SAP® Smart Meter Rollout by PROLOGA

User Manual

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1 Introduction

Since January 2010 the installation of smart meters in newly constructed buildings and significantly refurbished buildings is mandatory by (European) law. A smart meter is an electronic power meter enabling a remote meter reading. Besides power meters, smart meters can also be applied for water, gas and heat consumption readings. Data are transmitted by LAN, GPRS, GSM, PSTN or PLC.

The roll-out of smart meters is a successive, large-scale, resource and time consuming process. Due to the vast amount of required smart meter installations there is a multitude of orders that is hardly to be processed in an efficient manner. Processing all orders in one step will probably overload the system resulting in a performance collapse.

Figure 01: Mass data challenge

Divide and conquer is an approach used to reduce complexity whereas the actual tasks are split into smaller sub tasks until the single task can be handled easily. This approach is as well used in the Smart Meter Rollout solution.

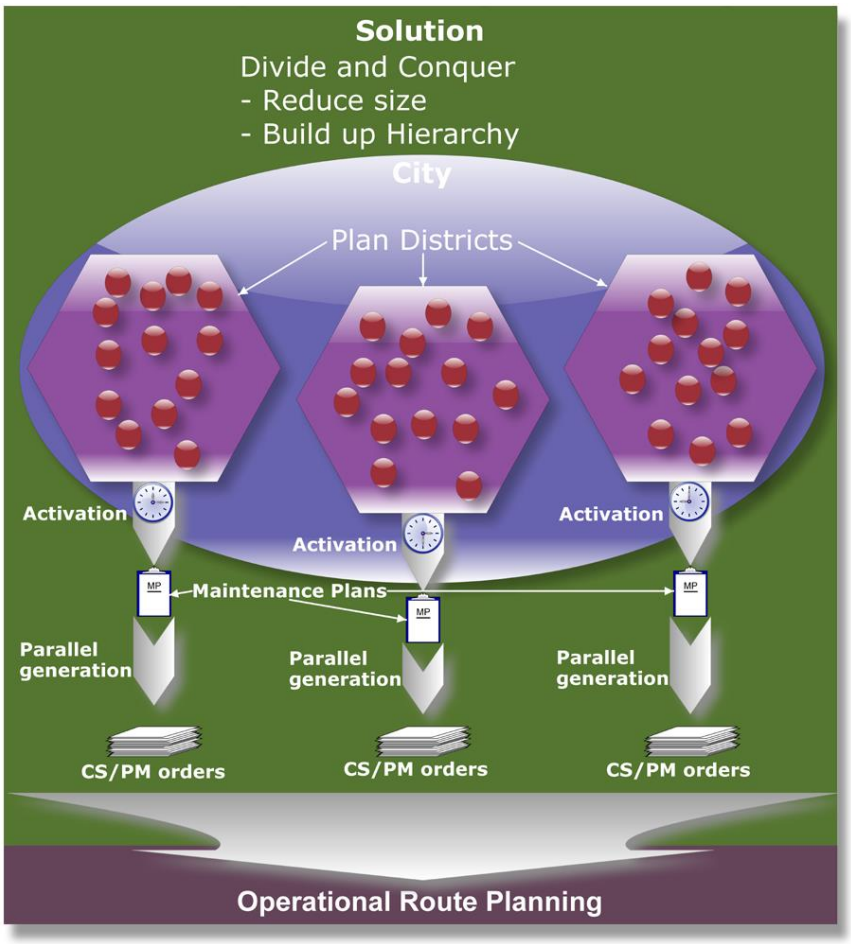


Figure 02: Solution

This manual explains the important steps and settings required for *SAP® Smart Meter Rollout by PROLOGA*.

The descriptions will be supported by detailed examples and illustrations. The input values or parameters might differ from your system.

1.1 Pre-requisites

Next to an *SAP®-ERP*, *SAP® Smart Meter Rollout by PROLOGA* requires the industry solution *IS-UT*.

All relevant objects and their related connections are illustrated as follows:

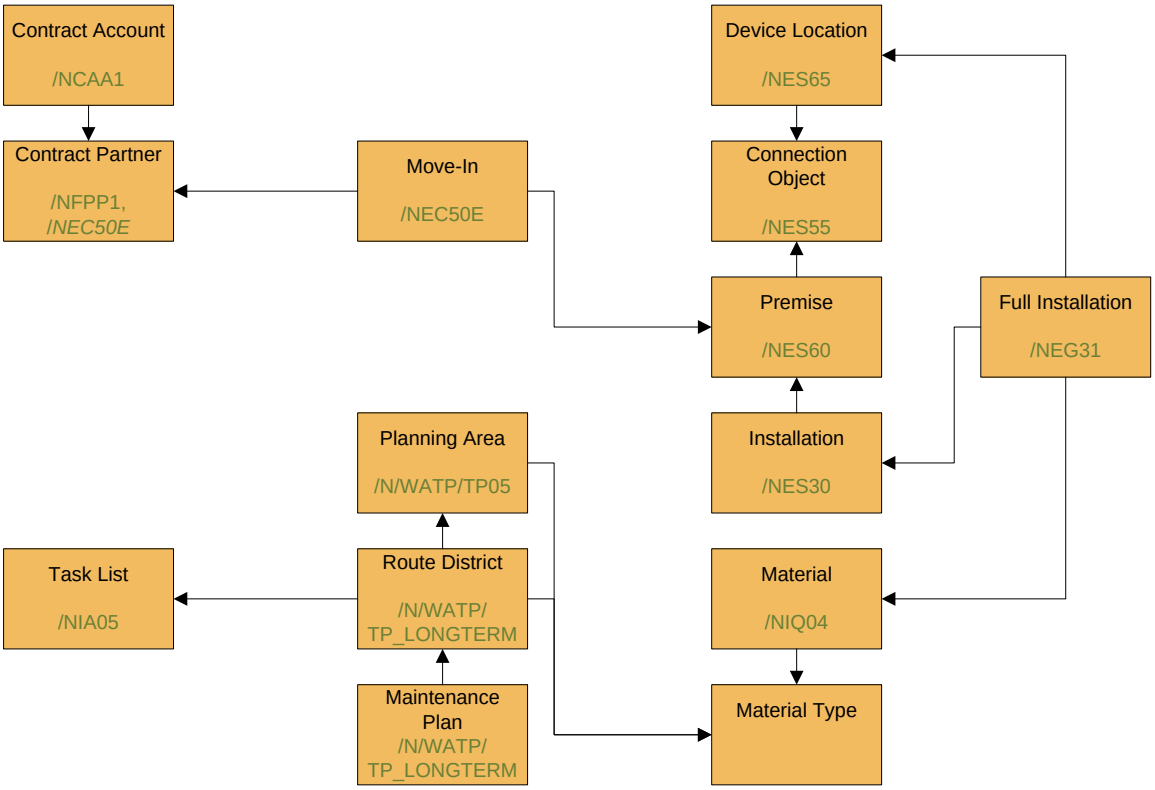


Figure 03: Relevant objects and their connections within the SAP® Smart Meter Rollout by PROLOGA solution

1.2 Components of the Module

The component *SAP® Smart Meter Rollout by PROLOGA* is based on and extends the module *SAP® Dispatching & Planning by PROLOGA.*

Overview of key transaction codes	
Create task list	*/NIA05*
Create planning area	*/N/WATP/TP05*
Create route districts	*/N/WATP/TP_LONGTERM*
Deadline monitoring maintenance plan	*/NIP10*
Display Order	*/NIW33*

1.3 General Concepts and Terms

The component *SAP® Smart Meter Rollout by PROLOGA* is used for the planning of large-scale actions, such as the exchange of Ferraris meter with smart meter.

The planning is based on installed devices existing in the *SAP® system*. Planning finally results in the creation of a great number of *SAP® CS/PM* orders which in turn are a prerequisite to exchange the meters.

Planning the device exchange as well as creating orders can be done by several employees.

General procedure

Usually, the current meter types will have to be replaced by smart meter types in a larger region (with probably thousands or hundreds of thousands of meters). This meter exchange will take place over a period of several years.

Step 1: Define the planning area

First of all, the planning areas have to be defined. As the processing of smaller planning areas is much easier to handle, it is recommended to work with smaller planning areas with a restricted number of devices to be exchanged in a certain time period.

Which criteria could be used to define the planning area?

Supply grid

The exchange is based on the existing supply network (power supply etc.)

Region

The exchange is based on the region (e.g., city center, western suburb, northern suburb etc.) in order to work these regions with different priorities.

Device category

The exchange of certain old device types has probably a higher priority than other device types.

On the other hand, you might plan the installation of the new meters per device type.

Organizational

The meter exchange might be planned based on the requirements of the executing party (e. g. subcontractors or internal company departments)

In most cases, you will probably use a combination of these criteria.

Step 2: Create device categories and general task lists

You have to create the device types for all devices (smart meters) to be installed in your *SAP® system*. Moreover, the general task lists for the exchange of these device types have to be created in the system.

Step 3: Create scenarios in the planning areas

At least one planning scenario is required for each planning area. Additional scenarios may be created to compare planning options.

Step 4: Create orders

When the route district planning of the activated scenario (of a planning area) is completed, the orders are generated. Once released, the districts will be locked for further editing.

Repeat steps 3 and 4 until every planning element is scheduled.

2 Definition of Terms

The following terms are used in the document and will have the following meaning:

Work plans

Is an element of *SAP® PM* that contains specific activities (task lists) and planning data.

Task list

Is an element of *SAP® PM* that serves as a template to create *CS/PM* orders?

Work plan types

Is an element of *SAP® PM* describing specific activity types?

(e.g. *PREPARE → preparation exchange*, *INSTALL → exchange*).

Work plan assignment

Is an element of *SAP® PM* to be used as a template for the exchange of installed (old) devices with new devices.

You can select task lists based on the old and new device type (subject to planning aspect, work plan type and priority).

A planning element can have any number of task lists.

Planning aspect

Is an element of *SAP® PM* and helps to process chronologically separate tasks.

The planning aspect has to be defined in TP06.

Maintenance item

Is an element of *SAP® PM* that describes the exchange of a single device based on the work plan assignment.

Maintenance plan

Is an element of *SAP® PM.* A maintenance plan is a collection of items at a given time. A maintenance plan also describes the extent and timing of maintenance and inspection activities.

Planning area

Based on the planning the corresponding data are copied into the route district planning.

Planning areas must be assigned to a planning aspect.

Scenario

Provide a specific plan. A planning area may contain multiple scenarios.

The active scenario is the currently valid scenario for a planning area.

Route district

A freely definable object in planning that may represent a region, a period etc. Planning elements are assigned to a route district. Moreover, settings valid for all planning elements are defined (e.g. device type, exchange date, allocated workplace etc.).

Route districts may form a hierarchy.

Planning element

Represent a certain object that can be planned. The planning element is linked to a device and a device location. It contains information on the validity, the executing entity and activity points. Planning elements are created by data import.

Planning segment

A freely definable object in planning that may represent a region, a period etc.

Planning elements are assigned to a planning segment. Moreover, settings valid for all planning elements are defined (e.g. device type, exchange date, allocated workplace etc.).

3 Operation

3.1 General Operation

SAP® operation standards apply for the handling of the *SAP® Mobile Order Management by PROLOGA*.

The following functions may be applied generally:


New/Create - creates a new entry


Edit/Change – the data of a record may be changed


View/Display – the data of a record are displayed


Delete - the entry will be deleted


New allocation – adds a subentry to a main entry


Delete allocation – deletes a subentry of a main entry


Expand/Maximize – additional fields will be displayed on a mask


Displays the dialog to start a new selection (not available in all transactions)


Displays/Hides map (if map is available)


Updates display of data records after changes


All nodes are closed


Hides all child nodes that have no data allocated


Opens a menu to select an alternative tree view


Clicking on the list next to the filter symbol opens a context menu where you can select from a list of default filter criteria. SAP® standard filter functionalities are available.


Search clicking on the list next to the search symbol opens a context menu where you can select from a list of default search criteria. SAP® standard search functionalities are available.


You may activate/deactivate the expert mode for enhanced settings.

In most areas a tree diagram was chosen to provide the user with a clear data overview. Whereas on the left screen side all equivalent elements are listed, a detailed view of a selected node is given on the right screen side (provided that detailed data are available).

3.1.1 Working with the tree structure

In order to open or close a node in a tree, click on the respective triangle symbol in front of the entry (using the left mouse button). After opening a node, all allocated child nodes will be displayed. (the triangle changes from pointing to the right to pointing downwards). A triangle in front of an entry always indicates that there are further data available.

The node is closed analogous to opening a tree node. Click on the triangle symbol pointing downwards in front of an entry (using the left mouse button). The symbol now turns from pointing downwards to pointing to the right. The subentries are not shown any longer. It is possible to close all nodes at once

When selecting a record in the tree structure on the left side, the detailed data of this record are displayed on the right screen side.

3.2 Additional Notes

The follow-up dialog of the described context menu allows a single as well as a multiple selection of objects.

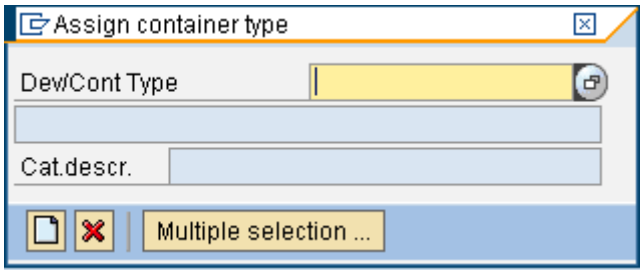


Figure 04: Assign container type I

If you click on the button *Multiple Selection*, the respective search dialog will open. Press enter to display the available data in list format

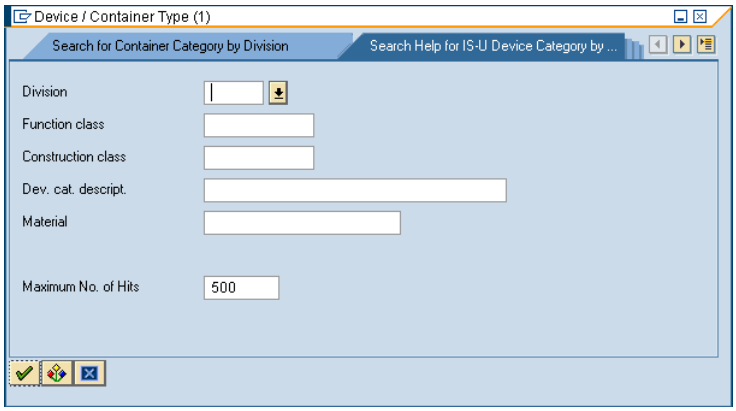


Figure 05: Assign container type II

and the associated multiple choice.

