Oracle® Communications ASAP Cartridge 1.0 for Nortel_CS2K_SN06_NODES_PROVISIONING Cartridge

Nortel_CS2K_SN06_NODES_PROVISIONING Cartridge Guide

First Edition

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Nortel_CS2K_SN06_NODES_PROVISIONING Cartridge Guide, First Edition

Contents

1

Cartridge Overview

This guide provides a detailed description of the NORTEL_CS2K_SN06_NODES_PROVISIONING cartridge. It contains overview and technical information to assist with extending and integrating the cartridge into a customer environment.

The scope of this guide includes Oracle Communications ASAP (ASAP) as it pertains to the use of this cartridge. It is not intended to be a complete ASAP reference guide. For additional information when using this cartridge, refer to the ASAP documentation.

The NORTEL_CS2K_SN06_NODES_PROVISIONING cartridge provides the ASAP service configuration and network element (NE) interface to activate subscriber services on NTGWCSN06 NEs.

Hardware and Software Requirements

The following sections contain the high-level software and hardware environment requirements for provisioning subscriber services on authentication center:

- NE Interface
- ASAP Version

NE Interface

The following database tables in Service Activation Request Manager (SARM) are configured to support the NE configuration:

- tbl_host_clli
- tbl_clli_route
- tbl_comm_param
- tbl_resource_pool
- tbl_ne_config

ASAP Version

This cartridge was developed and tested using ASAP version 7.0.2.

For more information on the operating environment of this ASAP version, refer to the ASAP version 7.0.2 Release Notes.

Connecting to the NE

The cartridge uses Telnet/SSH protocol.

Services, Features, and Options

This cartridge supports the following services:

Table 1–1 Supported Services

Service	Description
C_NT-GWC_SN06_QRY_GWC	The query GWC function returns either a list of GWCs associated with a given CS2000 or a list of GWCs associated with an MG.
C_NT-GWC_SN06_ADD_MG	The associate MG function allows an MG to be associated with a given GWC.
C_NT-GWC_SN06_DEL_MG	The disassociate MG function removes the association between an MG and a GWC.
C_NT-GWC_SN06_QRY_MG	The query MG function returns either a list of MGs associated with a given GWC or the data held for a given GWC.

Communication Parameters

The following is the list of parameters for the sample NE configuration XML used by Service Activation Configuration Tool (SACT).

Table 1–2 Communication Parameters

Parameter Label	Parameter Value	Description
HOST_IPADDR	127.0.0.1	The IP Address for the remote OSSAGATE host
PORT	10023	Port number to connect on remote OSSGATE host
OPEN_TIMEOUT	5	Connection timeout (seconds)
READ_TIMEOUT	5	Read timeout (seconds)
USER	sam	OSSGATE User ID to login
PASSWORD	sam	OSSGATE Password to login
PROMPT	LOOPBACK	

2

Atomic Service Description Layer (ASDL) Commands

ASDL commands represent a set of atomic actions that ASAP can perform on a network element (NE). ASAP can combine ASDLs to create meaningful services (CSDLs) within a cartridge.

This chapter presents detailed information on the ASDL parameters that we provide with this cartridge. The following table lists and describes the type of parameter information that is included.

Table 2–1 ASDL Parameter Information

Item	Description
Parameter Name	Identifies the parameter that is configured for the stated service.
Description	Describes the parameter.
Range	Describes or lists the range of values that can be used to satisfy this parameter.
Default Value	Configures a default value for the parameter so that it is not mandatory for the upstream system to provide a value.
Type	Indicates one of the following parameter types: ■ S - Scalar, specifies the parameter label transmitted on the ASDL command. Scalar parameters are conventional name-value pair parameters. ■ C - Compound, specifies the base name of the compound parameter transmitted on the ASDL command. A compound parameter contains structures or arrays of information that are represented by a particular structure name or compound parameter name. Each compound parameter can contain a large number of elements. If you use compound parameters, you only require a single entry in the ASAP translation tables to call the compound parameter and all its associated parameter elements. ■ I - Indexed, identifies a parameter that contains a sequential numerical index value to tell the SARM that it should execute the same operation (for example, an ASDL command) for all occurrences of that index. Consequently, if there are several options on a particular CSDL command (OPT1, OPT2, OPT3, etc.), you can specify the OPT parameter as an indexed parameter. When you specify the OPT parameter as an indexed parameter, the SARM generates several occurrences of that same ASDL command and each command has a different value for the option being transmitted to the NEP. For more information on parameter types, refer to the *ASAP Developer's Guide*.

