Serial Number Management

Applies to:
This article applies to SAP serial number component (LO-MD-SN); it describes serial number integration with other SAP components. For more information, visit the Manufacturing homepage.

Summary
This writing briefs about SAP serial number management and its usage in logistic transactions. Also covers scope of serial number management in various business areas like PP, SD, QM and PM

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Overview

The SAP serial number functionality allows managing serialized stock keeping. SAP Serial number management is mainly focuses on Inventory tracking before and after sales. It is a precise approach than batch management. Batches are defined as subset of material in stock. Serial number is a number that you give to individual item of material in addition to the material number, in order to differentiate between this individual piece and all other items of the material. Always the material number and serial number combination is unique in system. The SAP serial number component contributes in following business area.

1. Inventory management
2. Production orders
3. Repetitive manufacturing
4. Quality Management
5. Sales orders
6. Plant Maintenance

Serial Number Profile

Serial numbers profile defines the conditions and operations for assigning serial numbers to materials. It is plant level definition in material master work scheduling view. Serial number profiles are defined in customization at

Plant Maintenance and customer service>Master data in Plant Maintenance and customer service >Technical Object>Serial Number management>Define Serial Number profiles.

![Image of Change Material Serial Number: SerNo.Detail](image-url)
As shown in screenshot for profile is assigned with business procedures which defines the serial numbers are required or can be assigned or assigned automatically. Each procedure represents the business areas. Apart from the standard profile customized profiles can be mapped in system as per requirement.

**Serial Number Masters**

Serial numbers can be auto generated or created manually; the length of single number is limited to 18 characters. SAP supports both numeric and alphanumeric serial numbers. Serial number master record can be created directly prior to business transaction, this would appropriate to have serial numbers already in system so these can be assigned during business process. Serial numbers can be created individually (IQ01) or several at the time (IQ04), depending on transaction chosen.

Serial number masters contents following information

- Status information: System status of gives idea about current status and availability of serial number. User status also used for precise control over serial number movement.
- Stock information: This shows the plant and storage location of material, also the stock type of material like unrestricted, quality or blocked stock.
- Serial number history: The history tells about the past business process with serial number.

Serial numbers are also categorized on broader level like Machine, Customer equipment etc. These categories mainly serve the reporting purpose.
Working with Serial Numbers

Inventory Management

It is possible to characterize good movement with serial number. It does not matter in which application the movement trigger. Serial numbers can be assigned to the goods movement like Goods receipts (For purchase order or production order-101), Good issue (to sales order - 601), Stock transfer (311), stock transfer orders (541) and cutover movements (561) provided that the usage of MMSL procedure should be 03 in serial number profile.

The following information is recorded for the serial number for each goods movement:

- Plant and storage location
- Batch
- Valuation type
- Stock type
- Special stock indicator
- Sales order number and order item
- Account number of the vendor or customer
- Work breakdown structure element

Status of serial number governs the movement of serialised stock. Some time it is necessary to change status manually, in this case it is advisable to create customise user status with all optional entries.

Discrete Manufacturing - Production Orders

Serial numbers can be assigned to individual piece of header material while creating or releasing the production order. In this case the numbers are referred to production order. At the time of GR numbers are transferred to product of order in documented goods movement. The prerequisite is the PPAU (Serial numbers in PP order) and PPRL (PP order release) procedures should present in serial number profile with usage 03. These assigned numbers prints on shop floor printing paper in bar codes.

For production orders, component level serial numbers management is also possible As-built in configuration for serialised assembly (COIB). The COIB screen can be maintained in CO11n via ‘single screen entry of confirmation’ (OPK0). This type of business scenario observed in assembly processing where components are maintained with serialization e.g. Compressor with serial number in refrigerator assembly.

In case of confirmation reversal serial number status changes back to AVLB form ESTO.

Repetitive Manufacturing

Like production orders the serial number are not maintained to orders. The serial numbers are created prior to backflush (MFBF) with IQ01 or IQ04. The documented goods movement posted along with serial number at the backflush posting. Also in case of backflush reversal system reveres the status from AVLB to ESTO.

Quality Management

SAP quality management component supports the serial number processing. All goods movement in quality management supports the serialization processing with QMSL procedure in serial number profile. Also it is necessary to have serial number processing check in inspection type in quality view of material master. If this check is not available then lot will be generated without serial number.

During inspection lot processing, you can:

- Enter results for original values with reference to serial numbers
- Enter errors with reference to serial numbers
- Make a usage decision and perform inventory postings with reference to serial numbers
At the time of quality processing the serial number status shows ESTO (In stock) and stock type 02 (In qual. Inspection).

**Sales and Distribution**

Serial numbers can be assigned to sales orders, deliveries and return deliveries. Sales is major part where considerable good movement occurs. Sale order delivery made for serialized stock with 601 movement, also the return deliveries with or without reference to sale order made by 651 movements. If multiple depots are available system then it is easy to track the moving inventory with serialization procedure. The procedures SDAU, SDLS, SDCC, SDRE, and SDCR are related to Sales and distribution in serial number profile.

**Plant Maintenance**

In plant maintenance serialization procedure is mainly used for the equipment management and processing. Serial number data tab on equipment screen is made available through screen selection in configuration. On same screen material and serial number field is located. Material assignment is mandatory before serial number assignment to equipment. Serialization procedure is necessary for dismantling of faulty equipment as transferring to warehouse. If equipment parts are managed with serial numbers then it can be tracked in refurbishment process. Serialization enables the inventory management of piece of equipment.

**Conclusion**

Serial number management is effective way of inventory monitoring and tracking. It is advisable to use in sectors like consumer electronics, automobiles, and assembly units. Apart from inventory it is also useful in after sales customer services where warranty plays important role.
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