In the selection from this book, you'll get information on the different maintenance functions that are often used. This chapter outlines each function, and gives you details on how to configure them to your business needs.
This chapter introduces you to generic functions, such as status management and partners; both of which are used in several locations within SAP Enterprise Asset Management. You’ll learn how to configure your tools as well as obtain numerous tips in relation to configuring Customizing settings for these functions.

4 Generic Functions

In SAP Enterprise Asset Management (SAP EAM), some functions are used in several locations or by several objects. For example, you can use status management not only to document the condition of technical objects (functional location, equipment, and serial number), but also to manage notification and order processes. The field selection control that you use to hide fields or to force entries can also be used with each SAP object.

Table 4.1 shows which generic functions can be used for which SAP object.

<table>
<thead>
<tr>
<th>Function</th>
<th>Functional Location</th>
<th>Equipment</th>
<th>Material Number</th>
<th>Notification</th>
<th>Order</th>
<th>Task List</th>
<th>Maintenance Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object information</td>
<td>X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status management</td>
<td>X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number assignment</td>
<td>X X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warranties</td>
<td>X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring points/counters</td>
<td>X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permits</td>
<td>X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partners</td>
<td>X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 Generic Functions: Overview
Object Information

When you receive a new notification from a requester and need to decide whether the maintenance task is to be performed or not, it’s very useful to find out concise information about the object by using object information.

Define Object Information Keys

You can use this Customizing function to configure a dialog box that contains concise information about the reference object (known as object information).

You can call object information in the following locations within the system:

- Equipment and serial numbers
- Functional locations
- Notifications
- Orders

Prerequisites

There are no special prerequisites.

Customizing Path

PLANT MAINTENANCE AND CUSTOMER SERVICE • MASTER DATA IN PLANT MAINTENANCE AND CUSTOMER SERVICE • BASIC SETTINGS • DEFINE OBJECT INFORMATION KEYS

Transaction

OIMD

Settings

You use the object information key to define which technical object data is displayed in the object information window (see Figure 4.1). The object information also contains historical data from the information system as well as data from the notifications and orders processed in the system.
If you’ve selected object information for the object specified, you use the automatically indicator to define whether this object information is displayed automatically (e.g., immediately after you call a notification or order). If you don’t set this indicator, you can use the button to call the object information.

In the INFO. SYSTEM – TIME FRAME AND THRESHOLD VALUES area, you can define the following:

- The period to be selected in the information system (highest value is 9,999 days; that is, approximately 27 years)
- Threshold values, which, when exceeded, are indicated by in the OBJECT INFORMATION window

In the NOTIFICATIONS – SELECTION AND AUTOMATIC DISPLAY area, you can define the following:

- The period to be selected in the notification list (highest value is 9,999 days; that is, approximately 27 years)
- The notification status to be considered in the selection (outstanding and/or completed)

In the CLASSIFICATION – VIEWS AND DISPLAY area, you essentially define whether the characteristics of the object are to be displayed (by setting the CHARACTERISTICS indicator).

Object Information Can Be Very Useful

You should define object information keys in your SAP system because they will enable you to obtain a clear and concise overview of the technical object’s situation in master data and in processing. However, you should only display this object information when you actually need it. In other words, don’t set the automatically indicator.

4.2 Status Management

Both the technical objects themselves, as well as complete notification and order processing, are associated with general SAP status management. Here, you have to distinguish between the system status and the user status.

For certain business processes, the system sets the system statuses both internally and automatically as part of its general status management. This happens, for example,

in the equipment master INST when the equipment is installed at a functional location or in the order CONF when an order receives a final confirmation. The system status is displayed on the left-hand side of the status screen (see Figure 4.2).

![Figure 4.2 System Status and User Status](image)

**Define User Status**

In addition to the predefined system statuses, you can freely define user statuses that fulfill your requirements. The user status is set and displayed on the right-hand side of the status screen (see Figure 4.2). SAP distinguishes between two types of user statuses:

- **Status with Status Number** (upper half of the screen)
  You can select only one radio button here.
- **Status Without Status No.** (lower half of the screen)
  You can select any number of checkboxes here.

The business processes that you can execute for each of these object statuses is also defined in status management. If, for example, you set a piece of equipment to inactive, the status display informs you which business processes are still allowed (green traffic light), which will trigger a warning message (yellow traffic light), and which are forbidden (red traffic light) (see Figure 4.3).
You can define a user status for the following objects:

- Equipment and serial numbers
- Functional locations
- Notifications
- Orders and order operations

For the sake of simplicity, let’s consider the example of a piece of equipment to illustrate status management. However, status management can be used in a similar manner for all other objects.

Prerequisites

There are no special prerequisites.

Customizing Paths

- Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Define User Status

Settings

When you call the Customizing function, you first obtain an overview of all status profiles irrespective of which application or object they are valid for. In other words, you see not only the status profiles for maintenance objects, but also all defined status profiles. If you now create a new status profile, you define each status in succession (see Figure 4.4).
The statuses without a status number are sorted on the upper half of the screen, while the statuses with a status number are sorted on the lower half of the screen (according to the status number).

Status numbers are used for the following reasons:

- **Statuses with a status number are mutually exclusive.** In the example shown, a piece of equipment can be ready to use (status number 3) or in repair (status number 4).
- **You generally use the statuses with a status number to map a process (e.g., execution of a planned repair order).** In the example shown, virtually the entire life cycle of a piece of equipment, that is, from planning and operation through to scrapping, is mapped.
- **One of these statuses (generally the status with the lowest status number) is selected as the initial status and later automatically set in the object.** In this case, PLA is the initial status.
- **If you set a specific status with a status number, you can only change to another status if it’s within the upper and lower limits defined for the status number.** If, in the example shown, the piece of equipment is assigned the status Equipment in repair (status number 4), the next status must lie between 3 (Equipment ready to use) and 6 (Equipment scrapped). It’s not possible to return to 2 (Equipment in test).

If you want to assign business processes to a status, double-click the status, and choose **Allowed** to add new entries. For each status, you can define how the relevant business process is to be handled (see Figure 4.5):

- **Allowed**
  The business process is explicitly allowed.

- **Warning**
  The system issues a warning when you execute the business process.

- **Forbidd.**
  The business process is forbidden.

Finally, you must ensure that the status profile can also be used by the relevant object category. Choose **Object TYPES** to display a list of all object types associated with status management (see Figure 4.6), and then select the relevant object type. You can also permit the same status profile for several object types. For example, you can make a status profile available for both equipment and functional locations. However, you can also use a different status profile for notifications, orders, and order operations.
You then use special object-based Customizing functions to assign a status profile to an object (e.g., Assign User Status Profile to Equipment Category or Define Functional Location Category).

4.3 Number Assignment

A number must be assigned to each data record. Apart from a few exceptions (e.g., functional locations), you adopt a similar approach to number assignment for all objects in the SAP system. You must manually assign a unique number to each object, or you must allow the system to assign a unique number. The following number assignment options are available:

- Internal number assignment
  The system automatically assigns consecutive numbers within a predefined number range.

- External number assignment
  The user assigns the numbers manually.

Define Number Ranges

You use this Customizing function to define the type of number assignment for each object. The procedure described here is used for the following maintenance objects:

- Equipment
- Serial numbers
- Object links
- Material numbers
- Notifications
- Orders
- Measuring points and counters

For the sake of simplicity, let’s continue to consider the example of a piece of equipment to illustrate number assignment. However, a similar approach to number assignment is adopted for all other objects.

Groups are always used in conjunction with number assignment. Here, several object types (e.g., several equipment categories, notification types, or order types) are combined together to form a group. You can then define an internal and external number range for the group. In the example shown, several equipment categories can belong to the same group and therefore have the same number range (see Figure 4.7).

Figure 4.7 Number Assignment: Groups

Prerequisites

You must define the object types (e.g., equipment categories, order types, and notification types) beforehand.

Customizing Path

PLANT MAINTENANCE AND CUSTOMER SERVICE • MASTER DATA IN PLANT MAINTENANCE AND CUSTOMER SERVICE • TECHNICAL OBJECTS • EQUIPMENT • EQUIPMENT CATEGORIES • DEFINE NUMBER RANGES
Please note that different objects have different Customizing paths.