Table 2–1 (Cont.) ASDL Parameter Information

Item	Description
Class	Indicates one of the following parameter classifications: ■ R - Required scalar parameter ■ O - Optional scalar parameter ■ C - Required compound parameter ■ N - Optional compound parameter ■ M - Mandatory indexed parameter ■ I - Optional indexed parameter ■ S - Parameter count

For a detailed description of the Required and Optional parameter classifications, refer to the *ASAP System Administrator's Guide.*

ASDL Commands

This cartridge provides the following ASDL commands:

- A_NT-GWC_SN06_ADD_MG
- A_NT-GWC_SN06_DEL_MG
- A_NT-GWC_SN06_QRY_GWC
- A_NT-GWC_SN06_QRY_MG

A_NT-GWC_SN06_ADD_MG

Associates a Media Gateway (MG) with a specified GWC. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_gwc_ sn06.prov.CSXmlProvisioning.addMG.**

Table 2–2 A_NT-GWC_SN06_ADD_MG

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	The host NE name.	N/A	N/A	S	R
MGUINAME	The media gateway name.	N/A	N/A	S	R
MGPROFILENAME	The media gateway profile name.	N/A	N/A	S	R
MGIPADDRESS	The media gateway IP address.	N/A	N/A	S	R
MGPROTOCOLTYPE	The media gateway protocol type.	N/A	N/A	S	R
MGPROTOCOLVERSION	The media gateway protocol version.	N/A	N/A	S	R
MGPROTOCOLPORT	The media protocol port.	N/A	N/A	S	R
GWCUINAME	The GWC name.	N/A	N/A	S	R
INTERFACE	The interface type.	N/A	cs2kCfgMgrIf	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

MML commands

MML Syntax :

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<CommandList>
<Command>
<Interface>cs2kCfgMgrIf</Interface>
<Methods>
<MethodName usn=?1?>assocMG</MethodName>
<Parameters>
<mgUIName> somevalue</mgUIName>
<mgProfileName> somevalue</mgProfileName>
<mgIpAddr> somevalue</mgIpAddr>
<mgProtocolType> somevalue</mgProtocolType>
<mgProtocolVersion> somevalue</mgProtocolVersion>
<mgProtocolPort> somevalue</mgProtocolPort>
<gwcUIName> somevalue</gwcUIName>
</Parameters>
</Methods>
</Command>
</CommandList>
```

Output Parameters

The following information is returned as info parameters:

Return Code

Response String

Gateway Controller Name

Gateway Controller IP Address

RC

TEXTID

MSGTEXT

MGS_GWCUINAME

MGS_GWCIPADDR

A_NT-GWC_SN06_DEL_MG

The disassociate MG function removes the association between an MG and a GWC. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_gwc_ sn06.prov.CSXmlProvisioning.delMG.**

Table 2–3 A_NT-GWC_SN06_DEL_MG

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	The host NE name.	N/A	N/A	S	R
MGUINAME	The media gateway name.	N/A	N/A	S	R

Table 2–3 (Cont.) A_NT-GWC_SN06_DEL_MG

Parameter Name	Description	Range	Default Value	Type	Class
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

MML commands

MML Syntax :

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<CommandList >
<Command>
<Interface>cs2kCfgMgrIf</Interface>
<Methods>
<MethodName usn=?1?>disAssocMg</MethodName>
<Parameters>
<mgUIName> somevalue</mgUIName>
</Parameters>
</Methods>
</Command>
</CommandList>
```

Output Parameters

The following information is returned:

Return Code

Response String

RC

TEXTID

MSGTEXT

A_NT-GWC_SN06_QRY_GWC

The query GWC function returns either a list of GWCs associated with a give CS2K or a list of GWCs associated with an MG. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_gwc_sn06.prov.CSXmlProvisioning.qryGWC.**

Table 2–4 A_NT-GWC_SN06_QRY_GWC

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	The host NE name.	N/A	N/A	S	R
CSUINAME	The call server name. Lists all the GWC's in the CM CLLI space when the parameter GWCUINAME is not provided.	N/A	N/A	S	R
GWCUINAME	The media gateway name. Lists all of the details about a specific GWC when this parameter is provided.	N/A	N/A	S	O
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

MML commands

MML Syntax :

