports the files into a vault area the status of the Document Revision changes to **Released**.

Pre-requisites to import files to ODM

- Install ODM Vault client to transfer the files from/to any remote system. In this scenario the vault server program needs to run on the respective systems
- Use the **Employees-General (tccom0101m000)** session to create an employee to run the Import Files to ODM (dmdoc7100m000) session
- Use the **Roles (tcppl0160m000)** session to create a role for the employee
- Use the **Role by Employee (tcppl0170m000)** session to link the created role to the employee
- Use the Role Assignments (dmcom0135m000) session to assign required actions to the role

You can import the files with the following conditions:

- The documents to which the imported files are linked must be of the type Light .You must select the **Quick Approval Process** checkbox in the Documents (dmdoc1510m000) session. As part of the Quick Approval process, the Document is **Released** directly.
- The document revision selected must have the **In-Design** status

Process to Import Files

You must take the following steps to import the files:

- 1 Start **Import Files to ODM (dmcom7100m000)** session to import the legacy files to the Data Management package.
- 2 Specify the computer as a host .The files to be imported are present on this source computer. Click the browse arrow to select the host from the Hosts (dmdoc5500m000) session. . You can specify a computer as a **Remote Host** or as a **Local Host**.
- 3 When the **Local Host** checkbox is selected, the **Host Name** field is disabled. Select the Local Host checkbox to specify the computer as Local Host.
 - **Local host:** When the files to be imported are present on the same computer on which the **Import Files to ODM (dmdoc7100m000)** session is run, the computer must be specified as Local Host.
 - **Remote Host:** When the files to be imported are present on any other computer on the network, the computer must be specified as Remote Host.
- 4 Specify the File path to the directory which contains the files to be imported in case of a remote host. or Local Host.
- 5 In case you want to import all files, you must select the **All Files** check box. You can also select the files you want to import. Note: You cannot select the files when the Host is remote
- 6 Specify the name of the files or use the browse button to select the required files which the user wants to import in case of a remote host or local host.
- 7 Select the file document linkage type. The link is of the following types:
 - **Many-to-One:** The selected files are linked to a single document. The user can select or specify the document in the **Document** field from **Documents Overview (dmdoc1510m000)** session only when the link between the imported file and the document is **Many to One**.
 - **One-to-One:** Each file which is selected for import is linked to a unique document. The system automatically generates a document to which the respective imported files are linked If the linkage type is one-one the document field is disabled.
- 8 Use **Libraries (dmsys0540m000)** session to create a library and link the vault area to the library. You can create one Primary and several Secondary vault areas to be linked to one library as per the requirement. Note: In case an existing document with library which is different from the library specified in the Library field is selected to link the imported file, the library of the selected document takes priority and LN prompts a confirmation before the value is changed in the Library field.
- 9 Select an Area Type. The Area is of two type:

- Work Area
 - Vault Area
- 10 When you select the Work Area option, the files are imported into the Work Area directory as specified in the Work Area field and can be modified. The files are assigned the **Check Out** status and the related document has the status **In Design**. When you select the Vault Area option, the files are imported into the Vault Area and have restricted access. The files are assigned the **Check In** status and the related documents have the status Released. The **Work Area** field is disabled when you select the **Area Type** as Vault.
 - 11 Select the document type from Document Types (dmdoc2510m000) session. The selected Document Type is assigned to all the documents to which the imported files are linked.
 - 12 Click the browse arrow to select the document from the **Documents Overview (dmdoc1510m000) session**. Note: In case the document type of the Document selected to link the imported files is different from the value specified in the **Document Type** field, the Document Type of the selected document takes priority and LN prompts a confirmation before the value is changed in the Document Type field. Note: The selected document must be of type Light. Note: When document type of document selected in the Document field and the value selected in the **Document Type** field are similar, the **Document Type** field is disabled.
 - 13 In case the selected document has only one revision, the revision ID is displayed in the **Document Revision** field. In case the user enters a revision manually and multiple revisions exist for the document, LN displays an alert message, allowing the user to select the specific revision.
 - 14 Select an object from the **Object (dmsys1511m000)** session, to link the document to the specified object instance.
 - 15 Check the **Print Error Report** checkbox to print the report of errors, if any.
 - 16 Click **Import** to execute the import process.

