



How To Set Up and Use the SAP ME Genealogy Features

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SAP ME How-To-Guide for Genealogy Features

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Document History

Document Version	Description	Author
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1 Introduction

1.1 Purpose

Genealogy provides control of component consumption, component and WIP accuracy, improved component traceability, and compliance with customer requirements regarding change control and shipping. It provides visibility into the current status and location of the product, the activities that have been logged for the product, and all manufacturing personnel who have worked on the product. It solves the issue of tracking processes, resources, tools, and materials used during the manufacturing of a product. It also provides visibility and traceability into the complete product life cycle, from inception to “as-built” and “as-maintained”.

Genealogy is the tracking of a product’s assembly through the manufacturing process. It supports the ability to do the following:

- Track information about components assembled into a material
- Verify that all required components are assembled at the start or completion of an operation
- Place components on hold to prevent quality issues
- Load and replenish components on resources during the production process
- Determine supplier information for failed components
- Produce reports detailing exactly which components were assembled into a given SFC number

Using data collection processes, the system creates a comprehensive history of a component in the context of all manufacturing events and provides data for analysis. It allows you to trace component issues quickly, efficiently, and precisely to their points of use in all products.

For example, if a product fails, it can be traced back to where the product was built, how it was built, and with what components it was built, even down to the vendor. When diagnosing which components failed, you can find every assembly where a similar component has been used, thus enabling the points at which a defective component may have been used in other products to be located more quickly. This can reduce costly product recalls.

1.2 Scope

This Guide covers all aspects of the Genealogy features and their other activities in SAP ME. The system supports following genealogy types:

Note: Not all activities affected will be described in detail in this document, however more information on each subject can be found in SAP ME Help.

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- Discrete (see [Discrete Genealogy](#))
- Time-based (see [Time-Based Genealogy](#))

Genealogy utilizes multiple modules (activities) in SAP ME to accomplish the task of tracking of component consumption for different configurations and integration requirements. See also [section 5](#) in this document for other activities to consider.

- **Genealogy** in SAP ME:
 - Plug-ins
 - Assembly Point (CT500)
 - Component List (COMP_LIST_DISPLAY)
 - As-Built Configuration (CT510)
 - Load or Replenish (EN531)
 - Pack/Unpack (PK020)
 - SFC BOM Component Replacement (CT550)
 - SFC Reassignment (SU560)
 - Component Hold/Release (PD220)
 - Component Usage Reset (CT560)
 - Floor Stock Receipt (Inventory ID) (IN500)
 - Maintenance
 - Slot Configuration Maintenance (EN040)
 - Resource Slot Configuration Setup (EN530)
 - Resource Setup (EN510)
 - Container Maintenance (PK010)
 - Validation Mask Maintenance (EN110)
 - Vendor Maintenance (PD200)
 - Material Maintenance (PD060)
 - Maintain Floor Stock (MAINT_INV)
 - Storage Location Maintenance (STORAGE_LOC_MAINT)
 - Data Field Definition Maintenance (SYS160)
 - Data Field Assignment Maintenance (SYS130)
 - Work Center Maintenance (EN080)
 - Reports
 - Floor Stock Report (IN700)
 - Aging Report (DM780)
 - As-Built Summary Report (CT700)
 - Packing Report (PK700)
 - Resource Setup Report (CT720)
 - Component Usage Report (CT710)
 - Device History Report (PD300)
 - SFC Forward Location ID Report (DM707)
 - SFC Location ID Activity Report (TR703)

- SFC Location ID History Report (DM703)
- SFC Location ID Status Report (DM705)
- ODS Component Usage Report (CT710_ODS)
- ODS As-Built Summary Report (CT700)

1.3 Glossary

SFC

A unique identifier representing a specific instance of a particular material being built during the manufacturing process.

The shop floor control (SFC) number can have a quantity of one or greater than one. If the SFC number has a quantity of one, it can be the serial number of the specific instance of the material being built if the SFC number has a quantity greater than one, it can be created to represent the lot of the specific instance of the material being built.

For example, PRINT900 is a material produced by the ABC plant.

The SFC number ABC5238 represents the specific instance of PRINT900 that is currently being built.

TSM

Time Sensitive Material - refers to materials having physical or process characteristics directly impacted by time exposure affecting end product viability

WIP

Work In Process.

Traceability

Traceability is the ability to verify the history, location, or application of an item (Material, SFC) by means of documented recorded identification.

As-Built

This activity validates the location, reservation, and time-sensitive key attributes before the material can be consumed by an SFC number.

Component

The raw material, part, or subassembly that goes into a higher-level assembly.

2 Discrete Genealogy Feature Overview

2.1 Description and Applicability

As components are assembled onto the product, the system records the assembly data for each component.

The assembly data for a component can be defined at the *Material* or *BOM Component* level. These data field values are collected to provide genealogy for each component that needs to be tracked (see [Data Field Definition and Assignment](#)). A distinct SFC Assembly record is created and updated as the manufacturing process proceeds and higher level assembly of components occurs. The system traces all actions that take place on an SFC number such as addition of BOM and non-BOM components, removal or replacement of specific component data until the product is finished (see [As-Built Configuration](#)).