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<CommandList >
<Command>
<Interface>cs2kCfgMgrIf</Interface>
<Methods>
<MethodName>queryGWC</MethodName>
<Parameters>
<csUIName> somevalue</csUIName>
<gwcUIName> somevalue</gwcUIName>
</Parameters>
</Methods>
</Command>
</CommandList>
```

Output Parameters

Case 1:

When the Query GWC function is not supplied a GWC name, the list of GWC associated with a Call Server is returned.

The following information is returned:

Return Code

Response String

List of Gateway Controllers and their IP address

RC

MSGTEXT

GWCUILIST1

GWCIPLIST1
GWCUILIST2
GWCIPLIST 2
……
GWCUILISTi
GWCIPLIST i

Case 2:

When the Query GWC function is supplied with a GWC name then data held about that given GWC is returned.
The following information is returned:
Return Code
Response String
Call Server Id
XPM Type
PM U nit
XACore Node Number
Active IP Address
SNMP Port
Market Tone Set
Terminal Types
PM Execs
Capacity

RC
MSGTEXT
GWCUILIST
GWCIPLIST
CALLSERVERID
NODENAME
TYPELIST
XACNODENUMBER
ACTVIPADDRESS
SNMPPORT
MKTTONES
TERMTYPES

PMEXECS

CAPACITY

A_NT-GWC_SN06_QRY_MG

The query MG function returns either a list of MGs associated with a given GWC or the data held for a given GWC. It is implemented by the Java method **com.metasolv.cartridge.oss.nt_gwc_sn06.prov.CSXmlProvisioning.qryMG.**

Table 2–5 A_NT-GWC_SN06_QRY_MG

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	The host NE name.	N/A	N/A	S	R
GWCUINAME	The media gateway controller name. If the MGUINAME is provided, the query returns all of the data associated with this MGUINAME and the GWC is not used.	N/A	N/A	S	R
MGUINAME	The media gateway name. If this parameter is not provided, the query returns a list of all of the MGs associated with the GWC.	N/A	N/A	S	O
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

MML commands

MML Syntax :

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<CommandList>
<Command>
<Interface>cs2kCfgMgrIf</Interface>
<Methods>
<MethodName usn=?1?>queryMG</MethodName>
<Parameters>
<gwcUIName> somevalue</gwcUIName>
<mgUIName> somevalue</mgUIName>
</Parameters>
</Methods>
</Command>
</CommandList>
```

Output Parameters

Case:1

When the Query MG function is not supplied with a MG name, the list of MGs associated with the GWC is returned.

The following information is returned:

Return Code

Response String
List of Media Gateways and their IP address

RC
MSGTEXT
MGUILIST1
MGIPLIST1
MGUILIST2
MGIPLIST2
……..
MGUILISTi
MGIPLISTi

Case 2:

When the Query MG function is given the MG name, the set of data held for the specified GWC is returned, in this case the GWC name is not used.
The following information is returned:
Return Code
Response String
Call Server ID
Gateway Controller Name
XMP Type
XPM unit
Number of End Points

RC
MSGTEXT
MGUILIST
MGIPLIST
CALLSERVERID
GWCUINAME
NODENAME
ENGRENDPOINTS

User Exit Types

User exit types allow cartridge developers and systems administrators to map ASDL exit codes to one of the predefined base exit types. Base exit types determine the product behavior. Cartridges map return codes and status values from a network element to a user defined exit type.

Regular expressions (regex) are used to perform pattern searches on responses from network elements. The pattern is stored in "tbl_user_err" in the SARM database. The user exit type contains a regex pattern that is applied at runtime.

Regular expressions enable users to associate a series of responses to a specific base type. For example, a regular expression "6." can identify a pattern where any response with the character "6" followed by any number of characters will translate to base type of FAIL.

Regular expressions can also allow very specific searches within a response from a network element. Regular expressions are typically compiled before being executed. Compilation produces a binary version of the expression and ensures that the syntax of the regular expression is correct. This compilation occurs using SACT\SADT when user exit types are deployed into ASAP. If the syntax is deemed to be incorrect during compilation, SADT displays an error message and the deployment of the user exit type will fail.

For more information on pattern matching, refer to the *ASAP Developer's Guide* and the *ASAP System Administrator's Guide*.