Object Instance

On the basis of the object you specified in the **Object** field in the **Import Files** tab in the **Import files to ODM (dmdoc7100m000)** session, you can select the object instance to link the document. Example: If you select the object EITEM_REV (E-Item Revision), the fields displayed in the **Linked Object Instance Details** tab are Engineering Item and Engineering Item Revision.

You can enter a value in the first field. Use the browse arrow to select the value. The subsequent disabled fields are populated on the basis of the value you select in the first field.

File Transfer Process Scenarios

The functionality of the following fields remains unchanged for all the file transfer scenarios:

- **All Files** checkbox
- Document Linkage Type
 - Many-to-One
 - One-to-One
- Object
- Object Instance in the **Linked Object Instance Details** tab

The following are the possible file transfer scenarios from a legacy system to LN ODM package:

- **From Remote to Remote Vault:** When the source directory from where the files are copied is present on a remote system and the target is the vault area of a remote system, the status of the document to which these files are linked changes to **Released** and the status of the files change

to **Check In**. In case you select the File-Document Linkage Type as Many-to-One, you can select the Document Type and Document. All the imported files are linked to a single **Document**. In case you select One-to-One as the option, each imported file is linked to a new document and you cannot specify a document. The document ID's are automatically generated by the system.

- **From Remote to Remote Work:** When the source directory from where the files are copied is present on a remote system and the target is the work area of a remote system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**. You must select **All files** checkbox to import all the files present in the work area directory. When the **All Files** checkbox is cleared, you can specify the name of the files you want to import.
- **From Local to Remote Vault:** When the source directory from where the files are copied is present on a local system and the target is the vault area of a remote system, the status of the document to which these files are linked changes to **Released** and the status of the files change to **Check In**. You can select an object to link the document. Additionally, on the **Linked Object Instance Details** tab, you can also select an Object Instance to which you want to link the document.
- **From Local to Remote Work:** When the source directory from where the files are copied is present on a local system and the target is the work area directory of a remote system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.
- **From Local to ERP server (Work Area):** When the source directory from where the files are copied is present on a local system and the target is the work area directory of a ERP system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.
- **From Remote to Local Work:** When the source directory from where the files are copied are present on a remote system and the target is the work area directory of a Local system, the status of the document to which these files are linked changes to **In Design** and the status of the files change to **Check Out**.

Change Management

Change Management (CHM)

The Change Management module deals with the fundamental concept of change. This module controls the processes of product changes. Change, particularly in industry, is a constant and critical factor. Effectively, in the real time scenario, the frequent upgrade and customization of products--due to quality improvements, cost reductions, manufacturing innovations, and customer satisfaction issues--requires an accurate and foolproof method to manage the change implementation process.

Change Management Objective

The Change Management module provides the flexibility to create a change process to optimize an organizations' Enterprise Resource Planning system.

Change Process

This module enables you to process information related to the changes in the form of approval or rejection of the change by a responsible person and by the actual execution of change process to handle the changes .

The change process consists of the following steps:

- Request a change
The change request enables an authorized user to register an object for a change. The change is accepted or rejected by an authorized user. If accepted, the object is linked to a change.
- Register a change
The change is a permanent identifier that groups all similar change requests and enables the user to track the managed object through the Change Management lifecycle.
- Configure a change
The change proposal enables the user to link affected ERP objects, set effectivity dates in the form of a change order, attach task groups with tasks, and link to reference documents.
- Review by Change Committee
The change proposal can be submitted for review, by the reviewers of the change committee. The reviewers provide their recommendations and the final decision lies with the chairperson of the committee.
- Accept a change
After studying all the recommendations, the chairperson of the committee can approve or reject the proposal of a change.
- Implement a change

The change order execution function enables the user to run the task and the changes are finally implemented.

Change Request

The change request is the preliminary step in a change process. You can initiate change from various sources (internal or external to the organization) in the form of change request. These requests are processed by eliminating trivial requests, or by combining similar requests. An authorised user can create a change request. The user must describe the reason for the change with a solution, if possible. This step is optional. A coordinator reviews the change requests and submits the request to a change for review and approval. If the change request is approved, the change is linked to a change header. A change proposal is then created for the respective change. You can link the change request to an existing change or to a new change. If the change request is linked to a change, the status of the change request is **Linked to Change**. If the change request is rejected by an authorized user, the status changes to Rejected. No further action is taken on that request.

