FU BAPI_NETWORK_MAINTAIN

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Short Text

Edit networks (incl. all objects)

Functionality

It is possible to edit network headers, activities and relationships using the Maintain BAPI of the network business object. The BAPI contains a complete transaction. It is possible to carry out several operations on the network objects with one call. The Project System determines the order in which the objects are processed. The caller can choose the operations in any order. As a result the processing is very speedy and effective. However, this transaction concept does not include the use and combination of other SAP BAPIs in the same LUW.

Procedure

The Network business object is a facade pattern for networks, their activities, and relationships.

If you want to edit a network object, enter a command for an object type. In addition, enter the object key and a reference to its attributes. In the table parameter IMethodProject, enter the object type, the command and the object key. As a reference enter the index of the object data table of the relevant object type. In the object data table enter the information on the object.

When entering the object type and method in the IMethodProject table remember that the entries are case sensitive.

To finish the transaction and store the data in the database, enter the Save command. If you only want to test whether the changes can be carried out, do not use the Save command.

In general, you cannot change the keys of objects.

The Return parameter informs you whether errors occurred during processing. After the call you find the error messages that were created during processing in the EMessageTable table.

Commands for the individual object types

Object type: Network

The network number is the key that identifies each network object type.

Command: Create

Use this command to create a network using the specified network number.

The network number is determined by the external system. For the network enter a network profile that exists in the Project System. The network profile has to be assigned to a network type supporting external number assignment.

Always enter the network number in uppercase.

Depending on the scheduling type, enter a start or end date.

Example - Create a network with the network number TRAINING0001. Enter the key of the network object in the command table under OBJECTKEY and in the data table under NETWORK . The reference number '000001' of the

IMethodProject command table refers to the index of the data table.

- IMethodProject

    - OBJECTTYPE = Network

    - METHOD = Create

    - OBJECTKEY = TRAINING0001

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

    - OBJECTKEY =

    - REFNUMBER =

- INetwork

    - Index = 1

    - NETWORK = TRAINING0001

    - SHORT_TEXT = New network

    - FINISH_DATE = 12/04/1999

    - Profile = EPS40_1

    - ...

Command: Update

Use this command to change a network that exists in the Project System.

Use the update structure.

You want to change only certain values in an existing network and keep the other values. Using the update structure you specify exactly the attributes you want to change. Therefore, you need not fill all the attributes of the network structure.

If you are working with the update structures, pay attention to the fact that the table of the update structure must also be filled for the other commands of the network. The reference number of the command table has to match the same index of the network table and the table containing the update structures.

Example - Change the description of the existing network TRAINING 0001

- IMethodProject

    - OBJECTTYPE = Network

    - METHOD = Update

- o OBJECTKEY = TRAINING0001

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- INetwork

  - o Index = 1

  - o NETWORK = TRAINING0001

  - o SHORT_TEXT = Description changed

- INetworkUpdate

  - o Index = 1

  - o NETWORK =

  - o SHORT_TEXT = X

Command: Delete (from release 4.5A)

Use this command to delete a network that already exists in the Project System.

The network has the *Deletion flag* system status which can be revoked in the Project System. Therefore, the network remains in the database physically.

Example - Delete the network TRAINING0001

- IMethodProject

  - o OBJECTTYPE = Network

  - o METHOD = Delete

  - o OBJECTKEY = TRAINING0001

  - o REFNUMBER = 000001

  - o OBJECTTYPE =

  - o METHOD = Save

  - o OBJECTKEY =

  - o REFNUMBER =

- INetwork

    - Index = 1

    - NETWORK = TRAINING0001

Command: Schedule

Use this command to schedule a network.

Example - Reschedule network TRAINING0001

- IMethodProject

    - OBJECTTYPE = Network

    - METHOD = Schedule

    - OBJECTKEY = TRAINING0001

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

    - OBJECTKEY =

    - REFNUMBER =

- INetwork

    - Index = 1

    - NETWORK = TRAINING0001

Command: Calculate

Use this command to calculate costs for a network.

Example - Calculate costs for the TRAINING0001 network

- IMethodProject

    - OBJECTTYPE = Network

    - METHOD = Calculate

    - OBJECTKEY = TRAINING0001

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- INetwork

    - o Index = 1

    - o NETWORK = TRAINING0001

Command: Release (from release 4.5A)

Use this command to release a network with all its activities.