**Transaction**

**OIEN**

Different objects also have different transactions (e.g., Transaction IW20 (notifications), Transaction OION (orders), Transaction IN20 (object links), Transaction BG20 (warranties), Transaction OIL4 (general maintenance task lists), and Transaction IP20 (maintenance plans)).

**Settings or Recommended Settings**

If you want to define a number range for a group, proceed as follows:

1. After you call the Customizing function, choose `Generic Functions`.

   An overview appears of which groups exist and which object types (in this case, equipment categories) are assigned to which groups or which object types aren’t assigned yet (see Figure 4.8).

2. Use the menu option `Group` • `Insert` Group to create a new group. At the same time, the system prompts you to define some number ranges, namely an internal number range and/or an external number range (see Figure 4.9).

3. If you now want to assign an equipment category to the group, double-click the equipment category, select the group, and choose `Generic Functions`.

4. Use the menu option `Intervals` • `Maintain` to make subsequent changes to the number range intervals.

5. Use the menu option `Group` • `Maintain` Text to subsequently change the name of the group.

**Define Short Numbers**

For usability purposes, you should define numbers that are as short as possible. Your users will thank you for only having to enter a 6-digit number (e.g., 800123) rather than a 12-digit number (e.g., 800121232343).

**4.4 Warranties**

A warranty is a commitment from a manufacturer, vendor, or salesperson to a customer that services are guaranteed for a particular period of time, without the customer being billed. A warranty always refers to a technical object (functional location, equipment, or serial number).

Warranties are used in the following areas:

- Equipment and serial numbers
- Functional locations
- Notifications
- Orders
If you want to assign warranties to technical objects and then use these warranties in maintenance processing, the following Customizing functions are available to you.

**Check Warranty Categories**
You use this Customizing function to define whether you are the guarantor or warrantee.

**Prerequisites**
There are no special prerequisites.

**Customizing Path**
- Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Warranties • Check Warranty Categories

**Transaction**
GM01

**Settings or Recommended Settings**
In the standard SAP delivery, a distinction is made between the following warranty categories (see Figure 4.10):

- **Warranty category I (inbound)**
  This warranty category exists if you are the warrantee.

- **Warranty category O (outbound)**
  This warranty category exists if you are the guarantor.

**Delete Customer Warranties**
Delete warranty category O because, in SAP EAM, you are generally only the warrantee and never have to manage warranties granted to customers.

**Define Warranty Types**
You use this Customizing function to define whether you want to manage one or more warranty types for a warranty category. For example, for warranty category I (inbound), you can define one warranty type for a manufacturer warranty and another warranty type for a vendor warranty.

**Prerequisites**
You must define the warranty categories beforehand. If you want to assign a partner determination procedure and status profile, you must also define them beforehand.

**Customizing Path**
- Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Warranties • Define Warranty Types

**Settings or Recommended Settings**
If you want to distinguish between vendor warranties and manufacturer warranties, you can define two warranty types for this purpose (see Figure 4.11).

**Change View "Warranty Types": Overview**

Figure 4.10  Warranty Categories

Figure 4.11  Warranty Types
For each warranty type, define the following:
- Do you want the system to display a dialog box when you open a notification?
- Do you want the system to display a dialog box when you open an order?
- Do you want to assign a status profile?
- Do you want to assign a partner determination procedure?

**Vendor Warranties and Manufacturer Warranties**

As a precaution, you should always create two warranty types for the inbound warranty category:
- One for the manufacturer warranty
- One for the vendor warranty

**Define Warranty Counters**

You use this Customizing function to define counters for use in warranty processing. However, this Customizing function is only necessary if you work with master warranties or performance-based warranties. You don’t require counters if you enter only basic warranty data (start and end dates) directly in the technical object (piece of equipment or functional location).

**Prerequisites**

You must define the counters as characteristics in the classification system beforehand.

**Customizing Path**

Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Warranties • Define Warranty Counters

**Transaction**

GM04

---

**Settings or Recommended Settings**

When you create a master warranty, the system automatically proposes the counters marked as Default. Furthermore, if you want to measure time, you should always specify a counter that you’ve defined as a time-dependent counter (see Figure 4.12).

---

**Measuring Points and Counters**

Measuring points mark those locations at which the current condition of an asset is described (e.g., temperature, number of revolutions, pressure, level of contamination, and viscosity). At individual measuring points, you can specify target values as well as upper- and/or lower limits. Measuring points are a basic prerequisite for condition-based maintenance.

Counters are the tools you can use in the SAP system to represent the wear and tear of an object, consumption, or the reduction of an object’s useful life (e.g., an odometer, operation hours counter, numbers of pieces, and output in tons). Counters are a basic prerequisite for performance-based plant maintenance.

Measuring points and counters are used in the following locations within the system:
- Pieces of equipment and serial numbers
- Functional locations
- Task lists
- Maintenance plans
- Order confirmations
If you want to assign measuring points and counters to technical objects and then use them in maintenance processing, several Customizing functions are available to you.

**Make System Settings for Measuring Points and Measurement Documents**

You use this Customizing function to define global system settings. In the current SAP version, however, there is only one—the generation of interval documents.

What are interval documents? If you use the measurement document transfer, difference measurement documents are transferred to the subordinate pieces of equipment when you enter a measurement document for a functional location. In the example shown in Figure 4.13, 14 measurement documents are generated for the pieces of equipment installed at functional location K1-M each time you enter a measurement document for the functional location. Therefore, in the case of larger assets, the system may easily generate several hundred measurement documents each time you enter one measurement document.

If you don't want this to happen, you can activate interval documents. Then, a single *interval document* is created (and updated repeatedly) for the length of time that the piece of equipment is installed at the functional location. Therefore, the interval document represents a recurring document that is repeatedly overwritten with the latest data. A new interval document is only generated if the installation location of the piece of equipment changes.

**Prerequisites**

There are no special prerequisites.

**Customizing Path**

- Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Measuring Points, Counters and Measurement Documents • Make System Settings for Measuring Points and Measurement Documents

**Settings or Recommended Settings**

Set the *Transfer generates interval documents* indicator (see Figure 4.14).

![Figure 4.14 Interval Documents](image)

**Define Measuring Point Categories**

You must assign a *measuring point category* to each measuring point and counter. The measuring point category, in turn, assigns certain controlling attributes to the measuring point or counter. You use this Customizing function to define the measuring point categories and therefore generic attributes that should apply to measuring points and counters.

**Prerequisites**

If you want to assign catalogs, you must maintain them beforehand.
**Customizing Path**

Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Measuring Points, Counters and Measurement Documents • Define Measuring Point Categories

**Settings**

You can use the measuring point category to assign the following attributes to a measuring point or counter (see Figure 4.15):

- **MeasPosUniqns**
  This determines whether you want the measurement position to be unique. You use the measurement position to define the installation position of the measuring point associated with the measuring point object, for example, measurement position 1 (measurement of inside temperature) or measurement position 2 (measurement of outside temperature). You can use the uniqueness check for measurement positions to prevent a measurement position from being defined several times for each object. The following settings are available to you: 0 = no check, 1 = check at object level, and 2 = check at client level.

- **CatalogType**
  This is used when entering the measurement reading to record the inspection results (e.g., C = damage codes).

- **MeasRgeMessage**
  This determines the system response that occurs when the measurement range limits are exceeded: blank = no message, W = warning message, or E = error message.

- **TolPeriod (sec)**
  This specifies which tolerance period is permitted when entering future measurement readings if, in the event of a data transfer from an external system, the external server has a different system time than the SAP system. The tolerance period is specified in seconds.

- **LinearAsset**
  This determines whether you can enter linear data for a measuring point.

Other Customizing functions are available for controlling the measuring points and counters. However, they have already been described previously as generic functions:

- **Create Number Ranges for Measuring Points**
  Number assignment is explained in detail in Section 4.3. Because measuring point numbers are only assigned internally, create only one number range, namely 01.

- **Create Number Ranges for Measurement Documents**
  Number assignment is explained in detail in Section 4.3. Because measurement document numbers are only assigned internally, create only one number range, namely 01.

- **Define Field Selection for Measuring Points and Measurement Documents**
  Field selection is explained in detail in Section 4.9.

- **Set List Editing for Measuring Point Lists**
  For more information about the technique used to design lists, see Section 4.10.

- **Set List Editing for Measurement Document Lists**
  For more information about the technique used to design lists, see Section 4.10.