Change request has the following status:

- Created
- Linked to Change
- Rejected

The objects that are subjected to change can be linked to the change request. To view the status history of the change request, click **View History** on the *appropriate* menu, and to view the attached objects, click **Browse**.

Note: The coordinator can group similar change requests and submit the group to a single change.

Change

The change refers to the change header. All related change requests are linked to one change. If you create a new change, the first version of change proposal is created automatically. You can also create a change without a change request. The lifecycle of a change has the following status:

- Created
- Under Review
- Approved
- Frozen
- Cancelled
- Completed

To initiate the change process, an authorized user must do the following:

- Assign an owner who is responsible to carry out the change
- Set the change priority

The change provides information about problem and the consequences, in case the problem is not addressed. The change committee linked to the change provides recommendation for the change approval.

The change process, as part of the change management is of two types:

- Simple change
- Normal change

To implement the effectivity dates, the change orders and the objects which are governed by the dates, are linked to the change, in case of simple change.

Linked Change Requests: All change requests linked to the particular change.

Change Proposals: The change proposal linked to the change.

Reviewers: The reviewers of the change committee assigned to the change.

Change Proposal

The change proposal is a version-controlled entity of a change. A new change proposal is created by default when a change is created. The proposal can be approved or rejected. When the proposal is approved, the status of change changes to Approved. If the proposal is rejected, the status remains the same (**Created**). If the proposal is rejected, you can create a new proposal with all the linked entities. Attach relevant ERP objects and the change orders to the proposal to govern the effectivity dates of the linked objects.

The reviewers assigned to the committee and made specific to the change provide the recommendations for the proposal. The proposal has the following status:

- Created
- Under Review
- Approved
- Rejected

The chairperson of the change committee has the final authority to approve or reject the proposal. Tasks are attached to the proposal with the estimated dates and can be executed after the change is submitted for review. After the proposal is approved the change can be completed.

The change proposal has the following status:

- **Created:** The initial status of a new change proposal.
- **Under Review:** The change proposal is submitted for review.
- **Reject:** The change proposal is rejected.
- **Approved:** The change proposal is accepted.
- **Tasks are done:** All the tasks linked to a proposal are completed.
- **Revise:** Revise the approved Change proposal. The status reverts to **Created**.

The change status commands in the Changes (dmchm0111m000) session are the following:

- **Freeze:** Halts the change proposal and no objects can be linked to the proposal at this stage.

- Unfreeze: Reactivates the change proposal.
- Cancel: Cancels the change and the proposal becomes ineffective. After cancellation no modifications or revision is possible. You can cancel the change before the approval of change.
- Complete: Completes the change process.

Change Order

Note:

A version of the change proposal has a list of proposed effectivity dates, which are recorded as change orders. A change order can exist independently of a change proposal. Change orders are linked to the change proposal. A change order can be selected for effectivity dates. To control the effective and expire dates of more than one change order, you can define a parent child dependency between two change orders. The hierarchical dependency between two change orders, creates a bill of change orders (BOCO). A BOCO has two levels of hierarchy. You can link the change orders in BOCO to the change proposal.

The date of the parent change order in BOCO is used as effectivity date for ERP objects affected by the change and which are linked to the change proposal. In case the change order date is prior to the change approval date, the approval date is taken as effective date for all the ERP objects which are linked to the change proposal.

The dates of a change cannot be revised if the change is approved. If you must change the effectivity dates, the approved change must be cancelled. You must create a new change with new order dates.

Change Order Dates

The change order date (COD) that appears in the change order is the date for the change implementation described in the change proposal.

If a dependency exists between two ERP-affected objects, the relative change order is used to set the ERP affected objects as effective or expired. Example change order CO1 is defined for ERP affected object Item1 and CO2 is defined for ERP affected object Item2.

In the ERP-affected object session, the Item1 is set to expire on a given date, say 30-June-05, and Item2 is set to expire 15 days after the expiry of Item 1 on 15-July-05. The expiry date of Item 2 is based on the time duration defined in the ERP affected object Item1 in the relative change order field and will override any date which is mentioned in the CO2. In this scenario the CO2 gets triggered on the basis of the date specified in the **Relative Change Order** field in the change affected object Item 1.