Understanding User Exit Type XML Files

```
…
<userDefinedExitType>
<neDescriptor>
<softwareLoad>DYNAMIC_SL</softwareLoad>
<technology>DYNAMIC_VENDOR-DYNAMIC_TECH</technology>
</neDescriptor>
<searchPattern>SUCCESS.</searchPattern>...1
<userType>U_SUCCEED</userType>...2
<baseType>SUCCEED<</baseType>...3
<description>The ASDL provisioning was successful</description>
</userDefinedExitType>
<userDefinedExitType>
<searchPattern>90.</searchPattern>
<userType>U_FAIL</userType>
<baseType>FAIL</baseType>
<description>The ASDL failed - fail the current order and stop
processing.</description>
</userDefinedExitType>
<userDefinedExitType>
<searchPattern>101-110[201-215]</searchPattern>...4
<userType>U_SOFT_FAIL</userType>
<baseType>SOFT_FAIL</baseType>
<description>The ASDL has encountered a soft failure. Processing will
continue.</description>
</userDefinedExitType>
<userDefinedExitType>
<searchPattern>801-850</searchPattern>...5
<userType>U_MINOR_ERROR</userType>
<baseType>SOFT_FAIL</baseType>
<description>The ASDL has encountered a soft failure. Processing will
continue.</description>
```

```
</userDefinedExitType>
<userDefinedExitType>
<searchPattern>251-275&&[^261-265]</searchPattern>...6
<userType>U_DELAYED_FAIL</userType>
<baseType>DELAYED_FAIL</baseType>
<description>The ASDL has failed during provisioning.</description>
</userDefinedExitType>
<userDefinedExitType>
<neDescriptor>
<softwareLoad>BCS36</softwareLoad>
<technology>NORTEL_DMS</technology>
<neVendor>Nortel</neVendor>
</neDescriptor>
<searchPattern>*.</searchPattern>
<userType>U_MAINTAIN</userType>
<baseType>MAINTENANCE</baseType>
<description>The ASDL will Wait until the NE comes out of Maintenance
Mode</description>
</userDefinedExitType>
```

The numbered elements highlighted in bold in the previous code sample are explained as follows:

1. Pattern searches accommodate situations in which responses from the device contain small variants that represent the same meaning. The user type contains an associated search pattern that is applied at runtime. Using regular expressions, you can default a series of responses. For example a regular expression "90." can specify a pattern where any response with the character "90" followed by any character will translate to base type of FAIL. If the regular expression is defined as "90*", then any response with the character "90" followed by any number of characters will translate to base type of FAIL.
2. The user type that the search pattern maps to.
3. The base type that maps to the user type.
4. 101 to 110 and 201 to 215 will translate to a base type of SOFT_FAIL
5. 801-850 will translate to a base type of SOFT_FAIL. Note that the user type differs from the previous range.
6. 251 to 275 but not 261 to 265 will translate to a base type of DELAYED_FAILURE.

The previous code sample shows some typical search pattern examples. Some additional examples follow:

- ^.*\b(one|two|three)\b.*$ = matches a complete line of text that contains any of the words "one", "two" or "three"
- ^(?=.*?\bone\b)(?=.*?\btwo\b)(?=.*?\bthree\b).*$ matches a complete line of text that contains all of the words "one", "two" and "three"
- "[^"\r\n]*" matches a single-line string that does not allow the quote character to appear inside the string.
- \b\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}\b matches any IP address.

For more information on search patterns, refer to http://java.sun.com/j2se/1.4.2/docs/api/java/util/regex/Pattern.html.

For more information on user exit types, refer to the *ASAP Developer's Guide*.

User Defined ASDL Exit Types

The following table lists the user defined ASDL exit types.

Table 2–6 User Defined ASDL Exit Types

Search Pattern	User Type	Base Type	Description
LOOPBACK >	NTCS_GWC_SUCCEED	SUCCEED	The input command succeeded in LoopBack mode.
(.|\n|\r)*OK(.|\n|\r)*	NTCS_GWC_SUCCEED	SUCCEED	The input command succeeded in Live mode.
0	NTCS_GWC_SUCOPER	SUCCEED	The input command has Successful operation.
1	NTCS_GWC_DATCOM	FAIL	The input command has more data coming.
2	NTCS_GWC_RESLIM	FAIL	Request Rejected due to Resource Limits Reached.
3	NTCS_GWC_ABORT	FAIL	Application was Commanded to Abort.
4	NTCS_GWC_INVCLIT	FAIL	Invalid input from client.
5	NTCS_GWC_FLNODE	FAIL	Failed SERVRINV update or could not get node name and number.
6	NTCS_GWC_FLGWCEM	FAIL	Failed Add to GWCEM.
7	NTCS_GWC_FLNTVIEW	FAIL	Failed to update NetworkView database.
8	NTCS_GWC_FLADGWC	FAIL	Failed Rollback of ADD GWC.
9	NTCS_GWC_QYGTGWC	FAIL	Query GWC Operation Failed to Get Data from GWC EM.
10	NTCS_GWC_QYRDGWC	FAIL	Query GWC Operation Failed to Read GWC List from the Network View.
11	NTCS_GWC_QYXACOR	FAIL	Query GWC Operation Failed to Get Data from XA Core.
12	NTCS_GWC_FLDLGWC	FAIL	Delete GWC Operation failed GWC Data in Network View could not be read.
13	NTCS_GWC_DLGWCEM	FAIL	Delete GWC Operation aborted, the GWCEM failed to delete the GWC.
14	NTCS_GWC_DLABORT	FAIL	Delete GWC Operation aborted, GWCEM rejected delete, GWC has associated MG's or Endpoints,invalid operation.
15	NTCS_GWC_DLGWC	FAIL	Delete GWC Operation encountered an error after deleting the GWC from the GWCEM.

