

**Oracle Communications® ASAP™ Cartridge 1.0
GA Release for RIM BlackBerry (SOAP I/F) 1.7**

RIM BlackBerry 1.7 (SOAP I/F) Cartridge Guide

Fifth Edition
July 2008

ORACLE®

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Cartridge Overview

ASAP cartridges are discrete software components that are developed for the ASAP product. An ASAP cartridge offers specific domain behavior on top of the core ASAP software, and provides the configuration that supports a set of services on a network element (NE).

An ASAP cartridge is not a stand-alone component, but operates in conjunction with the ASAP core product. ASAP cartridges offer the following benefits:

- ◆ **Reduced Time to Market** - time to market of new services is reduced through simplified development, implementation, and extension of cartridges on customer sites.
- ◆ **Extendable** - cartridges can be extended to include additional services and components that deliver business value, without requiring changes to the original cartridge.
- ◆ **Simplified Effort** - the effort and technical knowledge that is required to perform customizations is reduced.
- ◆ **Ease of Installation** - cartridges can be installed into an ASAP environment without interfering with the existing install base.

An ASAP cartridge can be used to configure ASAP to provision the following:

- ◆ NEs from a specific vendor, such as Nortel or Lucent.
- ◆ Technologies, such as Asynchronous Transfer Mode (ATM) and Frame Relay switches, or Internet Protocol (IP) routers.
- ◆ Services that are supported on the NE, such as ATM, IP Virtual Private Networks (VPN), Wireless, or Optical.



Cartridges are designed for a specific technology, software load, and service.

An ASAP cartridge supports a particular set of services on an NE. These services are independent of customer-specific service definitions. Professional Services or systems integrators can perform extensions to the cartridge to support customer-specific requirements.

Cartridge content

An ASAP cartridge contains the following:

- ◆ Sample NE configuration
- ◆ A set of scripts, such as State Tables or Java methods

- ◆ A set of atomic actions in the form of Atomic Service Description Layer (ASDL) commands
- ◆ A set of Common Service Description Layer (CSDL) commands that form meaningful services
- ◆ Sample work orders
- ◆ Installation scripts

Prerequisites

System integrators such as managers, designers, programmers, and testers who are responsible for the adaptation and integration of ASAP-based solutions should use this manual as a reference. It assumes that readers possess the following skills:

- ◆ A knowledge of ASAP programming concepts
- ◆ A good working knowledge of the UNIX operating system
- ◆ A thorough understanding of service and network provisioning
- ◆ Familiarity with telecommunications

About this guide

This guide provides a detailed description of the RIM BlackBerry 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 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 following supporting documentation:

- ◆ **Activation documentation set**—for detailed information on the ASAP component.

The RIM BlackBerry cartridge provides the ASAP service configuration and network element (NE) interface to activate subscriber services on NE_RIM-BLACKBERRY_1-7 NEs.

Services, features, and options

This cartridge supports the following services:

Table 1: Supported services

Service	Description
Activate BlackBerry service	This service activates the BlackBerry service.
Cancel BlackBerry service	This service cancels the BlackBerry service.
Modify BlackBerry service	This service modifies the BlackBerry service.
Modify billing identifier (IMSI)	This service modifies the billing identifier.
Query BlackBerry service	This services queries the BlackBerry service.
Resume BlackBerry service	This service resumes the BlackBerry service.
Suspend BlackBerry service	This service suspends the BlackBerry service.

Hardware and software requirements

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

- ◆ Network element (NE) interface
- ◆ ASAP version

Network element (NE) interface

The following database tables in 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 4.7.2.

For more information on the operating environment of this ASAP version, refer to the ASAP version 4.7.2 Release Record.

Connecting to the NE

The cartridge uses SOAP over HTTP protocol. The messages are encoded and decoded by using Apache AXIS 1.4.1 implementation of SOAP. The client side stubs are generated by compiling the available wsdl file made public by RIM.

Related documentations

This cartridge was developed according to the following Network Element Provisioning Specifications:

- ◆ XML Development Tips.doc
- ◆ BlackBerry_Provisioning_System_SOAP_Interface_Specification.doc

Installing and Testing the Cartridge

This chapter describes the following procedures related to installing and testing the cartridge:

- ◆ [Downloading the cartridge](#)
- ◆ [Installing the cartridge using scripts](#)
- ◆ [Uninstalling the cartridge using scripts](#)
- ◆ [Testing the cartridge installation](#)
- ◆ [Deployment of the cartridge using Studio](#)
- ◆ [Uninstallation and Undeployment of the cartridge using Studio](#)

Downloading the cartridge

Before you can install the cartridge, you must use the internet to download the cartridge's TAR file from Oracle's Customer Portal.

Use the following instructions to download, then unTAR the TAR file.

To download the TAR file

1. Login to Oracle MetaLink internet home page (<http://www.metalink.oracle.com>).
2. Download the cartridge patch to your workstation.

To unTAR the TAR file

1. On your workstation, create a repository directory—the naming of which is your choice.

```
mkdir <repository dir>
```

2. Copy the TAR file into the repository directory.
3. Untar RIMBlackberry_1-7_R1_0_0.<buildId>.tar.

```
tar xvf RIMBlackberry_1-7_R1_0_0.<buildId>.tar
```

The directory structure in the repository directory should look like the following illustration. (this illustration describes the minimum required structure; you can enhance this directory structure with additional directories based on your requirements and deliverables).

```
<repository_directory>  
  /README  
  /installCartridge  
  /uninstallCartridge
```

```
/RIMBlackberry_1-7.sar
```

Starting ASAP

Before installing the cartridge, ensure that ASAP is running.

To start ASAP

1. To start ASAP, execute the following script:

```
start_asap_sys -d
```

2. Ensure the ASAP Daemon (DAEM\$ENV_ID) is running by checking the ASAP status using the ASAP script “status”.
3. Check whether the WebLogic instance for this ASAP environment is running. If not, start the WebLogic instance.

The *ASAP Administration Guide* contains more information on starting ASAP, the ASAP Daemon, and WebLogic.

Installing the cartridge using scripts

Run the installation script *installCartridge* to install the cartridge. The script executes the following tasks:

- ◆ Configures the RIM BlackBerry-specific NE using the SACT.
- ◆ Deploys the RIM BlackBerry cartridge service model (only if the RIM BlackBerry service model is not yet deployed) using the Service Activation Deployment Tool (SADT).
- ◆ Copies the RIM BlackBerry-specific jar files to the ASAP environment.
- ◆ Loads the sample work orders to the SRP database.

For information on the SACT and the SADT, refer to the *ASAP Administration Guide*.

To install the cartridge

1. Run the `installCartridge` script. At the prompt, type:

```
installCartridge RIMBlackberry_1-7.sar
```

2. The script prompts you for the values of the following WebLogic login parameters:

- ◆ WebLogic Hostname
- ◆ WebLogic HTTP Port
- ◆ WebLogic Login User ID
- ◆ WebLogic Login Password

The script loads the NEP-NE configuration and the CSDL-ASDL configuration to the SARM database, and loads sample work orders to the SRP database. The script also copies the cartridge-specific jar files to the ASAP environment.

3. Copy `studio_2_6_0.jar` file to the `$ASAP_BASE/lib` directory.
4. Add `${ASAP_BASE}/lib/studio_2_6_0.jar` to the `CLASSPATH` in the `JInterpreter` file under `$ASAP_BASE/programs` directory.
5. Restart ASAP to upload the cartridge configuration into ASAP.

Uninstalling the cartridge using scripts

Run the uninstallation script *uninstallCartridge* to uninstall the RIM BlackBerry cartridge. The script executes the following tasks:

- ◆ Unconfigures RIM BlackBerry-specific NEs using the SACT.
- ◆ Undeploys the RIM BlackBerry cartridge service model (only if the RIM BlackBerry service model is already deployed) using the Service Activation Deployment Tool (SADT).
- ◆ Removes the RIM BlackBerry-specific jar files from the ASAP environment.