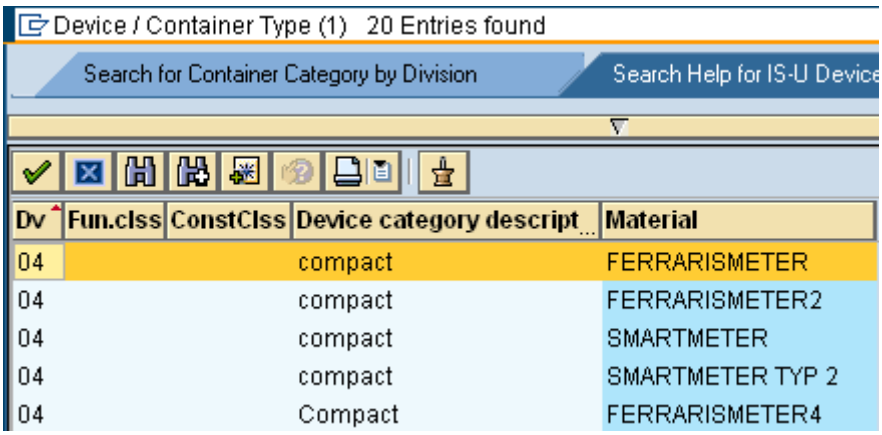


Figure 06: Assign container type III

4 Planning Area Settings (/N/WATP/TP05)

The planning area defines which services are to be planned in the route district planning.
Therefore, you have to define which devices categories, regions, map options and planning aspects are to be planned.
In addition, you can define the settings of the *SAP® menu tree* in the tree options of the *TP LONG TERM*.
The entries define which data are to be copied to the route district planning.

4.1 Transaction Structure

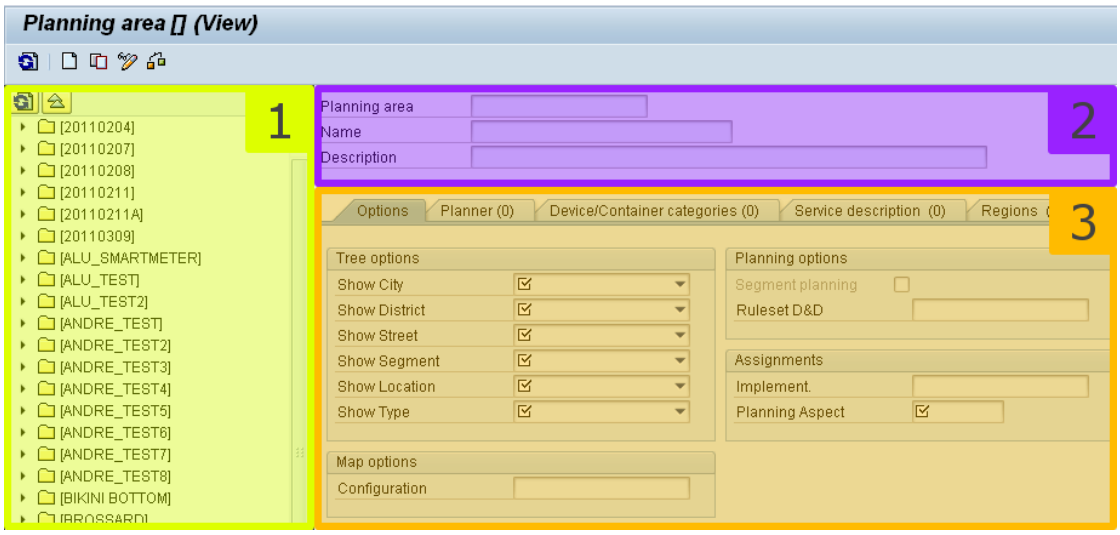


Figure 07: Structure of the planning area screen

1 – Tree displaying planning area
2 – General information on the selected node
3 – Detailed information on the selected node

4.1.1 Menu Item Planning Area

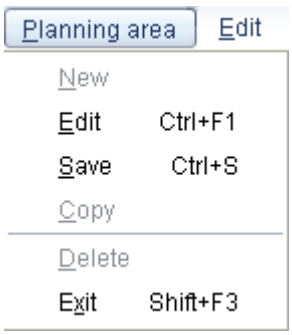


Figure 08: Menu item planning area

New

A new planning area is created.

Edit

A selected planning area can be edited.

Save

This function is activated if the screen is in edit mode. Changes can be saved.

Delete

A planning area is marked with a deletion flag, and will no longer be displayed in the tree.

Exit

The transaction is closed.

4.1.2 Menu Item Edit

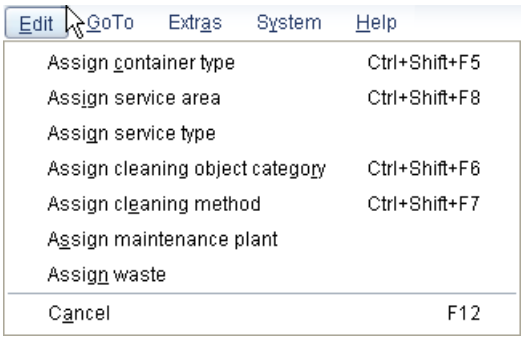


Figure 09: Menu item Edit

Assign container type

Container- / device types can be assigned to the planning area of the search help or via direct input.

Assign service area

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Assign service type

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Assign cleaning object category

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Assign cleaning method

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Assign maintenance plant

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Assign waste

Note, not to be used with *SAP® Smart Meter Rollout by PROLOGA*

Cancel

Processing of the planning area is canceled.

4.1.3 Menu Item Extras

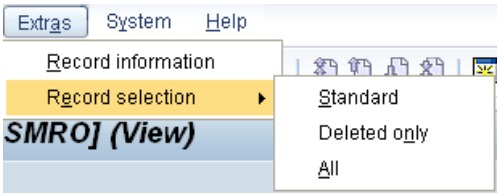


Figure 10: Menu item Extras I

Record information

Information on when a planning area was created and last edited will be displayed.

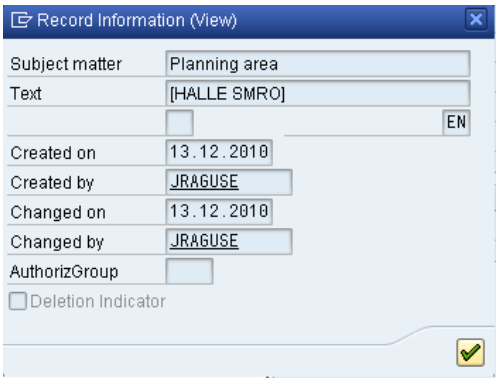


Figure 11: Record information

Record selection / Standard

Only non-deleted planning areas will be displayed in the tree.

Record selection / Deleted only

All planning areas marked with a deletion flag will be displayed in the tree.

Record selection / All

All planning areas are displayed in the tree.

4.2 Creating a Planning Aspect

Enter transaction code */N/WATP/TP06* in the commando field and confirm your entry.

Click on  in order to create a new planning aspect.

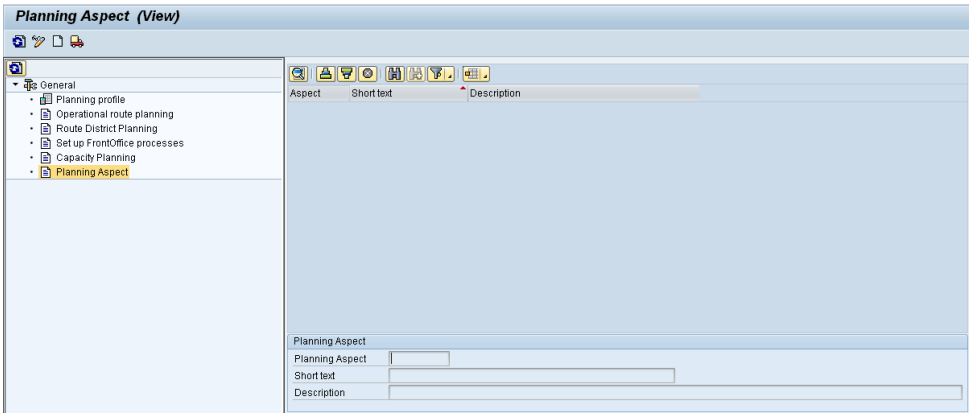
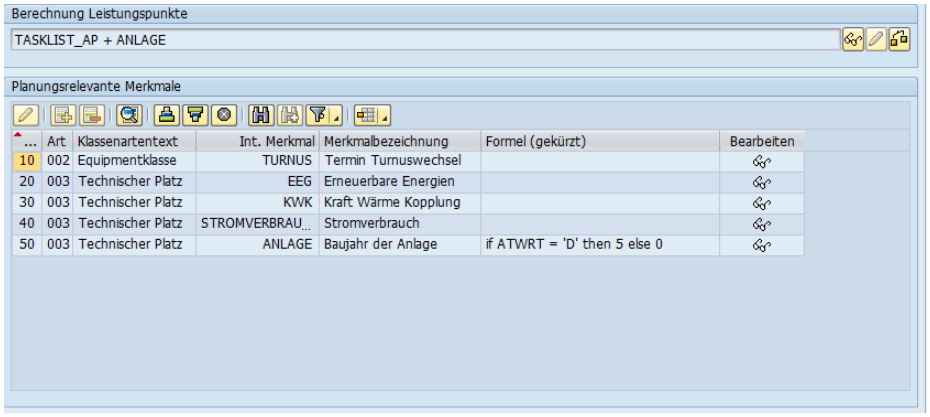


Figure 12: Planning Aspect

The planning aspects are required for transaction *SM_CONFIG* as well as for *TP05* (see also chapter 4.6 and 5.2.4).

4.3 Definition of planning related attributes

It is possible to add planning related attributes to a planning aspect (see chapter 4.2). They can be used as further classification of planning elements and can also be taken into account for calculation of performance points.



...	Art	Klassenartentext	Int. Merkmal	Merkmalbezeichnung	Formel (gekürzt)	Bearbeiten
10	002	Equipmentklasse	TURNUS	Termin Turnuswechsel		
20	003	Technischer Platz	EEG	Erneuerbare Energien		
30	003	Technischer Platz	KWK	Kraft Wärme Kopplung		
40	003	Technischer Platz	STROMVERBRAU...	Stromverbrauch		
50	003	Technischer Platz	ANLAGE	Baujahr der Anlage	if ATWRT = 'D' then 5 else 0	

Figure 13: Definition of attributes

4.4 Creating a Planning Area

Enter transaction code */N/WATP/TP05* in the commando field and confirm your entry.

Click on  in order to create a new planning area.

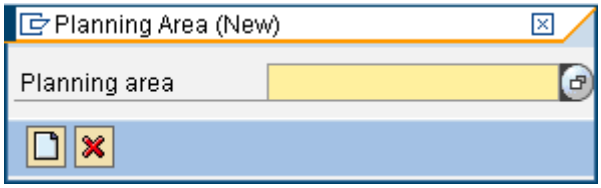


Figure 14: Create planning area I

Enter a new unique name in the input field *Planning area* and click on  .
The new planning area is automatically displayed in the tree and changed to edit mode.

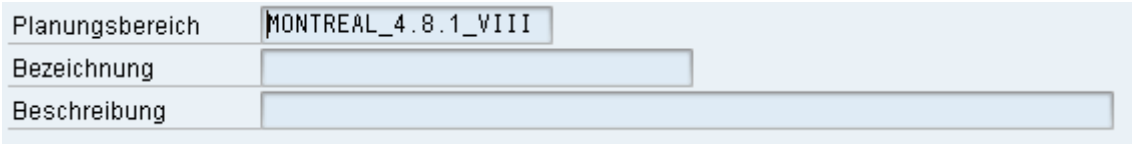


Figure 15: Create planning area II

Basic data for the planning area are:

- Planning area: Unique technical identifier for the planning area (only for display)
- Name: Name of the planning area
- Description: Description of the planning area (optional)

Finally, save your data with click on  .

4.5 Access Control

Tab: *Planner*

Here, you can define that a planning area is only to be accessed by a pre-defined group of users.

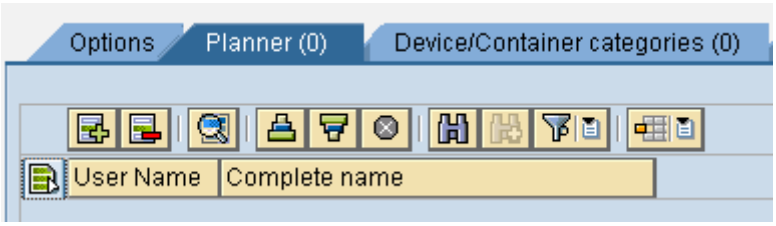


Figure 16: Planner

4.6 Display Options

Tab: *Options*

The tab *Options* contains the following field groups: *Tree options, Planning options* and *Map options.*

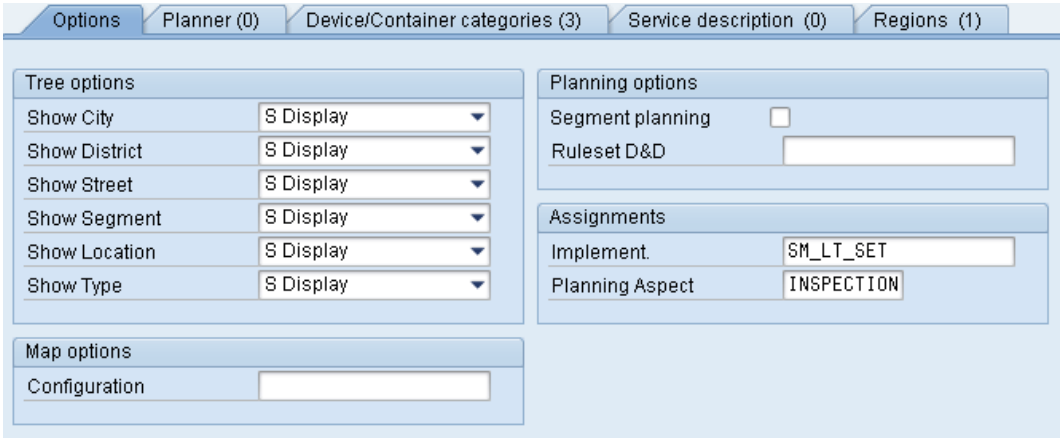


Figure 17: Options I

Tree options

With these additional selection criteria you can control the behavior and display of nodes and child nodes within the navigation tree.

The display of each node in the navigation tree can be defined as to the following criteria: *display*, *view and open*, *hide*.

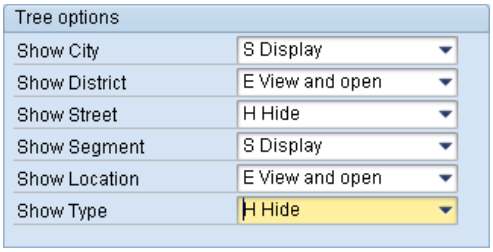


Figure 18: Planning area – Tree Options I

Choices:

Display

Data of the selected node are displayed.