Table 2–6 (Cont.) User Defined ASDL Exit Types

Search Pattern	User Type	Base Type	Description
16	NTCS_GWC_INVMG	FAIL	Associate MG Operation Invalid input from client interface.
17	NTCS_GWC_FLMGDB	FAIL	Associate MG Operation failed to access DB when reading gateway table.
18	NTCS_GWC_FLASMG	FAIL	Associate MG Operation failed to assign a GWC. GWC with sufficient capacity could not be selected.
19	NTCS_GWC_FLRDNV	FAIL	Associate MG Operation failed to read the GWC Data frames Network View.
20	NTCS_GWC_FLLGRP	FAIL	Associate MG Operation failed to assign a LGRP node name for the MG.
21	NTCS_GWC_FLASOMG	FAIL	Associate MG Operation failed to associate the MG with a GWC.
22	NTCS_GWC_FLSBNV	FAIL	Associate MG Operation failed to update the SB and the Network View with data about the new MG.
23	NTCS_GWC_MGERROR	FAIL	Associate MG Operation failed roll back of a transaction in progress that encountered an error.
24	NTCS_GWC_INVQYMG	FAIL	Query MG Operation invalid input from client.
25	NTCS_GWC_FLQYGWCEM	FAIL	Query MG Operation failed to read the Gateway Data from the GWCEM.
26	NTCS_GWC_INVMG	FAIL	Disassociate MG Operation invalid input from client.
27	NTCS_GWC_FLRDGWDT	FAIL	Disassociate MG Operation failed to Read Gateway Data.
28	NTCS_GWC_FLRDGCD	FAIL	Disassociate MG Operation failed to read Gateway Controller Data.
29	NTCS_GWC_ABGWCEM	FAIL	Disassociate MG Operation aborted, GWCEM failed to delete the MG.
30	NTCS_GWC_INVMGOPER	FAIL	Disassociate MG Operation aborted, GWCEM rejected delete, MG has provisioned Endpoints, this is an invalid operation.
31	NTCS_GWC_FLLGRPNM	FAIL	Disassociate MG Operation failed to de-assign Lgrp Node Name.

Table 2–6 (Cont.) User Defined ASDL Exit Types

Search Pattern	User Type	Base Type	Description
32	NTCS_GWC_DELMG	FAIL	Disassociate MG Operation encountered an error after deleting the MG from the GWCEM.
33	NTCS_GWC_AUDXACOR	FAIL	Audit of XACore data used by Cs2kCfgMgr failed to complete successfully.
34	NTCS_GWC_QYXACOR	FAIL	Query XACore GWC data used by CS2KCfgMgr failed to complete successfully.
35	NTCS_GWC_QYXAIP	FAIL	Query XACore GWC data used by CS2KCfgMgr failed to complete IP not found.
36	NTCS_GWC_XACNOFD	FAIL	Query XACore GWC data not found in XAC.
37	NTCS_GWC_QRYXAC	FAIL	Query XACore GWC data failed.
38	NTCS_GWC_ALROPRMG	FAIL	Associate MG Operation MG is already provisioned.
39	NTCS_GWC_MISMAND	FAIL	One of the mandatory parameters required for assigning a MG is not present.
40	NTCS_GWC_INCORFOR	FAIL	One of the parameters used when assigning a MG does not have the correct format.
41	NTCS_GWC_XACTBFL	FAIL	The query of XaCore table site failed.
42	NTCS_GWC_XACEMPT	FAIL	The query of XaCore table site returned an empty list.
43	NTCS_GWC_UNKNWMG	FAIL	The MG name is not known.
44	NTCS_GWC_FORINCOR	FAIL	One of the parameters used does not have the correct format.
45	NTCS_GWC_MANDNTPRE	FAIL	One of the mandatory parameters required is not present.
46	NTCS_GWC_INPERR	FAIL	Other input errors.
47	NTCS_GWC_FLGWTBL	FAIL	Change MG Operation failed to access NV when reading gateway table.
48	NTCS_GWC_FLRDGWCDT	FAIL	Change MG Operation failed to access GWC-EM when reading GWC data.
49	NTCS_GWC_FLPROFDT	FAIL	Change MG Operation failed to read the Profile Data from the Network View.
50	NTCS_GWC_EXCMIN	FAIL	Change MG Operation the number of reserved terminations exceeds maximum value.