**4.6 Permits**

For some technical objects, certain regulations or conditions must be taken into account when using them or performing maintenance work. You can define such
regulations for a technical object as permits. These permits must be granted for the orders during maintenance processing. Important permits in plant maintenance include the following:

- Fire permits
- Notifications of environmental protection
- Welding permits
- Drivers’ licenses
- Fire protection permits
- Vat access permits
- Activation authorizations
- Technical inspection certificates
- Explosion protection zones

Permits are used in the following locations:

- Pieces of equipment and serial numbers
- Functional locations
- Orders

The Customizing functions available to you for use with permits are described next.

**Define Permit Categories**

You use this Customizing function to define permit categories. You can use the permit category to group permits together. Therefore, to facilitate this, you must assign each permit to a permit category. However, the permit categories aren’t used for controlling; rather, they are used only for grouping and selection purposes.

**Prerequisites**

There are no specific prerequisites.

**Customizing Path**

PLANT MAINTENANCE AND CUSTOMER SERVICE • MASTER DATA IN PLANT MAINTENANCE AND CUSTOMER SERVICE • BASIC SETTINGS • PERMITS • DEFINE PERMIT CATEGORIES

**Settings**

Defines the groups according to their individual requirements (see Figure 4.16).

**Partners**

By default, the SAP system knows only a few organizational units that you can assign to a technical object or order (e.g., maintenance planner group and responsible work center).

By defining partners, you can considerably expand these competencies and responsibilities and specify them in greater detail. A partner can be an individual or legal entity, and is either an internal organizational unit (e.g., departments, cost centers, or persons) or an external organizational unit (e.g., vendors, manufacturers, or service providers).

Partners are used in the following locations:

- Pieces of equipment and serial numbers
- Functional locations
- Notifications
- Orders

Figure 4.17 shows the following procedure for assigning partners to technical objects or processing objects:

- The partner type is predefined by SAP and always contains a database table (customer, contact person, vendor, user, personnel number, organizational unit, and position).
- In Customizing (DEFINE PARTNER DETERMINATION PROCEDURE AND PARTNER FUNCTION), you can freely define partner functions with reference to a partner.
type. For example, you can define partner functions such as the manufacturer, plant vendor, and service provider, and refer all functions to the Vendor database table.

- You can freely define a partner determination procedure. This is a grouping of partner functions that specifies which partner functions are permitted or must always be specified. For example, you can determine that the manufacturer and vendor must always be specified for a piece of equipment, but that the service provider is an optional specification.

You can define partner functions such as the manufacturer, plant vendor, and service provider, and refer all functions to the Vendor database table.

- You can freely define a partner determination procedure. This is a grouping of partner functions that specifies which partner functions are permitted or must always be specified. For example, you can determine that the manufacturer and vendor must always be specified for a piece of equipment, but that the service provider is an optional specification.

<table>
<thead>
<tr>
<th>Partner Type</th>
<th>Firmly defined</th>
<th>e.g., LI = Vendor Master Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner Function</td>
<td>Freely definable</td>
<td>e.g., MF = Manufacturer, PV = Plant Vendor, SP = Service Provider</td>
</tr>
<tr>
<td>Partner Determination Procedure</td>
<td>Freely definable</td>
<td>e.g., MF mandatory, PV mandatory, SP optional</td>
</tr>
<tr>
<td>Equipment, FL, Notification, Order</td>
<td>MF: 4711 Howard, Inc. PV: 6576 Smith, Inc. SP: 4812 Miller, Inc. SP: 4813 Michaels, Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.17 Partner

Define Partner Determination Procedure and Partner Function

You use this Customizing function to define partner functions. In particular, you use it to define the partner type to which a partner function is to belong. Furthermore, you can also use this Customizing function to define the partner determination procedures and to assign the corresponding partner functions to a partner determination procedure.

Prerequisites

There are no specific prerequisites.

Customizing Paths

- Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Partners • Define Partner Determination Procedure and Partner Function
- Plant Maintenance and Customer Service • Maintenance and Service Processing • Maintenance and Service Notifications • Notification Creation • Partners • Define Partner Determination Procedure and Partner Function
- Plant Maintenance and Customer Service • Maintenance and Service Processing • Maintenance and Service Orders • Partners • Define Partner Determination Procedure and Partner Function

Transaction

VOP2

Choose Plant Maintenance, and then click ![Change Partner](.

Settings

You use the Partner Functions function (see Figure 4.18) to define the partner functions that you require in technical objects or processing objects.

Take Care When Editing Partner Functions

You use the Customizing function Define Partner Functions to maintain not only partner functions in SAP EAM, but also all partner functions used in the SAP system (e.g., in QM or customer service).
You assign each partner function to a partner type. From an SAP EAM perspective, the following partner types are relevant:

- **PE** = person
- **US** = SAP system user
- **LI** = vendor
- **S** = position
- **O** = organizational unit

You use the **Partner Determination Procedures** function to maintain the partner determination procedures that you require, and you use the **Functions in Determination** function to assign the partner functions required in each case (see Figure 4.19). You also define the following attributes here (the four indicators from left to right):

- **No Change Possible**
  - Whether it will be possible to change the partner retroactively.
- **Partner Mandatory**
  - Whether the partner function is to be mandatory.
- **Unique**
  - Whether the partner function is unique (i.e., the partner function isn’t permitted to be assigned to the same object repeatedly).
- **Appointments**
  - Whether an appointment is to be entered in the employee's calendar.

**Customizing Functions for the Field Selection for Partners**

You use these Customizing functions to define which fields are to be displayed for which partner type at their place of use (e.g., in the equipment master or order).

**Prerequisites**

You must define partner functions for each partner type beforehand.
**Customizing Paths**

**Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Basic Settings • Partners**

**Plant Maintenance and Customer Service • Maintenance and Service Processing • Maintenance and Service Notifications • Notification Creation • Partners Field Selection for List Display of Partner Data**

Then, the following Customizing functions are available to you:

- Define Field Selection for List Display of Vendor Data
- Define Field Selection for HR Data List Display
- Define Field Selection for Organizational Unit List Display
- Define Field Selection for Position List Display
- Define Field Selection for List Display of User Data
- Define Field Selection for Address Data List Display

**Transactions**

- OIR1 – Customer Data
- OIR2 – Vendor Data
- OIR3 – HR Data
- OIR4 – Contact Persons
- OIR5 – Organizational Units
- OIR6 – Positions
- OIR7 – User Data
- OIR8 – Address Data

**Settings**

Figure 4.20 shows the settings for the vendor field selection. However, these are representative of all other settings for field selections. Here, you define which fields are to be invisible as well as the display positions for those fields that you want to display.

**Documents**

Many companies want to link the technical objects and/or processing objects with documents such as design drawings, work instructions, checklists, images, inspection instructions, exploded drawings, measuring and control technology profiles, 3D models, and so on.

In the SAP system, you can manage your documents as document master records (Transactions CV01N to CV04N). Within these document master records, you define a link to the original documents (e.g., a link to the storage location of the CAD file or a link to the file server for Microsoft Office documents) whereby the link is retained or the original documents are uploaded to an SAP database.

In SAP EAM, documents are used in the following objects:

- Pieces of equipment and serial numbers
- Functional locations
- Bills of material (BOMs)
The next section doesn’t describe the Customizing required for the full scope of functions in the SAP document management system because, for pure plant maintenance purposes, it’s generally sufficient to define a reduced scenario and to configure the necessary Customizing. This scenario looks as follows:

- To differentiate this scenario from other application areas, you want this scenario to have its own document type.
- Furthermore, you want to be able to use it for plant maintenance objects only.
- To prevent other enterprise areas from encroaching on this scenario, you want to create a separate secure storage area in the SAP system and store the original documents there.
- All other functions in the SAP document management system (e.g., status profiles and versioning) don’t play any role here.

We’ll discuss how to map this scenario in Customizing next.

**Define Document Types**

You use this Customizing function to configure the basic settings for a document type (e.g., number assignment or object links).

**Prerequisites**

You must define the number ranges (external and internal) beforehand.

**Customizing Path**

Cross-Application Components • Document Management • Control Data • Define Document Types

**Settings**

Figure 4.21 shows the basic settings for a document type.

The following describes how to configure these settings from an SAP EAM perspective:

- **Use KPro**
  
  This indicator controls the use of Knowledge Provider to store original files in defined storage systems (known as content repositories). If you define a new document type, you should use only Knowledge Provider to control file storage. Don’t set this indicator retroactively for a document type. If original files are already maintained for a document type, and Knowledge Provider wasn’t used previously to control file storage, the system can no longer manage these original files.