If you approve the change, the Item1 in case it is a new Item is set as effective and if Item1 is an old item is set as expired, based on the dates specified in CO1. The **Relative Change Order** field in the change affected object Item 1, is CO2. When CO2 is approved the dates specified in relative change order field of ERP affected object Item 1 will override any date specified in the CO2. The Item 2, if you set a new item as effective, and if an earlier item is set as expired based on the dates specified in the **Relative Change Order** field in the change affected object Item 1.

Folder Management

Folder Management (FMG)

You can use the Folder Management (FMG) module to maintain folders.

Folders simplify the management of product information.

You can use folders to group-related information of various types, for example, engineering items and drawings, which enables simple and fast information retrieval.

Another function of Folder Management is the ability to freeze a group of objects of various types, with which every object instance can be referenced with a revision that holds for various dates. This functionality enables you to maintain relationships between specific revisions of these objects, where revisions do not necessarily match.

You can link objects in a folder and provide an approval mechanism. To revise folders, you can change the contents inside the folders. Documents are linked to a folder as objects and you can launch the files linked to the document from the folder.

Creating and Maintaining Folders

The folder is an entity that can contain other LN Objects defined in LN ODM. Folders are containers that carry ERP objects for communication or grouping purposes. Any LN entity can reside inside a folder. A folder is a data item that can contain a group of related objects. For example, a folder with pension information can be linked to a document that describes employee benefits. Folders provide a flexible solution to define the relationships, links and dependencies between various aspects of product data.

You can create a new folder, or copy an existing folder. Folders can be personal or shared.

You can lock a folder with **Design/Created** status to ensure that no changes are made to the folder. If a folder is locked, the folder's properties and contents cannot be modified. You can delete a folder, provided it is not linked to any other object. If you want to delete a folder that is linked to other objects, you must first delete these links.

You can launch the files that are linked to the document revision directly from the folder. If a folder has more than one document revision, assign the main link to the specific document revision you require. In addition, assign the default for file operations if the linked document revision has more than one file. You can maintain the contents of the folder as an attachment to a recipient.

The following statuses are supported during the lifecycle of a folder:

- **Design/Created:** The folder is created or is still under initial design process and, therefore, can be linked any object.
- **Approved:** A folder can go through an approval process for various reasons and can be approved after the process is completed.
- **Revise:** After the approval process is completed and a new version of the same folder must be created for further processing, the folder is revised, which creates a new version that is in Design/Created status.
- **Locked:** You cannot attach objects or remove links.
- **Unlocked:** You can once again attach objects or remove links.

Use the Folders (dmfmg0522m000) session to create and maintain folders. You can access this session directly from the **Folder Management** module.

Objects Contained in Folders

A folder is a data item that contains a group of related objects. Folder Management includes the following activities:

- Create a folder: You can create folder and subfolders for various subjects.
- Delete a folder
- Link the ERP objects defined in LN ODM. Use the folder content function to place the object in the folder.

You can use folders to create a multiple-level knowledge base that suits the purpose of the organization. The family (profile) of the folder determines the list of objects a user can attach to the folder. The content profile of a folder defines the type of objects a folder can contain and is set by the system administrator. Users from different areas can store different object types and instances in a folder.

Folders undergo a lifecycle mechanism. The object links to the folders can be copied to the new folder after the approved folder is revised. The contents of the folder cannot be modified after the folder is locked and can be modified after the folder is unlocked. If the folder is of the type Personal, you cannot add or delete the object links. You can add and/or delete object links for all folders of the type Shared.

To define a folder as personal, you must select the Personal check box in the Folders (dmfmg0122s000) session.

Folder Status

Folders are assigned a status.

When you create a new folder, the folder receives the **Design/Created** status and you can change the contents of the folder. If the folder is in **Design/Created** status, use the content profile to place the ERP objects defined in LN ODM, in the folder. After the initial design stage, you must lock the

folder. The folder status changes to **Locked** and you cannot modify the folder's contents and properties. To change the properties or content of a folder, the folder must be unlocked and the folder's status changes to **Design/Created**.

The lifecycle of a folder has the following status:

- **Design/Created:** The folder is initial design phase. The ERP objects can be linked to the folder.
- **Approved:** The folder is assigned the approved status after the approval process is completed.
- **Revised:** A new version of the approved folder is created for further processing. The new version has the status **Design/Created**.
- **Locked:** You cannot attach objects or delete the links from the folder.
- **Unlocked:** You can attach the objects to the folder or delete the links from the folder.