Table 2–6 (Cont.) User Defined ASDL Exit Types

Search Pattern	User Type	Base Type	Description
51	NTCS_GWC_LESSONE	FAIL	Change MG Operation the number of reserved terminations less than 1.
52	NTCS_GWC_RESLESS	FAIL	Change MG Operation the number of reserved terminations less than.
53	NTCS_GWC_GWCNOCAP	FAIL	Change MG Operation the GWC does not have capacity.
54	NTCS_GWC_NEWMGNV	FAIL	Change MG Operation failed to update the SB and the NetworkView with data about the new MG.
55	NTCS_GWC_ERRORMG	FAIL	Change MG Operation failed roll back of a transaction in progress that encountered an error.
56	NTCS_GWC_SERVRINV	FAIL	Failed SERVRINV update or could not get node name and number.
57	NTCS_GWC_FLREGIS	FAIL	Failed change to GWCEM registration.
58	NTCS_GWC_FLUPDTNV	FAIL	Failed to update NV.
59	NTCS_GWC_FLCHGGWC	FAIL	Failed RollBack of Change GWC.
60	NTCS_GWC_PREPROFL	FAIL	Associate MG Operation Preprovisioning Failed.
61	NTCS_GWC_MGPROG	FAIL	Associate MG Operation Preprovisioning is in progress.
62	NTCS_GWC_FLVMGLN	FAIL	Failed MG9K VMG line conversion.
63	NTCS_GWC_UPGRDMG	FAIL	Upgrade MG Operation progress message indication.
64	NTCS_GWC_ PREPROCHGMG	FAIL	Change MG Operation Preprovisioning Failed (i.e failed to add/delete line cards).
65	NTCS_GWC_DELGWCEM	FAIL	The GWC is not deletable from GWCEM (i.e provisioned data associated with it).
66	NTCS_GWC_DELMGCEM	FAIL	The MG is not deletable from GWCEM (i.e provisioned data associated with it.

UserExitType.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<serviceModel xmlns="http://www.metasolv.com/ServiceActivation/2003/ServiceModel">
     <userDefinedExitType>
          <neDescriptor>
```