For more information on the SACT and the SADT, refer to the *ASAP Administration Guide*.

To uninstall the cartridge

1. Run the `uninstallCartridge` script. At the prompt, type:

```
uninstallCartridge RIMBlackberry_1-7.<timestamp>.sar
```

2. The script prompts you for the values of the following parameters:

- ◆ WebLogic Hostname
- ◆ WebLogic HTTP Port
- ◆ WebLogic Login User ID
- ◆ WebLogic Login Password

The script unloads the NEP-NE configuration and CSDL-ASDL configuration from SARM database. It also removes the cartridge specific jar files from the ASAP environment.

Testing the cartridge installation

To test this cartridge installation, you need to know about the network element (NE), services, and basic Activation configuration. You may need to perform adjustments to provision a service for a specific NE, network, or connectivity configuration.

You can test the cartridge installation using one of the following methods:

- ◆ **Loopback mode**—does not actually connect to or send commands to the NE.
- ◆ **Live mode**—connects to and sends commands to a live NE.

Configuring loopback and live mode parameters

Set the following variables to test the cartridge in loopback or live testing modes.

Loopback mode

Set the following parameter to test the cartridge in loopback mode.

Table 2: Loopback Mode Parameter Settings

Configuration Variable	Parameter Settings	Location
LOOPBACK_ON	1 (default setting)	ASAP.cfg

Live mode

Set the following parameter to test the cartridge in live mode.

Table 3: Live Mode Parameter Settings

Configuration Variable	Parameter Settings	Location
LOOPBACK_ON	0	ASAP.cfg

Communication parameters

The following are the list of parameters for the sample NE configuration XML used by SACT.

Table 4: Communication parameters

param_label	param_value	param_desc
BB_USER	testuser	User name
BB_PASSWORD	testpassword	Password
BB_URL	https://provisioning.etr.blackberry.net/webservices/Provisioning	Web Service URL
PROXY_HOST	http-gw.fwall.telstra.com.au	Proxy remote host
PROXY_PORT	80	Proxy port
PROXY_TUNNELING_ENABLED	true	Flag for proxy tunneling
PROXY_AUTH_TYPE	BASIC	Proxy Authentication Type
PROXY_USER	ACCOUNT-01_UserID	Proxy user
PROXY_PASSWORD	password	Proxy Password
RESPONSELOG	true	Enable or disable the response logging

Modifying NE_RIM-BLACKBERRY_1-7.xml

Use the following procedure to modify NE_RIM-BLACKBERRY_1-7.xml.

To modify NE_RIM-BLACKBERRY_1-7.xml

1. Create a new source directory. You can give this directory any appropriate, meaningful name you want to.

```
mkdir <new_source_directory>
```

2. Copy RIMBlackberry_1-7.sar to this new source directory.

```
cp RIMBlackberry_1-7.sar ./<new_source_directory>
```

3. Change directory to <new_source_directory>.

```
cd <new_source_directory>
```

4. Un-jar RIMBlackberry_1-7.sar. This extracts the contents of the sar file.

```
jar xvf RIMBlackberry_1-7.sar
```

5. Edit <new_source_directory> NE_RIM-BLACKBERRY_1-7.xml in with the appropriate changes.

6. Create a new sar file at the <new_source_directory> level.

```
CreateSar $PWD
```

7. Uninstall the cartridge using RIMBlackberry_1-7.sar. (That is, use the original sar file that you copied in [Step 2](#) above—see “[Uninstalling the cartridge using scripts](#)” on [page 7](#) for uninstallation instructions).

8. After you uninstall the cartridge, rename the sar file, so you have a backup copy of it.

9. Copy the new sar file from <new_source_directory>.

10. Reinstall the cartridge (see “[Installing the cartridge using scripts](#)” on [page 7](#) for installation instructions).

Testing the installation

The following procedure describes the steps required to test the cartridge installation in loopback mode. We recommend that you perform the initial cartridge installation test in loopback mode.

To test in loopback mode

1. Stop ASAP by typing the following command at the UNIX prompt:

```
stop_asap_sys -d
```

2. Ensure loop back mode is on. See “[Loopback mode](#)” on [page 8](#) for a description of how to set the loop back parameter to “On”.

3. Start ASAP by typing:

```
start_asap_sys -d
```

4. Send the sample work orders through the SRP Emulator by typing:

```
run_suite $SRP <ctrl_password> <suite name>
```

You can locate the suite names by typing:

```
grep SUITE * | grep -v END
```

A list of all available suites appears.

For more information on the SRP Emulator, refer to the *ASAP Administration Guide*.

5. Verify the status of the sample work orders by typing:

```
asap_utils -d 1
```

All successful work orders returns to the 104 state.

To view the sample work orders provided with this cartridge, refer to the RIM BlackBerry cartridge source.

Viewing the sample work orders

You find the sample work orders under the **SampleWorkOrders** directory in the sar file. The following procedure describes how to view the sample work orders.

To view the sample work orders

1. Create a repository directory, copy the sar file to the new directory and un-jar the sar file, as described by [Step 1](#) through [Step 4](#) in “[Modifying NE_RIM-BLACKBERRY_1-7.xml](#)” on page 9.
2. Locate and view the sample work order files.

Deployment of the cartridge using Studio

Before installing the cartridge, ensure weblogic and ASAP are started and running.

The following are the steps involved:

1. Open Studio in design perspective. Choose **Import** from the **File** menu and select **Activation Archive (SAR)** under **Studio Wizards** to import the sar file. Browse for the path to the sar file and click **Finish**.
2. Create a new **Service Activation Project**.
3. Define a new **NE Entity**, based on the **NE Template** contained in the cartridge provided by Oracle.
4. Ensure that the primary pool of the newly created NE is different from the NE template primary pool. You can modify it, if necessary.
5. Ensure that the test work order provided with the cartridge targets the newly defined NE. If not, then modify the test work orders file(s).

6. Create a new **Activation Environment Project** from the **Studio** menu. (Use Studio help for more information).
7. Create **Activation Environment** inside the **Activation Environment Project** and configure the **Connection Details** tab with your Environment ID, Activation version and weblogic data.
8. Connect to your environment using the **Connect** button.
9. Select the **Cartridge** tab of the **Activation Environment** and click **Add** to add your projects to the environment. The cartridge and the newly created **Service Activation** should appear in the **Cartridges** list.
10. Deploy the **NetworkActivation** (NA) cartridge provided by Oracle. (No NE information is to be deployed with this cartridge, therefore it isn't necessary to deploy the **NEP map** info).
11. Deploy the **Service Activation** (SA) project as follows:
 - On the **Cartridge** tab, select the necessary SA cartridge and press the **Deploy** button.
 - Select the **NEP Map** tab of the **Activation Environment**. Choose the necessary **NEP** server from the drop-down box of the **Network Element Processors**. (Use Studio help for more information).
 - Select the SA cartridge from the **Network Element Processor Map** and click the **Deploy** button.
12. Verify the **SADT** console to confirm the installation.
13. Go to ASAP environment.
14. Copy `studio_2_6_0.jar` file to the `$ASAP_BASE/lib` directory.
15. Add `${ASAP_BASE}/lib/studio_2_6_0.jar` to the CLASSPATH in the JInterpreter file under `$ASAP_BASE/programs` directory.
16. Restart **ASAP** in order to start working with the cartridge.

Uninstallation and Undeployment of the cartridge using Studio

The following are the steps involved:

1. Connect to your environment using the **Connect** button.
2. Select the necessary cartridge from the **Environment Cartridge** list in Studio and click the **Undeploy** button.
3. Verify the **Environment Cartridge** list. The Check Box with the name of the cartridge that is disabled should be unchecked.

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 5: 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.