The As-Built Configuration Summary report can be used to view the history and life cycle of the component and the data attributes gathered during the manufacturing and assembly process. Assembly Point (see [Assembly Point \(Assemble Components\)](#)) is the activity used in the POD to gather the required and optional component data during the processing of an SFC at an operation.

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Figure 1 As-Built Configuration Summary

The screenshot displays the 'As-Built Configuration -- Webpage Dialog' window. The title bar includes the text 'As-Built Configuration -- Webpage Dialog' and a close button. The menu bar contains 'File | Edit | Actions | Help'. Below the menu bar are icons for a folder, a document, and a help icon. The main content area is titled 'AS-BUILT CONFIGURATION' and contains the following fields and information:

- Site:** CAK
- Component State:** Assembled and Unassembled (dropdown menu)
- * SFC:** NONSERIALIZED53-PRD (input field with a copy icon)
- Find Component:** (empty input field)
- Material/Vers.:** NONSERIALIZED/01
- Description:** Non Serialized Material
- Routing/Vers.:** NONSERIALIZED/01
- BOM/Version:** 11282011-003/A
- Status:** Active

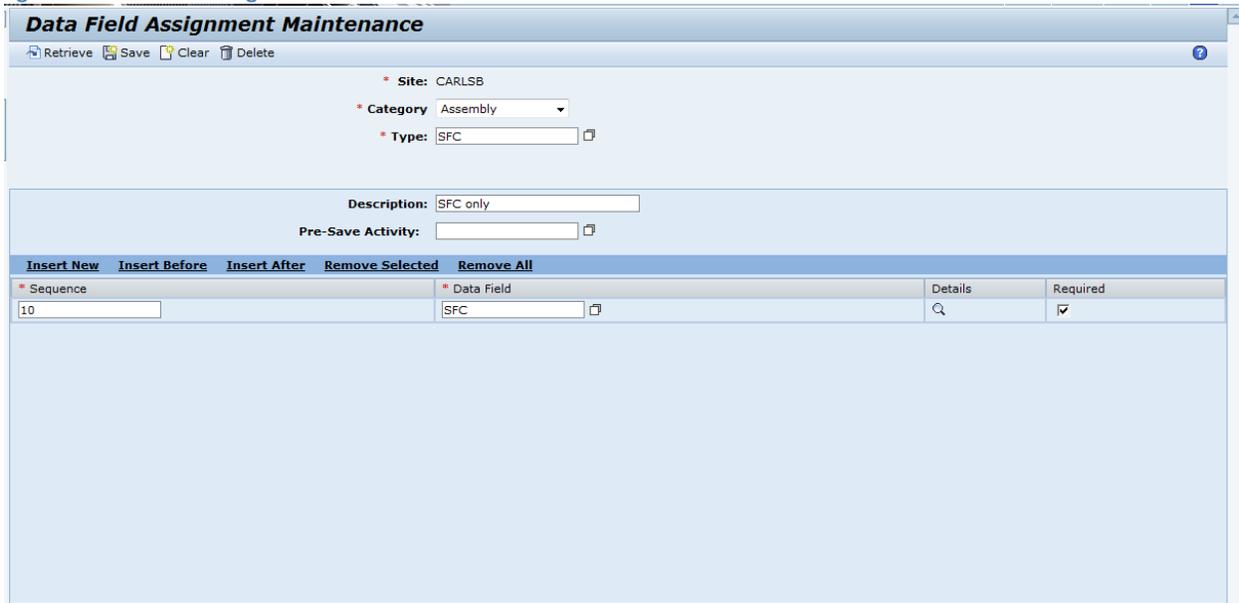
A 'Retrieve' button is located below the input fields. Below the button is a list of BOM components:

- ▾ **BOM Component:** 60002519-001 **Vers.:** 01 **Qty Required:** 0 **Qty Assembled:** 0 **Description:** 60002519-001 **Ref Des:** None
Assembly Sequence: 10 **Component Type:** Normal **Phantom Component Assembly Sequence:**
- ▾ **BOM Component:** 60005046-01 **Vers.:** 01 **Operation:** ASSEMBLY_020 **Qty Required:** 10 **Qty Assembled:** 9 **Description:** 60005046-01
Ref Des: None **Assembly Sequence:** 20 **Component Type:** Normal **Phantom Component Assembly Sequence:**
- ▶ **Actual Component:** 60005046-01 **Vers.:** 01 **Active:** Nov 28, 2011 6:27:12 PM **User:** CAK_SITEADMIN **Description:** 60005046-01
Ref Des: None **Assembly Type:** Manual **Vendor:** ACME **Vendor Lot:** 10182011 **Vendor Date Code:** 10182011 **Supplier:** AIRPRODUCTS
- ▾ **BOM Component:** 8040603-403 **Vers.:** 01 **Operation:** ASSEMBLY_020 **Qty Required:** 10 **Qty Assembled:** 0 **Description:** 8040603-403
Ref Des: None **Assembly Sequence:** 30 **Component Type:** Normal **Phantom Component Assembly Sequence:**

The status bar at the bottom of the dialog shows the URL 'http://usphlvmv045:50000/manufacturing.com/sap/me/wpmf/client/popupWindow.jsf' and the text 'Local intranet | Protected Mode: Off'.