```
                <softwareLoad>SN06<//softwareLoad>
                <technology>GWC<//technology>
                <neVendor>NT<//neVendor>
           <//neDescriptor>
           <searchPattern>LOOPBACK ><//searchPattern>
           <userType>NTCS_GWC_SUCCEED<//userType>
           <baseType>SUCCEED<//baseType>
           <description>The input command succeeded in LoopBack
mode.<//description>
     <//userDefinedExitType>
     ..................
     <//serviceModel >
```

3

Service Definition

The NORTEL_CS2K_SN06_NODES_PROVISIONING cartridge contains a set of CSDLs that map to one or more ASDL commands. You can also create additional CSDLs that map to existing and newly-created ASDLs. An upstream system can assemble any of these CSDL commands onto a work order for provisioning.

This chapter presents detailed information about the CSDL parameters in this cartridge. The following table lists and describes the type of parameter information that is included.

Table 3–1 ASDL Parameter Information

Item	Description
Parameter Name	Identifies the parameter that is configured for the stated service.
Description	Describes the parameter.
Range	Describes or lists the range of values that can be used to satisfy this parameter.
Default Value	Configures a default value for the parameter so that it is not mandatory for the upstream system to provide a value.
Type	Indicates one of the following parameter types: ■ S - Scalar, specifies the parameter label transmitted on the ASDL command. Scalar parameters are conventional name-value pair parameters. ■ C - Compound, specifies the base name of the compound parameter transmitted on the ASDL command. A compound parameter contains structures or arrays of information that are represented by a particular structure name or compound parameter name. Each compound parameter can contain a large number of elements. If you use compound parameters, you only require a single entry in the ASAP translation tables to call the compound parameter and all its associated parameter elements. ■ I - Indexed, identifies a parameter that contains a sequential numerical index value to tell the SARM that it should execute the same operation (for example, an ASDL command) for all occurrences of that index. Consequently, if there are several options on a particular CSDL command (OPT1, OPT2, OPT3, etc.), you can specify the OPT parameter as an indexed parameter. When you specify the OPT parameter as an indexed parameter, the SARM generates several occurrences of that same ASDL command and each command has a different value for the option being transmitted to the NEP. For more information on parameter types, refer to the *ASAP Developer's Guide*.

Table 3–1 (Cont.) ASDL Parameter Information

Item	Description
Class	Indicates one of the following parameter classifications: ■ R - Required scalar parameter ■ O - Optional scalar parameter ■ C - Required compound parameter ■ N - Optional compound parameter ■ M - Mandatory indexed parameter ■ I - Optional indexed parameter ■ S - Parameter count

For a detailed description of the Required and Optional parameter classifications, refer to the *ASAP System Administrator's Guide.*

CSDL Commands

This cartridge provides the following CSDL commands:

- C_NT-GWC_SN06_ADD_MG
- C_NT-GWC_SN06_DEL_MG
- C_NT-GWC_SN06_QRY_GWC
- C_NT-GWC_SN06_QRY_MG

C_NT-GWC_SN06_ADD_MG

The associate MG function allows an MG to be associated with a given GWC.

Table 3–2 C_NT-GWC_SN06_ADD_MG

Parameter Name	Description	Range	Default Value	Type	Class
GWCUINAME	The GWC name.	N/A	N/A	S	R
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
MGIPADDRESS	The media gateway IP address.	N/A	N/A	S	R
MGPROFILENAME	The media gateway profile name.	N/A	N/A	S	R
MGPROTOCOLPORT	The media protocol port.	N/A	N/A	S	R
MGPROTOCOLTYPE	The media gateway protocol type.	N/A	N/A	S	R
MGPROTOCOLVERSION	The media gateway protocol version.	N/A	N/A	S	R
MGUINAME	The media gateway name.	N/A	N/A	S	R
NE_ID_NT-GWC	The host NE name.	N/A	N/A	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 3–3 CSDL to ASDL Mapping

CSDL	ASDL
C_NT-GWC_SN06_ADD_MG	A_NT-GWC_SN06_ADD_MG

C_NT-GWC_SN06_DEL_MG

The disassociate MG function removes the association between an MG and a GWC.

Table 3–4 C_NT-GWC_SN06_DEL_MG

Parameter Name	Description	Range	Default Value	Type	Class
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
MGUINAME	The media gateway name.	N/A	N/A	S	R
NE_ID_NT-GWC	The host NE name.	N/A	N/A	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 3–5 CSDL to ASDL Mapping

CSDL	ASDL
C_NT-GWC_SN06_DEL_MG	A_NT-GWC_SN06_DEL_MG

C_NT-GWC_SN06_QRY_GWC

The query GWC function returns either a list of GWCs associated with a given CS2000 or a list of GWCs associated with an MG.

Table 3–6 C_NT-GWC_SN06_QRY_GWC

Parameter Name	Description	Range	Default Value	Type	Class
CSUINAME	The call server name. Lists all the GWC's in the CM CLLI space when the parameter GWCUINAME is not provided.	N/A	N/A	S	R
GWCUINAME	The media gateway name. Lists all of the details about a specific GWC when this parameter is provided.	N/A	N/A	S	O
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
NE_ID_NT-GWC	The host NE name.	N/A	N/A	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 3–7 CSDL to ASDL Mapping

CSDL	ASDL
C_NT-GWC_SN06_QRY_GWC	A_NT-GWC_SN06_QRY_GWC

C_NT-GWC_SN06_QRY_MG

The query MG function returns either a list of MGs associated with a given GWC or the data held for a given GWC.

Table 3–8 C_NT-GWC_SN06_QRY_MG

Parameter Name	Description	Range	Default Value	Type	Class
GWCUINAME	The media gateway controller name. If the MGUINAME is provided, the query returns all of the data associated with this MGUINAME and the GWC is not used.	N/A	N/A	S	R
INTERFACE	The interface type.	N/A	cs2kCfg Mgrlf	S	R
MGUINAME	The media gateway name. If this parameter is not provided, the query returns a list of all of the MGs associated with the GWC.	N/A	N/A	S	O
NE_ID_NT-GWC	The host NE name.	N/A	N/A	S	R
USN	The unique service number.	N/A	1	S	R
VERSION	The method or operation version.	N/A	1	S	R

Mapping to ASDLs

The following table illustrates the CSDL to ASDL mapping for this service.

Table 3–9 CSDL to ASDL Mapping

CSDL	ASDL
C_NT-GWC_SN06_QRY_MG	A_NT-GWC_SN06_QRY_MG

4

Configuring ASAP to Support Additional NE Instances

You can configure Oracle Communications ASAP (ASAP) to support the NTGWCSN06 - NEP configuration using the Service Activation Configuration Tool (SACT). Refer to the *ASAP System Administrator's Guide* for more information.

Extracting Source Files

Before you can access an XML file to modify it, you must extract it from the .sar file. Use the following procedure to extract source files from the sar file.

To extract source files:

1. If necessary, create a repository directory, copy the .sar file to the new directory and un-jar the sar file.
2. After you un-jar the sar file, you can access the XML files.

Loading a New XML File

When you finish modifying an XML file, you must create a new sar file, then restart the cartridge using the new file.

Configuration XML File

Below is an example of the Activation.Configuration.XML file for the NORTEL_CS2K_SN06_NODES_PROVISIONING cartridge.