- **Version Assgmt**
  
  If you set this indicator, the system assigns the new version number automatically. Because version numbers are rarely used in plant maintenance, version 00 is automatically assigned for the document.
Archiving Authorization
This indicator controls whether the original files can be archived.

Change Docs
Set this indicator if you want to use change documents to log changes to the document info record.

Internal Number Range/External Number Range
You use the number range controls to assign the external and internal number ranges.

File Size
The specifications in relation to the maximum file size are relevant only if you don’t use KPro to store the files.

You use the subfunction Define document status (see Figure 4.22) to define the status to be used. In SAP EAM, you generally don’t need to use a multilevel status profile such as those used in product development. You require only a status that has activated the Release Flag indicator so that the document can be used in other business processes.

You use the subfunction Define object links (see Figure 4.23) to define the SAP objects to which documents of this document type can be assigned.

From an SAP EAM perspective, these are the following:

- Equipment (EQUI)
- Functional locations (IFLOT)
- Reference functional locations (IRLOT)
- Object links (INET)
- Materials (MARA)
- Plant materials (MARC)
- Measuring points (IMPTT)
- Notifications (PMQMEL)
- Tasks (IMAV)
- Orders (PMAUFK)
- Order operations (PMAFVC)
- BOM headers (STKO_DOC)
- BOM items (STPO_DOC)
- Task lists (PMPLKO)
Generic Functions

4

Don’t set the 1:n RATIO indicator. If you do, this means that you can only assign a single document of this document type to the object. Generally, this doesn’t make sense.

Maintain Storage System

You use this Customizing function to define the storage location (known as the content repository) for the original files. The system uses these storage systems for documents whose document type allows for storage via Knowledge Provider.

Prerequisites

If you want to use your own database tables to physically store documents, you must define these beforehand in Transaction SE11. Furthermore, their structure must correspond to the structure of the database Table SDOKCONT1.

Customizing Path

Cross-Application Components • Document Management • General Data • Settings for Storage Systems • Maintain Storage System

Transaction

OAC0

Settings

Figure 4.24 shows the settings for a storage system.

![Change Content Repositories: Detail](image)

**Figure 4.24** Storage System

The following describes how to configure these settings from a plant maintenance perspective:

- The database of the SAP system should be the Storage Type.
- You should always select the latest Version No. for the database interface (currently 0045).
- The Contents table is the database table in which the documents are stored. You can define this table as a client-specific or cross-client table. You must define your own database tables in Transaction SE11 beforehand.

Maintain Storage Category

You use this Customizing function to set up one or more logical views (storage categories) of a storage system (content repository). Having several views of the same storage system enables you to store the original files in a highly structured manner.

Prerequisites

You must define the content repository (storage system) beforehand.

Customizing Path

Cross-Application Components • Document Management • General Data • Settings for Storage Systems • Maintain Storage Category

Transaction

OACT

Settings

Figure 4.25 shows you how to assign a category to a content repository.

![Change View “Maintain Categories”: Details](image)

**Figure 4.25** Storage Category
Define Workstation Application
For all file types that you want to use in SAP EAM (e.g., PDF, JPG, DWG, and DOC), you must use this Customizing function to specify the application to which they belong as well as how you want to control these file types.

Prerequisites
You must install the necessary programs for starting the relevant file types beforehand.

Customizing Path
Cross-Application Components • Document Management • General Data • Define Workstation Application

Settings
Figure 4.26 shows an overview table of all applications and associated file types. The standard SAP delivery already contains a large number of applications and file types, which you should check for accuracy and completeness. If the necessary file types don’t exist, you must add the corresponding new entries to this table.

As an example, Figure 4.27 shows the detail screen for the application JPG. Here, the following is important:

- **File Format**
  Be sure to assign all potential file formats (e.g., DOC application with the file formats DOC, DO CX, and RTF, among others).

- **Start Authorization**
  Select this indicator so that the application starts immediately after you double-click the file (e.g., a PDF in the equipment master) and is permitted to display the document.

![Change View "Define workstation application": Details](image)

You use the Define workstation application in network subfunction to define which program is to start when a certain file type is called. In Figure 4.28, this is shown for JPEG files.
Note the following regarding this subfunction:

- It always makes sense to specify "%auto%" as the first alternative so that the workstation then automatically uses the general MIME technology to search for the correct program.
- As a second alternative, enter a specific path for the program that you want to start.

For certain purposes, SAP also provides integrated viewers that can be called using a predefined string (e.g., 2D CAD drawings via EAIWeb.webviewer2D.1 %SAP-CONTROL%, 3D CAD drawings via EAIWeb.webviewer3D.1 %SAP-CONTROL%, or right hemisphere files via %VIEWER-CONTROL% %SAPPROVIS%).

4.9 Field Selection

You use field selections to define attributes for each object type. For example, you can determine the following:

- Which field must be maintained
- Whether the field is merely a display field
- Whether it’s a normal entry field
- Whether the field is to be hidden

Furthermore, you can and should base the field selection on influencing fields.

The field selection technique is available to you for almost all SAP objects. From an SAP EAM perspective, they are, in particular:

- Equipment and serial numbers
- Functional locations and reference functional locations
- Materials
- Notifications
- Orders, order operations, and components
- Completion confirmations
- Measuring points and measurement documents
- Maintenance plans
- Task lists
- Work centers

Customizing Functions for Field Selection

For each of the preceding objects, the system has separate Customizing functions for controlling the field selection. However, the technique is always the same. Next we’ll discuss this technique using the example of the field selection for functional locations.

Prerequisites

If you want to base the field selection on influencing fields (e.g., the field selection for a functional location is based on the functional location category or the field selection for an order is based on the order type), you must define these influencing factors beforehand.

Customizing Path

Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Technical Objects • Functional Locations • Define Field Selection for Functional Locations

Transactions

- OIAE for functional location-specific data
- OIAF for fields that are common to both the functional location and the piece of equipment
Furthermore, for the field selection, separate transactions are assigned to all other objects; for example, Transaction OIAD (Equipment), Transaction OIW0 (Maintenance Plans), Transaction OP5A – OP5H (Task Lists), Transaction OIAL (Notifications), Transaction OIAN (Order Header Data), Transaction OIOPD (Order Operations), or Transaction OIZN (Completion Confirmations).

**Settings**

You use the **Field Selection for Special Functional Location Fields** subfunction to define the field selection for fields that concern the functional location only.

You use the **Field Selection for Functional Location (Common Equipment/Location Fields)** subfunction to define those fields that are common to both the functional location and the piece of equipment.

After you select the function and choose ****, you access an overview of all influencing fields. In the case of the functional location, the following fields are suitable:

- The activity category (Add, Change, and/or Display)
- The object type
- The functional location category

In particular, the functional location category is frequently selected so that the field selection is based on this category. You then have the following options for each field (see Figure 4.29):

- **Input**
  - The field is a normal entry field.
- **Req.**
  - The field is a required entry field.
- **Disp.**
  - The field is a display only field.
- **Hide**
  - The field is hidden.
- **HiLi**
  - The field is highlighted (in a different color).

If you want to base the field selection on several influencing fields (e.g., on the functional location category and object type), two influencing factors then apply to a field. SAP has clearly defined priority rules for such cases (see Figure 4.30).
The priority rules are explained here:

- **Priority 1: Hide**
  If one of the influencing factors defines a field as a field that is to be hidden, it’s hidden irrespective of the field selection control for other influencing fields.

- **Priority 2: Display**
  If it’s not hidden, and an influencing factor defines it as a display field, it becomes a display field, even if other influencing factors define it as a required entry or normal entry field.

- **Priority 3: Required**
  If it’s not a hidden field or display field, and an influencing factor defines it as a required entry field, it becomes a required entry field, even if other influencing factors define it as a normal entry field.

- **Priority 4: Normal**
  If no influencing factor defines it elsewhere, this field remains a normal entry field.

Highlighting fields in color isn’t subject to any priority rules. If an influencing factor defines a field as highlighted, it’s flagged with another color.