View and open

Data of the selected node is displayed and the next child nodes are opened.

Hide

The elements of the selected node will not be displayed.

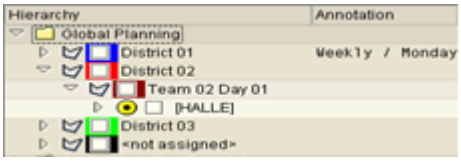


Figure 19: Planning area – Tree Options III

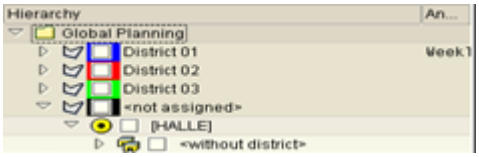


Figure 20: Display district and city

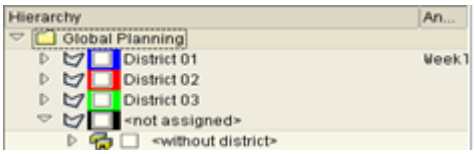


Figure 21: Display district and hide city

Map options:

The functions on the tab *Map Options*, allow you to define the map that is to be used for the planning area in the Route District Planning (transaction */N/WATP/TP_LONGTERM*). Transaction */N/WATP / MAP_CONFIG* allows you to define general map settings.

Figure 22: Map options

Planning options

This field group is not to be used when applying *SAP® for Utilities Smart Meter Rollout by PROLOGA*.

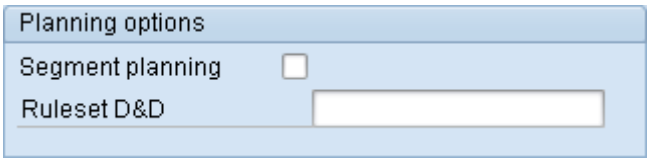


Figure 23: Planning options

Assignments

The Implementation field is not to be used when applying *SAP® for Utilities Smart Meter Rollout by PROLOGA*.

However, defining a planning aspect helps you to process tasks with different time frames.

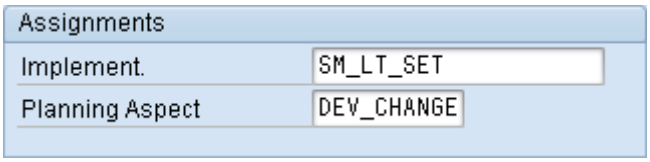


Figure 24: Assignments

The import functionality of the route district planning is controlled by the settings defined for the planning area. The import creates planning elements within a scenario for the devices (equipments) found in the system.

You can define filter as to the device types and device locations.

4.6.1 Filter by Device / Container Categories

Tab: *Device / Container categories*

On tab *Device / Container categories* you can maintain the device categories of the planning area.

These data will be taken into account when the data are copied to the route district planning. If you do not specify any *device / container categories*, all device categories of the route district area will be displayed.

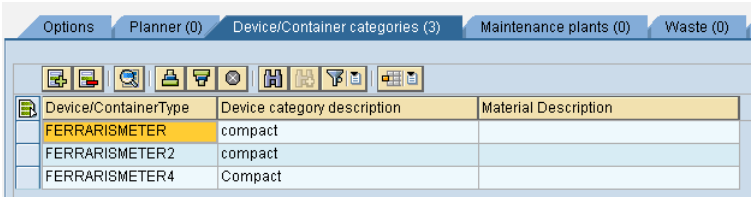


Figure 25: Device / Container categories

4.6.2 Filter by Regional Structure

Tab: *Regions*

On tab *Regions,* you can maintain the region data of a planning area used in route district planning.

These data will be taken into account when the data are copied to the route district planning.

If you do not specify any *regions*, all devices/container categories of all regions are taken into account during the import.

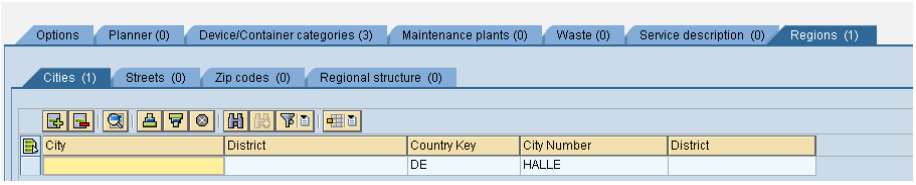


Figure 26: Filter by Regional Structure

5 Configure Task Lists and Smart Meter Configuration

Device exchange orders are generated based on work plan assignments. A work plan assignment defines the processes and materials required to execute an order. Work plan assignments are only in exceptional cases directly assigned on planning element level.

The dispatcher/user defines which device category is to be installed in a certain area and if there are other activities (INSTALL, POSTPROCESS etc.) to be executed. Based on the configurations described in the following, the software will then automatically add the respective work plan assignment or work plan number to the device.

5.1 Task List (/NIA05)

Enter transaction code */NIA05* in the command line and confirm your entry.

In this transaction you can– if authorized by the planner group – create the task lists. These task lists contain detailed information on each single activity step (de-installation of the old device, installation of new device, configuration of the new device etc.), the labor input as well as the usual time required for the work.

Group 9 Smartmeter Typ1 verbauen Grp.Countr 1

General Operation Overview

OpAc	SOp	Work ctr	Plnt	Ctrl	Operation Description	LT	Work	Un.	No.	Duration	Un.	C	Pct	Int. distr	Fac	ActTyp	StTextKy
0010		EFLORENT	ZW01	PD01	check signal level		0,3	H	1	0,3	H				1	ARBEIT	
0020		EFLORENT	ZW01	PD01	Gerät ausbauen		0,2	H	1	0,2	H				1	ARBEIT	UNINST
0030		EFLORENT	ZW01	PD01	Gerät einbauen		0,3	H	1	0,3	H				1	ARBEIT	DEVINST
0040		EFLORENT	ZW01	PD01	configure device		0,4	H	1	0,4	H				1	ARBEIT	

Figure 27: General Operations Overview

The data defined in the columns *Work* and *Duration* are required to determine activity points, maintenance plans and items later on.

5.2 Smart Meter Configuration (/N/WATP/SM_CONFIG)

Enter transaction code */N/WATP/SM_CONFIG* in the command line and confirm your entry.

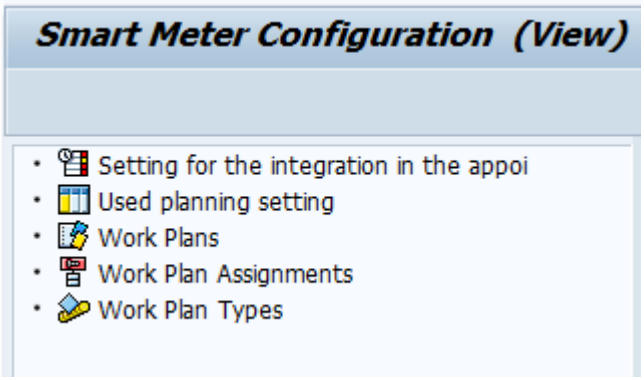


Figure 28: Smart Meter Configuration I

In transaction *WATP/SM_CONFIG* you can create work plans, define work plan assignments and work plan types.

Click on  or press (*F7*) in order to create a new work plan, work plan assignment or work plan type.

5.2.1 Setting of Scheduler Integration

Here it can be specified which 2 levels of Longterm Planning will be displayed in the scheduler.

Following settings can be done:

Level for resource group: Which route district level will be displayed as main group in the scheduler.

Example: 1 = 1st Route district level

Level for resource: Which route district level will be displayed as sub group in the scheduler.

Example: 2 = 2nd Route district level

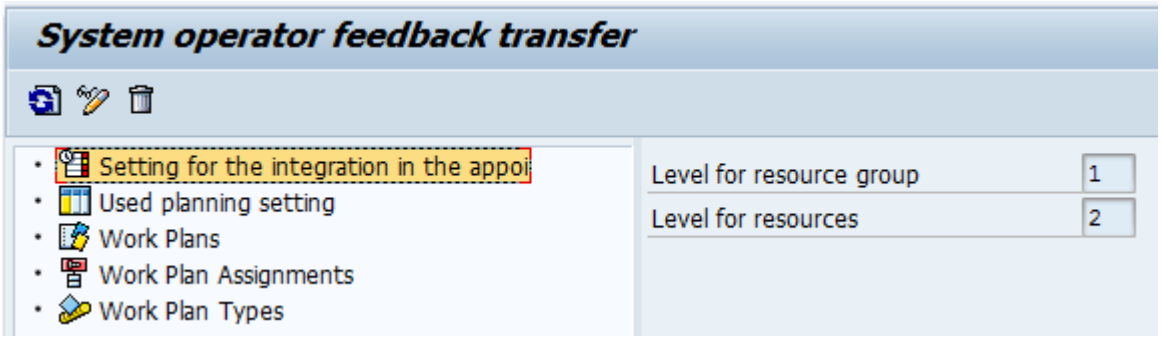


Figure 29: Setting of Scheduler Integration

5.2.2 Used Planning Setting

Here the used planning setting for the scheduler can be set (transaction */WATP/TP_SCHEDULER*).

Following planning settings are available in standard:

- WEEKVIEW
- MONTHVIEW

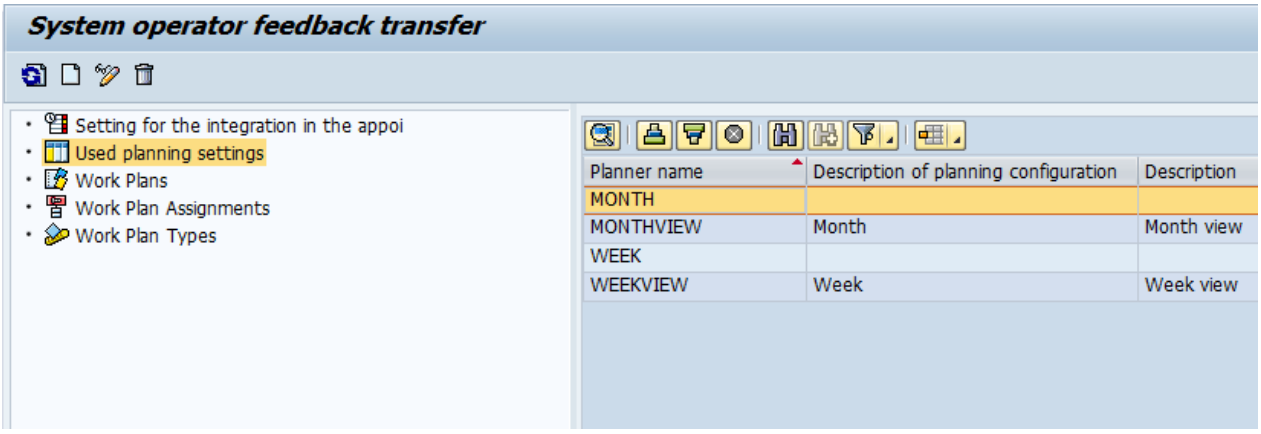


Figure 30: Used Planning Setting

5.2.3 Work Plans

The task list for each *CS-order* is created based on the work plans.

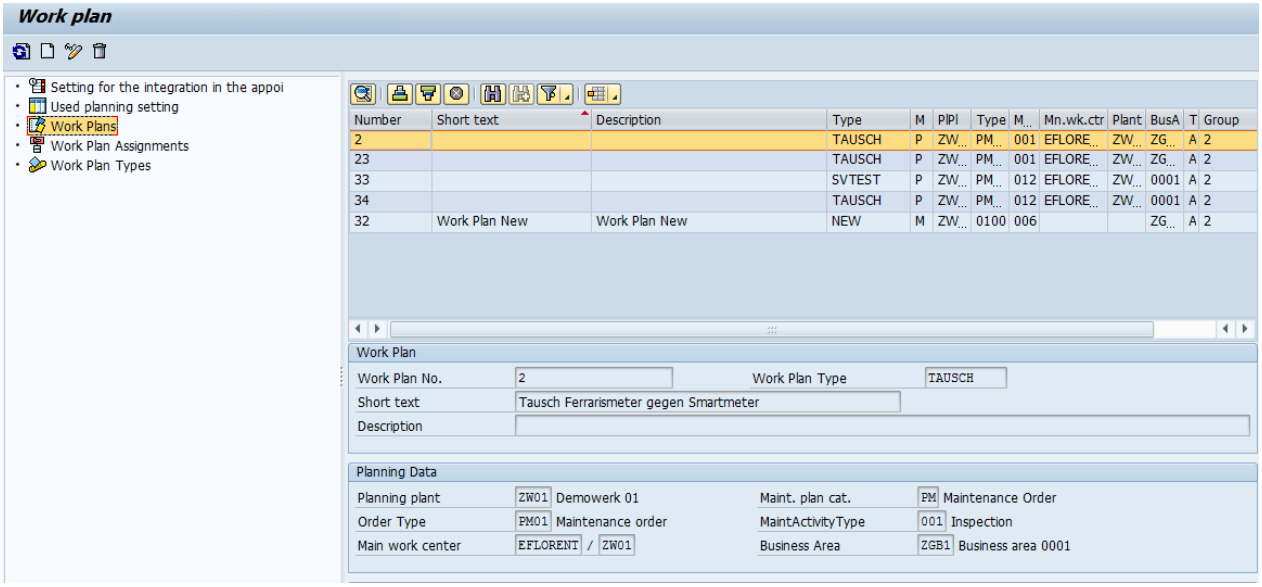


Figure 31: Work Plans

Based on the work plan types, planning data and the task list you can define several work plans.

According to the selected work plan type, the work plans can be used for various activities (e.g. *INSTALL*, *POSTPROCES*, *PREPARE*, etc.).

5.2.4 Work Plan Assignment

The work plan assignment assigns a meter to a work plan (based on the characteristics defined for the meter). If there are several assignments possible, the given priority will be the decisive factor.

Device types, work plans and work plan types can be assigned to different planning aspects (e.g. *CLEANING*, *INSPECTION*, *DEV_CHANGE*).

