

Oracle® Communications Convergent Charging Controller USSD Gateway User's Guide



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About This Content

The scope of this document includes all functionality a user must know in order to effectively operate the USSD GW application. It does not include detailed design of the service.

Audience

This guide is written primarily for USSD GW System Administrators. However, the overview sections of the document may be useful to anyone requiring an introduction to the application. Although there are no prerequisites for using this guide, familiarity with the target platform would be an advantage. This manual describes system tasks that should only be carried out by suitably trained operators.

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Related Resources

The following documents are related to this document:

- *USSD GW Technical Guide*
- *SMS User's Guide*
- *SMS Technical Guide*
- *CPE User's Guide*
- *SLEE Technical Guide*

Conventions

The following text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

System Overview

Introduction

Purpose

This chapter describes the USSD Gateway and the basic functionality of the system.

What is USSD Gateway?

Introduction

The USSD GW provides the following functions:

- interaction using USSD messages between the subscriber's handset and the platform:
 - processing fast access, single string (typeahead) requests
 - presenting information to mobile users using USSD messages
 - complex interaction through navigation of menus based on user input (interactive USSD)
- IMSI Management:
 - different services can be configured for different IMSI prefixes
 - barring by IMSI or IMSI prefix
 - logging forbidden attempts to use the service
 - tracing for all calls from an IMSI or IMSI prefix
 - CDR Viewing screen provides full information about a call and provides EDR searching support for both USSD phase 1 / MAP1 and USSD phase 2 / MAP2, and roaming USSD Session Control
 - separate control plans for charging and call monitoring
 - with Location Capabilities Pack, session can be initiated directly back to a roaming subscriber.

Control plans

Advanced Control Services (ACS) and the ACS Control Plan Editor (CPE) provide GUI tools to create control plans for USSD-based services. You can use a rich suite of feature nodes in USSD control plans, which enable decision making, interactive dialogue and more.

For more information on managing control plans, see *CPE User's Guide*. For more information about the USSD GW feature nodes, see *Feature Nodes Reference Guide*.

UIS and UPC

USSD GW is provided in two main parts:

- UIS
- UPC

USSD Interactive Services Gateway

The USSD Interactive Services Gateway (UIS) enables operators to provide interactive menu-based portal services to end users.

UIS translates between the network USSD messages received from handsets to the INAP messages used to communicate with ACS. UIS also determines the service that should handle in the incoming service initiation request.

UIS enables operators to provide a range of services using USSD messages from (and to) a subscriber's handset. Interaction is configured using ACS control plans. UIS can also process fast access, single-string requests to trigger platform functionality, including:

- Subscriber account detail reports (with CCS)
- Voucher recharges (with CCS), and
- USSD Roaming call back.

USSD Gateway Portal Service

USSD GW's USSD Portal Service (UPC) is an optional part of USSD GW that provides extended interactivity through the UPC Portal Screens and USSD GW feature nodes.

The *UPC Portal Screens* are used to extend the interactive USSD menus created using the UIS screens (for example by providing menu branching).

Handset integration

USSD GW uses the USSD protocol as defined by GSM phase 1 & 2. This means the majority of subscribers can use the menus without needing to upgrade their handsets.

This approach is an alternative delivery mechanism to WAP, as WAP support is still limited to middle- and higher-tier handsets.

Triggering to different services

Using the USSD GW SMS screens, you can configure USSD GW to trigger USSD messages containing different trigger prefixes to different services. Each trigger corresponds to a different service in ACS.

This table shows an example of setting up calls from different prefixes to trigger different ACS services.

1. In the USSD Gateway Base Configuration Screens, *Trigger Prefix* tab, configure two records:
 - Trigger1 has a prefix of *123*.
 - Trigger2 has a prefix of *124*.

2. In the *USSD Gateway Service Configuration Screen* , configure two records:
 - ServiceTrigger1 uses Trigger1 and has a Dest Service Key of 123.
 - ServiceTrigger2 uses Trigger2 and has a Dest Service Key of 124.
3. In *SLEE.cfg*, ensure there are SERVICE and SERVICEKEY entries for both service keys.