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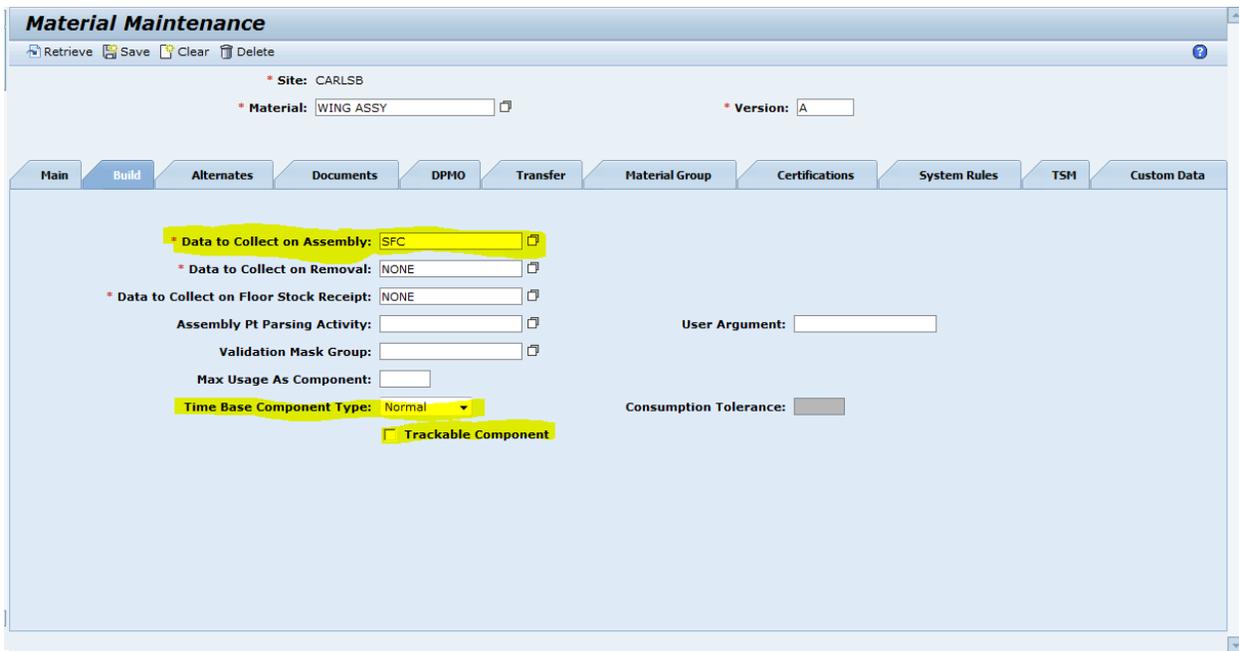
Figure 2 – Data Field Assignment Maintenance



The screenshot shows the 'Data Field Assignment Maintenance' interface. At the top, there are buttons for 'Retrieve', 'Save', 'Clear', and 'Delete'. Below these are fields for 'Site' (CARLSB), 'Category' (Assembly), and 'Type' (SFC). A 'Description' field contains 'SFC only' and a 'Pre-Save Activity' field is empty. A table below lists the assigned data fields:

Sequence	Data Field	Details	Required
10	SFC	Q	<input checked="" type="checkbox"/>

Figure 3 Material Maintenance



The screenshot shows the 'Material Maintenance' interface. At the top, there are buttons for 'Retrieve', 'Save', 'Clear', and 'Delete'. Below these are fields for 'Site' (CARLSB), 'Material' (WING ASSY), and 'Version' (A). A navigation bar includes tabs for 'Main', 'Build', 'Alternates', 'Documents', 'DPMO', 'Transfer', 'Material Group', 'Certifications', 'System Rules', 'TSM', and 'Custom Data'. The main area contains several data collection and assignment fields:

- Data to Collect on Assembly: SFC
- Data to Collect on Removal: NONE
- Data to Collect on Floor Stock Receipt: NONE
- Assembly Pt Parsing Activity: [empty]
- Validation Mask Group: [empty]
- Max Usage As Component: [empty]
- Time Base Component Type: Normal (with a 'Trackable Component' checkbox)
- User Argument: [empty]
- Consumption Tolerance: [empty]

2.2 Business Purposes / Functions

You can use this data assembly method to collect, validate, and trace data for assembled components for each instance of an SFC number or a product being built. This data is typically entered through barcode scanning or manually by manufacturing personnel.

Data Field Definition and Assignment - You can use these functions to define and assign fields and their properties to collect custom information during the manufacturing process.

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Data fields created and assigned in maintenance activities appear at the following definite points in the manufacturing process when the operator does the following:

- Assembles the product
- Removes and replaces the components of an assembly
- Places components on hold
- Loads or replenishes resource slots
- Logs Nonconformances
- Receives or maintains floor stock
- Adds SFC numbers to a return material authorization (RMA) shop order
- Packs the product into container

Features - Data fields and their characteristics can be defined only once to be used in different SAP ME activities. You can use one field created in Data Field Definition Maintenance in multiple types and categories. This saves time and effort when you create fields that are used in different data categories and types, for example, Comments.