Table 5: ASDL parameter information

Item	Description
Type	<p>Indicates one of the following parameter types:</p> <ul style="list-style-type: none"> ◆ 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. <p>For more information on parameter types, refer to the <i>ASAP Developer Reference</i>.</p>
Class	<p>Indicates one of the following parameter classifications:</p> <ul style="list-style-type: none"> ◆ 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 Administration Guide*.

ASDL commands

This cartridge provides the following ASDL commands:

- ◆ A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB
- ◆ A_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB
- ◆ A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB
- ◆ A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB
- ◆ A_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_VIRTUAL_DELETE_BBSERVICE
- ◆ A_RIM-BLACKBERRY_1-7_VIRTUAL_MODIFY_BBSERVICE

A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Activates the Blackberry service.

It is implemented by the following Java method:

```
com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.activate.generated.ActivateBbserviceProxy.execute
```

Table 6: A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
MSISDN	Mobile station international ISDN number.			S	O
IMEI	International mobile equipment identity.			S	O
IMSI	International mobile subscriber identity.			S	R

Table 6: A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing ID.			S	O
ICCID	Integrated circuit card ID.			S	O
ESN	Electronic subscriber number.			S	O
BILLING_COMMENT	Billing comment.			S	O
SIM_ID	SIM card ID.			S	O
SERVICE	Service name.			I	I
PIN	User PIN.			S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O

MML Commands

Activate BlackBerry service by sending a request by means of submitSync method.

This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[2]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">MSISDN</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">9056294746</data> </item> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">30237000000231</data> </item>
```

```

</items> <subEntities xsi:type="ns3:Array"
ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name
xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array"
ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type
xsi:type="xsd:string" xsi:null="true"/> </item> </body>
<version xsi:type="xsd:string">1.2</version>
<optionalTokens xmlns:ns4="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns4:Array" ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/>
<productType xsi:type="xsd:string">Blackberry</productType> <transactionType
xsi:type="xsd:string">Activate</transactionType> <transactionId
xsi:type="xsd:string">1234567890</transactionId>
<header xsi:type="ns2:ProvisionReqHeader"> <timeStamp
xsi:type="xsd:string">2002-07-16T12:12:12Z</timeStamp> <optionalTokens
xmlns:ns5="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">carrier</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header>
</request>
</ns1:submitSync> </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_ACTIVATE_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_ACTIVATE_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB

Rollback functionality for Cancel Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbservice.activaterb.generated.ActivateBbservicerbProxy.execute

Table 7: A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
OLD_MSISDN	Previous mobile station international ISDN number.			S	O
OLD_IMEI	Previous international mobile equipment identity.			S	O
IMSI	International mobile subscriber identity.			S	R
OLD_BILING_ID	Old billing ID.			S	O
OLD_ICCID	Previous integrated circuit card ID.			S	O
OLD_ESN	Previous electronic subscriber number.			S	O
OLD_BILING_COMMENT	Billing comment.			S	O
OLD_SIM_ID	Previous SIM card ID.			S	O
OLD_SERVICE	Previous service name.			I	I
OLD_PIN	Previous user PIN.			S	O
OLD_SERVICESTATUS	Service status			C	O
DATA_DELETED	Internal flag indicating that data has been deleted on the NE.	Y/y or N/n		S	O

MML Commands

See the commands for deactivate, activate and suspend

Output Parameters

Return as CSDL parameter:

A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB_UDET=<user defined exit type>

Return as info parameter:

A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB_RETURN_INFO=<NE error code>:<NE error description>

A_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Cancels the Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.cancel.generated.CancelBbserviceProxy.execute

Table 8: A_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
MSISDN	Mobile station international ISDN number.			S	O
IMSI	International mobile subscriber identity.			S	R
ICCID	Integrated circuit card ID.			S	O
SERVICE	Service name.			I	I
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
PIN	Device PIN	String(20)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O

Table 8: A_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
SIM_ID	SIM Card Id	String(20)		S	O
RETURN_DATA_PRE FIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
IMEI	International Mobile Equipment Number	String(15)		S	O

MML Commands

Cancel BlackBerry service by sending a request by means of submitSync method. This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[2]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">MSISDN</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">9056294746</data> </item> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">30237000000231</data> </item> </items> <subEntities xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array" ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType xsi:type="xsd:string">Blackberry</productType> <transactionType xsi:type="xsd:string">Cancel</transactionType> <transactionId xsi:type="xsd:string">1234567890</transactionId> <header xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://
```



```
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header> </request> </ns1:submitSync> </SOAP-
ENV:Body>
</SOAP-ENV:Envelope>
```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_CANCEL_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_CANCEL_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

Modifies the Blackberry service.

It is implemented by the Java method:

```
com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.modify.generated.ModifyB
bbserviceProxy.execute
```

Table 9: A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
MSISDN	Mobile station international ISDN number.			S	O
IMEI	International mobile equipment identity.			S	O
IMSI	International mobile subscriber identity.			S	R

Table 9: A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
ICCID	Integrated circuit card ID.			S	O
ESN	Electronic subscriber number.			S	O
BILING_COMMENT	Billing comment.			S	O
SIM_ID	SIM card ID.			S	O
PIN	User PIN.			S	O
SERVICE	Service name.			I	I
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
BILLING_ID	Billing ID.			S	O

MML Commands

Modify BlackBerry service by sending a request by means of submitSync method. This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[3]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">31037000000231</data> </item> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">MSISDN</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">4167772232</data> </item> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">ESN</name>
```

```

<optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]"
xsi:null="true"/> <data xsi:type="xsd:string">076/00269110</data> </item> </
items> <subEntities xsi:type="ns3:Array"
ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name
xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array"
ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type
xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version
xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array"
ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType
xsi:type="xsd:string">Blackberry</productType> <transactionType
xsi:type="xsd:string">Modify</transactionType> <transactionId
xsi:type="xsd:string">1234567890</transactionId> <header
xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-
16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat>
</header> </request> </ns1:submitSync> </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB

Rollback functionality for the Modify Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.modifyrb.generated.ModifyrbBbserviceProxy.execute

Table 10: A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
OLD_MSISDN	Previous mobile station international ISDN number.			S	O
OLD_IMEI	Previous international mobile equipment identity.			S	O
IMSI	Previous international mobile subscriber identity.			S	R
OLD_ICCID	Previous integrated circuit card ID.			S	O
OLD_ESN	Previous electronic subscriber number.			S	O
OLD_BILLING_COMMENT	Previous billing comment.			S	O
OLD_SIM_ID	Previous SIM card ID.			S	O
OLD_PIN	Previous user PIN.			S	O
OLD_SERVICE	Service			C	N
OLD_SERVICESTATUS	Service status			C	N
OLD_BILLING_ID	Old Billing Identifier	String(40)		S	O
DATA_MODIFIED	Internal flag indicating that data has been modified on the NE	Y/y or N/n		S	O

MML Commands

See the commands for deactivate, activate and suspend

Output Parameters

Return as CSDL parameter:

A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB_UDET=<user defined exit type>

Return as info parameter:

A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB_RETURN_INFO=<NE error code>:<NE error description>

A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE

Modifies the billing identifier (IMSI).

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.modifyimsi.generated.ModifyimsiBbserviceProxy.execute

Table 11: A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
BILLING_ID	Subscriber's billing identifier			S	R
OLD_BILLING_ID	Previous billing identifier (IMSI).			S	R
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O

MML Commands

This command will modify the billing identifier (here IMSI).

This is just a sample of SOAP request:

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance">
```

```
<soapenv:Body>
<ns1:submitSync xmlns:ns1="http://www.blackberry.com/webservices/
Provisioning" soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/
encoding/">
<provisionRequest href="#id0"/>
</ns1:submitSync>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns2="java:provision.control.ari.comm.soap" id="id0" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns2:ProvisionRequest">
<body soapenc:arrayType="ns2:ProvisionReqEntity[1]"
xsi:type="soapenc:Array">
<body href="#id1"/>
</body>
<header href="#id2"/>
<optionalTokens xsi:type="ns2:ReservedToken" xsi:nil="true"/>
<productType xsi:type="xsd:string">BlackBerry</productType>
<transactionId xsi:type="xsd:string">5</transactionId>
<transactionType xsi:type="xsd:string">Modify</transactionType>
<version xsi:type="xsd:string">1.2</version>
</multiRef>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns3="java:provision.control.ari.comm.soap" id="id2" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns3:ProvisionReqHeader">
<optionalTokens xsi:type="ns3:ReservedToken" xsi:nil="true"/>
<sender href="#id3"/>
<timeFormat xsi:type="xsd:string">CCYY-MM-DDThh:mm:ss:TZD</timeFormat>
<timeStamp xsi:type="xsd:string">2007-08-09T17:26:11.17Z</timeStamp>
</multiRef>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns4="java:provision.control.ari.comm.soap" id="id1" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns4:ProvisionReqEntity">
<items soapenc:arrayType="ns4:ProvisionDataItem[2]"
xsi:type="soapenc:Array">
<items href="#id4"/>
<items href="#id5"/>
</items>
<name xsi:type="xsd:string">subscriber</name>
<optionalTokens xsi:type="ns4:ReservedToken" xsi:nil="true"/>
<subEntities xsi:type="ns4:ProvisionReqEntity" xsi:nil="true"/>
<type xsi:type="xsd:string">RIM5810</type>
</multiRef>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns5="java:provision.control.ari.comm.soap" id="id3" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns5:ProvisionSender">
<id xsi:type="xsd:string" xsi:nil="true"/>
<loginId xsi:type="xsd:string">telstraari</loginId>
<name xsi:type="xsd:string" xsi:nil="true"/>
<optionalTokens xsi:type="ns5:ReservedToken" xsi:nil="true"/>
```

```

<password xsi:type="xsd:string">asap123</password>
</multiRef>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns6="java:provision.control.ari.comm.soap" id="id4" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns6:ProvisionDataItem">
<data xsi:type="xsd:string">505010000000052</data>
<name xsi:type="xsd:string">BillingId</name>
<optionalTokens xsi:type="ns6:ReservedToken" xsi:nil="true"/>
</multiRef>
<multiRef xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns7="java:provision.control.ari.comm.soap" id="id5" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns7:ProvisionDataItem">
<data xsi:type="xsd:string">505010000001005</data>
<name xsi:type="xsd:string">OldBillingId</name>
<optionalTokens xsi:type="ns7:ReservedToken" xsi:nil="true"/>
</multiRef>
</soapenv:Body>
</soapenv:Envelope>