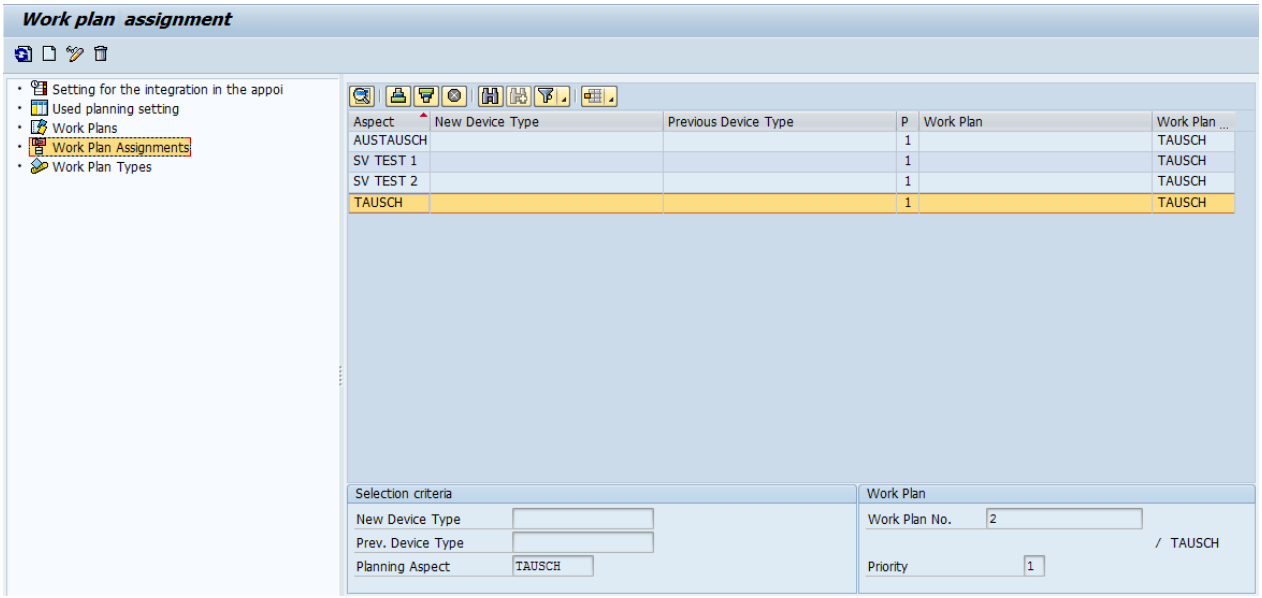


Figure 32: Work Plan Assignments

Entering an installed device type will select the task list on a more detailed level.

5.2.5 Work Plan Types

Here, you can define work plan types for several sub-tasks.

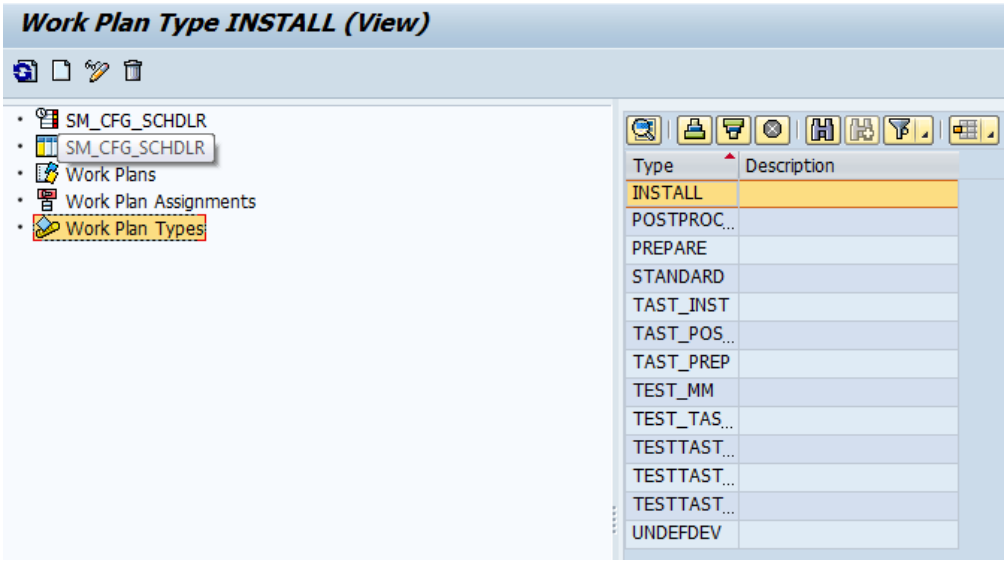


Figure 33: Work Plan Types

5.2.6 Planning Aspect

Planning aspects have to be defined in *TP05*.

Aspect	Short text
CLEANING	Cleaning container
DEV_CHANGE	Replace with smart meter device
INSPECTION	Inspect functional location

Figure 34: Planning Aspect

The planning areas of a planning aspect define the same function while splitting it into manageable pieces.

A device can only be planned for all planning areas of a planning aspect.

6 Route District Planning (/N/WATP/TP_LONGTERM)

The route district planning is the actual planning of the smart meter rollout.

This functionality is used to pre-plan work plans that lie in the future, i.e. routes with a long-term planning horizon. Planning scenarios are created in the route district planning. These include data of the related planning area, e.g. map, device types and regions.

Route districts can be defined for individual planning areas within different planning scenarios. This function does not influence already available (and operationally applied) master data.

Using the import function the planning elements are imported and can be assigned to planning scenarios and route districts via drag and drop.

The new device types to be installed can be assigned to a planning scenario, to route districts as well as to planning elements.

A route district is defined by a hierarchical allocation of cities, city districts, streets and street segments.

In order to evaluate a created planning scenario, key data can be calculated, e.g. the number of meters and activity points in each area.

The route district that meets the requirements best can then be released (Button *Approve*).

Upon approval, all data related to the planning scenario, the route district and planning element are copied to the individual planning elements.

If there aren't any planning data available, the default values of the work plans are used to create the task lists.

Approved route districts are displayed in green in the *SAP®* menu tree.

As long as the route district is not adopted (Button *Adopt*), you can revoke approval with the button *Revoke approval*.

Upon approval, one or more route districts can be adopted (Button *Adopt*). This will trigger the creation of the work plans for the route districts and the work plan items for the planning elements.

The operations referred to in this chapter:

- *Activate*
- *Adopt* (Generation of work plans and work plan items)

are jobs that are – in general - automatically executed in the background. Therefore, the processing of the jobs depends on the execution interval of a job. For more detailed information on execution intervals refer to your *SAP® administrator*.

However, it is also possible to start the jobs manually.

The complete functionalities of the route district planning may only be used provided that:

- the address management of the *SAP® system* is activated
- the postal regional structure is maintained
- a street directory is available for all regions

Addresses, that are not created based on city, district, street and street segment files stored in the system, cannot be processed in route district planning as the respective references (foreign keys) to addresses of objects to be planned are not maintained.

6.1 Open Planning Area and Due Date

Enter transaction code */N/WATP/TP_LONGTERM* in the commando field and confirm your entry. Then, select a planning area.

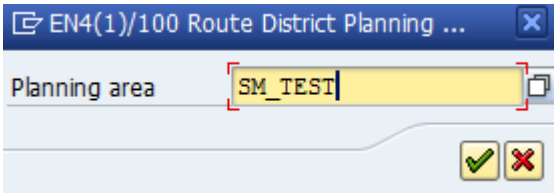


Figure 35: Route district planning

Now, select a planning area for the route district planning.

6.2 Screen Layout of the Route District Planning

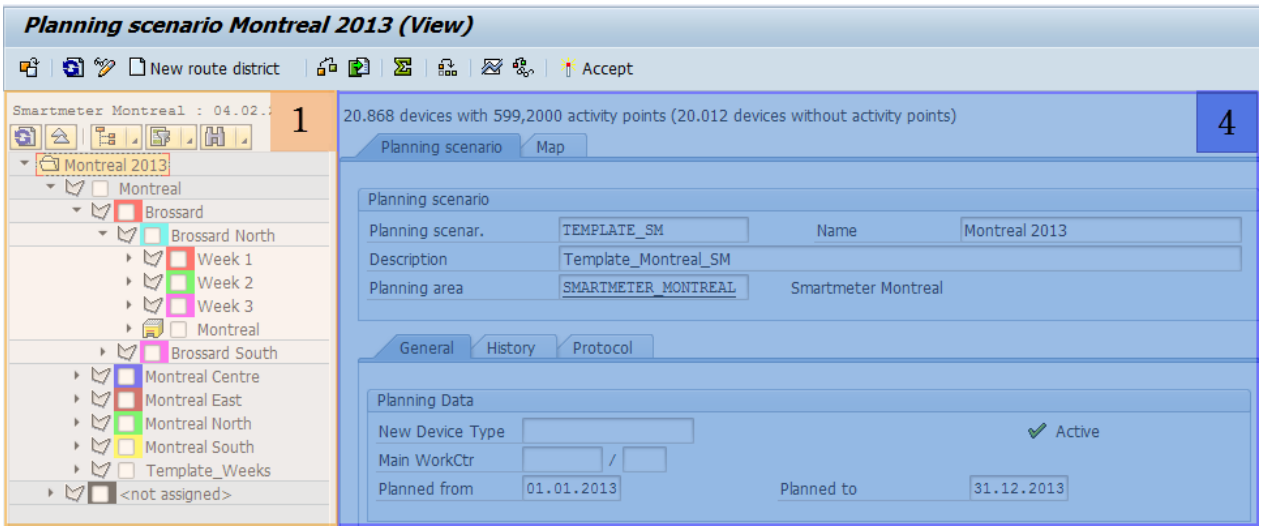


Figure 36: Screen layout of the route district planning

1 – Tree displaying planning area with planning scenario, route district and planning elements.
4 – Detailed information of the selected node

6.2.1 Menu Item Planning Scenario

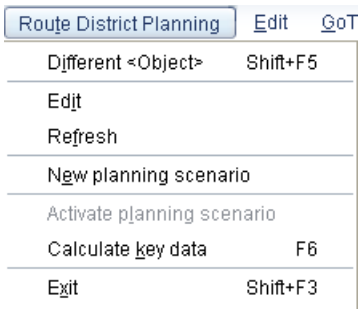


Figure 37: Menu Route District Planning

Depending on the selected node, the menu items change in the menu bar (see also chapter 6.2.3)

6.2.2 Menu Item Edit

Figure 38: Menu Edit

Filter: Filters data in the navigation tree based on different filter criteria.
Search: Searches for data in the navigation tree based on different search criteria.
Cancel: Cancels the current action.

6.2.3 Menu Item Extras

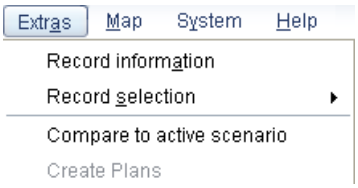


Figure 39: Menu Extras

See chapter 4.1.3 for a description of the functions *record information* and *record selection*.

Compare to active scenario

This function is only provided on planning scenario level and is used to ensure data consistency.

The (new) scenario is compared to the active scenario.

Already *adopted* (Button Adopt) route districts and planning elements are copied into the (new) scenario. Not yet scheduled planning elements can be scheduled in the (new) scenario.

To work with the (new) scenario, click the button Activate.

Now the new scenario is the active scenario (is displayed in green in the *SAP® menu tree*).

Create Plans

This function is only provided on planning scenario level.

With this option you can create work plans and work plan items for accepted route districts.

6.3 Screen Layout Navigation Tree

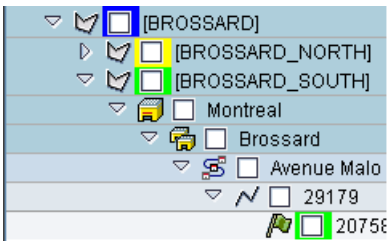


Figure 40: Navigation Tree

The following hierarchy is displayed (display depends on configuration):

<Planning scenario>
 <Route district>
  <City>
   <District>
    <Street>

<Planning segment>
<Planning element>

A route district can have several sub-districts. There may be several city districts in one route district.

6.3.1 Context Menu of the Navigation Tree

The following functions are available in the trees context menu:

Context menu	Description
Refresh (tree)	The data in the tree are updated. Hidden empty folders are displayed again. The child nodes are closed.
Create planning scenario	Creates a planning scenario with a due date within the currently selected planning area. The created planning scenarios are allocated to the planning area.
Create route district	Creates a route district within a planning scenario.
Display planning scenario	The selected scenario will be displayed.
Filter	With this function you can filter data in the navigation tree based on different filter criteria.
Search	With this function you can search data in the navigation tree based on different search criteria.
Display position	The district will be displayed on the map.
Zoom in	The selected route district is center-displayed. The map segment is enlarged.
Show district area	The selected district is displayed on the map (in color if allocated).
Hide district area	The selected district is masked on the map.
Edit→ Edit district area	District dimensions may be defined on the map based on a closed traverse. Apply the *Edit district area* function in order to move, add or delete digitized points. The digitized district is displayed as transparent area.
Edit→ Calculate and process district borders	District dimensions may be defined on the map based on a closed traverse. Apply the *Edit district area* function in order to move, add or delete digitized points. The district borders are then re-calculated. The digitized district is displayed as transparent area.
Edit → Set basing point	Sets the reference point for a polygon.
Edit → Cut	Cuts object.
Edit → Insert	Inserts object.
Select color	The route district and the planning elements are displayed in the selected color.
Planning elements → Unassign excluded elements	All planning elements that lie outside the route district are removed from the allocation.
Planning elements → Assign included elements	All planning elements that lie within a map section are allocated to a route district.
Planning elements → Set sequence	Allows rescheduling of planning elements.
Planning segments → Unassign excluded segments	All planning segments that lie outside a route district are removed from the allocation.
Planning segments → Assign included segments	All planning segments that lie within a map section are allocated to a route district.
Geocode	Geocodes planning elements
Set attributes	Add attributes to all planning elements under a certain district
Cancel:	Leaves the context menu

Table 01: Context menu of the navigation tree I

Based on the process node the following functions are available (see also Table 01):

Context menu	Without node	Planning scenario	Route district	City	City District	Street	Planning segment	Planning element
Refresh (tree)	X	X	X	X	X	X	X	
Create planning scenario	X	X						
Create Route District		X	X					
View only selected scenario		X						
Filter	X							
Search	X							
Display position			X			X	X	X
Zoom in			X	X	X	X	X	
Show district area			X					
Hide district area			X					
Edit→ Edit dist. area			X					
Edit→ Calculate and process district borders			X					
Edit → Set basing point			X					
Edit → Cut			X				X	
Edit → Insert		X	X					
Select color			X					
Planning elements → Unassign excluded elements			X					
Planning elements → Assign included elements			X					
Planning elements → Set sequence			X					
Planning segments → Unassign excluded segments			X					
Planning segments → Assign included segments			X					
Set attributes			X					

Geocode							X	X
Cancel:	X	X	X	X	X	X	X	X

Table 02: Context menu of the navigation tree II

6.3.2 Menu Bar of the Navigation Tree

Menu bar	Description
Refresh	The complete display is updated. Sub-nodes are closed and entries are updated.
Different <Object>	When using this function you can change the planning area
Create planning scenario / New planning scenario	Creates a planning scenario within the currently selected planning area. The created planning scenarios are allocated to the route district planning.
Create Route District / Create	Creates a route district within a planning scenario.
Activate (Planning Scenario)	After comparing it to the active scenario, the new scenario can be activated and edited.
Calculate Key Data	Based on the assigned work plan and the device type, the activity points and the number of devices are calculated
Import	Based on the specifications in (*/N/WATP/TP05*) data are imported and planning elements created
View <-> Edit / Edit	General data of the planning scenario, the route district, the planning section or the planning element can be edited depending on the selected hierarchical layer. (Leave the *Edit*-mode either by saving the changed data to the system or cancelling the transaction using the function buttons *Save* or *Cancel* in the standard transaction toolbar.)
Check	The route district is checked for possible errors
Save	Changes can be saved
Delete	A node in the tree is provided with a delete sign, and no longer displayed in the tree
Exit	Leaves the current transaction

Table 03: Menu bar of the navigation tree I

Depending on the selected layer the following functions are available in the menu bar of the tree (see Table 04):

Menu bar	Without node	Planning scenario	Route district	City	City District	Street	Planning segment	Planning element
Refresh	X			X	X	X		
Different <Object>	X		X	X	X	X		
Create planning scenario / New planning scenario[1]	X	X		X	X	X		
Create Route District / Create[1]								
Activate Planning Scenario	X	X		X	X			
Calculate Key Data	X			X	X	X		
Import		X						
View <-> Edit / Edit[1]	X	X	X	X	X	X	X	X
Check			X					
Save		X	X				X	X
Delete		X	X					
Exit	X	X	X	X	X	X	X	X

Table 04: Menu bar of the navigation tree II

6.3.3 Function Toolbar of the Navigation Tree

Select planning area: Planning area and due date can be selected or changed.

