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Long-term planning allows a company to test various business models to make the best choices without affecting the standard planning database. This chapter introduces long-term planning and explains how to set up and use SAP S/4HANA to simulate potential production planning scenarios.

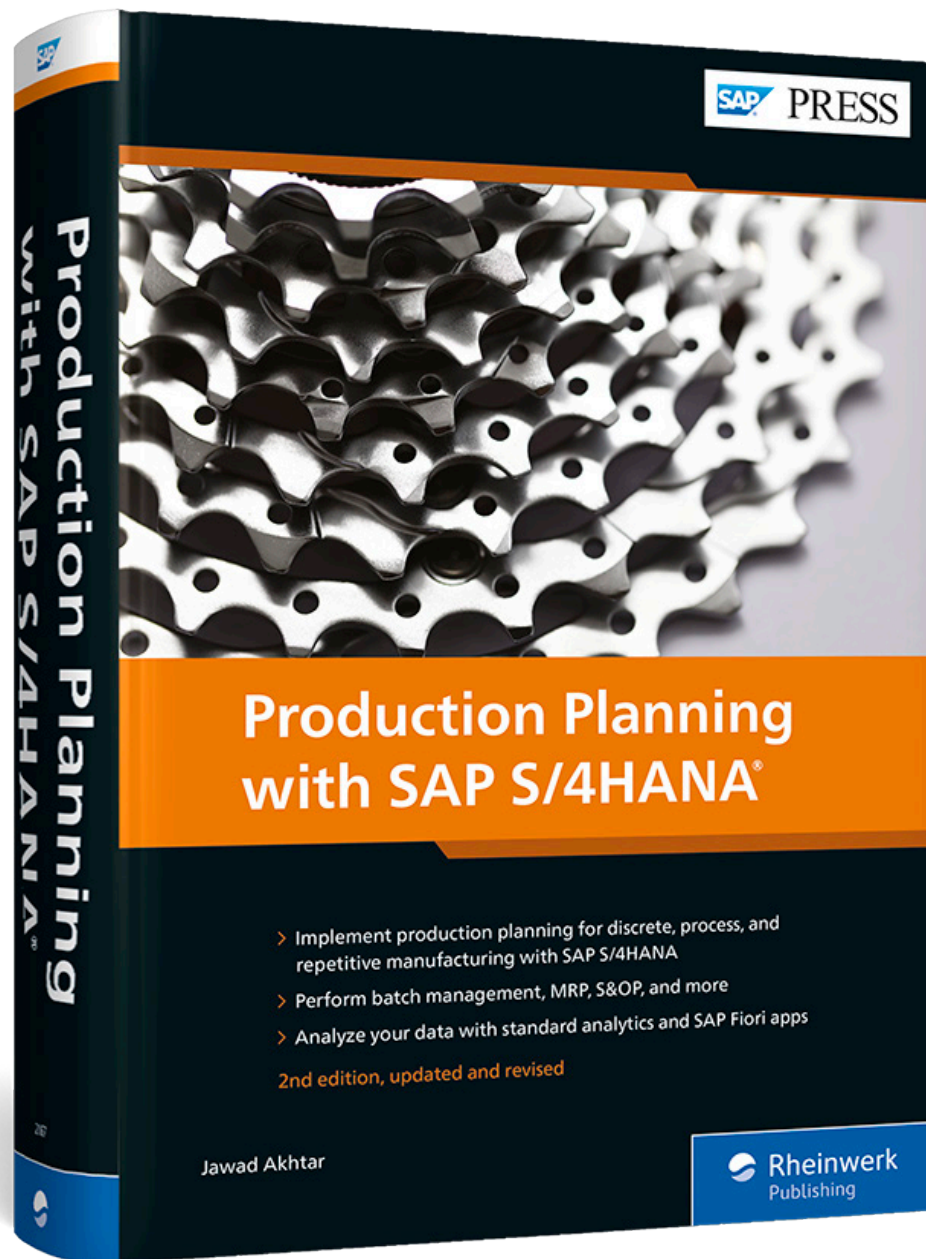
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Chapter 16

Long-Term Planning

Long-term planning allows a company to test various business models to make the best choices without affecting the standard planning database. The beneficiaries of long-term planning are various stakeholders in the company—the production planner, the procurement in charge, the inventory controller, and the capacity planner.

Long-term planning (LTP) is used to simulate various business scenarios to help in production and procurement planning by using existing master data and other information. Companies can use this tool to test various hypothetical assumptions affecting business decisions. When compared with material requirements planning (MRP), LTP doesn't affect the database of results that was created while running normal (operative) MRP. However, the simulation mode can be used in operational MRP to get similar results as in LTP.

LTP is a separate planning area in which you can undertake all simulation-related planning. However, if the results from simulative planning in LTP are satisfactory, you can also transfer them to operative planning in standard MRP. While it's easy to set up LTP, it's equally easy to delete the planning scenarios when you no longer need them. For example, you quickly set up a planning scenario to test procurement quantities of materials that you need for the next six months, including the associated financial values (capital tie-up). When you no longer need this information, you can delete the planning scenario from the system.

LTP results in the following benefits for specific business roles:

- Capacity planners are better able to plan their machine resources and manpower resources.
- The purchasing department uses the information about future requirements quantities to estimate and plan future procurement orders.
- The inventory controller gains greater comprehension of warehousing requirements.
- Vendors are able to get a preview of a company's future procurement needs, which enables them to foresee and take action to meet impending demands of the company.
- The product costing team can get a preview of the associated costs of producing products.

**Note**

SAP doesn't consider LTP to be a target architecture for SAP S/4HANA in the future, but it's still a relevant tool that can still be used for planning simulations. The alternate simulative planning tool is called *predictive material and resource planning (pMRP)*, which should replace LTP. The capabilities of pMRP are discussed in Chapter 17.

This chapter will cover the steps needed to prepare the master data and planning data for LTP using a real-life business case from the keyboard manufacturing industry. We also cover the logistics information system (LIS) with particular reference to LTP, focusing on the purchasing and inventory controlling subsets of the LIS. Finally, we also discuss further planning options offered by LTP to cater to various business scenarios.

**Note**

LTP isn't confined to just the long-term planning needs of the company but can be equally beneficial for short-term to medium-term planning.

For short-term simulation, a materials planner has the option to include sales orders, firm receipts from production, or purchase orders, whereas for long-term simulation, scrap calculations and other checks can be switched off to gain a broader view of the planning.

16.1 Long-Term Planning Master Data and Planning Data

LTP derives its details from existing information in the SAP system, including the planning data in the four different MRP views of the material master. Similarly, multilevel planning of the material is planned in LTP, and the system uses bills of materials (BOMs) and routings. To run an LTP simulation, ensure that the planning data is set up in the SAP system on which to run the simulation. For example, enter month-wise planning quantities of a finished or a semifinished good as planned independent requirements (PIRs). Then, define all of these quantities in a specific planning version number. The same material can have different month-wise planning quantities separately defined in different version numbers. Using inactive versions in LTP, execute various simulative LTP scenarios and evaluate the results separately. The following data is needed in the SAP system before running LTP:

- **Master data**

The material for LTP (i.e., the material to be planned using LTP) and the BOM and routing of the material. The planning scenarios are also part of master data that you need to set up.

- **Planning data**

The planning quantities of the material that will be entered as PIRs.

- **Planning scenario**

The planning scenario that forms an integral part of master data setup for LTP.

We'll now cover master and planning data in detail.

16.1.1 Master Data

This example will show on how to perform LTP for manufacturing a keyboard, which is the main material, and its associated components in the BOM, as shown in Table 16.1. All of these materials and their planning data in the MRP views must already be maintained in the system, including the material BOM and routing. Table 16.1 also lists the details of some of the hypothetical BOM components for the keyboard. As previously explained, LTP uses the same planning data that had been defined in the MRP views of materials, so there's no need to define any additional data.

Number	Material Number	Material Description	BOM Components
1	72	Desktop Keyboard	1
2	19	Control unit (rack)	1
3	64	Bearing (complete)	5
4	24	Cable	5

Table 16.1 Unpacked Urea Bulk and Its Components in BOM

Example

For BOM components that aren't planned, the **MRP Type** defined in the **MRP 1** view of the material master is **ND**, which means **No Planning**. Therefore, the system will eliminate them from all planning activities in LTP. They won't be part of the operational MRP run either. Only in exceptional circumstances are such materials not planned in MRP or LTP; otherwise, we suggest on ensuring the data modeling for MRP or LTP to include all components of a material. For example, in the production of caustic soda, one of the raw materials is raw salt. Raw salt is not only very cheap but also readily available in countries with huge salt mines. Further, there's no specific warehousing requirement for raw salt so it can be placed in open space. With no significant capital tie-up and no inventory controlling requirement, it makes sense not to plan this material (raw salt).