### 4.10 List Variants

In SAP EAM, a large number of lists are available to you. SAP provides lists for the following objects:

- Equipment (IE05, IH08)
- Fleet objects (IE36, IE37)
- Serial numbers (IQ08, IQ09)
- Functional locations (IL05, IH06)
- Reference functional locations (IL15, IH07)
- Object links for functional locations (IN15, IN16)
- Object links for equipment (IN18, IN19)
- Materials (IH09)
- Notifications (IW28, IW29)
- Notification items (IW68, IW69)
- Activities (IW64, IW65)
- Tasks (IW66, IW67)
- Orders (IW38, IW39)
- Order operations (IW37, IW49)
- Completion confirmations (IW47)
- Measuring points (IK07, IK08)
- Measurement documents (IK17, IK18)
- Maintenance plans (IP15, IP16)
- Maintenance items (IP17, IP18)
- Task lists (IA08, IA09)

In the case of all lists, a large number of Customizing functions for selecting and determining the layout of the lists are available to you, each of which is described next.

**Customizing Functions for Configuring Lists**

You can use these Customizing functions to define the following presettings for all users:

- Determine all potential selection fields.
- Set specific values for the selection fields.
- Perform the field selection for the list display.

These settings apply to all users who haven’t created their own user-specific variants or don’t use other general variants.

Similarly, list editing, which is introduced here, applies to all aforementioned objects. For the sake of simplicity, we’ll use the example of a functional location to illustrate the list editing technique.

**Prerequisites**

Generally, there are no prerequisites. If, however, you want to define a selection or display variant that makes reference to other Customizing functions (e.g., functional location category), you must define it beforehand.
**Customizing Path**

**Plant Maintenance and Customer Service • Master Data in Plant Maintenance and Customer Service • Technical Objects • Functional Locations • Set List Editing for Functional Locations**

**Transaction**

OIW6

Furthermore, separate transactions are generally assigned to all other Customizing functions for list editing; for example, Transaction OIYC (Equipment), Transaction OIYH (Serial Numbers), Transaction OIWW (Maintenance Plans), Transaction OIW5 (Maintenance Dates), Transaction OIWO (Task Lists), Transaction OIWI (Notifications), Transaction OIWL (Orders), Transaction OIWU (Operations), or Transaction OIW3 (Completion Confirmations).

**Settings**

When you execute the Customizing function, you obtain the following three subfunctions:

- **List for selection screen: Display mode**
- **List for selection screen: Change mode**
- **Maintain list for field selection**

You should first maintain the selection screen. Then, depending on your selection, you’ll obtain a list of all potential selection fields. You can then choose to access the detail screen. Here, you can decide how to proceed for each field. The settings on this screen have the following meaning (see Figure 4.31):

- **Protect field**
  If selected, the relevant selection criterion is write protected at runtime (e.g., if a user starts the variant).

- **Hide field**
  If selected, the relevant selection criterion is hidden when a user starts a variant or changes the values.

- **Hide field ‘BIS’**
  If selected, the same applies here as in Hide field, and then it’s not possible to specify an interval.

- **Required field**
  If selected, a value must be entered for the relevant selection criterion when the user starts a variant.

**Figure 4.31  Functional Location: Selection Variant**

You use the subfunction **Maintain field selection list** to determine the layout of the standard list. You can then choose to access a dialog box in which you can configure these settings (see Figure 4.32):

- **Displayed Columns**
  Which fields are to be displayed?

- **Sort order**
  According to which criteria is the list to be sorted?

- **Filter**
  Is a filter to be used?

- **View**
  Do you want to output an SAP list or an Excel table?
Display
For example, do you want a striped pattern, or do you want to optimize the column width?

In the case of a list object (e.g., a functional location), multilevel lists are used to display other objects (e.g., orders, notifications, and documents) for a functional location.

Customizing Functions for the Field Selection for Multilevel List Displays
You use this Customizing function to adjust the presets for multilevel lists. Here, you define which fields are to be displayed for which objects. These settings apply to all users who haven’t created their own user-specific variants or don’t use other general variants.

The multilevel list technique is available to you for all of the preceding SAP objects. For the sake of simplicity, we’ll use the example of a functional location to illustrate the multilevel list technique.

Prerequisites
There are no specific prerequisites.

Customizing Path

The following subfunctions are available for the individual objects:
- Define Field Selection for Functional Location Fields
- Define Field Selection for Equipment Usage Data Fields
- Define Field Selection for Equipment Master Data Fields
- Define Field Selection for Partner Data Fields
- Define Field Selection for Notification Data Fields
- Define Field Selection for Order Data Fields
- Define Field Selection for Class Data Fields
- Define Field Selection for Characteristic Data Fields
- Define Field Selection for Document Management Fields
- Define Field Selection for Object Link Data Fields
- Define Field Selection for Measuring Point and Counter Fields
Define Field Selection for Measurement Document and Counter Reading Fields

Define Field Selection for Permit Fields

Settings

Figure 4.33 shows the settings for the order segment in the multilevel list for functional locations. However, these are representative of all other objects.

![Field Selection: Multilevel List for Functional Locations (Order Segment)](image)

- **DispPosition**
  You define, as a presetting, the position at which the field is to appear. By default, fields without an item number aren’t displayed. When designing their individual layouts, users can change or delete the item number as well as enter an item number for other fields so that they are displayed.

- **Invisible**
  You define whether the field is to be invisible for user-specific list designs. If a field is invisible, a user can’t select it for his variant.
## Contents

**Acknowledgments** ..................................................................................... 11

1 **About This Book** ................................................................. 13
   1.1 Target Audience ........................................................................ 14
   1.2 What This Book Can and Cannot Do ...................................... 15
   1.3 Structure of This Book .......................................................... 16
   1.4 How to Read This Book .......................................................... 17

2 **SAP Projects in Plant Maintenance** ........................................ 21
   2.1 A Possible Process for Your SAP Plant Maintenance Project ..... 21
      2.1.1 Implementation Strategy .............................................. 21
      2.1.2 Methodology ........................................................... 23
   2.2 General Risk Factors and Success Factors in SAP Projects:
      An Empirical Survey .......................................................... 28
      2.2.1 Risk Sources ................................................................ 28
      2.2.2 Success Factors ......................................................... 31
   2.3 Tips for Your Plant Maintenance Project .................................. 32
      2.3.1 Phase 1: Project Preparation .......................................... 33
      2.3.2 Phase 2: Business Blueprint ........................................ 60
      2.3.3 Phase 3: Realization ..................................................... 67
      2.3.4 Phase 4: Final Preparation ............................................ 69
      2.3.5 Phase 5: Go-Live and Support ..................................... 70
      2.3.6 Phase 6: Operate ......................................................... 70

3 **Organizational Structures** ........................................................ 73
   3.1 General SAP Organizational Units ......................................... 74
      3.1.1 Company Code ......................................................... 75
      3.1.2 Controlling Area ........................................................ 78
      3.1.3 Plant General ............................................................ 82
   3.2 The Plant from a Maintenance Perspective .............................. 85
   3.3 Maintenance-Specific Organizational Units ............................. 89
   3.4 Work Centers ....................................................................... 93
# Contents

4 Generic Functions ..................................................................... 105

4.1 Object Information ............................................................... 106
4.2 Status Management ............................................................... 108
4.3 Number Assignment ............................................................. 114
4.4 Warranties ........................................................................... 117
4.5 Measuring Points and Counters ............................................ 121
4.6 Permits .................................................................................. 125
4.7 Partners ................................................................................ 127
4.8 Documents .......................................................................... 133
4.9 Field Selection .................................................................... 142
4.10 List Variants ....................................................................... 146
4.11 Multilevel Lists .................................................................... 150

5 Structuring of Technical Systems ............................................. 153

5.1 Structuring Elements .............................................................. 153
5.2 Functional Locations and Reference Functional Locations .... 155
5.3 Equipment .......................................................................... 167
5.4 Fleet Management .................................................................. 177
5.5 Links and Networks ............................................................... 186
5.6 Linear Asset Management .................................................... 189
5.7 Materials and Assemblies ...................................................... 201
5.7.1 Material Types ................................................................ 202
5.7.2 Field Selection ............................................................... 218
5.8 Serial Numbers ................................................................... 225
5.9 Bill of Material .................................................................... 232

6 Maintenance Processing ......................................................... 243

6.1 Notifications ....................................................................... 245
6.1.1 Notification Types ............................................................ 247
6.1.2 Catalogs and Catalog Profiles .......................................... 261
6.1.3 Other Functions ............................................................. 269
6.2 Orders ............................................................................... 279
6.2.1 Order Types .................................................................. 284
6.2.2 Material Planning ........................................................... 302
6.2.3 Scheduling .................................................................... 330