```
<?xml version="1.0" encoding="UTF-8"?>
<activationConfig
xmlns="http://www.metasolv.com/ServiceActivation/2003/ActivationConfig"
xmlns:cfg="http://www.mslv.com/studio/activation/model/config"
xmlns:route="http://www.mslv.com/studio/activation/model/routing"
xmlns:sm="http://www.metasolv.com/ServiceActivation/2003/ServiceModel"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
     <connectionPool name="GWC_POOL">
          <device name="gwc_dev1">
               <environment>DEVELOPMENT</environment>
               <lineType>TELNET_CONNECTION</lineType>
          </device>
          <device name="gwc_dev2">
               <environment>DEVELOPMENT</environment>
               <lineType>TELNET_CONNECTION</lineType>
          </device>
          <device name="gwc_dev3">
```

```
                    <environment>DEVELOPMENT</environment>
                    <lineType>TELNET_CONNECTION</lineType>
               </device>
               <device name="gwc_dev4">
                    <environment>DEVELOPMENT</environment>
                    <lineType>TELNET_CONNECTION</lineType>
               </device>
               <device name="gwc_dev5">
                    <environment>DEVELOPMENT</environment>
                    <lineType>TELNET_CONNECTION</lineType>
               </device>
          </connectionPool>
          <element name="NTGWCSN06">
               <vendor>NT</vendor>
               <technology>GWC</technology>
               <softwareLoad>SN06</softwareLoad>
               <nepServerName>$NEP</nepServerName>
               <primaryPool>GWC_POOL</primaryPool>
               <maximumConnections>5</maximumConnections>
               <dropTimeout>2</dropTimeout>
               <spawnThreshold>3</spawnThreshold>
               <killThreshold>2</killThreshold>
               <routingElement name="NTGWCSN06"/>
               <communicationParameter>
                    <label>HOST_IPADDR</label>
                    <value>
                         <value>127.0.0.1</value>
                    </value>
                    <description>The IP Address for the remote OSSAGATE
host</description>
                    <lineType>TELNET_CONNECTION</lineType>
               </communicationParameter>
               <communicationParameter>
                    <label>PORT</label>
                    <value>
                         <value>10023</value>
                    </value>
                    <description>Port number to connect on remote  OSSGATE
host</description>
                    <lineType>TELNET_CONNECTION</lineType>
               </communicationParameter>
               <communicationParameter>
                    <label>OPEN_TIMEOUT</label>
                    <value>
                         <value>5</value>
                    </value>
                    <description>Connection timeout (seconds)</description>
                    <lineType>TELNET_CONNECTION</lineType>
               </communicationParameter>
               <communicationParameter>
                    <label>READ_TIMEOUT</label>
                    <value>
                         <value>5</value>
                    </value>
                    <description>Read timeout (seconds)</description>
                    <lineType>TELNET_CONNECTION</lineType>
               </communicationParameter>
               <communicationParameter>
                    <label>USER</label>
                    <value>
```

```
                    <value>sam</value>
               </value>
               <description>OSSGATE User ID to login</description>
               <lineType>TELNET_CONNECTION</lineType>
          </communicationParameter>
          <communicationParameter>
               <label>PASSWORD</label>
               <value>
                    <value>sam</value>
               </value>
               <description>OSSGATE Password to login</description>
               <lineType>TELNET_CONNECTION</lineType>
          </communicationParameter>
          <communicationParameter>
               <label>PROMPT</label>
               <value>
                    <value>LOOPBACK<</value>
               </value>
               <description>Loopback Interface prompt</description>
               <lineType>TELNET_CONNECTION</lineType>
          </communicationParameter>
     </element>
</activationConfig>
```