Other planning parameters that were defined in the MRP views are applicable in LTP. For example, if a fixed lot size or minimum lot size for a material was defined in the material master, then the system will consider the lot sizing procedures during LTP. This also applies if, for example, a planning calendar was defined for external procurement.

The BOM for the keyboard was also previously defined, and once again LTP uses this information. For the rest of this example, we'll focus on the main material (material 72) for LTP.

Figure 16.1 shows the initial screen for BOM display. It includes a **BOM Usage** field, which indicates the application of the BOM, whether it's a production BOM, a costing BOM, an engineering/design BOM, or another usage. For this example, enter **BOM Usage** "1", which indicates **Production** use. To display the BOM, follow menu path **Logistics • Production • Master Data • Bill of Material • Bill of Material • Display**, or use Transaction CS03.

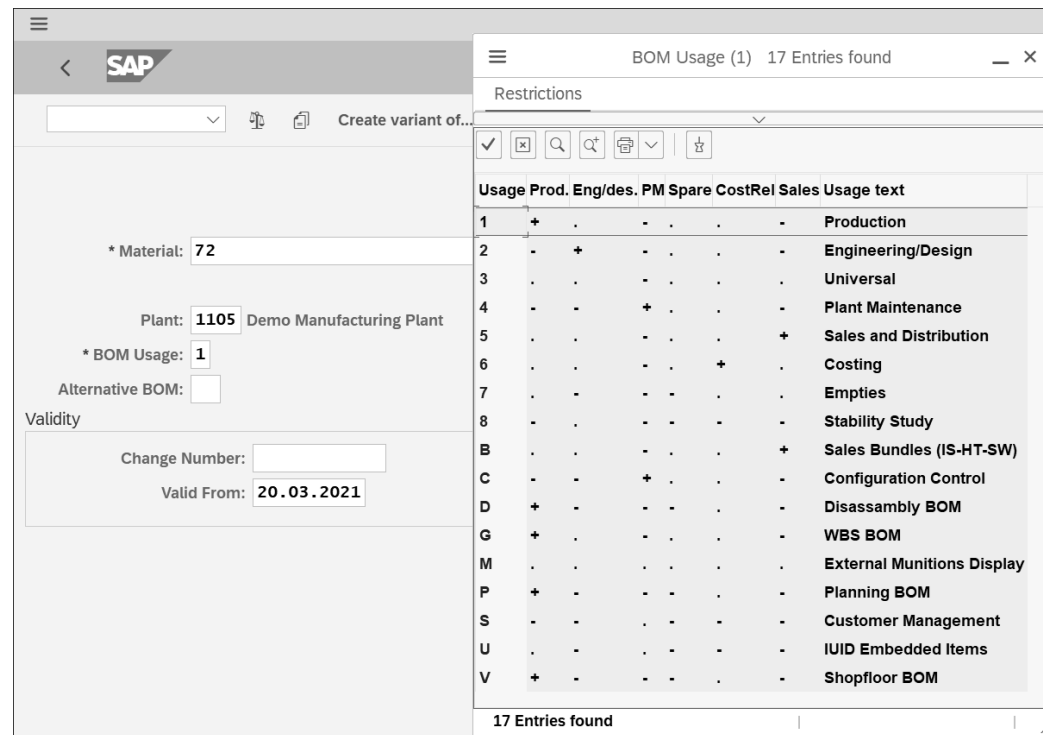


Figure 16.1 Production BOM with Usage 1



Tips and Tricks

We recommend creating a new BOM exclusively for LTP simulation. This provides greater visibility from a planning perspective. A dedicated BOM for LTP not only eliminates the chances of error while creating a normal production BOM of a material but also ensures that it's used for LTP purposes only. It then becomes easier for the person managing the production planning master data to segregate the normal production BOM from the LTP BOM. BOM usage is maintained in configuration. The selection ID

enables a materials planner to use separate BOMs for LTP purposes. To do this, create a separate BOM usage and assign it to a selection ID by using the order of priority for BOM usages (Transaction OS31).

In Section 16.1.4, we address the significance of defining a separate BOM usage for LTP. Refer to Chapter 3, in which we explain how to define and set up BOMs (Section 3.2) and routing selection (Section 3.4).

16.1.2 Planning Data: Planning Quantity

Table 16.2 presents the monthly planning quantities for the main material (keyboard). These quantities are entered as PIRs for this example. LTP will simulate the production and procurement requirements based on this information (PIRs).

Number	Month/Year	Quantity (Metric Tons)
1	04.2021	1,000
2	05.2021	1,200
3	06.2021	1,500
4	07.2021	1,800
5	08.2021	1,500
6	09.2021	1,200

Table 16.2 Planning Quantities

16.1.3 Planning Data: Planned Independent Requirements

The purpose of having multiple versions of PIRs in the SAP system is to account for various planning situations and scenarios, each of which is identified by its version number. A simulation version is the identified demand plan. One demand plan can be a sales plan while another can be a production plan, each having its own planning quantities of the same material. There can be several inactive versions available for simulation and comparison, but we recommend only having one active (operational) version.

Note

Although the standard SAP system provides several PIR versions, more versions can be created if there's a need to attend to specific business processes in configuration Transaction OMP2.



For this example, use **Version 02** (simulation 2) for LTP (see Figure 16.2). To enter planning quantities in the PIR, follow menu path **Logistics • Production • Production Planning • Demand Management • Planned Independent Requirements • Create**, or use Transaction MD61.

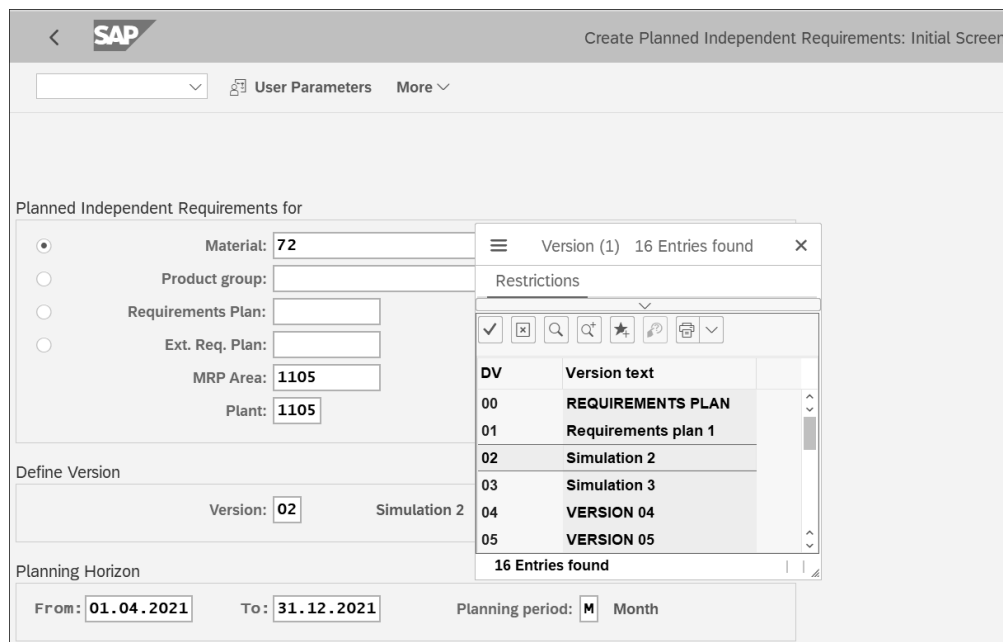


Figure 16.2 Standard Versions Available in SAP System

Figure 16.3 shows the monthly PIR figures as maintained in Table 16.2. Notice the **A** (active) checkbox isn't selected, which means LTP can consider planning materials without the checkbox selected. In contrast, MRP only considers those materials that have this checkbox selected.

The screenshot shows the 'Plnd Ind. Reqmts Create: Planning Table' in SAP. It displays a table with columns for Material, MRP Area, Version, and Active (A) checkbox, followed by monthly requirements from M 04.2021 to M 10.2021. The 'A' checkbox for material 72 is not selected.