7 Preventive Maintenance ........................................................... 419

7.1 Task Lists ........................................................................... 421
7.2 Maintenance Plans ............................................................... 431

8 Additional Business Processes .................................................. 437

8.1 External Processing ............................................................... 438
8.1.1 External Processing as an Individual Purchase Order ....... 439
8.1.2 External Processing with Service Specifications ............ 446
8.2 Refurbishment ..................................................................... 454
8.2.1 Material Master ............................................................... 456
8.2.2 Refurbishment Notifications .......................................... 462
8.2.3 Refurbishment Orders ...................................................... 463
8.2.4 Material Requirements Planning .................................... 469
8.3 Subcontracting .................................................................... 471
8.4 Calibration of Test/Measurement Equipment ....................... 477
8.4.1 Customizing Functions for Plant Maintenance ............... 479
8.4.2 Customizing Functions for Quality Management ........... 494
8.5 Pool Asset Management ....................................................... 514
8.6 Maintenance Event Builder .................................................. 533
8.7 Shift Reports and Shift Notes ................................................. 535

9 Usability .............................................................................. 547

9.1 Category 1: The User's Own Options .................................... 549
9.1.1 General User Parameters ............................................... 549
9.1.2 Maintenance-Specific User Parameters ......................... 551
# Contents

9.1.3 Roles and Favorites ........................................................ 556
9.1.4 List Variants ................................................................. 557
9.1.5 Personalizing Input Help ................................................ 564
9.1.6 Buttons and Key Combinations ...................................... 565
9.1.7 Table Controls ............................................................. 565

9.2 Category 2: The IT Department's Nonprogramming Options ...... 568
  9.2.1 Transaction Variants ....................................................... 568
  9.2.2 Customizing ................................................................. 575
  9.2.3 Action Box ................................................................. 578
  9.2.4 GuiXT ................................................................. 579
  9.2.5 SAP Screen Personas ...................................................... 586

9.3 Category 3: The IT Department's Programming Options .............. 589
  9.3.1 Upstream Transactions ................................................... 589
  9.3.2 BAPIs ................................................................. 591
  9.3.3 Web Interface ........................................................... 593
  9.3.4 Customer Exit ........................................................... 596
  9.3.5 BAdIs and Enhancement Points ...................................... 600
  9.3.6 Workflow ................................................................. 602

## Appendices ................................................................. 609

A Project Plans and Overviews .................................................. 609
  A.1 Functional Scope of SAP EAM and Assignment of Priorities ...... 609
  A.2 Authorization Objects in SAP EAM ........................................ 614
  A.3 BAPIs for Plant Maintenance ............................................. 616
  A.4 Customer Exits for Plant Maintenance ................................... 623

B The Author ........................................................................ 629

Index ................................................................. 631
Index

A
Accelerated SAP, 23
Action box, 578
ASAP, 23
As-is analysis, 46, 62
Authorization concept, 25, 63
Authorization object, 73
Availability check, 302
Available capacity, 345

B
BAdI, 600
BAPI, 591
Basic order view, 298
Bill of material, 155
equipment bill of material, 155, 232
for a functional location, 155, 232
material BOM, 155
Bill of material → see BOM, 232
BOM status, 232
BOM usage, 428
BPMN, 58
Business Add-In → see BAdI, 600
Business Application Programming Interface → see BAPI, 591
Business Blueprint, 25, 40, 60
Business processes, 243
Business Process Master List, 42
Business Process Model and Notation → see BPMN.
Business process modeling, 54

C
CAD, 22, 64
Calibration, 477
Capacity leveling, 345
Capacity planning, 344
Capacity requirement, 345
Catalog type, 263
CATS, 414, 597
Change management, 34
Chart of accounts, 77
Code group, 263
Combined order/operation list, 558
Company code, 75
Completion confirmation, 408, 597
Configure Formula Definition formula, 333
Configuring the Material Master function, 208
Confirmation reporting, 408
Construction type, 421
Content repository, 138
Control key, 100, 330, 345, 438
Controlling area, 78
Conversion module, 318
Costing, 363
Counter, 121, 597
Cross-Application Time Sheet → see CATS, 414
Cross-plant maintenance, 88
Customer exit, 596
CNEX0027, 597
CONFPM01, 598
COZFO001, 598
COZFO002, 598
IHCL0001, 597
IWO10004, 598
IWO10009, 598
IWO10012, 599
IWO10021, 598
IWO10027, 599
IWO20001, 598
QQMA0001, 599
QQMA0014, 598
Cut-over plan, 43, 69

D
Deadline monitoring, 420
Debit cost element, 384
Default value, 426
Display variant, 563
Document, 133
Dynamic date calculation, 560, 561

E

EAM App, 593
EAM lists, 558
Electronic parts catalog, 310
Enhanced multiple counter plan, 436
Enhancement point, 601
Equipment, 154, 167
Estimated costs, 363
Event-driven process chains, 55
External processing, 439
with service specifications, 446

F

Favorite, 556
Field selection, 142, 218
Final Preparation, 26
Fiscal year variant, 77
Flavor, 586
Fleet management, 177
Formula parameter function, 332
Function
Assign Master Data Fields of Assets and Equipment, 607
Assign Network Attribute Categories to Network Types, 198
Assign Notification Types to Order Types, 260, 467
Assign Order Types to Maintenance Plants, 290
Assign Secondary Screens, 214
Assign View Profile and Equipment Categories to Fleet Object Types, 178
Bar Chart Define Graphic Profiles, 341
Basic Settings for Pool Asset Management, 519
Change Catalogs and Catalog Profile for Notification Type, 268
Configure Order Types, 287, 463, 485
Configure Planner Group, 425
Configure Screen Sequence for Work Center, 102
Configure Special Functions for Maintenance Planning, 436
Configure Split Valuation, 458
Convert HTML Fields to SAP Fields, 313
Convert HTML Field Values, 317
Create Classes and Characteristics (CL02/ CTO4), 521
Create Default Value Profiles for External Procurement, 324, 441
Create Default Value Profiles for General Order Data, 404
Create Structure Indicator for Reference Locations/Functional Locations, 157
Create System Conditions or Operating Conditions, 398
Default Values for Task List Data and Profile Assignments, 406, 443
Define Access Sequence for Determining Address Data, 324
Define Account Assignment Category and Document Type for Purchase Requisitions, 323
Define Action Box, 275
Define Activity Types for Pool Categories, 530
Define Additional Business Views for Equipment Categories, 171
Define Attributes of Material Types, 205
Define Attributes of System Messages, 449
Define BOM Status, 232
Define BOM Usages, 234
Define Calculation Method for Fleet Consumption Values, 185
Define Capacity Category, 346
Define Catalog Profile, 265, 489
Define Catalogs, 311
Define Category of Functional Location, 161
Define Change Documents, Collective Purchase Requisition, MRP Relevance, 326, 444
Define Checking Control, 304
Define Checking Group, 306
Define Checking Rules, 303
Define Consumable Types, 179
Define Control Parameters for Completion Confirmations, 408
Define, Copy, Delete, Check Plant, 82
Define Default Value for Planning Indicator for Each Order Type, 291
Define Default Values for Component Item Categories, 320
Define Default Values for Inspection Type, 504
Define Default Values for Units for Operation, 340
Define Default Values for Value Categories, 267
Define Documentation for Goods Movements for the Order, 328, 468
Define Document Types, 134
Define Engine Types for Fleet Objects, 181
Define Field Selection, 417
Define Field Values for PM/PS Reference Element, 392
Define Follow-Up Action, 508
Define History-Related Fields, 174
Define Identifier for Inspection Points, 497
Define Industry Sectors and Industry-Sector-Specific Field Selection, 221
Define Inspections in Plant Maintenance, 505
Define Installation at Functional Location, 175
Define Investment Profiles, 394
Define Item Categories, 236
Define Text Control for Notification Types, 256
Define LRP Type, 192
Define Material Provision Indicators, 476
Define Material Types Allowed for BOM Item, 238
Define Measuring Point Indicators, 476
Define Media for Object Links, 188
Define Network Attribute Categories, 196
Define Network Group, 195
Define Network Types, 194
Define Notification- and Order Integration, 293, 492
Define Notification Types, 248, 487
Define Numbers Ranges, 114
Define Object Information Keys, 106
Define Object Types, 187
Define Offset Types, 190
Define Organizational Area for Characteristics with Linear Data, 193
Define Overall Profile in Capacity Leveling, 351
Define Overall Profiles in Capacity Evaluation, 350
Define Parameters for Subnetworks, 394
Define Partner Determination Procedure and Partner Function, 128
Define Permit Categories, 126
Define Plant Sections, 91
Define Plant-Specific Field Selection and Plant-Specific Screen Selection, 222
Define Pool Categories function, 529
Define Presetting for Free Assignment of Material, 428
Define Printer, 357
Define Priorities, 269
Define Priorities for BOM Usage, 239
Define Profiles with Default Values, 426
Define PRT Control Keys, 399
Define Recording Configuration, 513
Function (Cont.)
Define Release Procedure for Service Entry
Sheet, 452
Define Relevant Fields for Assignment of IM
Program, 390
Define Response Monitoring, 272
Define Scope of Check, 308
Define Selection Criteria for Alternative
Determination, 240
Define Serialization Attributes for
Movement Types, 230
Define Serial Number Profiles, 227, 473, 483
Define Service Category, 448
Define Settings for Planning Board, 524
Define Shift Report Types, 542
Define Shift Sequences, 347
Define Shop Papers, Forms, and Output
Programs, 354, 520
Define Sort Fields for Maintenance Plan,
435
Define SPC Criteria, 495
Define Special Measurement Positions for
Fleet Objects, 183
Define Status Control for Shop Papers, 362
Define Structural Display for Functional
Locations, 163
Define Structure of Data Screens for Each
Screen Sequence, 209
Define Structure of Data Screens for Each
Screen Sequence, 470
Define Task List Usage, 424
Define Task List Usage Keys, 99
Define Transaction Start Values, 258
Define Transfer of Project or Investment
Program, 389
Define Usage Types for Fleet Objects, 180
Define User Fields, 429
Define User Status, 109
Define Valid Material Types for BOM
Header, 235
Define Valuation Variants, 373
Define Warranty Counters, 120
Define Warranty Types, 119
Define Workstation Application, 140
Determine Movement Types for Material
Reservations, 321