```

Output Parameters

Return as CSDL parameter:

```

<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_MODIFY_BILLING_ID_BBSERVICE_UDET=<user defined exit type>

```

Return as info parameter:

```

<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_MODIFY_BILLING_ID_BBSERVICE_RETURN_INFO=<NE error code>:<NE error
description>

```

A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB

Modifies the billing identifier (IMSI) - Rollback.

It is implemented by the Java method:

```

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.modifyimsirb.generated.M
odifyimsiBbserviceRbProxy.execute

```

Table 12: A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R

Table 12: A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing Identifier.	String(40)		S	R
OLD_MSISDN	Old Mobile Station International ISDN Number.	String(20)		S	O
OLD_IMEI	Old International Mobile Equipment Number.	String(15)		S	O
OLD_BILLING_ID	Previous billing identifier (IMSI).	String(40)		S	O
OLD_BILLING_COMMENT	Old Billing Comment.	String(40)		S	O
OLD_PIN	Old Device PIN.	String(20)		S	O
OLD_ICCID	Old Integrated Circuit Card Id.	String(20)		S	O
OLD_ESN	Old Electronic Subscriber Number.	String(15)		S	O
OLD_SIM_ID	OLD_SIM Card Id.	String(20)		S	O
OLD_SERVICE	Old BlackBerry Service.	Customer specific. Example: "Prosumer", "Enterprise", "Enterprise Plus", " Internet Browsing"		C	N
OLD_SERVICE STATUS	Old service status.			C	N

MML Commands

The command will rollback a billing identifier.
See the request for modify billing identifier.

Output Parameters

Return as CSDL parameter:

A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB_UDET=<user defined exit type>

Return as info parameter:

A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICERB_RETURN_INFO=<NE error code>:<NE error description>

A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Queries the Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.query.generated.QueryBbserviceProxy.execute

Table 13: A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
MSISDN	Mobile station international ISDN number.			S	O
IMSI	International mobile subscriber identity.			S	R
ICCID	Integrated circuit card ID.			S	O
IMEI	International Mobile Equipment Number	String(15)		S	O
BILLING_ID	Billing Identifier	String(40)		S	O

Table 13: A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_COMMENT	Billing Comment	String(40)		S	O
PIN	Device PIN	String(20)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
SIM_ID	SIM Card Id	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O

MML Commands

Query BlackBerry service by sending a request by means of submitSync method. This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[1]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">310370000000231</data> </item> </items> <subEntities xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array" ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType xsi:type="xsd:string">Blackberry</productType> <transactionType xsi:type="xsd:string">Status</transactionType> <transactionId xsi:type="xsd:string">1234567890</transactionId> <header
```

```

xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-
16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header> </request> </ns1:submitSync> </SOAP-
ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_QUERY_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_QUERY_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

Return as CSDL and info parameters, all data returned by the query.

Example:

```

IMSI = 505010000001000
MSISDN = 8181818181
SERVICE1 = Enterprise
SERVICESTATUS = ACTIVATED
SERVICE2 = .....etc

```

A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB

Rollback functionality for the Query Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bb.service.queryrb.generated.QueryBbservicerbProxy.execute**Table 14: A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB**

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
IMSI	International mobile subscriber identity.			S	R
OLD_BILLING_ID	Old Billing Identifier	String(40)		S	O

MML Commands

Query BlackBerry service by sending a request by means of submitSync method. This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[1]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">31037000000231</data> </item> </items> <subEntities xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array" ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType xsi:type="xsd:string">Blackberry</productType> <transactionType xsi:type="xsd:string">Status</transactionType> <transactionId xsi:type="xsd:string">1234567890</transactionId> <header xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array" ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
```

```

xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header> </request> </ns1:submitSync> </SOAP-
ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB_UDET=<user defined exit type>

Return as info parameter:

A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB_RETURN_INFO=<NE error code>:<NE error description>

A_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Resumes the Blackberry service.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbservice.resume.generated.ResumeBbserviceProxy.execute

Table 15: A_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R
MSISDN	Mobile station international ISDN number.			S	O
IMSI	International mobile subscriber identity.			S	R
ICCID	Integrated Circuit card ID.			S	O
SERVICE	Service name.			I	I

Table 15: A_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
IMEI	International Mobile Equipment Number	String(15)		S	O
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
PIN	Device PIN	String(20)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
SIM_ID	SIM Card Id	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O

MML Commands

Resume BlackBerry service by sending a request by means of submitSync method. This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionDataItem[2]"> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">MSISDN</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">9056294746</data> </item> <item xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name> <optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <data xsi:type="xsd:string">30237000000231</data> </item> </items> <subEntities xsi:type="ns3:Array" ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array"
```

```

ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type
xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version
xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array"
ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType
xsi:type="xsd:string">Blackberry</productType> <transactionType
xsi:type="xsd:string">Suspend</transactionType> <transactionId
xsi:type="xsd:string">1234567890</transactionId> <header
xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-
16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header> </request> </ns1:submitSync> </SOAP-
ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_RESUME_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_RESUME_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

A_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Suspends the Blackberry service.