Refresh mask: The mask display will be updated (including map, general information and additional information).

Display/Edit: Depending on the selected hierarchical layer, general data of the planning scenario, the route district, the planning section or the planning element can be changed. Leave the *Edit* mode either by saving the changed data to or cancelling the transaction using the function buttons *Save*  or *Cancel*  in the standard transaction toolbar.

New route district

Create a new route district.

New

Create sub-districts for a certain district level.

Check

The selected node is checked for inconsistencies.

Import

The device types are imported according to the planning area.

Accept

The planning scenario is accepted on the selected due date.

Maintenance plans and items are created based on the planning data.

Ready for time Scheduling

The route district can released for schedule. The status of the route district will be changed from *Created* to *Time scheduling*. The route district can now schedule in the scheduler. (See chapter 7: Scheduler Integration (*/N/WATP/TP_SCHEDULER*).

Cancel Schedule

The release for scheduling is canceled. The status will be set back to *Created*.

Approve

Upon acceptance, all data related to the planning scenario, the route district and planning element are copied to the individual planning elements. If there aren't any planning data available, the default values of the work plans are used to create the task list

Revoke Approval

Revoke the approval for a planning scenario.

Calculate key data

This function opens a list displaying analyzed activity points.

Hide/Show planning sections

Hides or shows planning sections on the map

Hide/Show planning elements

Hides or shows planning elements on the map

Reallocate objects

The currently selected route district, planning sections or planning elements can be reallocated to another route district.

This new route district is to be selected in the dialog when starting the function.

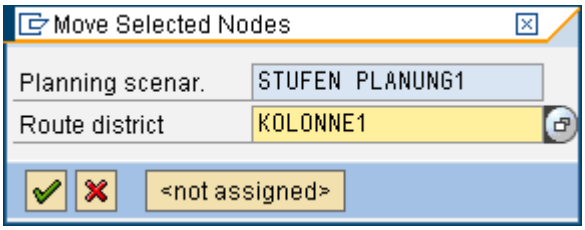


Figure 41: Move Selected Nodes

Close child nodes

The child nodes of the selected nodes in the navigation tree are closed.

Function toolbar	Without node	Planning scenario	Route district	City	City District	Street	Planning segment	Planning element
Refresh mask	X	X	X	X	X	X	X	X
Select planning area	X	X	X	X	X	X	X	X
Display/Edit		X	X				X	X
New route district		X	X					
Check		X	X				X	X
Import		X						
Accept		X						
Approve			X					
Revoke approval			X					
Calculate key data	X	X	X	X	X	X	X	
Hide/Show planning sections	X	X		X	X	X	X	X
Hide/Show planning elements	X	X		X	X	X	X	X
Reallocate objects	X	X	X	X	X	X	X	X
Close child nodes	X			X	X	X		

Table 05: Function toolbar of the navigation tree

6.3.4 Toolbar of the navigation tree

Update/Refresh tree

Data in the navigation tree are updated. Child nodes are closed.

Minimize all nodes

All nodes of the navigation tree are collapsed.

Filter selection

Data in the navigation tree can be filtered based on several filter criteria.

Search

Data in the navigation tree can be searched according to several search criteria.

6.4 Filter Selection and Search

6.4.1 Filter Selection

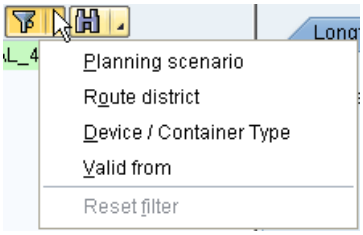


Figure 42: Filter selection

Planning scenario filter

This function filters data in the navigation tree based on different planning scenarios within a planning area.

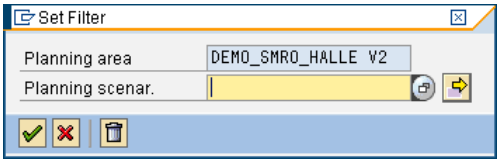


Figure 43: Set filter planning scenario

Through the multiple selection function it is possible to define various filter criteria.

Route district filter

This function filters data in the navigation tree based on route districts within a planning scenario. Only the selected route districts of a scenario are displayed. In order to apply the multiple selection function, a planning scenario has to be selected. If a route district is selected, the planning scenario is given by default.

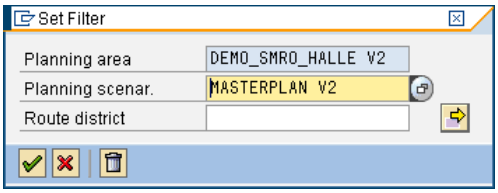


Figure 44: Set filter route district

Through the multiple selection function it is possible to define various filter criteria.

Dev/Cont type filter

This function filters data in the navigation tree based on the device type. Only planning elements that match these filter criteria are displayed.

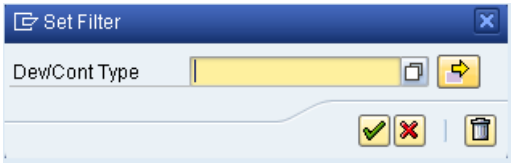


Figure 45: Set filter container cat.

Through the multiple selection function it is possible to define various filter criteria.

Valid from filter

This filter restricts the period for which data are to be displayed. It can be combined with the Container/Device type filter.

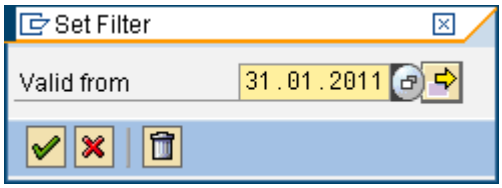


Figure 46: Set filter valid from

6.4.2 Active Filter

There is no filter set.

An active filter is illustrated by a different button design.

The filter menu displays which filter has been activated (check sign in front of entry).

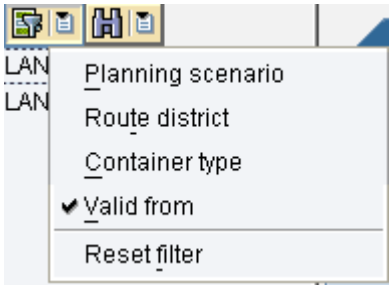


Figure 47: Active filter

The function *Reset filter* disables all active filter criteria.

6.4.3 Search Filter

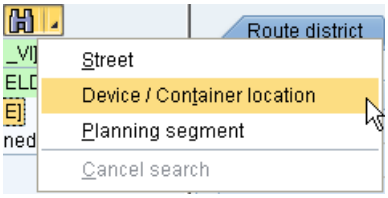


Figure 48: Search filter

Street filter

This function searches for street data in the navigation tree.

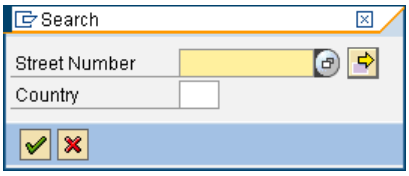


Figure 49: Search filter street

You can select or enter a street number in the field *Street Number*.

Through the multiple selection function it is possible to define various filter criteria.

Device/Cont location filter

This function searches for one or more device locations in the navigation tree.

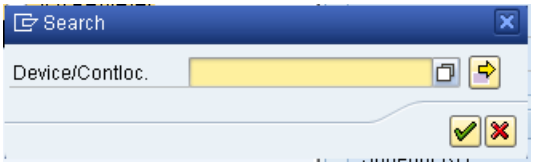


Figure 50: Search filter container location

You can select or enter a device location in the field *Device/Contloc.* applying the well-known *SAP®* menu functions.

Planning segment filter

This function searches for one or more planning segments in the navigation tree.

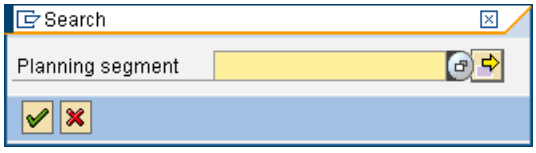


Figure 51: Search filter planning segment

6.4.4 Resume Search

There is no search criteria selected.

An active search is illustrated by a different button design.

By clicking on the left side of the button the search is resumed with the current search criteria.

The search menu displays the selected search criteria.

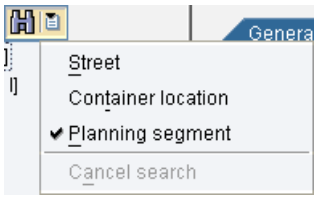


Figure 52: Cancel search

A current search can be cancelled with the function *Cancel search*.

6.5 Drag & Drop in the Tree

In order to move route districts or allocate planning segments and elements to route districts you have to select them in the navigation tree. Hold the left mouse button while moving the objects to their new position and release the mouse button. This function is called Drag&Drop.

Selected objects (route districts, planning sections and elements) can also be moved with the function *Move objects*.

Move route district

Select a route district in the navigation tree and hold the left mouse button while moving the object to another route district. Release the left mouse button.

Move city

Select a city in the navigation tree and hold the left mouse button while moving the object to another route district. Release the left mouse button.

Move city district

Select a district in the navigation tree and hold the left mouse button while moving the object to another route district. Release the left mouse button.

Street move

Select a street in the navigation tree and hold the left mouse button while moving the object to another route district. Release the left mouse button.

Move planning sections

Select planning sections or elements in the navigation tree and hold the left mouse button while moving the object to another route district. Release the left mouse button.

The objects are now allocated to another route district.

If a planning element is moved to another planning section, the element is assigned to this new planning section.

Only elements of the same type can be moved simultaneously.

6.6 Screen Layout of the Detailed Information Screen

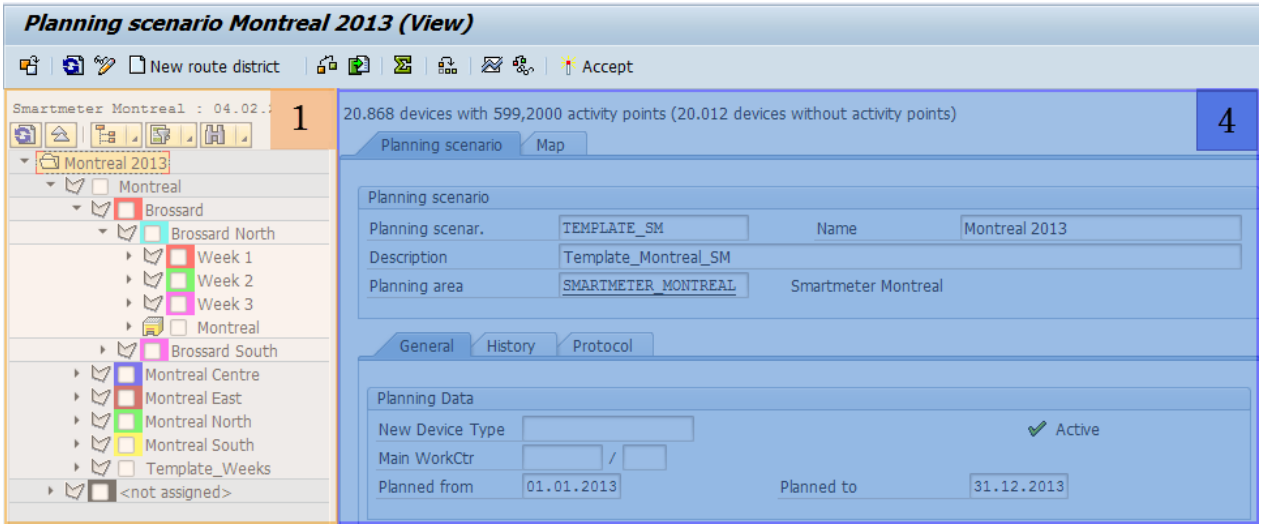


Figure 53: Layout of the detailed information screen

Detailed information on the selected hierarchical node is displayed on tab *General* (4).

By double-clicking on a planning scenario, route district, a planning section or a planning element the relevant detailed information of the selected object are displayed.

With the function *View* <-> *Edit* (click button  in function bar), you can edit the data of the selected node.

6.6.1 Node Planning Scenario

In the tab *planning scenario* (on *planning scenario level)*, the field group *planning scenario* and the tabs *General, History* and *Protocol* are displayed.

Here, you can enter or check data.

On *planning scenario* level information about the status of the planning scenario is given:

Created

Planning scenario is created.

Active

Planning scenario is active. Route districts can be released, planning scenarios can be adopted.

Closed

Planning scenario is dosed. Further processing is not possible.

Apply

The planning data of the approved route district were applied to the planning scenario

Apply Stopped

Copying of the planning data from released route district was stopped.

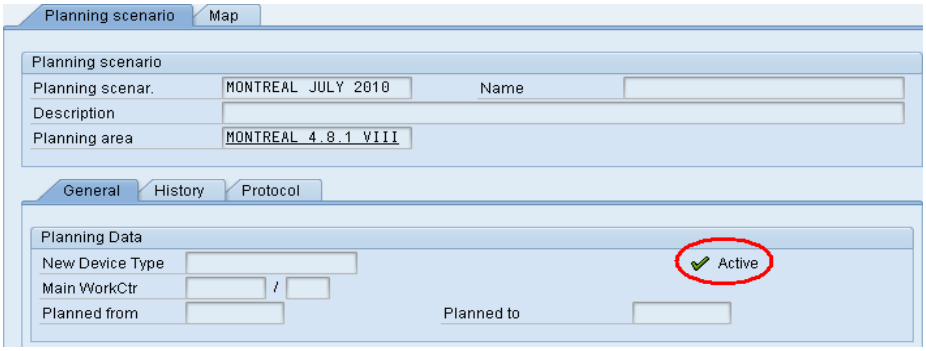


Figure 54: Node Planning Scenario

Field Group	Description
Planning Scenario	Contains basic data, such as the unique name, the display name, a description and the planning area.
Tab General: Planning Data	Planning data can be entered for the planning scenario. As long as no other planning data are entered in the child nodes of the planning scenario, the entered data on scenario node level are copied to its child nodes. Planning data describe the type of orders to be created, the executing entity and the date of execution. Here, you can enter the new device to be installed, the main work center and the date.
Tab History	Important events are documented on this tab.
Tab Protocol	The log displays status messages for different actions.