Queries and Reports

Queries and Reports

The Queries and Reports module generates timely and essential information, which provides strategic advantage to an organization. Reports help present information in a structured format.

The Queries and Reports module provides the following features:

- Define and execute queries for all ODM objects.
- Define, implement, track, store, and display the query conditions for ODM objects.
- Store the query result sets and re-run the queries on the stored data
- Enabling the filtering of the session data, based on the query result set, for both base and linked queries.
- Enable setting the role assignments based on queries.
- Access reports generated from Change Management, Document Management, and Folder Management modules
- Create, view, or print reports based on objects.
- Display query results in various formats

The main objective of queries is to provide a framework to facilitate query based object search mechanism. The Report functionality enables you to view the results of a query in the form of a report in various formats.

ODM Configuration

ODM Configuration (SYS)

The System tables (Setup) module provides administrative facilities for the LN ODM . The ODM configuration sessions enable the **ERP administrator** to maintain tables that contain organization data, and to configure the system to reflect organization requirements, including determining the functions that different types of users can perform on different types of ODM objects.

Some of the ODM configuration objects are specific to the Document Management module, some of which are used by multiple modules in the package, and some are ERP system configuration objects that are included in the System tables (Setup) module for completeness.

The **ERP administrator** must maintain the following types of configuration data:

- Data related to document management tasks
- Data related to change management tasks
- Data related to folder management tasks
- Data related to query and reports
- Data related to common ODM parameters and external application integrations
- User authorizations based on groups of actions
- Object masks for generating object identifiers
- Valid reasons for performing actions

The **ERP administrator** is also responsible to import and export system data when required.

Object Browser

Use the Object Browser to define and categorize relationships between objects in LN ODM. The Object Browser offers a hierarchical view of multiple level objects, and the relations among the objects.

You can perform actions from the Object Browser based on the type of object, Example:

- Display the documents attached to an object
- List and open the document revisions and attached file sessions
- Display the file contents, with the help of the multilevel structure

You can use a new browser window for operational comfort.

The objects that appear in the browser have the following three types of nodes:

- **Properties:** Click the node to view the list of object properties, as defined in the **Object Families (dmsys1512m000)** session.
- **Child:** An object has a child node if child objects are attached to the node. Click the **Child** node to view the list of child objects.
- **Leaf:** A leaf node is the child of the root object or a subtree to which no child objects are attached.

Note: A root object has no parent object and has a subtree as its child. A subtree can also have another subtree as a child.

To use the object browser, click **Browse** on the **Specific** menu of the respective ODM object. The user can select the browser options from the **Object Family (dmsys1512m000)** session. You have the following browser options:

- **Display members of the current Object Family:** Use this option to browse the members (objects) of the family.
- **Display all Object families whose owner, is the owner of the current family:** Use this option to browse all the families owned by the owner of the selected family.
- **Display all Object Families whose member is the owner of the current Object family from where the browser is initiated for the selected object:** Use this option to browse the families for which the current owner is a member in the object families.

Object Links

To indicate relationships between objects, you can create links between the objects.

You can set up links between objects of the same type, or between objects of different types. The LN ODM system configuration determines the type of objects that you can link.

You can maintain links between objects in the **Object Links (dmcom9110m000)** session.

All the objects type that you can link to a selected object are listed, along with the number of object instances, in the **Object Links (dmcom9110m000)** session.

You can add or delete links as required and according to the status of the specified object, for Example: change request, document revision, and so on.

Task Group

The Task Group function enables you to maintain the task group and the group's linked tasks. Each task group can have a unique user role, the user role's attached ERP objects, and the summarized attributes of tasks, such as total tasks, tasks completed, estimated cost, and total actual cost. The tasks store information such as task description, the task's role, the task's estimated time (from date/ to date), estimated cost, actual time and status. The Task groups linked to the change proposal describe the operation tasks required to perform the change.

The status completion and execution date of the task group depend on the task group's tasks.

Note: You can add a task only to those change proposals with the status **Created**. You cannot change tasks for change proposals that are approved or are under review. No task changes are possible after a change is under review. You can, however, update the task execution details.

Reviewers List

Reviewers are defined for a committee. The committee can be a change committee or a document management committee. A chairperson heads the committee who is authorized to add or delete the reviewers for that committee. This committee can be used in Change Management or in Document Management or in both scenarios. The main function of the reviewers is to provide the recommendations on the proposal of a change in case of change management and provide the recommendations about the document approval in case of document management. Reviewer can provide the recommendations by either approve or reject options.