You can validate values in data fields to ensure that all required values are collected, that text and number values entered correspond to the pre-defined mask, and number and date fields correspond to the local format. For example, for the Number field, the mask may define how many digits the value shall contain, its delimiter, and where this delimiter is to be used. For more information, see [Setting Up Mask Validation for Assembly Data Types](#).

You can create and assign any custom validation activity to validate the entry before saving the data in production activities.

Activities - You define data fields in the Data Field Definition Maintenance activity (see [Data Field Definition Maintenance](#)).

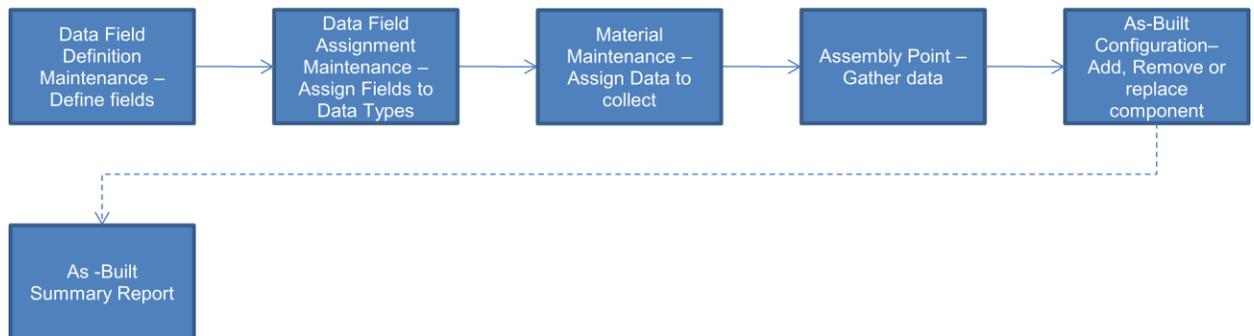
You assign these data fields to the data type and category in the Data Field Assignment Maintenance activity. The category indicates where in the manufacturing process these fields appear. For most categories, you can create multiple sets of fields (data types) to collect information (see Data Field Assignment Maintenance).

As-Built Configuration - You use this activity to add material during the assembly of a product outside of a POD and to remove/replace one or more components from/in an assembly (see [Removing, Replacing, and Adding Components](#) and [Assembly Point](#)).

This activity validates the location, reservation, and time-sensitive key attributes before the material can be consumed by an SFC number (see [Material](#) and [SFC Number](#)). It supports the consumption of serialized or non-serialized components.

2.3 High-Level Process Flows

This figure illustrates the primary flow of activities to be utilized or configured to use the Genealogy features in SAP ME.



2.4 Best Practices

It is extremely important for the configuration of the associated activities to be done before trying to utilize the features related to genealogy in SAP ME. Materials and BOM's should be configured and defined with their data types and field level data needed to collect. The material should already be identified as TSM material, identified as track-able, as Time Base Component Type, if there are alternates that may be substituted, if validation Masking is necessary and so on (see [Material Maintenance](#) for more information on setting up material for consumption in SAP ME). Also Assembly Point (See also the Assembly Point How to Guide for more information on this process) activity should be assigned to a POD where Assembly functions should take place in the manufacturing process. See section 5 for [Setting up Genealogy](#) in this doc for more information on this.

3 Time-Based Genealogy Functions

3.1 Description and Applicability

You can use this functionality to collect, validate, and trace data for components assembled on a resource, such as a pick-and-place machine.

The time-based genealogy performs the same function as discrete except that it is accomplished through a pre-configured resource.

As components are loaded onto a resource, the user enters the assembly data records for each component.

When components are assembled by high-speed machines, the system keeps track of the material and all the SFC numbers of the material that move through this resource.

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The data for this type of genealogy is stored at the resource level.

3.1.1 Best Practices

Use the Genealogy Features to track Time Based materials at the Resource level, similar requirements for setup and configuration are required. See section 5 for [Setting up Genealogy](#) in this doc for more information on this.

4 Integration

4.1 See [Floor Stock Management](#) section 5 in this document.

5 Setting up Genealogy

You can use this process to set up *Discrete* and *Time-Based* genealogy types.

5.1 Process

5.1.1 Setting Up Discrete Genealogy

1. In *System Rule Maintenance*, you review *Component Traceability* system rules for the site (see [Component Traceability Rules](#)).
2. You set up *Assembly Point* (see [Assembly Point Configuration](#)).
3. In *Next Number Maintenance*, you set up next number for *Floor Stock Receipt* number type.
4. If required, you assign *Genealogy Management* hook point activities to appropriate object and hook point for configuration check and other validations (see [Standard Hook Point Activities](#) and [Setting Up Activity Hooks](#)).
5. In *Validation Mask Maintenance*, you define validation mask for assembly data field, if required (see [Setting Up Mask Validation](#)).
6. In *Vendor Maintenance*, you define and associate vendor to material, if required (see [Vendor Maintenance](#)).
7. You define a container and associated container attributes for the shipped material, if required (see [Container Maintenance](#)).