Function (Cont.)
Edit Company Code, 75
Edit Display Variants of Planning Board,
525
Edit Object Processing, 523
Edit Relationships for Characteristics and
Fields, 522
Global Parameters for Company Code, 77
Indicate Order Types for Investment
Measures, 396
Indicate Order Types for Refurbishment
Processing, 466
Maintain Allocation Structures, 381
Maintain Catalogs, 262, 541
Maintain Catalogs for Usage Decisions, 506
Maintain Catalogs Function, 488
Maintain Control Keys, 100, 440, 447
Maintain Costing Sheet, 370
Maintain Costing Variants, 376
Maintain Default Values for Control Keys
for Order Types, 294
Maintain Equipment Category, 169, 480
Maintain Field Selection for Data Screens,
223
Maintain Inspection Lot Origins and Assign
Inspection Types, 502
Maintain Inspection Types, 500
Maintain Maintenance Planning Plant, 85
Maintain Order of Main and Additional
Screens, 215
Maintain Revision Type, 533
Maintain Settlement Profiles, 384, 465
Maintain Status, 527
Maintain Storage Category, 139
Maintain Storage System, 138
Maintain Suitabilities, 430
Maintain Task List Status, 422
Maintain Value Categories, 364
Make Settings for Shift Note Type, 538
Make Settings for Units of Measurement for
Monitoring of Consumption, 182
Make System Settings for Measuring Points
and Measurement Documents, 122
Message Control, 400
Network Define Graphic Profiles, 343
Overview of Notification Type, 255, 462,
491, 516, 536

Plan Automatic Usage Decision, 511
Send Shop Papers by Email, 361
Set Maintenance Plan Categories, 432, 493
Set Scheduling Parameters, 337
Set Screen Templates for Completion
Confirmation, 411
Set Screen Templates for the Notification
Type, 250
Set Up Data Entry Profiles, 414
Set View Profiles for Technical Objects, 479
Set View Profiles for Technical Objects, 158
Set Workflow for Maintenance
Notifications, 604
Set Workflow for Orders, 604
Specify Conditions for Synchronization of
Master Data, 605
Usage History Update, 173
Functional location, 153, 155

Legacy data transfer, 25, 64
Linear asset, 189
Linear Asset Management, 189
Linear reference pattern, 192
List activities, 558
collection confirmations, 558
components, 558
display, 199
equipment, 558
fleet objects, 558
functional locations, 558
goods movements, 558
maintenance dates, 558
maintenance items, 558
maintenance plans, 558
material, 558
material serial number, 558
measurement documents, 558
measures, 558
measuring points, 558
notification items, 558
notifications, 558
object links and object network, 558
order operations, 558
orders, 558
permits, 558
reference functional locations, 558
reference measuring points, 558
shift notes, 559
shift reports, 559
shifts, 559
task lists, 559
variant, 557
LSMW, 65

Maintenance
activity type, 295
assembly, 154, 201
item, 420
notification, 245
plant, 86
**Maintenance (Cont.)**
- preventive, 419
- processing, 243
- strategy, 419

**Maintenance Event Builder**
- see MEB, 533

**Maintenance plan**
- multiple counter plan, 432
- set categories, 432
- single cycle plan, 431
- special functions, 436
- strategy plan, 431
- type, 431

**Material**
- free assignment, 428
- master, 456
- planning, 302, 320
- type, 201, 202

**Material requirements planning**, 469

**Material type**
- Customizing, 204

**Measuring point**, 121, 597

**MEB**, 533

**Mobile Asset Management**, 22

**Multilevel list**, 150

**Notepad**, 580

**Notification**
- activity, 261
- maintenance call object, 433
- processing, 578
- type, 247, 255

**Number assignment**, 114

**Object information**, 106

**Object link**, 154, 186

**Object list**, 279

**Object networks**, 194

**Operate**, 27

**Operation**, 421

**Order**, 279, 494, 533, 597
- costs, 281
- header, 279
- maintenance call object, 432
- material list, 280
- object list, 279
- operation, 280
- planning indicator, 291
- production resource/tool, 280
- settlement, 380
- settlement rule, 280
- type, 284
- Organizational structure, 73, 74
- Organizational unit, 74

**Purchase order**, 439, 472
- define document types, 475

**Purchase requisition**, 439, 472, 598

**Purchase requisition**, 439, 472, 598

**Report RIAUFM00**, 329

**Results of feasibility study**, 54

**Risk factor**, 21, 28

**Role**, 556

**Role-based menus**, 556

**Screen sequence**, 216

**Selection variant**, 559

**Serial number**, 155, 225, 454

**Service entry sheet**
- maintenance call object, 433
- service specification, 439, 446

**Service order**, 439, 472

**Shift definition**, 348

**Shift report**, 535

**Single cycle plan**, 431

**Standard value key**, 97

**Status management**, 108

**Strategy plan**, 431

**Structure indicator**, 157

**Structuring of technical systems**, 153

**Subcontracting**, 471

**Success factor**, 21, 31

**Suitability**, 430

**System message**, 449

**System status**, 108

**Transaction**
- BAPI, 591
- CAC2, 417
- CM01, 346, 350
- CM34, 346
- DIWPSC4, 534
- GM01, 118
- GM04, 120
- IA08, 559
- IA09, 559
- IE05, 558
- IE36, 558
- IE37, 558
- IH07, 558
- IH08, 558
- IH09, 558
- IK07, 558
- IK07R, 558

**Transaction**
- BAPI, 591
- CAC2, 417
- CM01, 346, 350
- CM34, 346
- DIWPSC4, 534
- GM01, 118
- GM04, 120
- IA08, 559
- IA09, 559
- IE05, 558
- IE36, 558
- IE37, 558
- IH07, 558
- IH08, 558
- IH09, 558
- IK07, 558
- IK07R, 558

**Shift report**, 535

**Single cycle plan**, 431

**Standard value key**, 97

**Status management**, 108

**Strategy plan**, 431

**Structure indicator**, 157

**Structuring of technical systems**, 153

**Subcontracting**, 471

**Success factor**, 21, 31

**Suitability**, 430

**System message**, 449

**System status**, 108

**Transaction**
- BAPI, 591
- CAC2, 417
- CM01, 346, 350
- CM34, 346
- DIWPSC4, 534
- GM01, 118
- GM04, 120
- IA08, 559
- IA09, 559
- IE05, 558
- IE36, 558
- IE37, 558
- IH07, 558
- IH08, 558
- IH09, 558
- IK07, 558
- IK07R, 558