Material	MRP Area	V	A	BU	M 04.2021	M 05.2021	M 06.2021	M 07.2021	M 08.2021	M 09.2021	M 10.2021
72	1105	02	<input type="checkbox"/>	EA	1,000	1,200	1,500	1,800	1,500	1,200	

Figure 16.3 Planned Independent Requirements

16.1.4 Create a Planning Scenario

To create a planning scenario, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Planning Scenario • Create**, or use Transaction MS31. These are the important steps in creating a planning scenario:

1. On the first screen that appears, define the planning scenario. For this example, define the **Planning Scenario** as "110" and also provide a short description.
2. Choose the **Long-Term Planning** radio button to denote that it's LTP in which the safety stock is used as the opening stock, and dependent requirements are created for reorder point materials. There are two other radio buttons on the first screen. **Gross Long-Term Planning** is similar to the long-term planning scenario, but the scrap calculation is deactivated, and a gross lot-sizing procedure can be selected. The **Short-Term Simulation** radio button enables the system to consider plant stock as the opening stock, and existing sales orders and firmed planning elements will be considered in the simulation.
3. Press **Enter** so that the screen shown in Figure 16.4 appears.

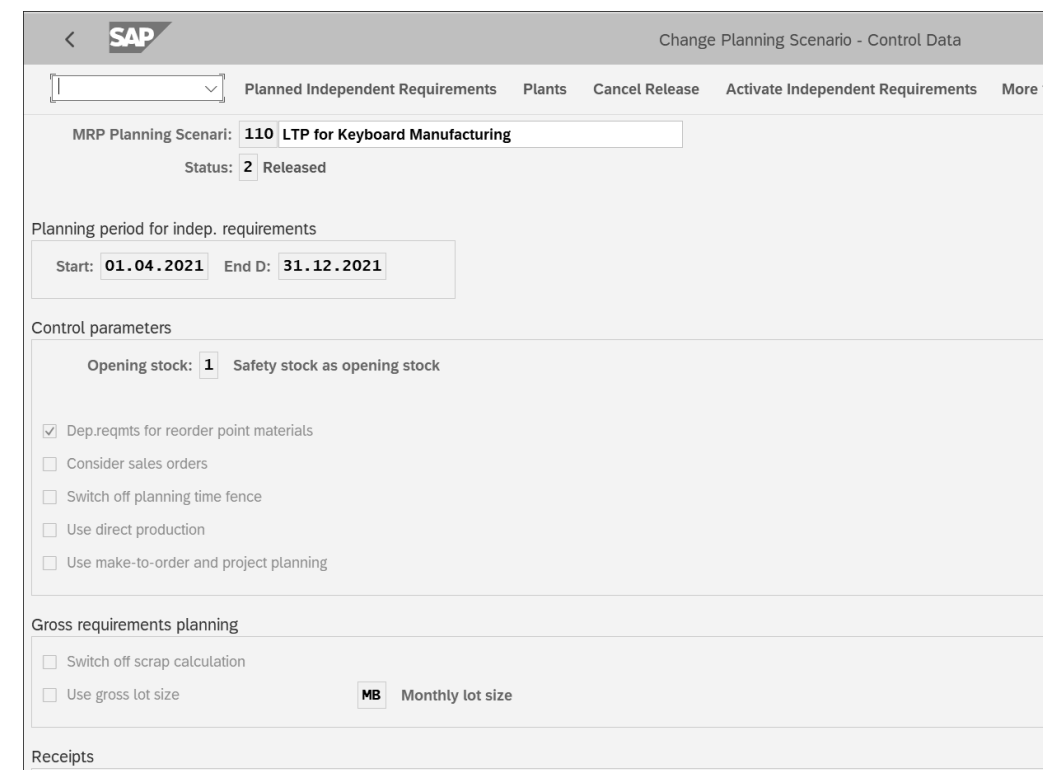


Figure 16.4 Creating Planning Scenario

We'll now explain the step-by-step procedure for running the LTP process, which we'll discuss in more detail in upcoming sections:

1. On the screen shown in Figure 16.4, enter "01.04.2021" and "31.12.2021" in the **Planning Period for Indep. Requirements** area of the screen. The system will carry out LTP for the specified period only.
2. Enter "1" (**Safety Stock as Opening Stock**) in the **Opening** stock field.
3. Select other parameters as deemed appropriate.
4. Scroll down and select the **BOM Selection ID 01** (not shown), which is the production BOM for this example. If an LTP-specific BOM usage was specifically created, then assign it here.
5. If there's a business need to consider a different shift schedule or perhaps a different capacity utilization, then choose a different active version for the available capacity under the **Available Capacity** section (not shown but located further down the same screen).
6. Click on the **Planned Independent Requirements** button located on the top section of the **Create Planning Scenario** screen (refer to Figure 16.4). Assign the simulative **Version** (use **02** for this example) on the screen shown in Figure 16.5.
7. Choose the **+** icon to add the version entry, add the **From** and **To** dates, and then choose **Confirm**.
8. Select the plants for which the LTP will be applicable. The **Plants** button shown earlier in Figure 16.4 is located on the top section of the **Create Planning Scenario** screen. Choose the **+** icon to add the plant entry, and then choose **Confirm**. For this example, use plant **1105**.

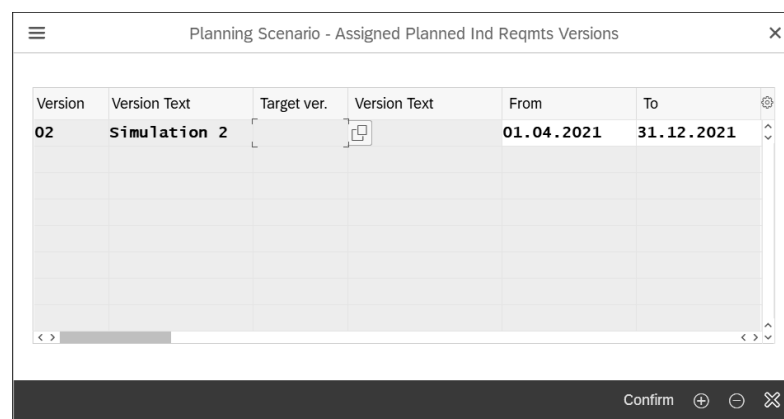


Figure 16.5 Planning Scenario Creation Screen to Define Parameters

9. Choose the **Release + Save** button shown earlier in Figure 16.4 to save the planning scenario. After a planning scenario has been released, parameters maintained in a scenario can no longer be changed. However, it is possible to undo the release within the planning scenario, make the desired changes and then re-release the planning scenario again.
10. The system automatically creates planning file entries in due course. When the planning scenario is released, the system creates entries in the planning files and this is confirmed via a popup message to confirm if the planning entries be created online or in the background. However, when release of the planning scenario is cancelled, the system correspondingly deletes the entries from the planning file. The new report PPH_SETUP_MRPRECORDS_SIMU is used to set up and check for consistencies in the LTP planning file entries; this is the report executed in a background job when a scenario is released.

16.2 Long-Term Planning: Business Process

Now that we've covered the master data and the planning data that needs to be set up for LTP, let's cover the business processes involved in LTP. After creating the planning scenario, perform the following series of activities in sequential order:

1. Enter the PIR in a simulative version (already covered in Section 16.1.3).
2. Run LTP (simulative MRP) and save the results.
3. Evaluate the LTP stock/requirements list.

Note

When working with LTP in the SAP system, it may take several rounds to achieve a satisfactory production plan. It's helpful, then, to know that the basics and the underlying principles involved in LTP are very similar to MRP—adjusting, planning, evaluating, and comparing until the results are satisfactory.

The LTP example that we present in this chapter is a straightforward one, and the objective is to help a materials planner understand the sequence of steps involved in running LTP. For example, the planning quantities in the PIR can be set up much earlier than setting up LTP. We present it here to show that creating a PIR is one of the several steps that need to be undertaken in the initial stages of master data setup for LTP.

16.2.1 Run Long-Term Planning (Simulative MRP)

To run the LTP interactively (simulative MRP), follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Long-Term Planning • Single Item, Multi-Level**, or use Transaction MSO2. Here, define the initial parameters to run the LTP. Enter



the **MRP Planning Scenario** as “110”, as well as the **Material** code (72) and the **Plant** (see Figure 16.6).

Just like the MRP, define the parameters that will eventually influence the results of LTP. For this example, define that during LTP, the system should re-explode the BOM and routing to read the latest data and perform lead time scheduling to account for capacity planning (see Figure 16.6).