5.1.2 Setting Up Time-Based Genealogy

1. You repeat steps 1-3 above in *Setting Up Discrete Genealogy*.
2. In *System Rule Maintenance*, you ensure that the *Time-Based Resource (Genealogy)* system rule is set to *true*.
3. In *Slot Configuration Maintenance*, you define slot configurations (see [Slot Configuration Maintenance](#)).
4. In *Resource Slot Configuration Setup*, you do the following:
 - Assign a slot configuration to a resource
 - Load the assembly data value for all components
 - Activate the slot configuration on the resource

For more information, see [Resource Slot Configuration Setup](#).

5. In *Resource Setup*, you assign material, shop order, or tool number to the time-based resource (see [Resource Setup](#)).
6. If required, you assign *Genealogy Management* hook point activities to appropriate object and hook point for time check and other validations (see [Standard Hook Point Activities](#) and [Setting Up Activity Hooks](#)).

5.2 Other Activities to consider

5.2.1 Check Configuration Activity (CT520)

You can use the CT520 hook point activity to compare the components in the build history of an SFC number to its BOM.

If operators are using this activity with multiple SFC numbers or process lots, the failure of one SFC number in the group causes the system to fail the entire group.

NOTE: THIS HOOK POINT ACTIVITY WORKS ONLY IF THE SFC NUMBER IS ON A *PRODUCTION* ROUTING.

The activity ignores the following component types when executed:

- *Phantom*
- *Co-product*
- *By-product*

This activity is commonly used with the PRE_START, PRE_COMPLETE, and POST_COMPLETE hook points. If this activity is executed at PRE_START, it checks for components at the previous operations only. If this activity is executed at PRE_COMPLETE or POST_COMPLETE, it checks for components at the current operation and all previous operations.

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5.2.1.1.1 Rules

The following table describes rules and settings that you can change for this activity in *Activity Maintenance*:

Rule	Setting
CHECK_ALL_COMP_LAST_OPER	TRUE (default): Checks for all unassembled components at any assembly operation on any routing that the SFC number has traversed on, but only if the SFC number is at the last operation on the <i>Production</i> routing FALSE: Checks for unassembled components on the current production routing only
EXCESS	TRUE (default): Fails the assembly if it contains components with a quantity in excess of the quantity specified in the BOM FALSE: Allows excess components to remain on the assembly
MISSING	TRUE (default): Fails the assembly if it contains components with a quantity that is less than the quantity specified in the BOM FALSE: Allows the assembly to contain quantities of components less than the quantities specified in the BOM
NON_BOM	TRUE (default): Fails the assembly if it contains any component not specified in the BOM FALSE: Allows components that are not specified in the BOM to be used in the assembly.
TEST_PART	TRUE (default): Fails the assembly if it contains a BOM component identified as a test part FALSE: Allows test part components to remain on the assembly

5.2.2 Assembly Point Configuration

An assembly point occurs at an operation where shop personnel assemble components to build a product. The *Assembly Point* activity allows you to record assembly data for each component that went into an assembly. These assembly data records provide the key link to the genealogy records for product during manufacturing. As quality issues are found, these records provide the SFC numbers that could be affected by a component defect and can reduce the number of SFC numbers that must be repaired or recalled.

When you use manual/discrete component traceability, you can track information about the components that operators assemble onto an SFC number. An assembly record is created for a unique instance of an SFC number that is built in manufacturing.

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The *Assembly Point* activity can validate the location, reservation ([Floor Stock Receipt](#)), and time-sensitive key attributes before the material can be consumed by an SFC number (see [Material](#)).

It supports the consumption of serialized or non-serialized components.

Alternatively during assembly, another method for collecting data through the Assembly Point function, 2D Barcode scanning may be utilized to perform the Data Collection function for a component.

5.2.2.1 Two-Dimensional (2D) Barcode Data Collection

You can use this function to collect data about a material by scanning 2D barcodes when assembling a component on the shop floor or receiving a material to floor stock.

5.2.2.2 Prerequisites

- You have defined the barcode data format in *Barcode Data Format Maintenance* (see [Barcode Data Format Maintenance](#)).
- You have associated the BARCODE_PARSER hook point activity with either a site or a material (see [Barcode Parser](#)).
- You have defined data to collect on assembly, removal, and floor stock receipt on the *Build* tab page of *Material Maintenance*.
- You have set the DISPLAY_BARCODE activity rule for *As-Built Configuration*, *Maintain Floor Stock* and *Floor Stock Receipt* to YES in *Activity Maintenance*.
- You have configured 2D barcode scanners to work with SAP ME.

5.2.2.3 Activities

- A shop floor operator scans a 2D barcode on a component and tabs out.
- The system parses the barcode and does one of the following:
 - Populates data in the *Data to Collect on Assembly* or *Data to Collect on Removal* fields on the *As-Built Configuration* screen (see [As-Built Configuration](#))
 - Populates data in the *Data to Collect on Floor Stock Receipt* fields on the *Floor Stock Receipt* or *Maintain Floor Stock* screen (see [Floor Stock Receipt](#) and [Maintain Floor Stock](#)).