It is implemented by the Java method:

```
com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.suspend.generated.SuspendBbbserviceProxy.execute
```

Table 16: A_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Network element identifier.			S	R

Table 16: A_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MSISDN	Mobile station international ISDN number.			S	O
IMSI	International mobile subscriber identity.			S	R
ICCID	Integrated circuit card ID.			S	O
SERVICE	Service name.			I	I
IMEI	International Mobile Equipment Number	String(15)		S	O
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
PIN	Device PIN	String(20)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
SIM_ID	SIM Card Id	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O

MML Commands

Suspend BlackBerry service by sending a request by means of submitSync method.

This is just a sample of SOAP request:

```
<?xml version='1.0' encoding='UTF-8'?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <SOAP-ENV:Body> <ns1:submitSync xmlns:ns1="urn:ProvisioningRequestServer" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <request xmlns:ns2="java:provision.services.web.rpc.ejb" xsi:type="ns2:ProvisionRequest"> <body xmlns:ns3="http://
```



```

schemas.xmlsoap.org/soap/encoding/" xsi:type="ns3:Array"
ns3:arrayType="ns2:ProvisionReqEntity[1]"> <item
xsi:type="ns2:ProvisionReqEntity"> <items xsi:type="ns3:Array"
ns3:arrayType="ns2:ProvisionDataItem[2]"> <item
xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">MSISDN</name>
<optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]"
xsi:null="true"/> <data xsi:type="xsd:string">9056294746</data> </item> <item
xsi:type="ns2:ProvisionDataItem"> <name xsi:type="xsd:string">IMSI</name>
<optionalTokens xsi:type="ns3:Array" ns3:arrayType="ns2:ReservedToken[]"
xsi:null="true"/> <data xsi:type="xsd:string">30237000000231</data> </item>
</items> <subEntities xsi:type="ns3:Array"
ns3:arrayType="ns2:ProvisionReqEntity[]" xsi:null="true"/> <name
xsi:type="xsd:string">subscriber</name> <optionalTokens xsi:type="ns3:Array"
ns3:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <type
xsi:type="xsd:string" xsi:null="true"/> </item> </body> <version
xsi:type="xsd:string">1.2</version> <optionalTokens xmlns:ns4="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns4:Array"
ns4:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <productType
xsi:type="xsd:string">Blackberry</productType> <transactionType
xsi:type="xsd:string">Suspend</transactionType> <transactionId
xsi:type="xsd:string">1234567890</transactionId> <header
xsi:type="ns2:ProvisionReqHeader"> <timeStamp xsi:type="xsd:string">2002-07-
16T12:12:12Z</timeStamp> <optionalTokens xmlns:ns5="http://
schemas.xmlsoap.org/soap/encoding/" xsi:type="ns5:Array"
ns5:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <sender
xsi:type="ns2:ProvisionSender"> <password xsi:type="xsd:string">utelme</
password> <name xsi:type="xsd:string" xsi:null="true"/> <optionalTokens
xmlns:ns6="http://schemas.xmlsoap.org/soap/encoding/" xsi:type="ns6:Array"
ns6:arrayType="ns2:ReservedToken[]" xsi:null="true"/> <loginId
xsi:type="xsd:string">telus</loginId> <id xsi:type="xsd:string"
xsi:null="true"/> </sender> <timeFormat xsi:type="xsd:string">CCYY-MM-
DDThh:mm:ssTZD</timeFormat> </header> </request> </ns1:submitSync> </SOAP-
ENV:Body>
</SOAP-ENV:Envelope>

```

Output Parameters

Return as CSDL parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_SUSPEND_BBSERVICE_UDET=<user defined exit type>
```

Return as info parameter:

```
<RETURN_DATA_PREFIX>A_RIM-BLACKBERRY_1-
7_SUSPEND_BBSERVICE_RETURN_INFO=<NE error code>:<NE error description>
```

A_RIM-BLACKBERRY_1-7_VIRTUAL_DELETE_BBSERVICE

Virtual ASDL needed for rollback.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.virtual_delete.generated.Virtual_deleteBbserviceProxy.execute

Table 17: A_RIM-BLACKBERRY_1-7_VIRTUAL_DELETE_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Logical NE ID			S	R

MML Commands

None

Output Parameters

None

A_RIM-BLACKBERRY_1-7_VIRTUAL_MODIFY_BBSERVICE

Virtual ASDL needed for rollback.

It is implemented by the Java method:

com.mslv.activation.cartridge.rim.blackberry.x1_7.bbbservice.virtual_modify.generated.Virtual_modifyBbserviceProxy.execute

Table 18: A_RIM-BLACKBERRY_1-7_VIRTUAL_MODIFY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MCLI	Logical NE ID			S	R

MML Commands

None

Output Parameters

None

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 Reference and the ASAP Administration Guide.

Understanding user exit type XML files

```

...
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>DYNAMIC_SL</softwareLoad>
    <technology>DYNAMIC_VENDOR-DYNAMIC_TECH</technology>
  </neDescriptor>
  <searchPattern>SUCCESS.</searchPattern>
  <userType>U_SUCCEED</userType>
  <baseType>SUCCEED</baseType>
  <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>
  <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>
  <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>
  <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 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 chapter 3 of the ASAP Developer Reference.

User defined ASDL exit types

The following table lists the user defined ASDL exit types.

Table 19: User defined ASDL exit types

Search pattern	User_type	Base_type	Atomic Action	Description
21020	ALREADY_ACTIVE_ACT	FAIL		Warning:Entity is already active for an Activate action
21030	ALREADY_ACTIVE_RES	FAIL		Warning:Entity is already active for a Resume action
21040	ALREADY_ACTIVE_CAN	FAIL		Warning:Entity is already active for a Cancel action
21050	ALREADY_ACTIVE_SUSP	FAIL		Warning:Entity is already active for a Suspend action
21510	NO_PROV_ENTITIES	FAIL		No Provision Entities (line items) found in request
46010	NO_ACTIV_LOGIN_PERM	FAIL		No adequate permissions for login for an Activate request
46020	NO_MOD_LOGIN_PERM	FAIL		No adequate permissions for Cancel or Modify request
46030	NO_SUSP_LOGIN_PERM	FAIL		No adequate permissions for Suspend request
46040	NO_RES_LOGIN_PERM	FAIL		No adequate permissions for Resume request
46050	PROV_NOT_ALLOWED	FAIL		Not authorized to provision this handheld or subscriber
46060	NO_ASSIGN_LOGIN_PERM	FAIL		No adequate permissions for Assign request
61010	INVALID_IMSI	FAIL		Invalid Data: Invalid IMSI for carrier

Table 19: User defined ASDL exit types

Search pattern	User_type	Base_type	Atomic Action	Description
61020	MISSING_BILLING_ID	FAIL		Invalid Data: Missing Billing Identifier
61030	INSUFFICIENT_INPUT	FAIL		Invalid Data: Insufficient Input
61040	INVALID_SERV_OR_ACT	FAIL		Invalid Request: Service Inactive or Service Not Found in Database
61050	BILLING_ID_IS_ACT	FAIL		An active account/billing id already exists for the subscriber
61080	MISSING_DEVICE_INFO	FAIL		Invalid Data: Missing Device/SIM information
61090	MISSING_INPUT	FAIL		Invalid Data: Missing Input Information
61100	WRONG_DATA_LENGTH	FAIL		Data provided is outside of the acceptable length range
61110	DATA_NOT_RECOGNIZED	FAIL		Data provided is not recognized as valid
61120	WRONG_DATA_FORMAT	FAIL		Data provided does not adhere to a specified format
61130	INTERNAL_ERROR	FAIL		Internal Error: Please contact product support
61140	BILLING_ID_SUSPENDED	FAIL		A suspended account already exists for the new Billing ID
61150	BILLING_ID_INACTIVE	FAIL		A cancelled account already exists for the new Billing ID
61180	BILLING_ID_INACT_MOD	FAIL		Cannot Modify Billing Id to a value previously Deactivated