Table 06: Functions for node planning scenario

The field group *Planning data* will be displayed as well on *Route district* and *Planning element* level.

The planning data apply to all objects in the planning scenario.

However, you can define individual *Planning data* for *route districts* and *planning elements*.

6.6.2 Node Route District

On the tab R*oute district*, the field groups *General* and *Assignment* and the tabs *General, Maint*. *Plans*, *History* and *Protocol* are displayed.

Here, you can enter or check data.

On *route district* level, information about the status of the route district is given:

Created

Route district was created.

Time Scheduling

The route district can now be scheduled.

Released

Route district was released. The planning is complete and it is possible to generate maintenance plans and items.

Activating

Maintenance plans and items are generated.

Active

Maintenance plans and items were generated for the route district.

On tab *Route district* it is possible to choose a method for the task list. You can choose between manual and automatic methods. If the automatic method is selected an appropriate maintenance plan template based on the old and new device is searched for in *SM_CONFIG*.

If the manual method is selected, the generation of maintenance plans is based on a specific work plan number.

Regardless of the *select method for the task list* the main work center and time period must be specified because the two fields (main work center and device type resp. work plan number) define the key for the maintenance plan template assignment.

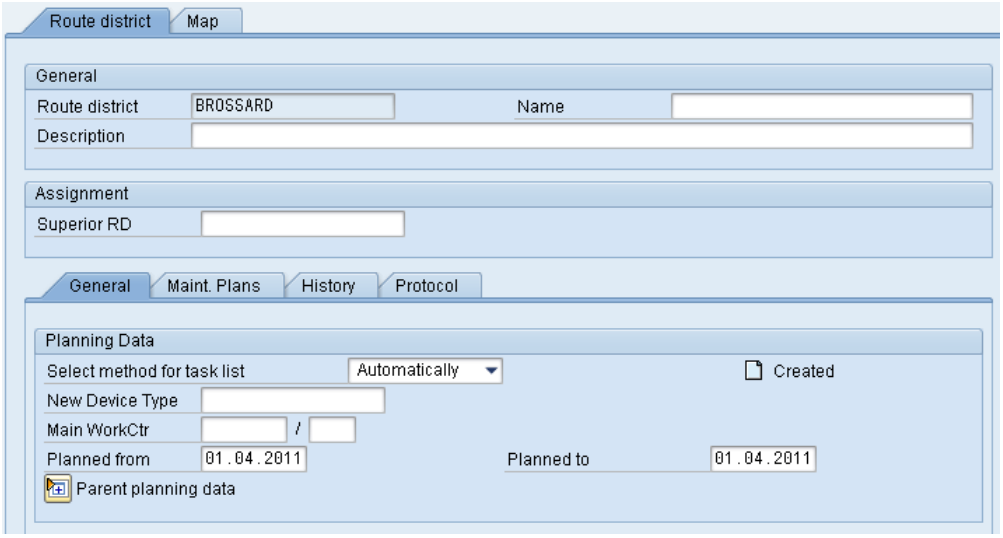
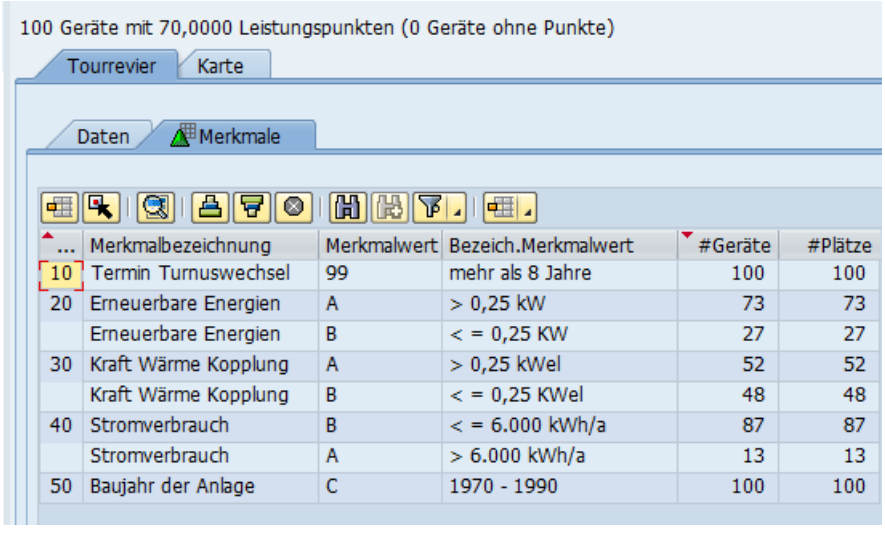


Figure 55: Node Route District

The tab Attributes is used to provide an overview of assigned attributes.



...	Merkmalbezeichnung	Merkmalwert	Bezeich.Merkmalwert	#Geräte	#Plätze
10	Termin Turnuswechsel	99	mehr als 8 Jahre	100	100
20	Erneuerbare Energien	A	> 0,25 kW	73	73
	Erneuerbare Energien	B	< = 0,25 KW	27	27
30	Kraft Wärme Kopplung	A	> 0,25 kWel	52	52
	Kraft Wärme Kopplung	B	< = 0,25 KWel	48	48
40	Stromverbrauch	B	< = 6.000 kWh/a	87	87
	Stromverbrauch	A	> 6.000 kWh/a	13	13
50	Baujahr der Anlage	C	1970 - 1990	100	100

Figure 56: Tab attributes

The two buttons  can be used to show the planning elements which have the selected attributes in the tree as well as on the map.

Field Group	Description
General	The field *Route district* displays the name of the create route district. Contains basic data, such as the unique name, the display name and a description.
Assignment	The field *Superior RD* displays the parent route district that the selected route district is assigned to.
Tab General: Planning Data	Planning data can be entered for the route district. As long as no other planning data are entered in child nodes of the route district, the entered data on route district level are copied to its child nodes. Planning data describe the type of orders to be created, the executing entity and the date of execution. Here, you can enter the new device to be installed, the main work center and the period can be entered.
Tab Maint. Plans	Having entered, approved and adopted the planning data the generated work plans for the selected route district will be displayed (see also chapter 6.9)
Tab History	Important events are documented on this tab.
Tab Protocol	The log displays status messages for different actions.

Table 07: Functions for node route district

The planning data as well as the device category apply to all child elements in the route district.

However, you can define individual *Planning data* for *planning elements* in each sub-level.

After *Approve*, the objects are locked and cannot be moved.

6.6.3 Node Planning Segments

Various field groups and input fields are displayed on tab *Planning segment*.

Here, you can enter or check data.

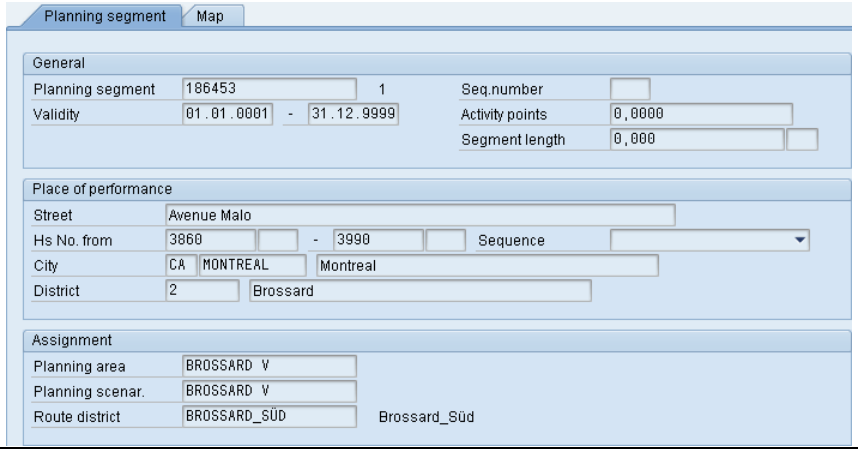


Figure 57: Node Planning Segment

Field Group	Description
General	The field *Planning segment* displays the number of the selected planning segment. A validity period for the planning segment can be defined in field *Validity*. The calculated activity points will be displayed after the planning elements have been displaced in the route district. In the display segment length, the length of the segment is displayed. The field *Seq. number* is not required with *SAP® Smart Meter Rollout by PROLOGA*.
Place of performance	In field group *Place of performance*, city, district, street and house number data are displayed.
Assignment	The allocation of the planning segment to a planning scenario, a planning area or route district is displayed in the respective field groups.

Table 08: Functions for node planning segments

6.6.4 Node Planning Elements

Various field groups and input fields are displayed on tab *Planning element*.

Here, you can enter or check data.

Data entered on planning element level will overwrite the planning data on route district level.

On tab *planning element* you can choose between a manual and automatic selection of task lists. If the automatic selection is chosen, an appropriate maintenance plan template is searched for in the */N/WATP/BASE_OBJCONFIG* based on the old and new device.

With the manual selection, the generation of maintenance plans is based on a specific work plan number.

Regardless of the *select method for the task list* the main work center and time period must be specified because the two fields (main work center and device type rsp. work plan number) define the key for the maintenance plan template assignment.

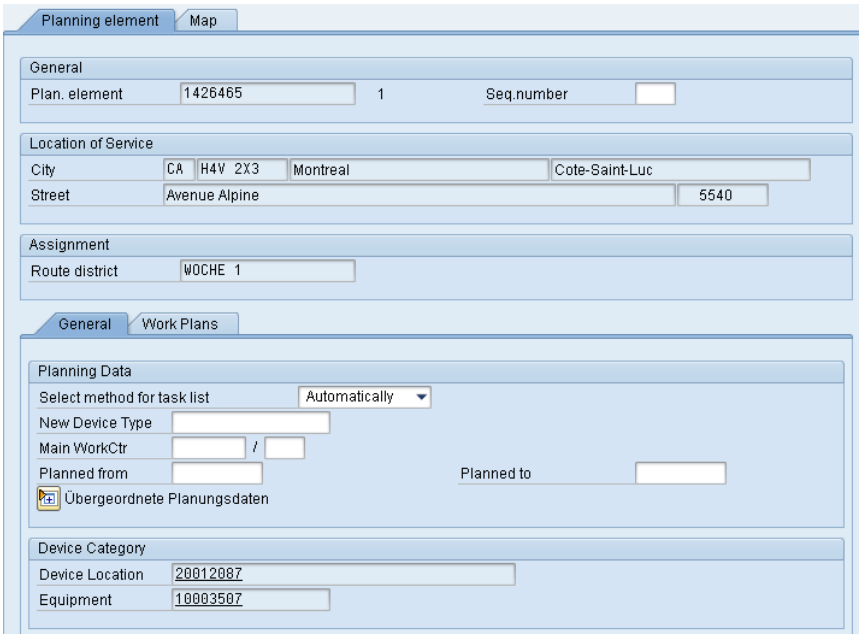


Figure 58: Node Planning Elements

Field Group	Description

General	Contains basic data, such as the number of the planning element. The field *Seq. number* is not required with *SAP® Smart Meter Rollout by PROLOGA*.
Location of Service	In the field group *Location of service*, city, district, street and house number data are displayed.
Assignment	The allocation of the planning element to a route district is displayed in the field group *Assignment*
Tab General: Planning Data	*Planning data* can be entered for the *planning element*. Data entered here will overwrite planning data on route district level.
Tab General: Device Category	In this field group the device location and the installed device are displayed.
Tab Work Plans	Having entered, approved and accepted the planning data, the work plan number as well as the work plan items will be displayed (see also chapter 6.9)

Table 09: Functions for node planning elements

6.7 Map

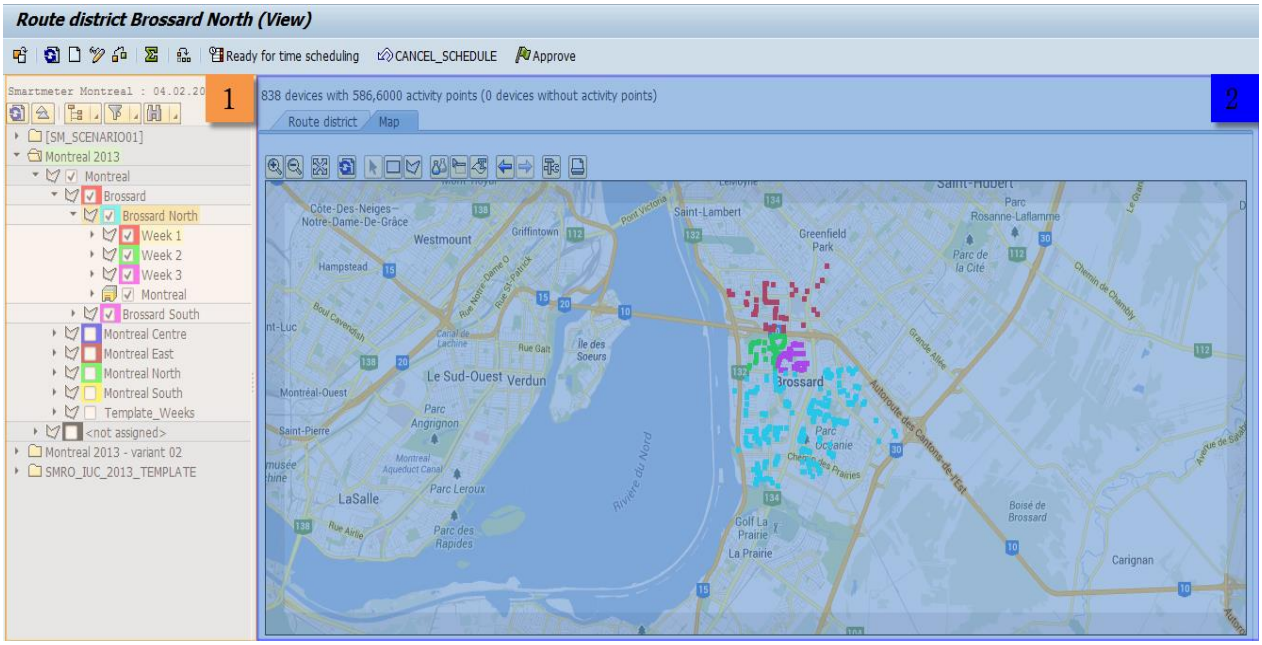
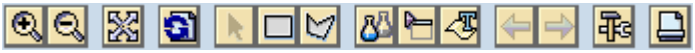


Figure 59: Map function I

The map can be accessed through the second tab of the right screen.