5.2.3 Process

1. In *Data Type Definition Maintenance*, you define the fields for data to be collected when material is assembled. You can also attach a pre-save validation activity that is executed during the collection of the data field value to assure the value passes validation. In *Data Field Assignment Maintenance*, you group these data fields and associate them with a data type of *Assembly* category (see [Assembly Data Type](#)). In addition you can define another pre-save validation activity for all data fields in the data type group. Further, you can validate the format of the data value (see [Setting Up Mask Validation for Assembly Data Types](#)).
2. In *Material Maintenance*, you assign the data type to be collected on assembly.

3. In *Routing Maintenance*, you define operations where components are assembled.
4. In *BOM Maintenance*, you define a BOM for the assembly and assign the material and quantity to be assembled at a routing operation. This operation is then realized as an assembly operation or where components are consumed. On the *Component Details* screen, an assembly data type can be assigned to a component.
5. In *Activity Maintenance*, you define the assembly mode, whether components must be assembled or may be skipped as defined by the assembly sequence or whether components can be assembled as selected by the manufacturing personnel. Further, you define if component consumption is enforced at the assembly operation in the BOM and an SFC number has the correct status at the assembly operation (see [Assembly Point \(Assemble Components\)](#))

5.2.4 Assembly Data Type

Assembly data types define a group of assembly data fields that are displayed during manufacturing and they capture the values associated with the component that was assembled.

Predefined assembly data types, along with associated data fields, are loaded during the initial installation of the application. In addition, you can create your own assembly data types and associated data fields or modify the predefined assembly data types (see [Data Field Definition and Assignment](#)).

The assembly data type is then assigned to the material in *Material Maintenance*. The data fields associated with the assembly data types can be collected at three distinct phases during manufacturing. The first is upon receipt of the material on the shop floor. The second is when the material is built into an assembly as a component. The last is when the material is removed or replaced because of quality issues. During each of these manufacturing actions the data fields are displayed to personnel on the shop floor for data value entry.

This assembly data entry is a key component of product genealogy. This data is often used to search for product that may have quality issues related to the component.

5.2.5 Setting Up Mask Validation for Assembly Data Types

You set up mask validation for assembly data types to validate assembly data type values during manufacturing process.

Masks you set up for assembly data types at material level are used for validation of the following fields:

- SFC
- EXTERNAL_SERIAL
- EXTERNAL_LOT
- VENDOR_LOT
- VENDOR_DATE_CODE

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Note that only the fields mentioned above can be validated against the mask set up in *Material Maintenance* (see [Material Maintenance](#)).

5.2.5.1 Prerequisites

You have defined *Check Mask Validation* (EN521) hook point activity as pre-save activity at data type level in *Data Field Assignment Maintenance* (see [Data Field Assignment Maintenance](#)).

5.2.5.2 Process

1. In *Validation Mask Maintenance*, you create [masks](#) for materials (see [Validation Mask Maintenance](#)).
2. In *Activity Maintenance*, you set up supported fields as settings for the SERIAL_NUMBER_FIELD activity rule for *Check Mask Validation* (EN521) hook point activity or its copy (see [Check Mask Validation](#)).

CAUTION: CHANGING ACTIVITY RULE SETTINGS AFFECTS ALL SITES IN THE SYSTEM.

We recommend that you create a copy of the activity EN521 before making changes (for example, EN521-COPY).

3. In *Data Field Assignment Maintenance*, you set up the *Check Mask Validation* (EN521) hook point activity or its copy for the data type of *Assembly* category (see [Data Field Assignment Maintenance](#)).

NOTE: IF NEEDED, YOU CAN SPECIFY ADDITIONAL VALIDATION MASK GROUP FOR ANY OF THESE FIELDS IN *DATA FIELD DEFINITION MAINTENANCE*. IN THIS CASE, THE DATA IS VALIDATED AT BOTH MATERIAL AND DATA TYPE LEVEL (SEE [DATA FIELD DEFINITION MAINTENANCE](#)). ONLY VALUES THAT MATCH BOTH MASKS ARE ACCEPTED.

4. In *Data Field Assignment Maintenance*, you assign the data fields, which you have specified in *Activity Maintenance* for EN521, to the data type (see [Data Field Assignment Maintenance](#)).

NOTE: ONLY FIELDS THAT YOU HAVE SPECIFIED IN *ACTIVITY MAINTENANCE* FOR *CHECK MASK VALIDATION* CAN BE ASSIGNED TO THE DATA TYPE VALIDATED BY EN521.

5. In *Material Maintenance*, you assign your assembly data type as data to collect on assembly (see [Material Maintenance](#)).
6. On the *Build* tab page of *Material Maintenance* or on the *Main* tab page of *Material Group Maintenance*, you specify the validation mask group for a particular material.

NOTE: THE MASK GROUP YOU SELECT IN *MATERIAL MAINTENANCE* TAKES PRECEDENCE OVER THE MASK GROUP YOU SELECT IN *MATERIAL GROUP MAINTENANCE*.

5.2.6 Floor Stock Management

You can use this function to manually receive and record material traceability data, the material location, and to reserve the material on the shop floor for a specific shop order, operation, resource, or work center. Inventory records allow you to track down purchased components during the production of a material (see [Component](#)). You can place component material on hold or quarantine if it is not to be consumed during manufacturing.