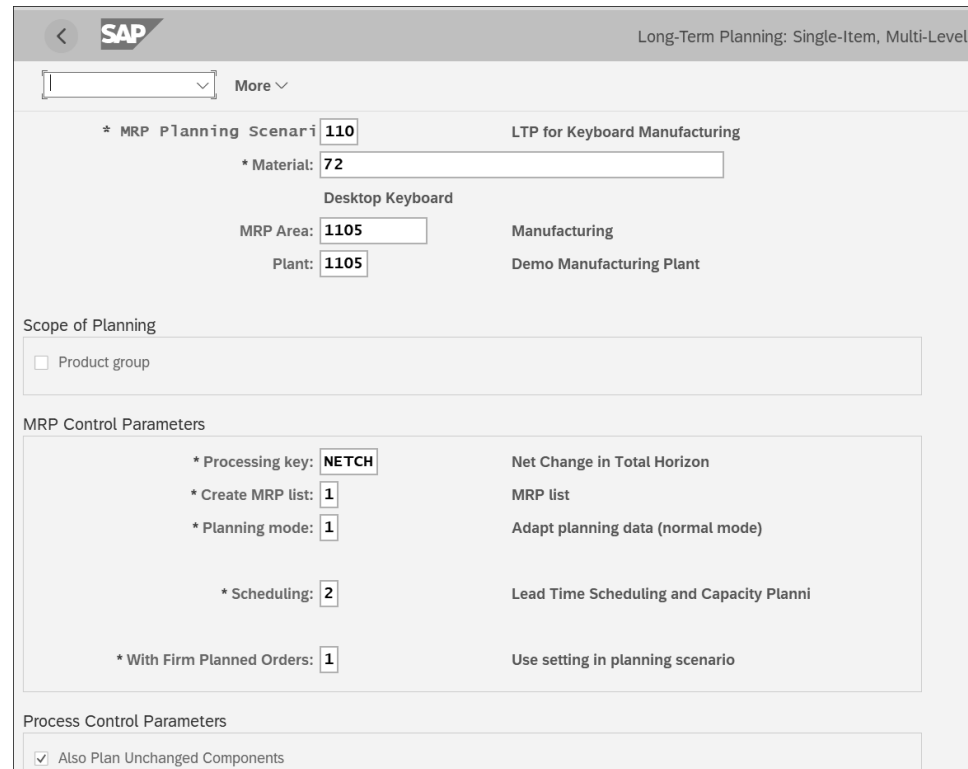


Figure 16.6 Initial Screen to Run LTP

Press **Enter**, and the system issues a warning message to check all of the planning parameters. Press **Enter** again to confirm, and the system runs the LTP.

Figure 16.7 shows the planning results of **Material 72**, which is the first of the BOM materials selected for LTP planning. Click **Save and continue** so that the screen shown in Figure 16.8 appears.

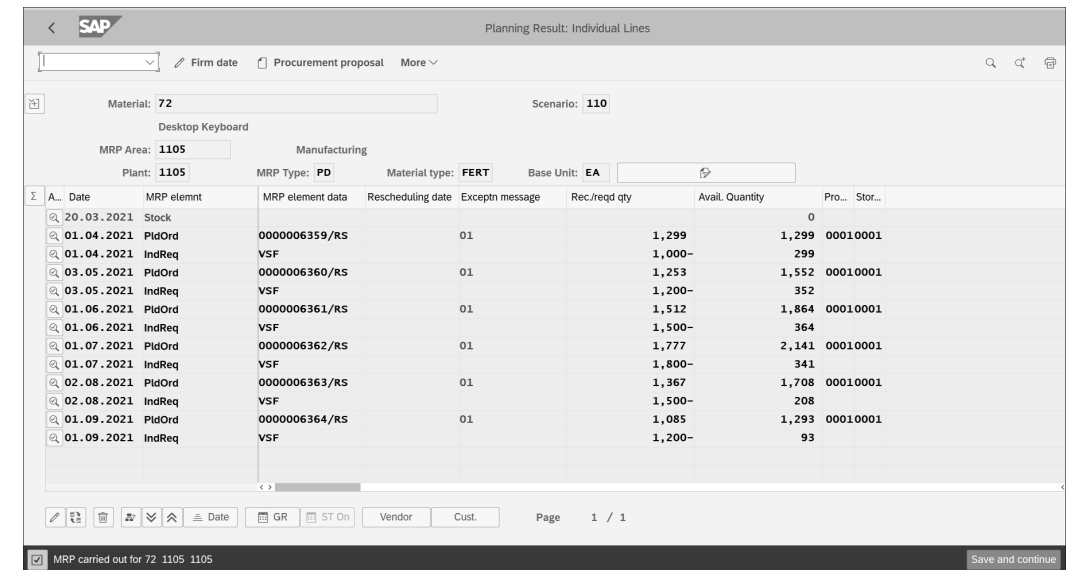


Figure 16.7 LTP List (Simulative MRP List) Generated

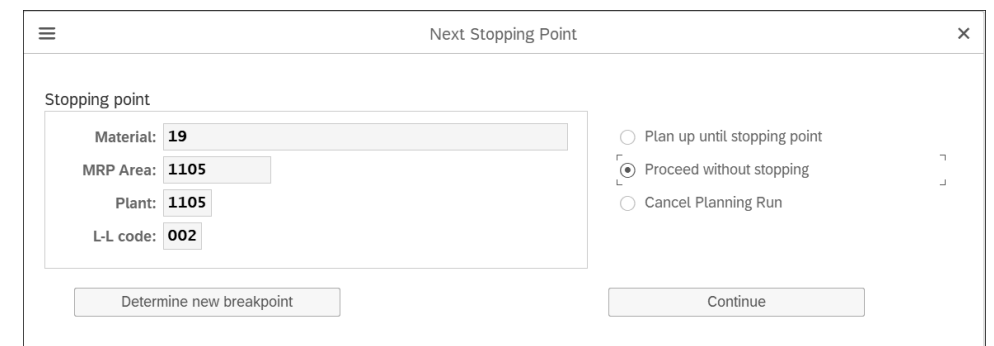


Figure 16.8 LTP of BOM Component

After the LTP planning of the keyboard, Figure 16.8 shows that the next BOM component, **Material 19**, is ready to be planned. Choose the **Proceed without Stopping** radio button and then choose **Continue** so that the system plans all BOM components without stopping at each breakpoint.

Figure 16.9 shows the LTP report of single material, multilevel LTP in which a total of four materials were planned via LTP.

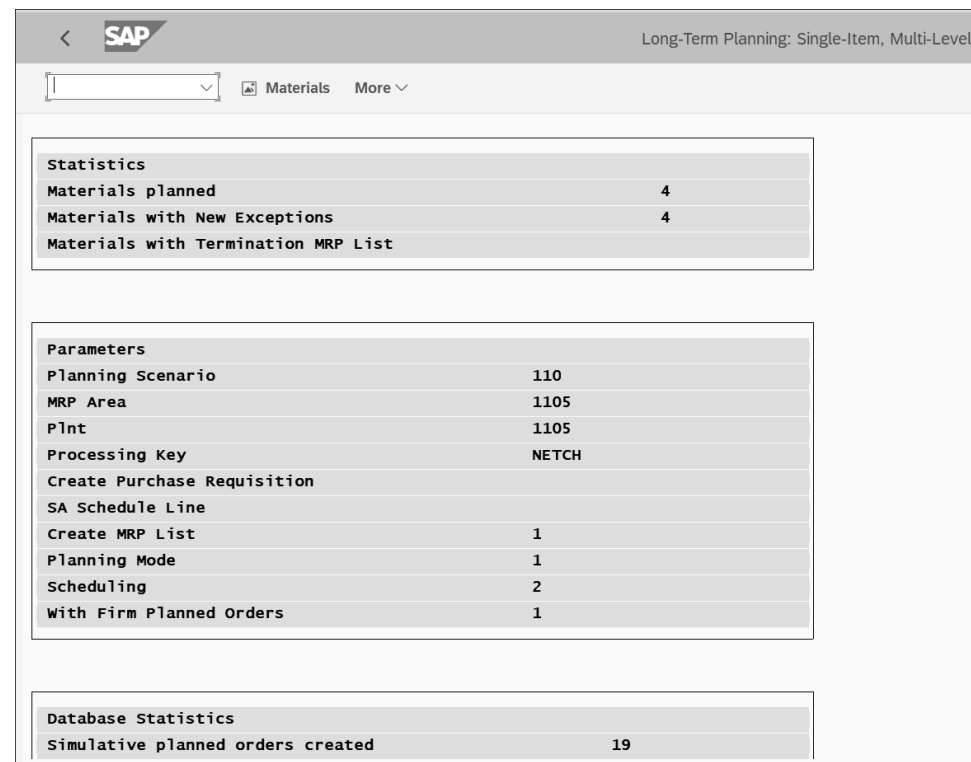


Figure 16.9 Results of LTP for Planning Scenario 110



Note

Other LTP Transactions available are as follows:

- Transaction MS01 (Online)
- Transaction MS03 (Single Level Single Item Planning)
- Transaction MSBT (As Background Job)
- Transaction MS50 (Single Item Planning, Sales Order)
- Transaction MS51 (Single Item Planning, Project)

16.2.2 Evaluate the Long-Term Planning Stock/Requirements List

It's now time to evaluate the results and outcome of the LTP in the form of an LTP stock/requirements list. Follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Evaluations • Stock/Requirements List**, or use Transaction MS04. The screen shown in Figure 16.10 appears after entering parameters for planning scenario 110, material number, and plant.