You can add or select the required reviewers of the defined committee for each change or for each document, accordingly. When the change or document is submitted for review then the reviewers are eligible to provide the recommendations. The reviewers mechanism is of two types:

- Fixed Reviewer mechanism
- Normal Reviewer mechanism.

If fixed reviewer mechanism review is carried out in a sequential and timely manner and in case of normal reviewers mechanism review is not carried out according to a sequence.

Linking to ERP entities

ERP entities are objects defined in LN ODM. The system administrator defines ERP objects for the object families. For Example, the objects that you can use for change management include, but are not limited to, the following:

- Item
- Bill of Material
- Routing Operations
- Unit Effectivity
- Labor Rates
- Engineering Item

These ERP objects can be linked to a change proposal for Change Management, document revision for document management, and folders for Folder Management.

Mandatory and Optional ODM Object Masks

Note:

For different document types, you can assign different document ID and document revision masks. You must define one object mask for both the temporary revision and the permanent revision. If no document revision mask is defined for a document type, the first mask in the default mask list is used.

Folder Object Masks

The decision to define a folder object mask can be classified into the following two categories:

Mandatory Object Mask: Defining an object mask for the folder version is mandatory.

Optional Object Mask: Defining an object mask for the folder ID is optional.

Change Management Object Masks

The decision to define the change management object mask can be classified into the following categories:

Mandatory Object Mask: Defining an object mask for the change proposal version is mandatory.

Optional Object Mask: Defining an object mask for the following change management object identifiers is optional:

- Change Request
- Change Header
- Change Order
- Tasks
- Task Group

Document Management Object Masks

Optional Object Mask

Defining an object mask for the following document management object identifiers is optional:

- Document
- Document Revision
- Hard Copy
- File

Defining Hosts

A computer that the **Document Management** module accesses is defined as a host.

Client computers from which the ERP sessions of Document Management module are invoked, computers with file servers, as well as all the computers in which the vault server component is installed are defined as hosts.

The **ERP administrator** defines hosts in the Hosts (dmdoc5500m000) session.

Defining and assigning areas

All directories accessed from document management must be registered as areas. The directories include the directories in which users edit files, as well as the directories that document management uses to store protected files.

Note: Files are protected when they are moved to a vault area during the approval process of a document revision.

The **ERP administrator** can use the Areas (dmdoc5120m000) session to register areas .

Note: You must make backups for files in the work and vault areas. This task is the responsibility of the network system administrator and is not handled by the Document Management module.

Types of area

When an area is registered, the area is assigned an area type, which identifies the purpose for which the area is used. The following area types are used in document management:

- **Work:** Files undergoing edit are stored here.
- **Vault:** Files are stored here after being submitted for review and released.

Important: Dynamic Host functionality is useful for users who work on a computer that does not have a fixed IP address or host name. The Dynamic Host must be defined for only Work area and is applicable only for the local work area. The concept does not involve remote work area concept.

Assigning different types of areas

The **ERP administrator** assigns at least one work area to each user who works with the files. You can assign multiple work areas to the same user, and multiple users can be assigned to the same work area. To assign work areas, you can use the Work Area Assignments (dmdoc5130m000) session.

Revision Modes

The mechanism used to assign revisions to a document depends on the revision mode that the **ERP administrator** assigns to the document type.

The revision mode specified can be an alphanumeric revision, for Example, rev01, or A1, or can be set automatically to the release date of the revision, Example, 1998-05-12.

The revision mode also determines whether the files and hard copies are assigned revisions. If so, the revision process is as follows:

- For alphanumeric revisions, all documents, revisions, files, and hard copies are set to alphanumeric mode.
- For release date revision mechanism, all documents, hard copies, and file revisions are set automatically to the release date of the document revision.

The Vault Server

The vault server is an essential component of file management in the Document Management module. The vault server is responsible for transferring all files to and from the PC's hard drive, mounted drives, and other protected areas. The files are moved and copied between various *areas*.

A vault client component, which is an integral to the ERP server, makes a request to the vault server to copy, move, or delete a file.

To ensure file security for network installations, the vault server component must be installed on at least one network computer. The vault server component cannot be installed on VAX/Mainframe/Macintosh file servers.