5.2.6.1 Integration

When SAP ME ERP Integration is enabled, the system can receive floor stock records from SAP ERP and can send notifications to SAP ERP when floor stock material is returned to inventory or has been scrapped. For more information, see [Transfer of Floor Stock Data](#), [Transfer of Floor Stock Return and Scrap Data](#), and [Transfer of Floor Stock Storage Location Movements](#).

5.2.6.2 Features

This function allows you to do the following:

- Add a material to a floor stock (see [Floor Stock Receipt](#))
- Edit floor stock records (see [Maintain Floor Stock](#))
- Place components on hold and release them (see [Component Hold/Release](#))
- Reset the usage count for a specific component (see [Component Usage Reset](#))

5.2.7 Device History Report

You use this report to obtain all history data for an SFC number in a single view. You can also trigger the [As-Build Summary Report](#) from it if SFC number has not been archived, as a hierarchical report of As-Built/Genealogy

NOTE: ARCHIVED SFC NUMBERS ARE NOT AVAILABLE IN THE BROWSE. YOU HAVE TO ENTER THE NAME OF ACHIEVED SFC NUMBER MANUALLY TO OBTAIN THE REPORT FOR IT.

5.2.7.1 Features

5.2.7.1.1 Selection

You perform search in this report using the *SFC Number* parameter.

5.2.7.1.2 Output

With this report, you can obtain the following:

- Current information on SFC number
- SFC data collected through *SFC Data Entry* activity

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- Custom data collected for SFC number's material, routing, BOM, shop order, all completed and current operations, DC groups that have collected data for this SFC number, and NC codes logged for this SFC number
- Work instructions attached to the points which SFC number passed along with information about who and when viewed the work instructions
- Data collected for the SFC number during performed activities
- NC codes logged for the SFC number
- All activities performed on the SFC number

You can display additional data in this report.

To configure what information to display, select the corresponding checkboxes in the *User Preference Maintenance* activity:

- *SFC Data*
- *Custom Data*
- *Work Instructions*
- *Attachment Points*
- *WI View Log*
- *Data Collection*
- *Collected Data*
- *Limited Values*
- *NC Tree*
- *NC Data*

For more information, see [User Preference Maintenance](#).

The results include the following data in a tree structure:

- SFC number details
 - Shop order
 - Order type
 - Process lot
 - Work center
 - Customer
 - Customer order
 - Material and its version
 - Material description
 - BOM and its version
 - BOM description
 - Routing and its version
 - Routing Description
- SFC data
- Custom data
- Work instructions
- Data collection
- NC tree

Activity Log

- Operation and its version
- Operation description
- Resource
- Work instructions and work instruction view
- Activity code
- Activity description
- Activity date and time
- Routing and its version
- Step ID
- User
- LCC
- Work center
- Special instruction
- Collected data
- Date and time when data has been collected
- Tooling log

For more information, see [SAP ME Objects](#).

5.2.8 As-Built Summary Report

You use this report to obtain information about the genealogy of SFC numbers.

5.2.8.1.1 Selection

The search parameters for the report include the following:

- SFC number or shop order
- Component state (*Assembled* and *Unassembled* or *All*)

5.2.8.1.2 Output

With this report, you can obtain the following:

- A list of SFC numbers, indicating their status, current operation, routing, and shop order
- Assembly information for an SFC number

The results include the following data:

- SFC number
- Status of the SFC number
- Material and its version
- Routing and its version
- Operation
- BOM and its version
- Shop order

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The As-Built Summary report tree view includes the following data in a multilevel tree structure:

- BOM component and its version
- Ref Des (reference designator)
- Quantity required
- Quantity assembled
- Operation
- Actual component and its version
- Date and time when installed
- User who installed the component
- SFC number, external serial number or inventory ID

For more information, see [SAP ME Objects](#).

6 User Scenarios

- A. Component List and Data Entry are fixed or popover default panels in the POD
1. The user has opened the POD.
 2. The Component List Header with no empty rows is displayed in the plug-in.
 3. The Data Entry Default plug-in is displayed.
 4. User enters Operation value.
 5. User enters Resource value.
 6. User has 1 SFC displayed in the SFC Field and the user tabs out of this field.
 7. The activity rules for both activities must be checked.
 8. If the **Mode is SEQUENCE** and all activity rules are validated the following occur:
 - i. The component list shows all components for the selected operation, ordered by assembly sequence from the BOM.
 - ii. The first component with the lowest assembly sequence at the operation should be selected in the Component List.
 - iii. The selected component details will be displayed on the left side of the Data Entry plug-in AND the assembly data fields will be displayed in the right side.
 - iv. Steps 11 and 12 occur below.
 - v. If there are more components to be assembled at the operation, the next assembly sequence component is automatically selected in the Component List, and the Data Entry plug-in is refreshed with this new component details and assembly data fields.
 9. If the **Mode is CHOOSE** and all activity rules are validated the following occur:
 - i. The component list shows all components for the selected operation, ordered by assembly sequence from the BOM. No component is selected.
 - ii. The user selects one component in the Component List.
 - iii. The Choose field in the Data Entry plug-in displays this component.
 - iv. The selected component details will be displayed on the left side of the plug-in AND the assembly data fields will be displayed in the right side.
 - v. Steps 11 and 12 occur below.
 - vi. The Data Entry plug-in will go back to the default state and the cursor will in the Choose field.
 - vii. The user will enter the next component to be assembled and tab out of the field.