Note

In the standard display layout of a stock/requirements list, the system shows individual planning elements, including independent requirements, planned orders, and so on. However, we've changed the layout to show how the monthly quantities entered in the PIR are shown in the stock/requirements list. Notice that the first column is the monthly **Period/Segment**, whereas the second column is the **Plnd Ind.Reqmts**.

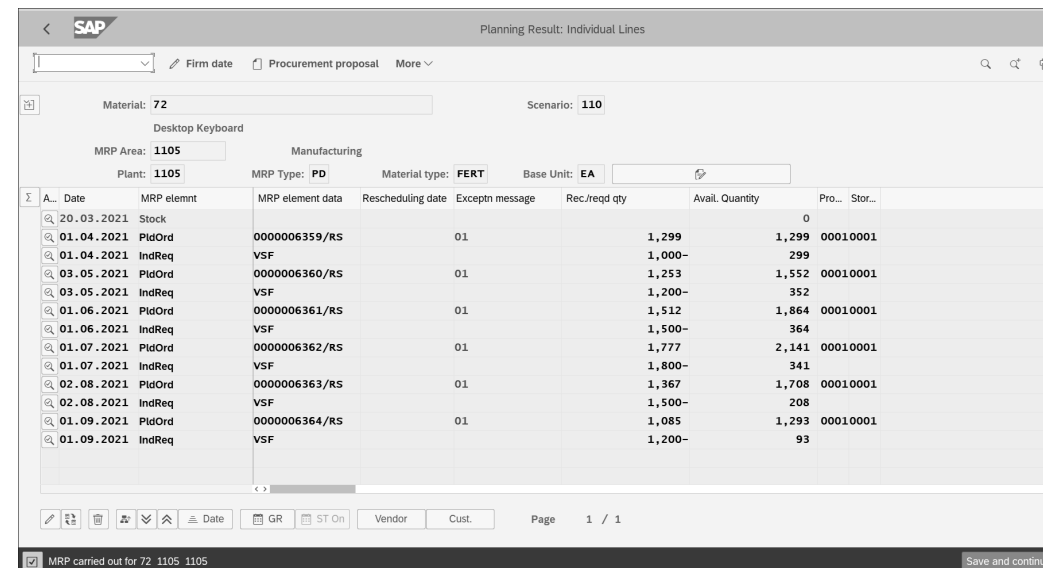


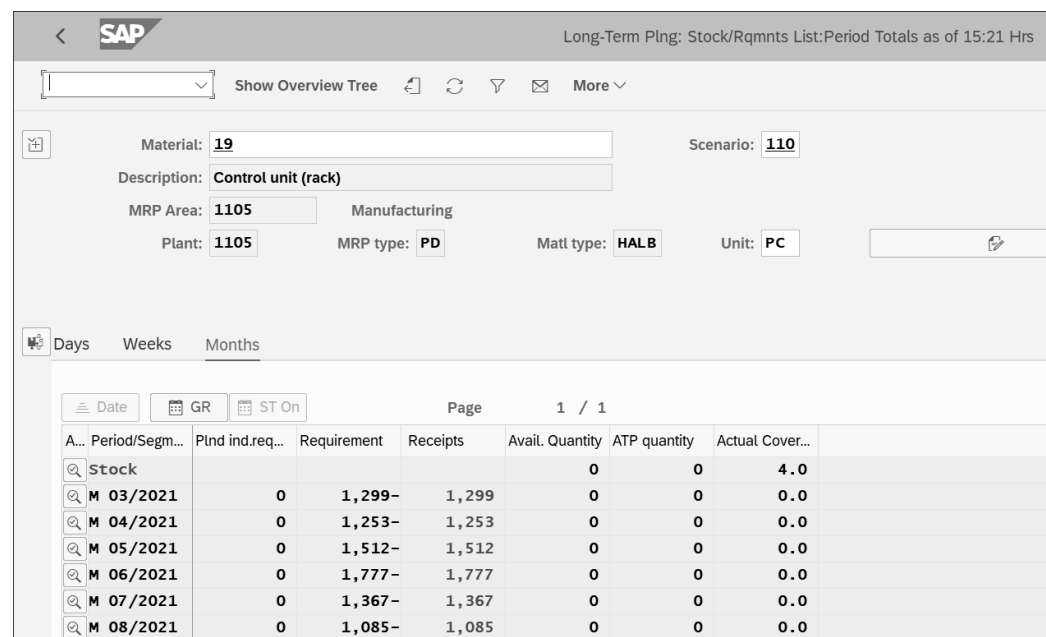
Figure 16.10 Stock/Requirements List

Tips and Tricks

The layout can be aggregated to period total in the stock/requirements list by choosing the **Aggregate** icon. Click the **Days**, **Weeks**, or **Months** tabs to view the aggregate details. Refer to Chapter 13 and Chapter 14 on MRP for more information.

Figure 16.10 doesn't have any opening stock. This is because we selected the safety stock as the opening stock balance while creating planning scenario 110. All figures are available as shown in Table 16.2, which shows the planning quantities for the keyboard.

Figure 16.11 shows the results of component control unit (rack) of the finished product. The dependent requirements of control unit (rack) calculated by LTP are based on the PIRs and the BOM explosion details given in Table 16.2. The calculated quantities are shown in the **Receipt/Reqmt** column.



A...	Period/Segm...	Plnd ind.req...	Requirement	Receipts	Avail. Quantity	ATP quantity	Actual Cover...
	Stock				0	0	4.0
M	03/2021	0	1,299-	1,299	0	0	0.0
M	04/2021	0	1,253-	1,253	0	0	0.0
M	05/2021	0	1,512-	1,512	0	0	0.0
M	06/2021	0	1,777-	1,777	0	0	0.0
M	07/2021	0	1,367-	1,367	0	0	0.0
M	08/2021	0	1,085-	1,085	0	0	0.0

Figure 16.11 Stock/Requirements List

16.3 Additional Features in Long-Term Planning

By now you have an understanding of how to successfully run LTP. The following are further options that are available in LTP:

- Manually creating a simulative planned order
- Firming the simulative planned order using a firming date
- Copying PIRs or firming planned orders from LTP to operative planning
- Cleaning up the LTP data

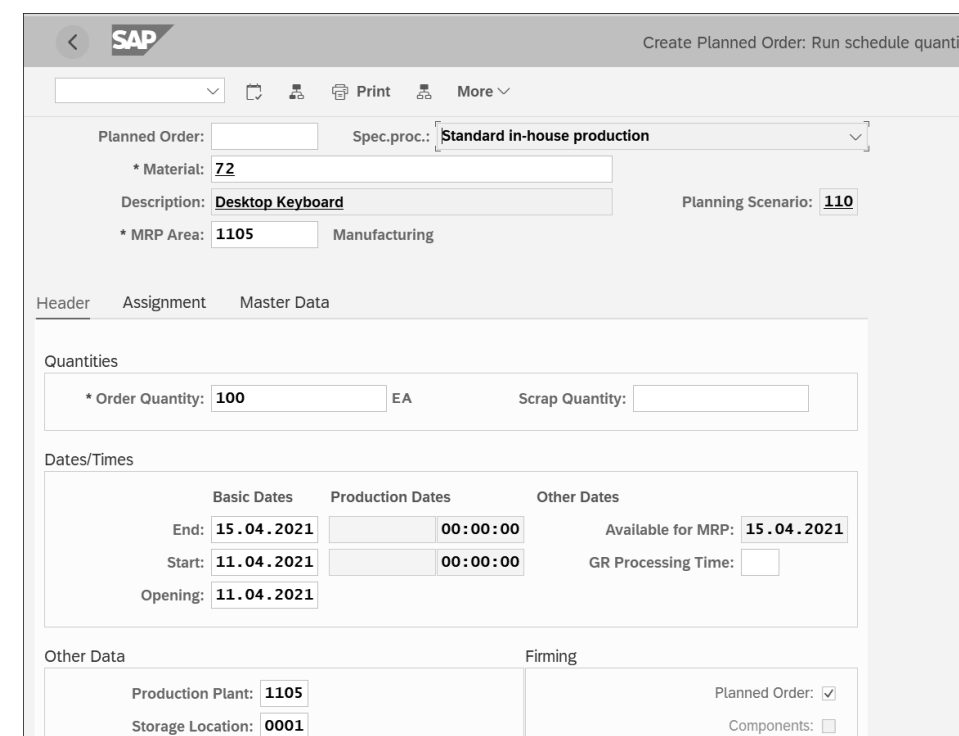
Some of these options aren't commonly known; we'll explain them in the following sections.