6.7.1 Map Functions in the Function Bar



Zoom in
Minimizes the current map section in defined steps. More details are displayed.

Zoom out
Maximizes the current map section in defined steps. Less detail is displayed.

Zoom out (max.)
The map is displayed in its maximum size.

Update
The map is updated.
The functions described in the following (*mouse: zoom* and *selection*) can only be activated one at a time. You can switch between both functions.

Mouse zoom
In order to minimize the map section, draw a rectangle while holding the left mouse button. The drawn rectangle will be the new map display.

An active *Mouse: Zoom* is displayed by the following button .

Selection: Rectangle: If this function is used, a rectangle is drawn which selects the objects in this area. If you additionally press the keys *ALT*, *CTRL* or *SHIFT* you can achieve the following effects: 

ALT

Delete objects from the selection

SHIFT

Add objects to the selection

CTRL

Invert selection (selected objects are deselected and vice versa) an active Selection *Rectangle* function is displayed by the following button.

Selection Polygon

If this function is used, a polygon is drawn which selects the objects in this area. Additional functionalities analog the *Selection (Rectangle*) function are available.

An active *Selection: Polygon* function is displayed by the following button. 

Grey-in map: The map is displayed in grey scales. This function requires the application of the operating system Windows and Internet Explorer.

Display objects as points: The device symbols are displayed as colored points. The color matches the one of the respective route district.

Display/Hide labels

Labelling defined with the planning element can be displayed or hidden.

Back

The previous map position is displayed.

Next

The next map position – if available – is displayed.

Settings

Map-related technical settings can be defined (e.g. size of the map window).

If the window size of the map is defined, the map is displayed in this size.

In this case the map will not be adjusted to the screen size. If required, scrollbars are displayed.

Print map segment

The current map segment including all displayed objects is printed. The following dialog box opens:

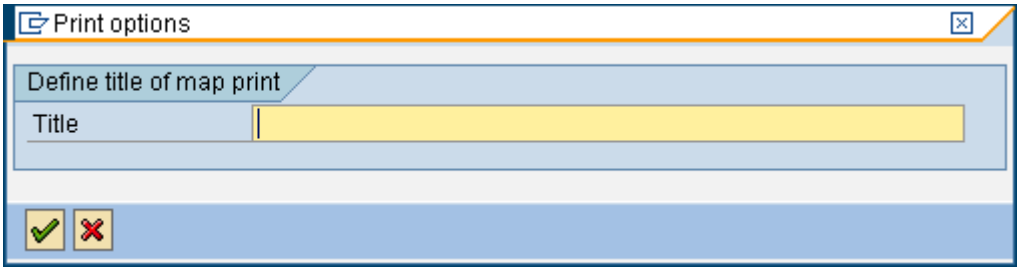


Figure 60: Print options I

The printing title can be entered, confirm with button  and the map segment will be printed.

Ensure that the printing of background colors and images is activated in the Internet Explorer. (*Menu Extras → Options → Advanced*)

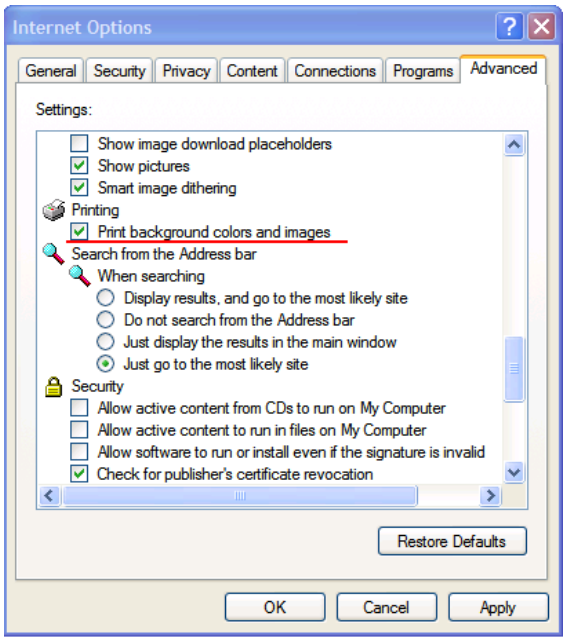


Figure 61: Print options II

6.7.2 Context Menu of the Map

When you click the right mouse button on the map, the context menu opens displaying the currently available functions.

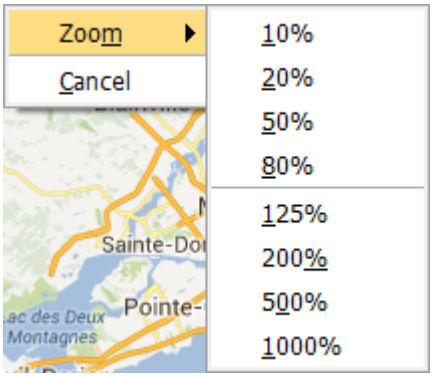


Figure 62: Context menu of the map

Zoom

The current map segment can be zoomed in or out as to the given sizes. The center of the map stays the same.

Cancel

Leave the context menu.

Additional function

If the *CTRL* key and left mouse button is pressed at the same time, the map is centered where the mouse is pointing at.

Irrespective of the mouse mode (zoom or selection) the mouse pointer changes when positioned over a planning element. With a single click you can select the object or the planning element. If additionally the *ALT*, *CTRL* or *SHIFT* key is pressed the following functions can be executed:

ALT

Removes objects from selection

SHIFT

Adds objects to selection

CTRL

Reverses selection (selected objects are deselected and vice versa)

Unlike in the selection mode only single objects or planning elements can be selected.

6.8 Calculate Key Data

Prerequisite for the calculation of activity points is a valid assignment of a task list to planning elements. Task lists can be allocated in all tree nodes that contain the device category.

If there are no planning data on planning scenario, route district or planning element level, the default values of the work plans are used to create the task lists.

Key figures can be calculated to evaluate a certain planning scenario or individual route districts. In order to calculate the key data for a complete planning scenario, you have to select the scenario in the navigation tree and press button  *Calculate key data*.

If the key data are to be calculated for individual route districts only, you have to select these route districts in the navigation tree first and press button  *Calculate key data*.

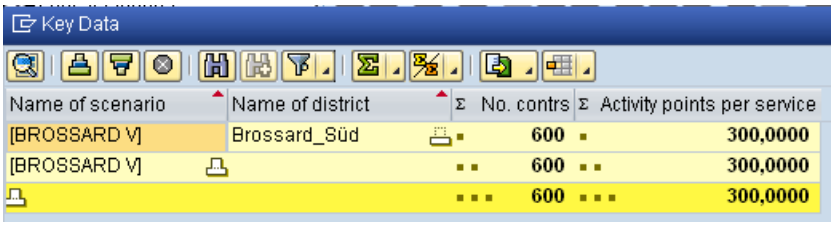


Figure 63: Key Data

6.9 Approve and Activate Route Districts and Create Work Plans

With the activation of the route districts on planning scenario level, the relevant maintenance plans and items will be created, based on the defined device categories, work plan number main work center and the time schedule.

Prerequisite is the approval of the route districts. In order to *approve* a route district you have to select the route district in the navigation tree and click on button *Approve*. The status of the route district will be changed into *Released*.

By clicking the button *Revoke approval*, the approval of a route district can be revoked and changes can be made.

Route districts can only be released on district and sub-district node. At first released the sub-districts.

Finally, to save your changes press  .

The activation (generation of work plans for released districts) can only be done on planning scenario level.

By double clicking on the planning scenario, the button *Accept* appears in the menu bar.

A click on button *Accept* starts the generation of the work plans and work plan items.

The work plans are generated in the background. The status of the planning scenario is now *Apply*.

If you are now selecting the route district, an overview of the generated work plans (Figure 64: Maintenance Plans) is displayed on tab *Work plans*. Moreover, if you select the planning element an overview of the generated work plan items and task lists (Figure 66) is displayed.

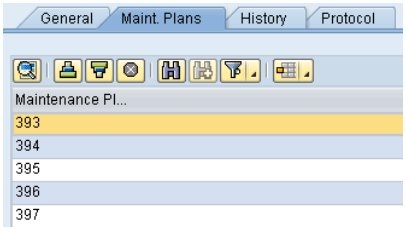


Figure 64: Maintenance Plans

A forward navigation to the individual maintenance plans and maintenance items is possible (double click on the relevant entry).

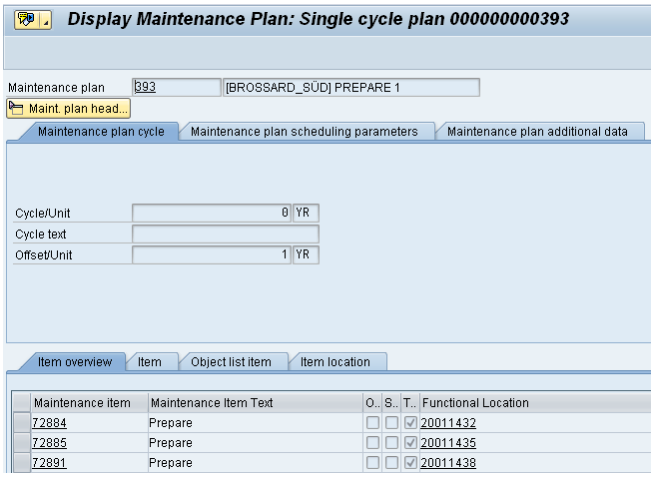


Figure 65: Maintenance Items

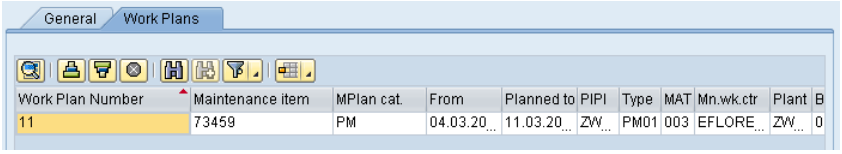


Figure 66: Work Plan Number and Maintenance Item

6.10 Deadline Monitoring for Maintenance Plans

Depending on your system configuration, this step is automatically executed, e.g. during the night.

If no automation is set, the scheduling can be done with the transaction */NIP30*.

If several maintenance/work plans will be scheduled at a time, you have to enter a date in the *to* field of the maintenance plan.

Click on  or press (F8) to execute your entries. The maintenance/work plans are now scheduled.

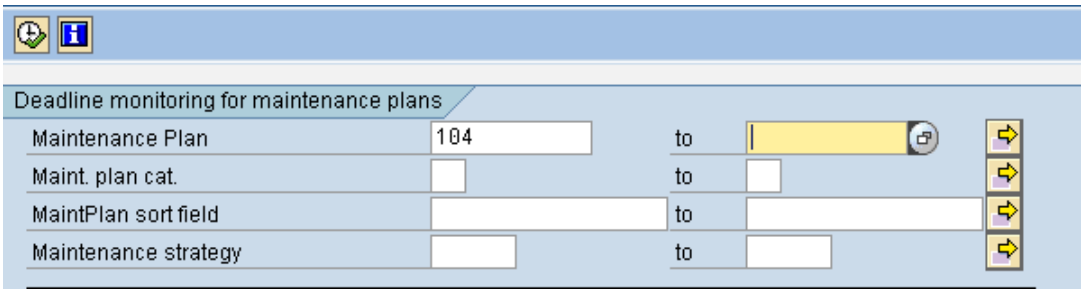


Figure 67: Deadline Monitoring for Maintenance Plans

A protocol is created that lists information on the maintenance/work plans.

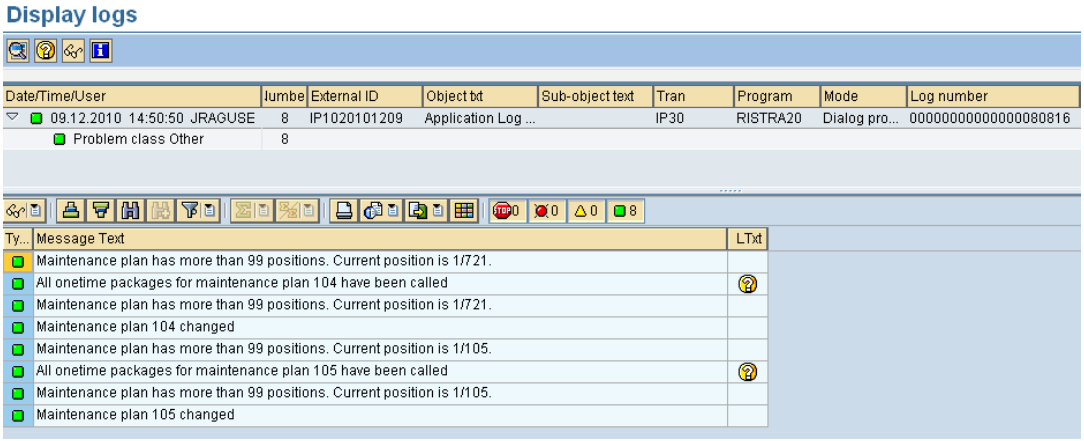


Figure 68: Maintenance Plans

7 Scheduler Integration (/N/WATP/TP_SCHEDULER)

This chapter describes how the route districts (See chapter 6: Route District Planning (*/N/WATP/TP_LONGTERM)*) can be scheduled in the scheduler. The scheduling is a prerequisite for approving the route districts.

The scheduler integration provides only an improved visual functionality for scheduling the route districts. The route districts can be still scheduled in the Longterm Planning.

For Information about the general using of the scheduler, see *SAP® Dispatching & Planning – Operational Planning by PROLOGA – User Manual* at chapter 6.

7.1 Prerequisite

In order to schedule the route districts with the scheduler it is required, that the route districts have the status *Time Schedule*. The status can be changed with help of function *Ready for time scheduling* (see chapter 6.3.3: Function Toolbar of the Navigation Tree).