Example Release the TRAINING0001 network

- IMethodProject

    - o OBJECTTYPE = Network

    - o METHOD = Release

    - o OBJECTKEY = TRAINING0001

    - o REFNUMBER = 000001

    - o OBJECTTYPE =

    - o METHOD = Save

    - o OBJECTKEY =

    - o REFNUMBER =

- INetwork

    - o Index = 1

    - o NETWORK = TRAINING0001

Command: Lock (from release 4.6A)

Use this command to lock a network.

The *Locked* system status is set for a network.

Example - Lock the network TRAINING0001

- IMethodProject

    - o OBJECTTYPE = Network

    - o METHOD = Lock

    - o OBJECTKEY = TRAINING0001

- REFNUMBER = 000001

- OBJECTTYPE =

- METHOD = Save

- OBJECTKEY =

- REFNUMBER =

- INetwork

  - Index = 1

  - NETWORK = TRAINING0001

Command: Unlock (from release 4.6A)

Use this command to unlock a network

The *Locked* system status is removed from a network

Example - Unlock the TRAINING0001 network

- IMethodProject

  - OBJECTTYPE = Network

  - METHOD = Unlock

  - OBJECTKEY = TRAINING0001

  - REFNUMBER = 000001

  - OBJECTTYPE =

  - METHOD = Save

  - OBJECTKEY =

  - REFNUMBER =

- INetwork

  - Index = 1

  - NETWORK = TRAINING0001

Object Type: NetworkActivity

The key of the *Network activity* object consists of the network number and the activity number.

If you want to apply a command to the network activity, you must always include the superior network in the same call in the table of the INetwork parameter.

Command: Create

Use this command to create a new activity in a network.

Example - Create a new network activity with the number 0010 in TRAINING0001 network.

- IMethodProject

    - OBJECTTYPE = NetworkActivity

    - METHOD = Create

    - OBJECTKEY = TRAINING00010010

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

    - OBJECTKEY =

    - REFNUMBER =

- IActivity

    - Index = 1

    - NETWORK = TRAINING0001

    - ACTIVITY = 0010

    - DESCRIPTION = Activity 10

- INetwork

    - Index = 1

    - NETWORK = TRAINING0001

Command: Update

Use this command to change an activity that already exists in the Project System.

Use the update structure as in networks.

Example - Change the description of the activity 0010 in network TRAINING0001.

- IMethodProject

    - OBJECTTYPE = NetworkActivity

    - METHOD = Update

    - OBJECTKEY = TRAINING00010010

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- IActivity

  - o Index = 1

  - o NETWORK = TRAINING0001

  - o ACTIVITY = 0010

  - o DESCRIPTION = Activity 10 changed

- IActivityUpdate

  - o Index = 1

  - o NETWORK =

  - o ACTIVITY =

  - o DESCRIPTION = X

  - o INetwork

  - o Index = 1

  - o NETWORK = TRAINING0001

Command: Delete

Use this command to delete an activity that already exists in the Project System. The activity receives the *deletion flag* system status and is not deleted physically. Connected objects as relationships, activity elements, capacity requirements, purchase requisitions, and material components are also deallocated and selected for deletion.

You cannot create an activity with the same key.

Example - Delete the network activity 0010 in network TRAINING0001

- IMethodProject

  - o OBJECTTYPE = NetworkActivity

  - o METHOD = Delete

  - o OBJECTKEY = TRAINING00010010

  - o REFNUMBER = 000001

- - OBJECTTYPE =

  - METHOD = Save

  - OBJECTKEY =

  - REFNUMBER =

- IActivity

  - Index = 1

  - NETWORK = TRAINING0001

  - ACTIVITY = 0010

- INetwork

  - Index = 1

  - NETWORK = TRAINING0001

Command: Release (from release 4.5A)

Example - Release the activity 0010 in network TRAINING0001

- IMethodProject

  - OBJECTTYPE = NetworkActivity

  - METHOD = Release

  - OBJECTKEY = TRAINING00010010

  - REFNUMBER = 000001

  - OBJECTTYPE =

  - METHOD = Save

  - OBJECTKEY =

  - REFNUMBER =

- IActivity

  - Index = 1

  - NETWORK = TRAINING0001

  - ACTIVITY = 0010

- INetwork

  - Index = 1

- o NETWORK = TRAINING0001

Object type: NetworkActivityElement (from release 4.6A)

The key for the activity element object comprises of the network number, the activity number, and the activity element number.