16.3.1 Manually Create a Simulative Planned Order

While LTP provides complete automation in planning and proposal generation, including the creation of planned orders, it's often necessary to manually create a simulative planned order to meet any additional requirements during the simulation phase. For example, say that while evaluating results from LTP, a materials planner realizes that there's a need to account for additional demand for a specific component. Instead of making changes to the PIR of a finished product and then re-exploding the BOM to come up with the component's quantity, simply create a simulative planned order for

that specific component. This simulative planned order then becomes available in all evaluations (e.g., the stock/requirements list) and information systems (e.g., purchasing and inventory controlling) and is also firming. The system won't make changes during the next LTP run to this manually created simulative planned order.

To create a simulative planned order, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Simulative Planned Order • Create**, or use Transaction MS11. Figure 16.12 shows the screen for the creation of a simulative planned order. For this example, create a simulative planned order for a quantity of 100 EA and also associate it with planning scenario 110. In addition, set the **Firming** indicator (not shown) so that during the next LTP run, the details of this simulative planned order aren't changed.



Planned Order: Spec.proc.: **Standard in-house production**

* Material: **72**
Description: **Desktop Keyboard** Planning Scenario: **110**
* MRP Area: **1105** Manufacturing

Header Assignment Master Data

Quantities
* Order Quantity: **100** EA Scrap Quantity:

Dates/Times

Basic Dates	Production Dates	Other Dates
End: 15.04.2021	<input type="text"/>	Available for MRP: 15.04.2021
Start: 11.04.2021	<input type="text"/>	GR Processing Time: <input type="text"/>
Opening: 11.04.2021		

Other Data Firming

Production Plant: **1105** Planned Order:
Storage Location: **0001** Components:

Figure 16.12 Manual Creation of Simulative Planned Order

When processing a simulative planned order, you can take actions such as firming, scheduling, or using it for capacity analysis, for example. It isn't possible to run an availability check for this kind of order, though, and the available-to-promise (ATP)-related menu button will not be displayed. Further, to copy the LTP planned orders to operational MRP, you need to trigger the interactive MRP in Transaction MD43 and then choose the **More • Edit • Copy Simulative LT Planned Orders** menu option. From the subsequent popup, choose from which planning scenario you're copying the firm planned orders and a date interval from which the planned orders should be copied.

After copying the planned orders, it's highly recommended to trigger the MRP planning within Transaction MD43 to ensure that all the requirements are covered and that there are no shortages for the material because the previously existing planned orders were deleted.

16.3.2 Firm the Simulative Planned Order Using a Firming Date

The process of manually firming planned orders ensures that all future LTP runs don't impact or overwrite the existing simulative planning data. In firming, a date is specified, and all of the simulative planned orders generated from LTP are then firming until that date. During the next LTP run, these manually firming simulative planned orders aren't changed or deleted. While remaining in the stock/requirements list (Transaction MS04), choose **More • Edit • Manual Firming Date**.



Note

In the stock/requirements list for operative MRP (Transaction MD04), the system displays the manual firming date when it's active.

16.3.3 Calculate Average Plant Stock

Based on the period under evaluation, LTP offers the option to calculate the average plant stock of all the materials that went through the LTP process. The average plant stock is calculated by adding up the total stock for the period under evaluation divided by the number of periods (months) under evaluation. The benefit of providing the average plant stock to purchasing and inventory management departments is that they can better coordinate with vendors for timely deliveries, while warehouses have an advanced preview of space to be made available for this incoming stock.

To calculate average plant stock, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Long-Term Planning • Average Plant Stock**, or use Transaction MS29.

16.3.4 Copy Long-Term Planning Results to Operative Planning

After all of the necessary simulations (LTP) have been completed, the business often needs to move the results of one of the simulations of LTP to operative planning, based on which the actual MRP run can be executed. For this example, proceed with the understanding or assumption that the entire supply chain team is satisfied with the results of LTP and wants to copy the PIR to operative planning. In an actual business scenario, there may be several rounds of PIR updating and planning simulations within LTP before copying the agreed-upon PIR into operative planning. The agreed-upon PIR for transfer to operative planning will be the one in which the supply chain is satisfied

with the LTP simulation results. While this example focuses on copying PIRs, the firming (simulative) planned orders can also be copied to operative planning.

The option to copy a PIR of simulative planning to operative planning saves an enormous amount of work already done during the LTP process and eliminates redundancy in data entry. Further, during the copy function, there's a flexibility to make changes in operative planning with respect to LTP. After the PIR is in operative planning, assign the **Active** status to it and run the MRP.

To copy the LTP's PIR to operative planning, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Planned Independent Requirements • Copy Version**, or use Transaction MS64. Figure 16.13 shows the initial screen to define parameters to transfer the results of the simulative planning of version 02 to the operative planning in version 03.

Figure 16.13 Copying Source Version 02 to Target Version 03 of PIR

Tips and Tricks

Although we're deliberately taking the longer route in this example to show the steps involved in the copy function, use Transaction MS32 (Change Planning Scenario) and the **Active Independent Requirements** icon to copy PIRs to the target version.



Here, source version 02 is specified as the version to be copied to target version 03. Other parameters to define include dates of transfer from version 02 to 03. Changes in quantities between the source and target versions can also be made, as well as the number of months by which a materials planner wants to displace the planning data to operative data during transfer. *Displacement* refers to moving quantities forward or backward in time from version 02 to version 03 during copying of simulative data to operative data. Also select the **No Database Changes (Simulation)** checkbox to enable the copy function in the simulation mode and to check for any errors or other deviations before performing the actual transfer.

After execution (by pressing **F8**), the screen shown in Figure 16.14 shows the simulated results copied to target version 03 with all the quantities successfully transferred to version 03. Go back to the previous screen and deselect the **No Database Changes (Simulation)**, then press **F8** again; this time, the copied results are available in the PIR under version 03.

The screenshot shows the SAP 'Copy Version' screen. At the top, it displays '20.03.2021' and 'Copy Version 1'. Below this is a 'Transfer Log from 20.03.2021 At 16:11:51 Time'. A summary table shows: 'Items Selected Altogether: 2', 'Items with Successful Transfer: 2', 'Items Without Transfer: 0', and 'Items with Errors: 0'. Below the summary is a table with columns: 'Status Material', 'P1nt MRP Area', 'RqTy DV ReqmtsPlan Total planned qty BUn', 'P Reqmts dt.', 'Planned qty BUn', 'Proc. Status', and 'MT Msg. Message Text'. Two materials are listed: 25 and 72. Material 25 has a planned quantity of 8,300 and status PC. Material 72 has a planned quantity of 8,200 and status EA. Below material 72, a list of months from 04.2021 to 09.2021 is shown with their respective planned quantities and 'EA Inserted' status. At the bottom, a warning message reads: 'W 443 At least one active version already exists in the...'.

Figure 16.14 Results after Using Copy Version Functionality



Note

While this example shows the transfer of a PIR from version 02 to version 03, we suggest using version 00, which is the active version in the system, to transfer LTP PIRs to operative planning (MRP).

After copying the LTP planning results of source version 02 to operative planning in version 03, check to see if the outcome of the copy function is that the LTP PIR data of version 02 is now available in version 03. To check the PIR, follow menu path **Logistic • Production • Production Planning • Long-Term Planning • Planned Independent Requirements • Change**, or use Transaction MD62. Confirm that the system successfully executed the copy function and that the simulative figures of version 02 are now transferred to 03. Refer to the third column (with the heading **V**) to note that it's version 03, and consider the activated **Active** field (the checkbox) right next to it.