Table 19: User defined ASDL exit types

Search pattern	User_type	Base_type	Atomic Action	Description
61190	BILLING_ID_ISACT_MOD	FAIL		The new Billing Id provided is already active for Modify action
61210	OTHER_CARR_PROF	FAIL		A subscriber identifier is recognized as owned by a different carrier profile
61220	CARR_PROF_NOT_FOUND	FAIL		Carrier profile cannot be identified for request
61310	NOT_BB_PRODUCT	FAIL		Subscriber is already registered on the BlackBerry infrastructure using a non-BlackBerry product
61320	NOT_BB_CONNECT	FAIL		BlackBerry Connect is identified as the product type but the subscriber is already registered on the BlackBerry infrastructure using a BlackBerry product
61410	SERVICE_NOT_AVAILB	FAIL		Service that is not available to the customer
61420	SERVICE_EXISTS	FAIL		A similar service with the same type already exists. Use Modify
61430	MISSING_DEPENDENCY	FAIL		The service requested depends on another service that has not been provisioned
61440	SERVICE_CONFLICT	FAIL		The service requested is a duplicate or it conflicts with another service requested
61510	UNKNOWN_SYS_ERR	RETRY		Unexpected system exception

Table 19: User defined ASDL exit types

Search pattern	User_type	Base_type	Atomic Action	Description
61520	PENDING_BILLING_OPER	RETRY		System Error: Billing Operation is pending
PROV_CARTRIDGE_EXCEPTION	INTERNAL_CART_EX	FAIL		Internal Cartridge Exception
IO_EXCEPTION	JAVA_IO_EX	FAIL		Java IO Exception
ARI_PROV_EXCEPTION	ARI_PROV_EX	FAIL		Specific RIM Processing Exception
REMOTE_EXCEPTION	JAVA_REMOTE_EX	FAIL		Java Remote Exception
GEN_JAVA_EXCEPTION	GEN_JAVA_EX	FAIL		General Java Exception
21020	ALREADY_ACTIVE_ACTRB	SOFT_FAIL	A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB	Warning:Entity is already active for an Activate action-during activate rollback
21040	ALREADY_CANCEL_ACRB	SOFT_FAIL	A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB	Warning:Entity is already active for a Cancel action-during activate rollback
21020	ALREADY_ACTIVE_MODRB	SOFT_FAIL	A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB	Warning:Entity is already active for an Activate action-during modify rollback
21040	ALREADY_CANCEL_MODRB	SOFT_FAIL	A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB	Warning:Entity is already active for a Cancel action-during modify rollback
0	REQUEST_COMPLETED	SUCCEED		Request completed successfully
NO_UDET_MATCH	NO_UDET_MATCH	FAIL		No match found
61170	BILLING_ID_ACT_MOD	FAIL		Cannot Modify BillingId to a value already active

UserExitType.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<serviceModel xmlns:ude="http://www.mslv.com/studio/activation/model/
userDefinedExitType" xmlns:sm="http://www.metasolv.com/ServiceActivation/
2003/ServiceModel" xmlns="http://www.metasolv.com/ServiceActivation/2003/
ServiceModel" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <userDefinedExitType>
    <neDescriptor>
      <softwareLoad>1-7</softwareLoad>
      <technology>BLACKBERRY</technology>
      <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>21020</searchPattern>
    <userType>ALREADY_ACTIVE_ACT</userType>
    <baseType>FAIL</baseType>
    <description>Warning:Entity is already active for an Activate
action</description>
  </userDefinedExitType>
  <userDefinedExitType>
    <neDescriptor>
      <softwareLoad>1-7</softwareLoad>
      <technology>BLACKBERRY</technology>
      <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>21030</searchPattern>
    <userType>ALREADY_ACTIVE_RES</userType>
    <baseType>FAIL</baseType>
    <description>Warning:Entity is already active for a Resume action</
description>
  </userDefinedExitType>
  <userDefinedExitType>
    <neDescriptor>
      <softwareLoad>1-7</softwareLoad>
      <technology>BLACKBERRY</technology>
      <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>21040</searchPattern>
    <userType>ALREADY_ACTIVE_CAN</userType>
    <baseType>FAIL</baseType>
    <description>Warning:Entity is already active for a Cancel action</
description>
  </userDefinedExitType>
  <userDefinedExitType>
    <neDescriptor>
      <softwareLoad>1-7</softwareLoad>
      <technology>BLACKBERRY</technology>
      <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>21050</searchPattern>
    <userType>ALREADY_ACTIVE_SUSP</userType>
    <baseType>FAIL</baseType>

```

```

        <description>Warning:Entity is already active for a Suspend action</
description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>21510</searchPattern>
        <userType>NO_PROV_ENTITIES</userType>
        <baseType>FAIL</baseType>
        <description>No Provision Entities (line items) found in request</
description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46010</searchPattern>
        <userType>NO_ACTIV_LOGIN_PERM</userType>
        <baseType>FAIL</baseType>
        <description>No adequate permissions for login for an Activate
request</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46020</searchPattern>
        <userType>NO_MOD_LOGIN_PERM</userType>
        <baseType>FAIL</baseType>
        <description>No adequate permissions for Cancel or Modify
request</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46030</searchPattern>
        <userType>NO_SUSP_LOGIN_PERM</userType>
        <baseType>FAIL</baseType>
        <description>No adequate permissions for Suspend request</
description>
    </userDefinedExitType>
    <userDefinedExitType>

```

```

        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46040</searchPattern>
        <userType>NO_RES_LOGIN_PERM</userType>
        <baseType>FAIL</baseType>
        <description>No adequate permissions for Resume request</
description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46050</searchPattern>
        <userType>PROV_NOT_ALLOWED</userType>
        <baseType>FAIL</baseType>
        <description>Not authorized to provision this handheld or
subscriber</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>46060</searchPattern>
        <userType>NO_ASSIGN_LOGIN_PERM</userType>
        <baseType>FAIL</baseType>
        <description>No adequate permissions for Assign request</
description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61010</searchPattern>
        <userType>INVALID_IMSI</userType>
        <baseType>FAIL</baseType>
        <description>Invalid Data: Invalid IMSI for carrier</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>

```

```

        <searchPattern>61020</searchPattern>
        <userType>MISSING_BILLING_ID</userType>
        <baseType>FAIL</baseType>
        <description>Invalid Data: Missing Billing Identifier</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61030</searchPattern>
        <userType>INSUFFICIENT_INPUT</userType>
        <baseType>FAIL</baseType>
        <description>Invalid Data: Insufficient Input</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61040</searchPattern>
        <userType>INVALID_SERV_OR_ACT</userType>
        <baseType>FAIL</baseType>
        <description>Invalid Request: Service Inactive or Service Not Found
in Database</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61050</searchPattern>
        <userType>BILLING_ID_IS_ACT</userType>
        <baseType>FAIL</baseType>
        <description>An active account/billing id already exists for the
subscriber</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61080</searchPattern>
        <userType>MISSING_DEVICE_INFO</userType>
        <baseType>FAIL</baseType>
        <description>Invalid Data: Missing Device/SIM information</
description>
    </userDefinedExitType>

```

```

<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61090</searchPattern>
  <userType>MISSING_INPUT</userType>
  <baseType>FAIL</baseType>
  <description>Invalid Data: Missing Input Information</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61100</searchPattern>
  <userType>WRONG_DATA_LENGTH</userType>
  <baseType>FAIL</baseType>
  <description>Data provided is outside of the acceptable length range
</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61110</searchPattern>
  <userType>DATA_NOT_RECOGNIZED</userType>
  <baseType>FAIL</baseType>
  <description>Data provided is not recognized as valid</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61120</searchPattern>
  <userType>WRONG_DATA_FORMAT</userType>
  <baseType>FAIL</baseType>
  <description>Data provided does not adhere to a specified format</
description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>

```