Command: Create

Use this command to create a new activity element in a network.

Example - Create a new activity element with the number 0020 in network activity 0010 of the TRAINING0001 network of the TRAINING0001 network .

- IMethodProject

   - o OBJECTTYPE = NetworkActivityElement

   - o METHOD = Create

   - o OBJECTKEY = TRAINING000100100020

   - o REFNUMBER = 000001

   - o OBJECTTYPE =

   - o METHOD = Save

   - o OBJECTKEY =

   - o REFNUMBER =

- IActivityElement

   - o Index = 1

   - o NETWORK = TRAINING0001

   - o ACTIVITY = 0010

   - o ELEMENT = 0020

Command: Update

Use this command to change an activity element that already exists in the Project System.

Use the update structure as for networks.

Example - Change an existing activity element with the number 0020 in the network activity 0010 of the TRAINING0001 network

- IMethodProject

   - o OBJECTTYPE = NetworkActivityElement

- o METHOD = Update

- o OBJECTKEY = TRAINING000100100020

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- IActivityElement

  - o Index = 1

  - o NETWORK = TRAINING0001

  - o ACTIVITY = 0010

  - o ELEMENT = 0020

  - o DESCRIPTION = Activity element 0020 changed

- IActivityElementUpdate

  - o Index = 1

  - o NETWORK =

  - o ACTIVITY =

  - o ELEMENT =

  - o DESCRIPTION = X

Command: Delete

Use this command to delete an activity element that already exists in the Project System.

The activity element receives the *Deletion flag* status and is not deleted physically. Connected objects such as capacity requirements and purchase requisitions are also deallocated or marked for deletion.

You cannot create a new activity element with the same key.

Example - Delete an activity element with the number 0020 in the network activity 0010 in the TRAINING0001 network

- IMethodProject

  - o OBJECTTYPE = NetworkActivityElement

  - o METHOD = Delete

- o OBJECTKEY = TRAINING000100100020

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- IActivityElement

   - o Index = 1

   - o NETWORK = TRAINING0001

   - o ACTIVITY = 0010

   - o ELEMENT = 0020

Object type: ActivityMilestone (from release 4.6A)

The key of the activity milestone object is the milestone number.

Command: Create

Use this command to create a new activity milestone for a network. It is not necessary to enter a number for the milestone. When the milestone is created, the system gives it a number and returns this number in the message table as an information message.

However, if an external number is entered in the method table during creation, the external number and the new milestone number are returned in an information message.

Example - Create a new activity milestone for activity 0010 in the TRAINING0001 network

- IMethodProject

   - o OBJECTTYPE = ActivityMilestone

   - o METHOD = Create

   - o OBJECTKEY =

   - o REFNUMBER = 000001

   - o OBJECTTYPE =

   - o METHOD = Save

   - o OBJECTKEY =

   - o REFNUMBER =

- IActivityMilestone

    - Index = 1

    - MILESTONE_NUMBER =

    - NETWORK = TRAINING0001

    - ACTIVITY = 0010

Command: Update

Use this command to change an activity milestone that already exists in the Project System.

It is always necessary to enter the network, if you do not make any explicit changes to the network.

Use the update structure as for networks.

Example - Change an existing activity milestone with the number 000000002097 for the TRAINING0001 network

- IMethodProject

    - OBJECTTYPE = ActivityMilestone

    - METHOD = Update

    - OBJECTKEY =

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

    - OBJECTKEY =

    - REFNUMBER =

- IActivityMilestone

    - Index = 1

    - MILESTONE_NUMBER = 000000002097

    - DESCRIPTION = Milestone description changed

    - NETWORK = TRAINING0001

    - IActivityMilestoneUp

    - Index = 1

    - MILESTONE_NUMBER =

    - DESCRIPTION = X

Command: Delete

Use this command to delete an activity milestone that already exists in the Project System. The milestone is deleted physically. It is necessary to enter the network, if you do not make any explicit changes to the network.