**Transaction**
- BAPI, 591
- CAC2, 417
- CM01, 346, 350
- CM34, 346
- DIWPSC4, 534
- GM01, 118
- GM04, 120
- IA08, 559
- IA09, 559
- IE05, 558
- IE36, 558
- IE37, 558
- IH07, 558
- IH08, 558
- IH09, 558
- IK07, 558
- IK07R, 558
<table>
<thead>
<tr>
<th>Transaction (Cont.)</th>
<th>Transaction (Cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IK08, 558</td>
<td>OICO, 476</td>
</tr>
<tr>
<td>IK08R, 558</td>
<td>OICP, 238</td>
</tr>
<tr>
<td>IK17, 558</td>
<td>OICQ, 241</td>
</tr>
<tr>
<td>IK18, 558</td>
<td>OIDA, 288, 466, 485, 520</td>
</tr>
<tr>
<td>IL05, 558</td>
<td>OIDF, 355</td>
</tr>
<tr>
<td>IL06, 558</td>
<td>OIDG, 355</td>
</tr>
<tr>
<td>IL15, 558</td>
<td>OIDH, 358</td>
</tr>
<tr>
<td>IN15, 558</td>
<td>OIDI, 358</td>
</tr>
<tr>
<td>IN16, 558</td>
<td>OIDJ, 358</td>
</tr>
<tr>
<td>IN18, 558</td>
<td>OIDS, 292</td>
</tr>
<tr>
<td>IN19, 558</td>
<td>OIEN, 116</td>
</tr>
<tr>
<td>IP15, 558</td>
<td>OIEZ, 175</td>
</tr>
<tr>
<td>IP16, 558</td>
<td>OIK2, 366</td>
</tr>
<tr>
<td>IP17, 558</td>
<td>OIL1, 423</td>
</tr>
<tr>
<td>IP18, 558</td>
<td>OIL6, 426</td>
</tr>
<tr>
<td>IP24, 558</td>
<td>OIL7, 429</td>
</tr>
<tr>
<td>IPM2, 558</td>
<td>OINM, 273</td>
</tr>
<tr>
<td>IPM3, 558</td>
<td>OINM, 188</td>
</tr>
<tr>
<td>IQ08, 558</td>
<td>OIO4, 296</td>
</tr>
<tr>
<td>ISHN4, 559</td>
<td>OIO5, 296</td>
</tr>
<tr>
<td>ISHR4, 559</td>
<td>OIO6, 295</td>
</tr>
<tr>
<td>IW36, 558</td>
<td>OIO8, 340</td>
</tr>
<tr>
<td>IW37, 558</td>
<td>OIOD, 291</td>
</tr>
<tr>
<td>IW38, 558</td>
<td>OIOF, 377</td>
</tr>
<tr>
<td>IW28, 558</td>
<td>OIOG, 304</td>
</tr>
<tr>
<td>IW29, 558</td>
<td>OIOH, 304</td>
</tr>
<tr>
<td>IW37N, 558</td>
<td>OIOI, 304</td>
</tr>
<tr>
<td>IW38, 558</td>
<td>OIOJ, 408</td>
</tr>
<tr>
<td>IW39, 558</td>
<td>OIPK, 157</td>
</tr>
<tr>
<td>IW40, 558</td>
<td>OIPU, 165</td>
</tr>
<tr>
<td>IW41, 558</td>
<td>OIPV, 165</td>
</tr>
<tr>
<td>IW42, 558</td>
<td>OIS2, 227, 473, 483</td>
</tr>
<tr>
<td>IW43, 558</td>
<td>OITA, 395</td>
</tr>
<tr>
<td>IW44, 558</td>
<td>OIW6, 148</td>
</tr>
<tr>
<td>IW45, 558</td>
<td>OIW7, 163</td>
</tr>
<tr>
<td>IW46, 558</td>
<td>OIZD, 99</td>
</tr>
<tr>
<td>IW47, 558</td>
<td>OIZU, 103</td>
</tr>
<tr>
<td>IW48, 558</td>
<td>OKP6, 376</td>
</tr>
<tr>
<td>IW49, 558</td>
<td>OKP8, 374</td>
</tr>
<tr>
<td>IW50, 558</td>
<td>OLM3, 221</td>
</tr>
<tr>
<td>IW51, 558</td>
<td>OMS9, 223</td>
</tr>
<tr>
<td>IW52, 558</td>
<td>OMSA, 222</td>
</tr>
<tr>
<td>IW53, 558</td>
<td>OMSB, 220</td>
</tr>
<tr>
<td>IW54, 558</td>
<td>OMT2, 210</td>
</tr>
<tr>
<td>IW55, 558</td>
<td>OMT3R, 215, 217</td>
</tr>
<tr>
<td>MARCH, 236</td>
<td>OMT3Z, 214</td>
</tr>
<tr>
<td>OACD, 138</td>
<td>OMI1, 240</td>
</tr>
<tr>
<td>OACT, 139</td>
<td>OMI2, 457, 470</td>
</tr>
<tr>
<td>OBD, 111</td>
<td>OWC, 458</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transaction (Cont.)</th>
<th>Transaction (Cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIICO, 476</td>
<td>OITR, 332</td>
</tr>
<tr>
<td>OIPA, 350</td>
<td>OITA, 395</td>
</tr>
<tr>
<td>OIPB, 351</td>
<td>OIW6, 148</td>
</tr>
<tr>
<td>OIPD, 354</td>
<td>OIW7, 163</td>
</tr>
<tr>
<td>OIPG, 355</td>
<td>OIZD, 99</td>
</tr>
<tr>
<td>OIPJ, 356</td>
<td>OIZU, 103</td>
</tr>
<tr>
<td>OIPK, 357</td>
<td>OKP6, 376</td>
</tr>
<tr>
<td>OIPM, 358</td>
<td>OKP8, 374</td>
</tr>
<tr>
<td>OIPN, 359</td>
<td>OLM3, 221</td>
</tr>
<tr>
<td>OIPQ, 360</td>
<td>OMS9, 223</td>
</tr>
<tr>
<td>OIPR, 361</td>
<td>OMSA, 222</td>
</tr>
<tr>
<td>OIPS, 362</td>
<td>OMSB, 220</td>
</tr>
<tr>
<td>OIPW, 363</td>
<td>OMT2, 210</td>
</tr>
<tr>
<td>OIPX, 364</td>
<td>OMT3R, 215, 217</td>
</tr>
<tr>
<td>OIPY, 365</td>
<td>OMT3Z, 214</td>
</tr>
<tr>
<td>OIPZ, 366</td>
<td>OMI1, 240</td>
</tr>
<tr>
<td>OIR1, 367</td>
<td>OMI2, 457, 470</td>
</tr>
<tr>
<td>OIR2, 368</td>
<td>OWC, 458</td>
</tr>
</tbody>
</table>

Usability, 61, 547
User acceptance, 61
User Interface Editor → see UI Editor, 586
User parameter, 549
  maintenance-specific, 551
User status, 109

V
Value chain diagram (VCD), 54
Vendor field selection, 132

W
Web interface, 593
Work center, 93, 127, 438
  performing, 93
  person as a work center, 93
  responsible, 93
  type, 94
Workflow, 602
Workshop, 93

U
UI Editor, 586
Upstream transaction, 589, 590
Dr. Karl Liebstückel is a professor of Information Management and Business Software at the Würzburg-Schweinfurt University of Applied Sciences, Germany. He has more than 25 years' experience in SAP plant maintenance. Over the course of his career, Karl Liebstückel has gained extensive practical experience in more than 70 plant maintenance projects. He was a member of the executive board of the German SAP User Group (DSAG) from 2003 to 2012, and chairman from 2007 to 2012. Furthermore, he presided over its Plant Management and Service Management work group from 2001 to 2008. Dr. Liebstückel owns his own consulting company and is the author of several books on the topic of logistics. Previously, he worked at SAP AG for 13 years in the areas of development, consulting, and training for plant maintenance and service management (last two positions held prior to leaving SAP AG: platinum consultant and global product manager). You are welcome to contact the author by email (karl@liebstueckel.com).