Tips and Tricks

Use Transaction MD74 to delete or reorganize old or inactive PIRs on a regular basis. Transaction MS08 can be used to reorganize (delete) MRP lists created for LTP.



16.3.5 Cleaning Up Long-Term Planning Data

After running all the desired LTP simulations, there might be a need to restart the simulation from scratch or simply reuse the same planning scenario for a different simulation. In the standard SAP S/4HANA system, there is no LTP archiving object as it's simply a simulation tool, but SAP offers options for deleting the LTP scenario-dependent data and the whole planning scenario. The deletion of dependent data can be carried out independently of the planning scenario deletion. There are different alternatives to delete the planning scenario-dependent data, and each one can be used for a different purpose.

If you're firming simulative planned orders and an MRP type with roll-forward isn't used, then it might occasionally be necessary to delete the old firm planned orders because they will not be converted or backflushed like the operational MRP planned orders. If there's a need to delete firm planned orders, the simplest option is to run report RMPLAFOO (using Transaction SE38); just select for which specific planning scenario planned orders need to be deleted, and decide if you want to activate the **Set Planning File Entries** flag so that all the materials with deleted planned orders are planned again in the next LTP run. The report also offers an option to run in test mode, which will tell you how many planned orders will be deleted before the actual deletion. If you're setting manual firming dates for the materials in Transaction MSO4, it will cause simulative planned orders to be automatically firming during the LTP run. When the manual firming date is no longer required, use report RMMDFDOO to delete those entries so that they will no longer be relevant to LTP.

Another way to delete the planning scenario-dependent data is to run report RMPLSCOO. This report will not only delete the planned orders but also provides options to select specific elements to be deleted by checking the **Planning File Entries**,

MRP Lists, Manual Firming Data, Data in Purchasing Info System, Data in Inventory Controlling, and Average Plant Stocks flags in the selection screen (see Figure 16.15).

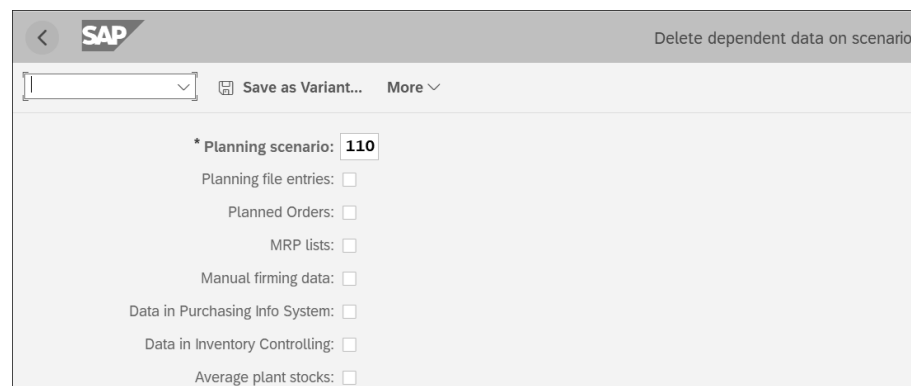


Figure 16.15 Deleting LTP Data

Finally, the data and the planning scenario itself can be deleted when changing the planning scenario in Transaction MS32. Both options can be selected through the **More • Planning Scenario • Delete** menu option when changing the planning scenario. If you choose the option to delete dependent data in Transaction MS32, then a popup appears. Here, choose which planning elements will be deleted and whether the deletion will be executed immediately or in the background; the system will only allow marking those planning elements that actually exist for the planning scenario.

The actual deletion of the planning scenario will be possible only after all the dependent data is deleted, and it can be carried out directly in Transaction MS32. After the deletion, reusing the same number for the creation of a new planning scenario is possible.

16.4 Evaluate Information Systems

The LIS is available for all core logistics areas in the SAP system. The LIS for each area provides a multitude of standard analysis reports. It derives the data and information from all of the transactions performed in the system, thus ensuring the availability of comprehensive information for evaluation and decision-making purposes. An information system is a reporting option available in the system to display the desired information based on the user-defined criteria. Therefore, there is also a comprehensive information system for LTP, catering to both purchasing and inventory controlling functions.

In the following sections, we'll explain how to set up and evaluate the results of the information systems for purchasing and inventory controlling in LTP. There'll be a need to first set up the data for these two information systems before the system

displays the planning results of a planning scenario. There's no need to set up any data for capacity requirements for work centers for a given planning scenario.

16.4.1 Setting Up a Purchasing Information System for LTP

Let's set up data before the purchasing information system for LTP is ready for use and evaluation. To get to the initial screen for the data setup (Figure 16.16), follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Evaluations • Purchasing Information System • Set Up Data**, or use Transaction MS70.

To set up the data, select the relevant parameters (e.g., **MRP Planning Scenario**). For this example, select **MRP Planning Scenario 110**. For order value calculation, choose **Standard/Moving Avg.Price**, which the system will read from the material master. If the planned prices of the material are to be used to form the basis for purchasing value calculation, then choose **Plnd Price** (planned price) and enter one of the three planned prices available. Press **[F8]** to execute.

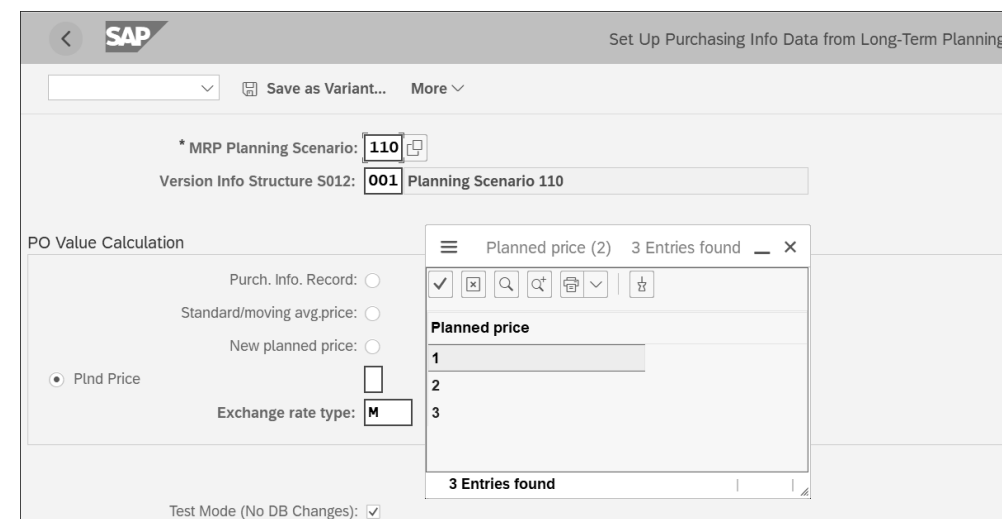


Figure 16.16 Set Up Screen for Purchasing Information System for LTP

Warning

Make sure you deselect the **Test Mode (No DB Changes)** checkbox shown in Figure 16.16 to execute in the system.

16.4.2 Evaluating with the Purchasing Information System for LTP

The purchasing information system for LTP is now ready for use for evaluation purposes. Follow menu path **Logistics • Production • Production Planning • Long-Term**

Planning • Evaluation • Purchasing Information System • Material, or use Transaction MCEC. Enter the relevant parameters, as shown in Figure 16.17. These parameters are **MRP Planning Scenario**, **Standard/Moving Avg.Price** (or other value calculation), **Material** number, **Plant**, and the **Period to Analyze**.

Planning scenario 110 and the results for the materials are shown in Figure 16.18. Monthly order quantities along with values are reflected. The monthly purchase order quantity and the monthly total value in local currency is shown as well.

Figure 16.17 Material Analysis in LTP

Month	PO value	Order quantity	PO price
Total	238.55 USD	893 PC	0.27 USD
03.2021	238.55 USD	893 PC	0.27 USD

Figure 16.18 Evaluation in Purchasing Information System for Materials

The planning results of simulative planning data of the planning scenario can be compared with operative planning. Use Transaction MS44 to bring up the material-specific or plant-specific comparison. Then choose whether to run a comparison with the current operative planning situation (corresponding to the stock/requirements list) with the last operative planning run (corresponding to the MRP list) or with another planning scenario. The presentation of the comparison can be defined by means of a layout; in this case, we chose the standard layout, SAPSOP. This layout displays the issues, receipts, and available quantity for LTP and operative planning (indicated by comparative data in this case).