Example - Delete an activity milestone with the number 000000002097 in the TRAINING0001 network

- IMethodProject

    - OBJECTTYPE = ActivityMilestone

    - METHOD = Delete

    - OBJECTKEY = 000000002097

    - REFNUMBER = 000001

    - OBJECTTYPE =

    - METHOD = Save

    - OBJECTKEY =

    - REFNUMBER =

- IActivityMilestone

    - Index = 1

    - MILESTONE_NUMBER = 000000002097

Object Type: NetworkRelation

The key of the Relationship object is composed of the type of relationship and the keys of the preceding and succeeding activities. You can change the name of the type of relationship in the Implementation Guide (transaction OPS2). In general, the name is language dependent. Use only valid types of relationships that are available in the corresponding language. Use valid relationship types only, which exit in the corresponding language.

To apply a command for the relationship, always include the connected networks in the same call in the table of the INetwork parameter.

Command: Create

Use this command to create a relationship between two activities.

Example - Create a relationship between the activities

0010 and 0020 of the TRAINING0001 network. The two activities are linked through an FS relationship.

- IMethodProject

    - OBJECTTYPE = NetworkRelation

    - METHOD = Create

- o OBJECTKEY = NFTRAINING00010010TRAINING00010020

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- IRelation

  - o Index = 1

  - o NETWORK_ PREDECESSOR = TRAINING0001

  - o ACTIVITY_ PREDECESSOR = 0010

  - o NETWORK_ SUCCESSOR = TRAINING0001

  - o ACTIVITY_ SUCCESSOR =0020

  - o RELATION_ TYPE = NF

- INetwork

  - o Index = 1

  - o NETWORK = TRAINING0001

Command: Update

Use this command to change a relationship that already exists in the Project System.

The type of relationship cannot be changed, because it is part of the relationship key. If you want to change the relationship type, delete the relationship and create a new relationship with a new relationship type.

Use the update structure as for networks.

Command: Delete

Use this command to delete a relationship that links two activities. The relationship is deleted physically.

Example - Delete the relationship between the activities 0010 and 0020 in the TRAINING0001 network

- IMethodProject

  - o OBJECTTYPE = NetworkRelation

  - o METHOD = Delete

  - o OBJECTKEY = NFTRAINING00010010TRAINING00010020

- o REFNUMBER = 000001

- o OBJECTTYPE =

- o METHOD = Save

- o OBJECTKEY =

- o REFNUMBER =

- IRelation

    - o Index = 1

    - o NETWORK_ PREDECESSOR = TRAINING0001

    - o ACTIVITY_ PREDECESSOR = 0010

    - o NETWORK_ SUCCESSOR = TRAINING0001

    - o ACTIVITY_ SUCCESSOR =0020

    - o RELATION_ TYPE = NF

- INetwork

    - o Index = 1

    - o NETWORK = TRAINING0001

Testing the Interface and Displaying the Diagnosis Information

(from release 4.5)

You can save the data that is transferred to the Project System in afile for test and diagnosis purposes. All the table parameter and structure parameter entries are saved in this trace file. The caller of the Maintain BAPI can check the interface.

The trace file is saved locally by the SAPGUI. Creating the file consumes runtime, and should therefore only be used for testing and not in an operative system.

The trace file is created, if object type Trace and method Create are entered in the IMethodProject table. The system requests as the object key the directory and the file name. Do not enter a reference number.

Example - Create the trace file EPS_Test_Trace.txt

in the directory C:\TMP\

- IMethodProject

    - o OBJECTTYPE = Trace

    - o METHOD = Create

    - o OBJECTKEY = C:\TMP\EPS_Test_Trace.txt

○ REFNUMBER =

Further information

For more information, see the SAP Library under **Project System -> Structures -> EPS** -> **Interfaces to the ProjectSystem**.

Parameters

RETURN
I_METHOD_PROJECT
I_NETWORK
I_NETWORK_UPDATE
I_ACTIVITY
I_ACTIVITY_UPDATE
I_RELATION
I_RELATION_UPDATE
E_MESSAGE_TABLE
I_ACTIVITY_ELEMENT
I_ACTIVITY_ELEMENT_UPDATE
I_ACTIVITY_MILESTONE
I_ACTIVITY_MILESTONE_UPDATE

Exceptions

Function Group

2002