Users cannot directly access the files controlled by the vault servers. Instead, use the Document Management module to access the files.

The **ERP administrator** must use the Hosts (dmdoc5500m000) session to register the hosts on which the vault server component runs.

Mounting Areas and Assigning User Access

The mount area is the work area that must be loaded/mounted on the client computer of the user who must access or save the files in that work area. The work area is located on a remote host. When a mounted area is used, the files are registered and saved in the work area specified in the definition of the mount area. The path you see on the local host can be viewed when a mount area is defined. The path is specifically used for network installations without a vault server component, for example, if the file server is mainframe or Macintosh, on the remote system where the work area is defined. The work area directory must be shared to use the directory to register the files.

If the work area folder is not shared, you can use the mount area by installing the vault server component on the remote system and, in this case, the vault server must be running on the remote host to register the files. The **ERP administrator** must define the path to each mount area from each client, in other words, the local host on which the mount area is mounted. The network administrator sets up access to these mount areas.

Actions

You can define actions by object. Actions are mainly intended for the objects that are used in LN ODM and that are called as system actions. ODM objects are

- CR
- CH
- CP_VER
- DOCS
- DOC_REV
- FILE
- FLDR
- HARD COPY
- QUERY
- LIBR
- TASK
- TG

These system actions are supplied with ODM data that cannot be updated or deleted. For Example, CH is the object and CH_NEW is the action to create a new change.

You can also group the actions under an action group. Action group is a user-defined action and can be created or modified only by a superuser. Example, a user can edit or view a file, as long as the Edit and View actions are assigned to the user role for the File object.

Relations

Use relations to select an existing action as a new parent, or to add additional child actions to an existing parent.

Note: Actions are listed by object type.

Note: To define an action as a parent, the user can also click **Members by Action** in the Actions (dmcom0530m000) session.

Adding Child Actions to an Existing Parent Action

Click **New** on the **File** menu to add a new action to a parent.

Choosing a New Parent Action

Click **New Group** on the **Group** menu to choose an existing action as a new parent. LN recognizes an action as a parent only if a child action is assigned to the action.

Actions Related By Role Assignment

Actions can also be linked directly to a role assignment, such as engineer, manager, designer, and so on. Click **Role Assignment** on the *appropriate* menu to start the Role Assignments (dmcom0135m000) session.

Object Families

An object family consists of related objects and is used to maintain links between objects. Use the **Object Families (dmsys1512m000)** session to define a new object family.

Family Owner

The family owner is the source object that belongs to the family and all other target objects linked to the source objects.

The family owner is defined in the Object Families (dmsys1512m000) session. The ERP system administrator can define whether members can belong to more than one family, the hierarchy of the family, the number of members, and so on.

Family Member

To be a member of the family, an object must first be defined in the Objects table. The Objects table maintains all the required information, such as how to access, select, view, or maintain an object's instance.

An example of a family is FATT_DOC_REV, which contains ERP objects linked to the document revision. In this family, the owner of the family is the object DOC_REV (Document Revision) and the family's members can be the other objects defined in the Objects (dmsys1511m000) session.

A virtual family has other object families as members. A virtual family does not have objects as members.

Secondary Status of Objects

To define the secondary status of objects, the user can use the available system defined status. The system-defined status is the status assigned to the ODM objects. ODM objects include:

- CR
- CH
- CP_VER
- DOCS
- DOC_REV
- FILE
- FLDR

- HARD COPY
- QUERY
- LIBR
- TASK
- TG

For example, a Change (CH) has the following system-defined status:

- Created
- Under Review
- Approved
- Rejected
- Cancelled
- Frozen
- Completed

The sequence of status determines the order of the status assigned to the object. Example, if the user is at a particular system-defined status in a lifecycle, the secondary status, if defined, appears for that object instance during the lifecycle.

The purpose of a user-defined status is to create status conditions customized to the needs of a particular company. Example, a company might need a change process status called Financial Approval that precedes the actual system defined **Approval** status.

Reason Codes

Reason codes enable you to state the reasons of a specified action during the lifecycle of an LN ODM object.

Example, the reason code for the action CR-New of object CR (Change Request) Code is CR001 and the reason description is process improvement and quality upgrade.

The ERP system administrator defines reason codes for the actions of all the objects, related to Change and Folder Management, which are applicable throughout the lifecycle.