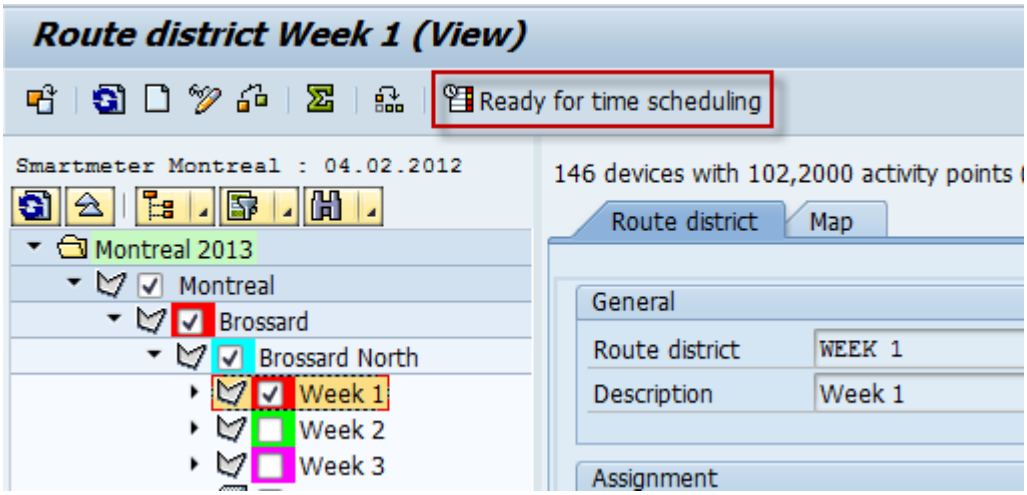


Figure 69: Function *Ready for time scheduling*

7.2 Screen Layout

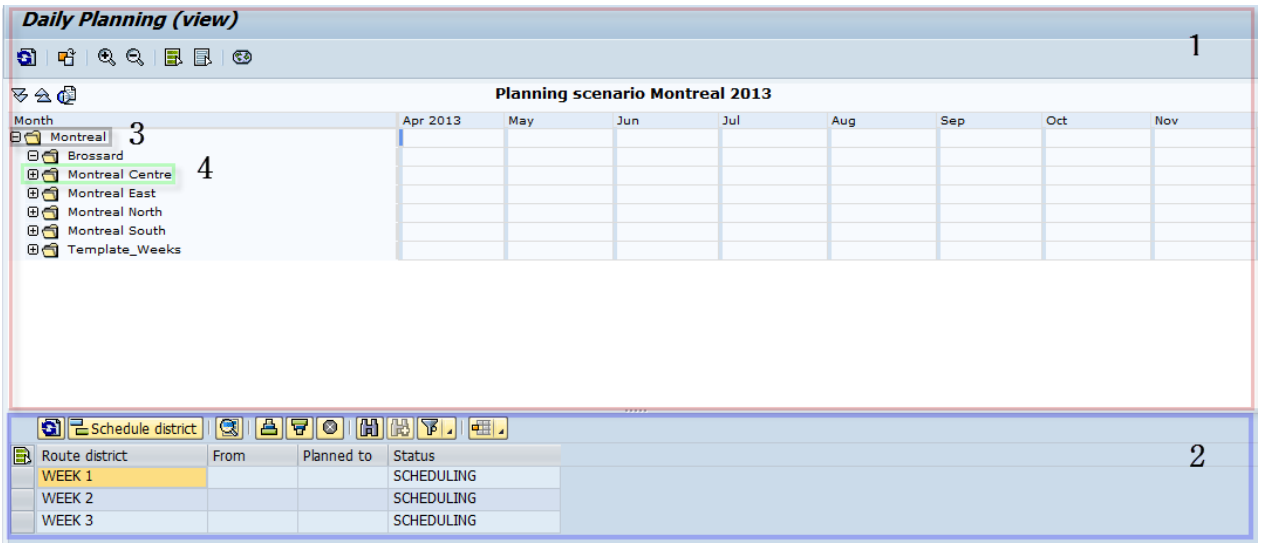


Figure 70: Scheduler

1. Scheduler
2. Non-scheduled route districts
3. Main group
4. Sub group

7.3 Scheduling of Route Districts

In order to schedule the route districts, follow the steps.

1. Open transaction */N/WATP/TP_SCHEDULER.*
2. Select in the start screen *Longterm Planning Smart Meter Enhancement Set*

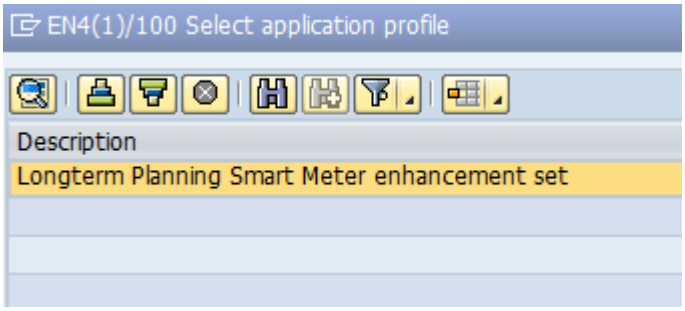


Figure 71: Entry Screen of Scheduler

3. Please select the Planning Scenario and the Planning Horizon in the subsequent screen.

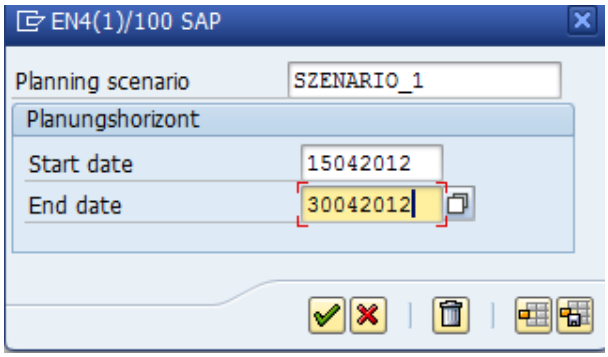


Figure 72: Selection of Planning Scenario for Scheduler

4. The planning scenario will be displayed in the scheduler. At the bottom left the non-scheduled route districts (1) and the status Time Scheduling (2) will be displayed.

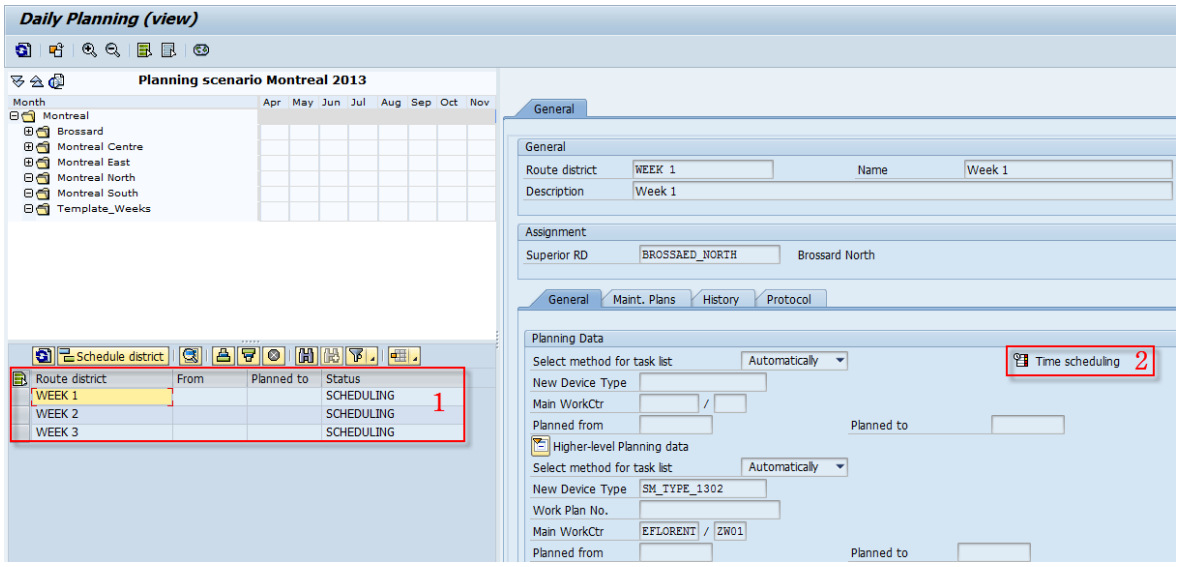
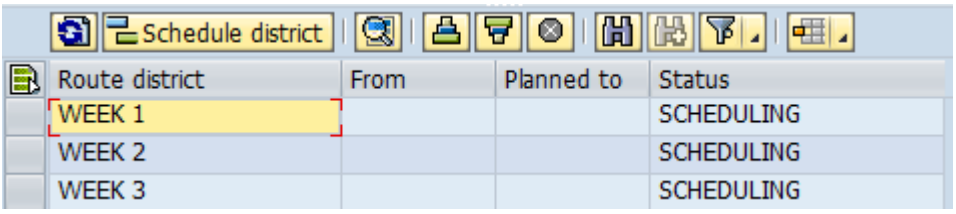


Figure 73: Non-scheduled route districts in scheduler

5. In order to schedule a route district mark one and press the button *Schedule district*.



6. A pop-up window will be opened where the values *Planned from* and *Planned to* have to entered.

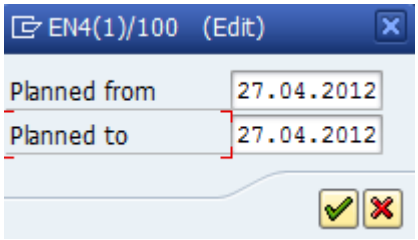


Figure 74: Planned from/ to

7. After that the route district will be displayed in the scheduler and is scheduled.

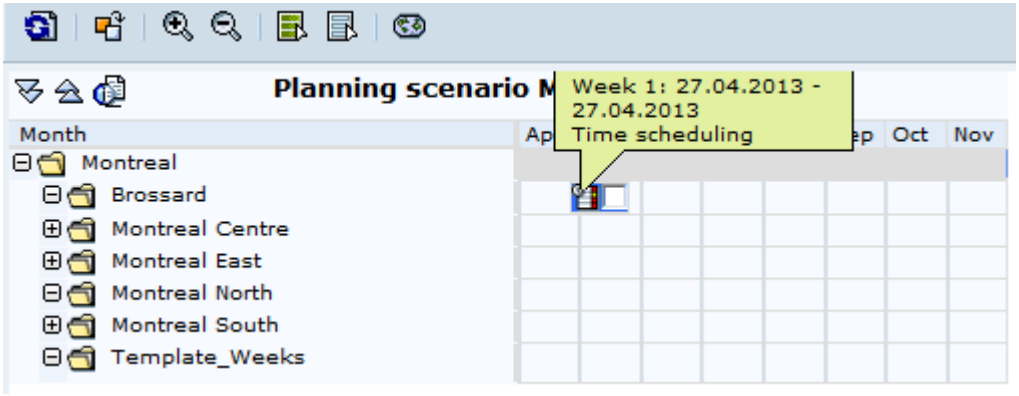


Figure 75: Scheduled Route Districts

8. The time schedule will be transferred into the route district of the related planning scenario.

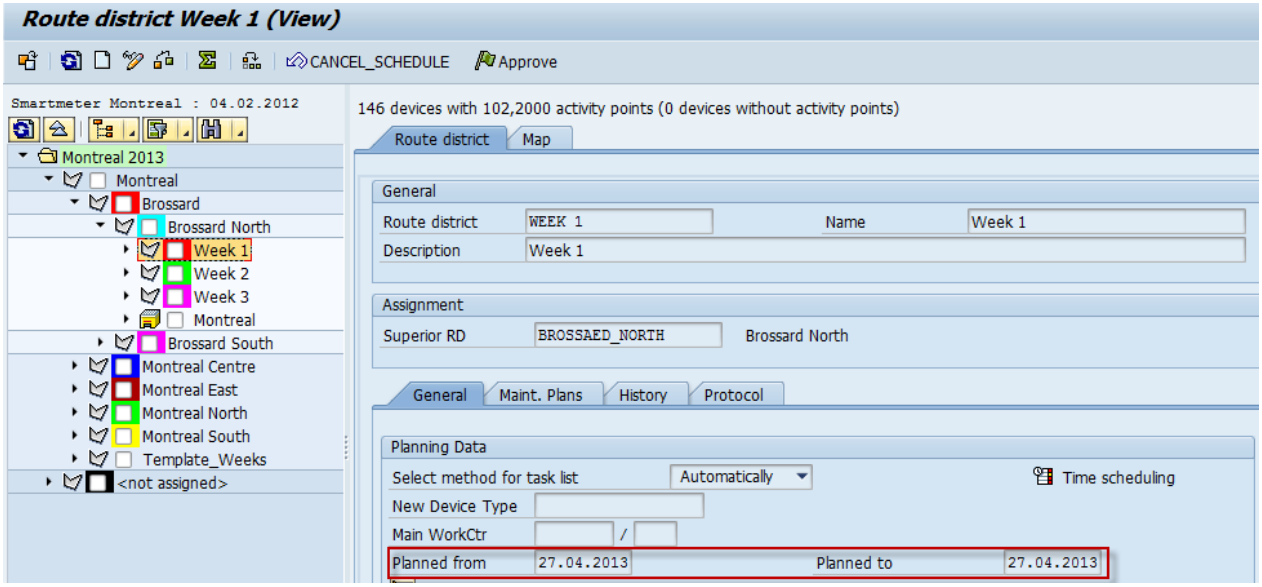


Figure 76: transferred time schedule

8 Tips, Tricks and FAQs

How do I create a scenario?

To create a scenario, you have to create a planning area in transaction */N/WATP/TP05*. The planning area defines the region, the already installed device categories, the planning aspect, the map settings, etc. to be applied.

Call transaction */N/WATP/TP_LONGTERM* and load the planning area created in transaction */N/WATP/TP05*. Go to the menu bar and call the function *Create planning scenario*. You can create various route districts and sub-districts within a scenario. Planning elements defined in */N/WATP/TP05* are imported with function *Import data*. The imported planning elements can be allocated to various route districts, e.g. based on regional structure or other criteria.

How do I activate/apply a scenario?

To apply a scenario, the planning data have to be entered on the tab *General*. Data entered on parent level will override data in the relevant sublevels. Having assigned the planning elements to the route district and having entered the relevant planning data, the planning scenario can be accepted by clicking on the button *Accept*.

Are there any planning scenario data that cannot be changed after creation?

All technical names (e.g. *scenario planning, route district*) cannot be changed after they have been created because they are used as primary keys in the *SAP® system*. The *service locations*, *device locations* and the *equipment* are maintained in other transactions and therefore cannot be changed in the */N/WATP/TP_LONGTERM.*

The *planning data, device types, names* and the specific *work plans* can be edited in transaction */N/ WATP/TP_LONGTERM*.

How can I define route districts?

The definition of route districts can be based on several criteria, e.g. on geographic directions or regional structures. The Smart Meter Rollout solution enables the integration of a digital map. Therefore, you will be able to import and display districts on a map in your *SAP® system*. You can create route districts manually, i.e. by selecting each relevant object on the map or in the tree. However, as this will be rather time-consuming, you can as well use the polygon or rectangle function to define a district on the map.

Why aren't there any data in the node *not allocated* after I have executed the function *Import data*?

At first, check the data (regional selection and device category) in transaction */N/WATP/TP05*. If these data are correct, the data base might not be maintained correctly (e.g. Ferraris meter or regional structure is not maintained in your *SAP® system*)

Or the planning elements are already scheduled.

A route district cannot be approved?

Check, if there are sub-districts assigned to a route district. Only route districts without child districts can be approved.

Do you have to enter all planning data manually?

Planning data that were maintained on parent level will be copied to their child levels after approval of the route district.

If there are no planning data on parent level maintained, the default values of the work plans are used to create the task lists.