16.4.3 Setting Up an Inventory Controlling Information System for LTP

Similar to setting up a purchasing information system for LTP, you have to set up data before the inventory controlling information system for LTP is ready for use. To set up the data, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Evaluations • Inventory Controlling • Setup Data**, or use Transaction MCB&.

In Figure 16.19, the selection parameters are **Plant**, **Material**, **Period to analyze**, and **MRP Planning Scenario** (which is 110 for this example). After the parameters are defined as shown, choose the **Execute** icon or press **F8**. This is all that is needed to set up data for the inventory controlling information system for LTP.

Figure 16.19 Setup of Inventory Controlling Information System for LTP

16.4.4 Evaluating the Inventory Controlling Information System for LTP

The inventory controlling information system for LTP is now ready for use for evaluation purposes. To get to the **Inventory Controlling** screen, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Evaluations • Inventory Controlling • Evaluation**, or use Transaction MCB). Figure 16.20 reflects the inventory situation of some components for individual months. The total monthly requirements are shown first, followed by the stock situation, and finally by how much quantity must be received per month against procurement proposals generated by MRP/LTP (as shown in the **GdsReceipt (MRP)** column).

Month	Requirement	Total stock	GdsReceipt (MRP)
Total	91,223.000 ***	0.000 ***	57,859.000 ***
03.2021	14,289.000 ***	2,133.208- ***	8,687.000 ***
04.2021	13,783.000 ***	9,099.208- ***	8,817.000 ***
05.2021	16,632.000 ***	17,806.208- ***	10,325.000 ***
06.2021	19,547.000 ***	28,179.208- ***	12,174.000 ***
07.2021	15,037.000 ***	36,237.208- ***	9,979.000 ***
08.2021	11,935.000 ***	43,595.208- ***	7,877.000 ***

Figure 16.20 Inventory Controlling

16.4.5 Capacity Planning

A capacity planner can gain greater visibility into the capacity situation for various planning scenarios, and there’s no need to set up any data for it. Further, the simulated capacity planning functionality helps a capacity planner to evaluate future capacity expansions’ needs in case the existing capacity setup is unable to meet the impending capacity requirements.

To access the **Capacity Planning** screen, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Evaluations • Capacity Requirements • Work Centers**, or use Transaction CM38. On the initial screen, enter the planning scenario (in this example, 110) to evaluate the planning situation. Press **[Enter]**, and the system brings up comprehensive capacity details to evaluate, as shown in Figure 16.21. While this is just an example, the red lines show the weekly capacity overload that can then help the capacity planner to consider shifting some production to other time periods (the capacity leveling process).

Week	Requirements	AvailCap.	CapLoad	RemAvailCap	Unit
11.2021	0.00	0.00	0 %	0.00	H
12.2021	240.00	40.00	600 %	200.00-	H
13.2021	432.00	72.00	600 %	360.00-	H
14.2021	624.00	104.00	600 %	520.00-	H
15.2021	864.00	144.00	600 %	720.00-	H
16.2021	1,104.00	184.00	600 %	920.00-	H
17.2021	1,344.00	224.00	600 %	1,120.00-	H
18.2021	1,584.00	264.00	600 %	1,320.00-	H
19.2021	1,824.00	304.00	600 %	1,520.00-	H
20.2021	2,064.00	344.00	600 %	1,720.00-	H
Total >>>	2,064.00	344.00	600 %	1,720.00-	H

Figure 16.21 Capacity Evaluation with LTP

Note

Refer to Chapter 18 on capacity requirements planning (CRP) for more information.

16.4.6 Long-Term Planning Evaluation for Range of Coverage

The *range of coverage* reflects the number of days during which the current stock will cover future stock issues, and it’s based on past stock and issue values. In other words, the range of coverage indicates how long existing inventory will last, assuming that the average future stock issues will be the same as those in the past. The usage-based range of coverage is calculated as follows:

$$\text{Current stock} \div \text{Average usage per day}$$

The requirements-based range of coverage is calculated as follows:

$$\text{Current stock} \div \text{Average requirement per day}$$

Using the range of coverage in LTP, a company can identify materials with excess coverage and take action to reduce unnecessary inventory. The opposite is also true when it comes to identifying a potential shortage situation early on to take corrective measures. Using Transaction MSDO, access the screen shown in Figure 16.22 for LTP evaluation of several materials for which there isn’t adequate coverage, including our example material 72.



Index	Sc.	Material	Plant	MRP Area	Material description	Status RoC	Stock DS	1st RDS	2nd RDS	Eval.	BA	Plnt stock Unit
7	110	19	1105	1105	Control unit (rack)	●○○	5.0-	5.0-	5.0-			0 PC
12	110	24	1105	1105	Cable high current 10 kA		5.0-	5.0-	5.0-			0 M
13	110	25	1105	1105	Turbine		1.0-	1.0-	1.0-			545 PC
29	110	64	1105	1105	Bearing (complete)		5.0-	5.0-	5.0-			371 PC
32	110	72	1105	1105	Desktop Keyboard		1.0-	999.9	999.9			0 EA
1	110	3	1105	1105	Test Finished Material	○○■	999.9	999.9	999.9			0 EA
2	110	10	1105	1105	Steel Sheet		999.9	999.9	999.9			8 TON

Figure 16.22 LTP Range of Coverage

16.4.7 Activity Report

Because PP completely integrates with the product costing functionality, you can also leverage LTP to evaluate and transfer planned activity requirements to production. Similarly, you can transfer scheduled activities to PP business processes. To access the **Activity Requirement** submenu, follow menu path **Logistics • Production • Production Planning • Long-Term Planning • Environment • Activity Requirement**.

16.5 Summary

LTP is able to attend to several business scenarios in simulation mode, as well as to matters such as average plant stock, production quantities, procurement quantities and values, and capacities over a given period of time. LTP uses the same concepts and fundamentals as MRP. Even the system navigation and functions of LTP and MRP offer great similarities.

The next chapter is on pMRP, the next-generation materials and capacity simulation tool.

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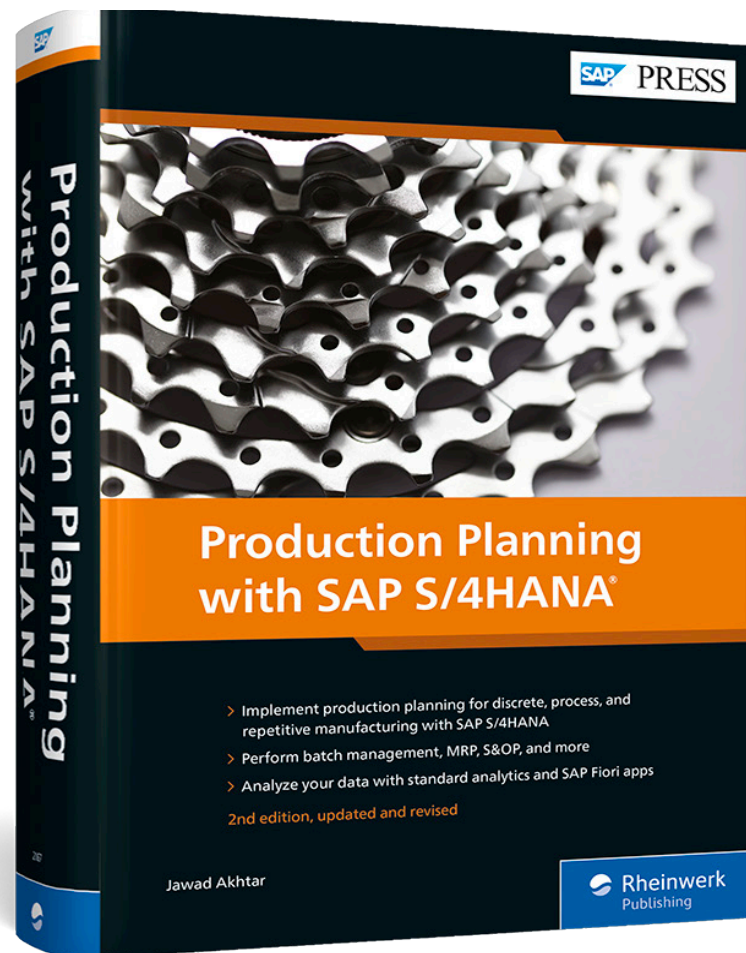
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