```
<searchPattern>61130</searchPattern>
<userType>INTERNAL_ERROR</userType>
<baseType>FAIL</baseType>
<description>Internal Error: Please contact product support</
description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61140</searchPattern>
  <userType>BILLING_ID_SUSPENDED</userType>
  <baseType>FAIL</baseType>
  <description>A suspended account already exists for the new Billing
ID</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61150</searchPattern>
  <userType>BILLING_ID_INACTIVE</userType>
  <baseType>FAIL</baseType>
  <description>A cancelled account already exists for the new Billing
ID</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61180</searchPattern>
  <userType>BILLING_ID_INACT_MOD</userType>
  <baseType>FAIL</baseType>
  <description>Cannot Modify Billing Id to a value previously
Deactivated</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>61190</searchPattern>
  <userType>BILLING_ID_ISACT_MOD</userType>
  <baseType>FAIL</baseType>
```

```

        <description>The new Billing Id provided is already active for
Modify action</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61210</searchPattern>
        <userType>OTHER_CARR_PROF</userType>
        <baseType>FAIL</baseType>
        <description>A subscriber identifier is recognized as owned by a
different carrier profile</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61220</searchPattern>
        <userType>CARR_PROF_NOT_FOUND</userType>
        <baseType>FAIL</baseType>
        <description>Carrier profile cannot be identified for request</
description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61310</searchPattern>
        <userType>NOT_BB_PRODUCT</userType>
        <baseType>FAIL</baseType>
        <description>Subscriber is already registered on the BlackBerry
infrastructure using a non-BlackBerry product</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>61320</searchPattern>
        <userType>NOT_BB_CONNECT</userType>
        <baseType>FAIL</baseType>
        <description>BlackBerry Connect is identified as the product type
but the subscriber is already registered on the BlackBerry infrastructure
using a BlackBerry product</description>
    </userDefinedExitType>

```

```

    <userDefinedExitType>
      <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
      </neDescriptor>
      <searchPattern>61410</searchPattern>
      <userType>SERVICE_NOT_AVAILB</userType>
      <baseType>FAIL</baseType>
      <description>Service that is not available to the customer</
description>
    </userDefinedExitType>
    <userDefinedExitType>
      <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
      </neDescriptor>
      <searchPattern>61420</searchPattern>
      <userType>SERVICE_EXISTS</userType>
      <baseType>FAIL</baseType>
      <description>A similar service with the same type already exists.
Use Modify</description>
    </userDefinedExitType>
    <userDefinedExitType>
      <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
      </neDescriptor>
      <searchPattern>61430</searchPattern>
      <userType>MISSING_DEPENDENCY</userType>
      <baseType>FAIL</baseType>
      <description>The service requested depends on another service that
has not been provisioned</description>
    </userDefinedExitType>
    <userDefinedExitType>
      <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
      </neDescriptor>
      <searchPattern>61440</searchPattern>
      <userType>SERVICE_CONFLICT</userType>
      <baseType>FAIL</baseType>
      <description>The service requested is a duplicate or it conflicts
with another service requested</description>
    </userDefinedExitType>
    <userDefinedExitType>
      <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>

```



```

        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>61510</searchPattern>
    <userType>UNKNOWN_SYS_ERR</userType>
    <baseType>RETRY</baseType>
    <description>Unexpected system exception</description>
</userDefinedExitType>
<userDefinedExitType>
    <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>61520</searchPattern>
    <userType>PENDING_BILLING_OPER</userType>
    <baseType>RETRY</baseType>
    <description>System Error: Billing Operation is pending</
description>
</userDefinedExitType>
<userDefinedExitType>
    <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>PROV_CARTRIGE_EXCEPTION</searchPattern>
    <userType>INTERNAL_CART_EX</userType>
    <baseType>FAIL</baseType>
    <description>Internal Cartridge Exception</description>
</userDefinedExitType>
<userDefinedExitType>
    <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>IO_EXCEPTION</searchPattern>
    <userType>JAVA_IO_EX</userType>
    <baseType>FAIL</baseType>
    <description>Java IO Exception</description>
</userDefinedExitType>
<userDefinedExitType>
    <neDescriptor>
        <softwareLoad>1-7</softwareLoad>
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>ARI_PROV_EXCEPTION</searchPattern>
    <userType>ARI_PROV_EX</userType>
    <baseType>FAIL</baseType>
    <description>Specific RIM Processing Exception</description>
</userDefinedExitType>

```

```
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>REMOTE_EXCEPTION</searchPattern>
  <userType>JAVA_REMOTE_EX</userType>
  <baseType>FAIL</baseType>
  <description>Java Remote Exception</description>
</userDefinedExitType>
<userDefinedExitType>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>GEN_JAVA_EXCEPTION</searchPattern>
  <userType>GEN_JAVA_EX</userType>
  <baseType>FAIL</baseType>
  <description>General Java Exception</description>
</userDefinedExitType>
<userDefinedExitType>
  <atomicService>A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB</
atomicService>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>21020</searchPattern>
  <userType>ALREADY_ACTIVE_ACTRB</userType>
  <baseType>SOFT_FAIL</baseType>
  <description>Warning:Entity is already active for an Activate
action-during activate rollback</description>
</userDefinedExitType>
<userDefinedExitType>
  <atomicService>A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICERB</
atomicService>
  <neDescriptor>
    <softwareLoad>1-7</softwareLoad>
    <technology>BLACKBERRY</technology>
    <neVendor>RIM</neVendor>
  </neDescriptor>
  <searchPattern>21040</searchPattern>
  <userType>ALREADY_CANCEL_ACRB</userType>
  <baseType>SOFT_FAIL</baseType>
  <description>Warning:Entity is already active for a Cancel action-
during activate rollback</description>
</userDefinedExitType>
<userDefinedExitType>
```

```

        <atomicService>A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB</
atomicService>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>21020</searchPattern>
        <userType>ALREADY_ACTIVE_MODRB</userType>
        <baseType>SOFT_FAIL</baseType>
        <description>Warning:Entity is already active for an Activate
action-during modify rollback</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <atomicService>A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICERB</
atomicService>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>21040</searchPattern>
        <userType>ALREADY_CANCEL_MODRB</userType>
        <baseType>SOFT_FAIL</baseType>
        <description>Warning:Entity is already active for a Cancel action-
during modify  rollback</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>0</searchPattern>
        <userType>REQUEST_COMPLETED</userType>
        <baseType>SUCCEED</baseType>
        <description>Request completed successfully</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>
            <technology>BLACKBERRY</technology>
            <neVendor>RIM</neVendor>
        </neDescriptor>
        <searchPattern>NO_UDET_MATCH</searchPattern>
        <userType>NO_UDET_MATCH</userType>
        <baseType>FAIL</baseType>
        <description>No match found</description>
    </userDefinedExitType>
    <userDefinedExitType>
        <neDescriptor>
            <softwareLoad>1-7</softwareLoad>

```