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- viii. The component will be selected in the Component List.
- ix. The selected component details will be displayed on the left side of the plug-in AND the assembly data fields will be displayed in the right side.
10. If the **Mode is CHOOSE_AUTO_NEXT** and all activity rules are validated the following occur:
 - i. The component list shows all components for the selected operation, ordered by assembly sequence from the BOM. No component is selected.
 - ii. The user selects one component in the Component List.
 - iii. The Choose field in the Data Entry plug-in displays this component.
 - iv. The selected component details will be displayed on the left side of the plug-in AND the assembly data fields will be displayed in the right side.
 - v. Steps 11 and 12 occur below.
 - vi. The Data Entry plug-in will go back to the default state and the cursor will in the Choose field.
 - vii. The next component in the list is automatically selected in the Component List.
 - viii. The selected component details will be displayed on the left side of the plug-in AND the assembly data fields will be displayed in the right side.
11. The user will enter values in the assembly data fields.
12. The user will submit the “add” action.
 - i. All Add business logic occurs and passes.
13. If there are more components to be assembled, see each flow above.
14. If there are no further components to be assembled at the operation, the Component List and Data Entry plug-ins shall return to the default plug-in state.

Note: See Also, **User scenarios for Assembly**

7 Links to Additional Information

- **Genealogy** in SAP ME Help:
http://help.sap.com/saphelp_me60/helpdata/EN/39/b66efe3ff44dc0b3c0e3053a1c4d88/content.htm
- **Material Maintenance** in SAP ME Help:
http://help.sap.com/saphelp_me60/helpdata/EN/b0/25a40b0c76439080ab3fc6234226d2/content.htm
- **Genealogy Reports** in SAP ME Help:
http://help.sap.com/saphelp_me60/helpdata/EN/a2/ddb8a37f7c4c67a8f5d5bc06759c76/content.htm
- **Genealogy Management** in SAP ME Help:
http://help.sap.com/saphelp_me60/helpdata/EN/8a/847c85f19e45b6b289ca79a81443a1/content.htm

Other How-To Guides on the Wiki here;

<http://wiki.sdn.sap.com/wiki/display/ME/How+to+Guides>

Or on the SDN here; https://community.wdf.sap.corp/sbs/community/sap-services-networks/services_manufacturing/me?view=overview

- SAP ME How-To-Guide for Setting up Pack and Unpack

- SAP ME How-To-Guide - Setting up Production Lines
- SAP ME How-To-Guide - Setting up Products
- SAP ME How-To-Guide - Setting up Activity Hooks
- SAP ME How-To-Guide - Setting up Activity Rules
- SAP ME How-To-Guide – Assembly
- SAP ME How-To-Guide – POD
- SAP ME How-To-Guide - Production Tracking
- SAP ME How-To-Guide – Time Sensitive Material
- SAP ME How-To-Guide – Data Collection
- SAP ME How-To-Guide – Bar Code Scanning

8 Other Reference Material

8.1.1 Component

The raw material, part, or subassembly that goes into a higher-level assembly

8.1.1.1 Structure

You create a record for each component that goes into a higher-level assembly in *Material Maintenance* (see [Material Maintenance](#)).

A resistor that goes onto a printed circuit board (PCB), or a PCB that goes into a printer are examples of a component.

See also: [Material](#), [Material Table](#), and [BOM Component Tables](#)

8.1.1.1.1 Alternate Component

A material that may be substituted for the original component.

8.1.1.1.2 Phantom Component

Used in a BOM structure to represent a grouping of components or a point in the assembly process. It is not a physical material so it should not have an SFC number released for it nor is it confirmed back to

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ERP. Actual BOM components are defined as its Phantom Members and are structured to be assembled by the *Phantom* component, for which an assembly data type can be defined and collected.

8.1.1.1.3 Test Component

Indicates the assembly of material that is temporary and will be removed before the final product is shipped. It also enables the disassembly operation.

8.1.1.1.4 Co-product Component

Represents possible variations of a planned material. If a manufacturing process can yield more than one possible material due to, for example, process, environment or raw material variations, then the optimum material is planned for and all other possible outcome materials can be defined as its *Co-Product* components.

8.1.1.1.5 By-Product Component

An additional material that is created during the manufacturing of another material. If a manufacturing process of a material also yields one or more other materials, than these other materials can be defined as its *By-Product* components.

8.1.1.1.6 Assembly

A parent or component (subassembly) that is made up of other components

For example, if you manufacture personal computers (PCs), each PC board that goes into the PC belongs to the PC assembly.

8.1.1.2 Integration

You define numbering patterns that uniquely identify components placed on hold using the *Component Hold/Release* activity in *Next Number Maintenance* (see [Numbering Patterns](#)).

8.1.1.3 More Information

[Component Usage Report](#)

9 Overview of Changes

- N/A