```
        <technology>BLACKBERRY</technology>
        <neVendor>RIM</neVendor>
    </neDescriptor>
    <searchPattern>61170</searchPattern>
    <userType>BILLING_ID_ACT_MOD</userType>
    <baseType>FAIL</baseType>
    <description>Cannot Modify BillingId to a value already active</
description>
    </userDefinedExitType>
</serviceModel>
```

Service Definition

The RIM BlackBerry 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 on the CSDL parameters that we provide in this cartridge. The following table lists and describes the type of parameter information that is included.

Table 20: 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.

Table 20: ASDL parameter information

Item	Description
Type	<p>Indicates one of the following parameter types:</p> <ul style="list-style-type: none"> ◆ 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. <p>For more information on parameter types, refer to the <i>ASAP Developer Reference</i>.</p>
Class	<p>Indicates one of the following parameter classifications:</p> <ul style="list-style-type: none"> ◆ 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 Administration Guide*.

CSDL commands

This cartridge provides the following CSDL Commands:

- ◆ C_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE
- ◆ C_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

C_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Activates BlackBerry service.

Table 21: C_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_COMMENT	Billing comment.			S	O
BILLING_ID	Billing ID.			S	O
ESN	Electronic subscriber number.			S	O
ICCID	Integrated circuit card ID.			S	O
IMEI	International mobile equipment identity.			S	O
IMSI	International mobile subscriber identity.			S	R
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element identifier.			S	R
PIN	User PIN.			S	O

Table 21: C_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SERVICE++	Service name.			I	I
SIM_ID	SIM card ID.			S	O

Mapping to ASDLs

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

Table 22: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE	A_RIM-BLACKBERRY_1-7_ACTIVATE_BBSERVICE

C_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Cancels the BlackBerry service.

Table 23: C_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
ICCID	Integrated circuit card ID.			S	O
IMSI	International mobile subscriber identity.			S	R

Table 23: C_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element Identifier.			S	R
PIN	Device PIN	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SERVICE++	Service name.			I	I
SIM_ID	SIM Card Id	String(20)		S	O
IMEI	International Mobile Equipment Number	String(15)		S	O

Mapping to ASDLs

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

Table 24: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE	A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB
	A_RIM-BLACKBERRY_1-7_VIRTUAL_DELETE_BBSERVICE
	A_RIM-BLACKBERRY_1-7_CANCEL_BBSERVICE

C_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

Modifies the BlackBerry service.

Table 25: C_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILING_COMMENT	Billing comments.			S	O
ESN	Electronic subscriber number.			S	O
ICCID	Integrated circuit card ID.			S	O
IMEI	International mobile equipment identity.			S	O
IMSI	International mobile subscriber identity.			S	R
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element Identifier.			S	R
PIN	User PIN.			S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SERVICE++	Service name.			I	I
SIM_ID	SIM card ID.			S	O
BILLING_ID	Billing ID.			S	O

Mapping to ASDLs

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

Table 26: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE	A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICERB
	A_RIM-BLACKBERRY_1-7_VIRTUAL_MODIFY_BBSERVICE
	A_RIM-BLACKBERRY_1-7_MODIFY_BBSERVICE

C_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE

Modifies the billing identifier (IMSI).

Table 27: C_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Subscriber's billing identifier			S	R
NE_ID_RIM-BB	Network element identifier.			S	R
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
OLD_BILLING_ID	Previous billing identifier (IMSI).			S	R

Mapping to ASDLs

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

Table 28: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE	A_RIM-BLACKBERRY_1-7_MODIFY_BILLING_ID_BBSERVICE

C_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Queries the BlackBerry service.

Table 29: C_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
ICCID	Integrated circuit card ID.			S	O
IMEI	International Mobile Equipment Number	String(15)		S	O
IMSI	International mobile subscriber identity.			S	R
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element identifier.			S	R
PIN	Device PIN	String(20)		S	O

Table 29: C_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SIM_ID	SIM Card Id	String(20)		S	O

Mapping to ASDLs

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

Table 30: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE	A_RIM-BLACKBERRY_1-7_QUERY_BBSERVICE

C_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Resumes the BlackBerry service.

Table 31: C_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O
ESN	Electronic Subscriber Number	String(15)		S	O
ICCID	Integrated circuit card ID.			S	O
IMEI	International Mobile Equipment Number	String(15)		S	O
IMSI	International mobile subscriber identity.			S	R

Table 31: C_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element identifier.			S	R
PIN	Device PIN	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SERVICE++	Service name.			I	I
SIM_ID	SIM Card Id	String(20)		S	O

Mapping to ASDLs

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

Table 32: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE	A_RIM-BLACKBERRY_1-7_RESUME_BBSERVICE

C_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Suspends the BlackBerry service.

Table 33: C_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
BILLING_ID	Billing Identifier	String(40)		S	O
BILLING_COMMENT	Billing Comment	String(40)		S	O

Table 33: C_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Parameter Name	Description	Range	Default Value	Type	Class
ESN	Electronic Subscriber Number	String(15)		S	O
ICCID	Integrated circuit card ID.			S	O
IMEI	International Mobile Equipment Number	String(15)		S	O
IMSI	International mobile subscriber identity.			S	R
MSISDN	Mobile station international ISDN number.			S	O
NE_ID_RIM-BB	Network element identifier.			S	R
PIN	Device PIN	String(20)		S	O
RETURN_DATA_PREFIX	Token to be used to prefix data returned as CSDL and/or info parameters	Any valid String		S	O
SERVICE++	Service name.			I	I
SIM_ID	SIM Card Id	String(20)		S	O

Mapping to ASDLs

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

Table 34: CSDL to ASDL Mapping

CSDL	ASDL
C_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE	A_RIM-BLACKBERRY_1-7_SUSPEND_BBSERVICE

Configuring ASAP to Support Additional NE Instances

You can configure ASAP to support the NE_RIM-BLACKBERRY_1-7 - NEP configuration using the Service Activation Configuration Tool (SACT). Refer to the *ASAP Administration Guide* for more information.

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

```
<?xml version="1.0" encoding="UTF-8"?>
<activationConfig xmlns="http://www.metasolv.com/ServiceActivation/
  2003/ActivationConfig" xmlns:cfg="http://www.mslv.com/studio/acti-
  vation/model/config" xmlns:route="http://www.mslv.com/studio/acti-
  vation/model/routing" xmlns:sm="http://www.metasolv.com/
  ServiceActivation/2003/ServiceModel" xmlns:xsi="http://www.w3.org/
  2001/XMLSchema-instance">
  <connectionPool name="BB_POOL">
    <device name="NE_RIM-BLACKBERRY_1-7_conn_1">
      <environment>DEVELOPMENT</environment>
      <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </device>
  </connectionPool>
  <element name="NE_RIM-BLACKBERRY_1-7">
    <vendor>RIM</vendor>
    <technology>BLACKBERRY</technology>
    <softwareLoad>1-7</softwareLoad>
    <nepServerName>$NEP</nepServerName>
    <primaryPool>BB_POOL</primaryPool>
    <maximumConnections>5</maximumConnections>
    <dropTimeout>1</dropTimeout>
    <spawnThreshold>6</spawnThreshold>
    <killThreshold>3</killThreshold>
    <routingElement name="NE_RIM-BLACKBERRY_1-7"/>
    <communicationParameter>
      <label>BB_USER</label>
      <value>
        <value>testuser</value>
      </value>
      <description>User name</description>
      <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
      <label>BB_PASSWORD</label>
      <value>
        <value>testpassword</value>
      </value>
    </communicationParameter>
  </element>
</activationConfig>
```

```

        </value>
        <description>Password</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>BB_URL</label>
        <value>
            <value>https://provisioning.etr.blackberry.net/
                webservices/Provisioning</value>
        </value>
        <description>Web Service URL</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_HOST</label>
        <value>
            <value>http-gw.fwall.telstra.com.au</value>
        </value>
        <description>Proxy remote host</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_PORT</label>
        <value>
            <value>80</value>
        </value>
        <description>Proxy port</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_TUNNELING_ENABLED</label>
        <value>
            <value>>true</value>
        </value>
        <description>Flag for proxy tunneling</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_AUTH_TYPE</label>
        <value>
            <value>BASIC</value>
        </value>
        <description>Proxy Authentication Type</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_USER</label>
        <value>
            <value>ACCOUNT-01_UserID</value>
        </value>
        <description>Proxy user</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
    <communicationParameter>
        <label>PROXY_PASSWORD</label>
        <value>
            <value>password</value>

```

```
        </value>
        <description>Proxy Password</description>
        <lineType>GENERIC_MESSAGE_BASED_CONNECTION</lineType>
    </communicationParameter>
</element>
</activationConfig>
```

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. 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.

Follow the instructions in [“Testing the installation”](#) on page 10, for directions on how to load a new XML file.