Example:

```
SERVICEKEY=INTEGER 123 CallBack
SERVICEKEY=INTEGER 124 CollectCall
SERVICE=CallBack 1 slee_acs CallBack
SERVICE=CollectCall 1 slee_acs CollectCall
APPLICATION=slee_acs slee_acs /IN/service_packages/ACS/bin/ 1 1
```

4. In *acs.conf*, ensure there are ServiceEntry lines for each service key.

Example:

```
acsChassis
  ServiceEntry (CallBack,ccsSvcLibrary.so)
  ServiceEntry (CollectCall,ccsSvcLibrary.so)
```

Notes:

- These ServiceEntry lines do not show the source selection configuration which would be expected for a CallBack or CollectCall service. For more information about source selection, see *ACS Technical Guide*.
- For more information about how the service entries are processed by CCS, see *CCS User's Guide*, Capabilities tab.

Callback

Introduction

USSD GW can be used to enable USSD message-initiated call back. There are a number of ways this can be configured, but the main elements are:

1. subscriber initiates the call back using a USSD message
2. the system initiates the A leg of the call, then
3. the system completes the call by initiating the B leg.

Callback initiation

The subscriber can initiate a callback using:

- a single string which is parsed by the ussdgw process, or
- an initial message followed by interaction defined in a control plan.

A leg

A-leg call initiation is done from a control plan using ACS's Call Initiation feature node. The Call Initiation node attempts to establish the A leg of the call by:

- arming the switch to inform the platform when the A party answers the call (by sending an RRBCSM (oAnswer)), and

- sending an Initiate Call Attempt (ICA) to the switch (the switch then sets up the call).

Note: The Call Initiation node can initiate a call with any destination number using any profile block or a hard coded value. The A leg is selected using the Call Initiation node's configuration.

Because the A leg setup is done in a control plan, any function which is available in the control plan can be used, including:

- checking subscriber's account state or balance, and
- normalising the calling party number.

After Call Initiation node is called, initiating control plan continues when the A leg has answered and the IDP been sent. Further processing should continue in the new call generated by the IDP.

For more information about the Call Initiation feature node, see *Feature Nodes Reference Guide*.

B leg

When the A party answers, the switch returns an ERBCSM (oAnswer) to the control plan and a new forked control plan starts. The new call can use any control plan functionality, including:

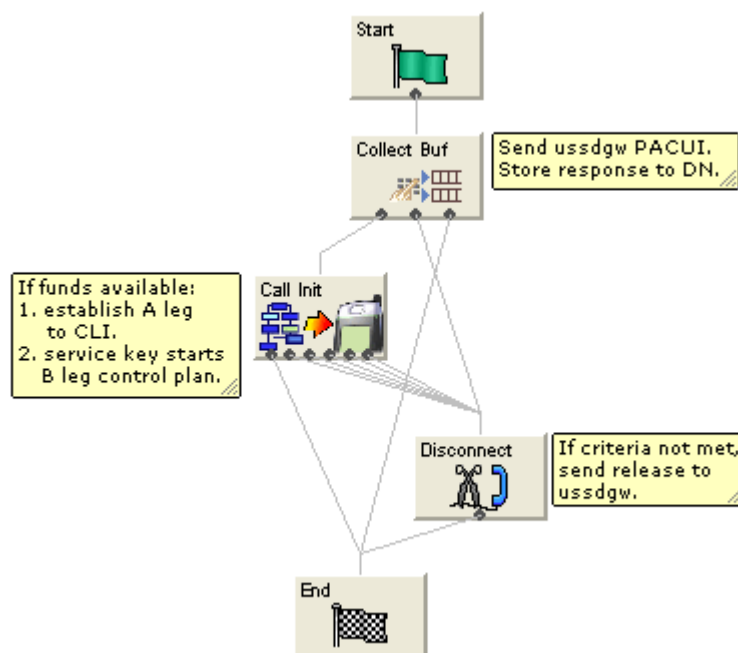
- monitoring the new call, and
- using a retrieved details (including MSRN) for charging.

The new forked call is responsible for connecting to the B leg (for example, by using an AT or a UATB node).

Control plan example

Here is an example of a control plan which provides a very simple call back based on a fast-access USSD string.

Note: This control plan only shows the call back functionality. To complete any validation or billing functions, additional configuration will be required.

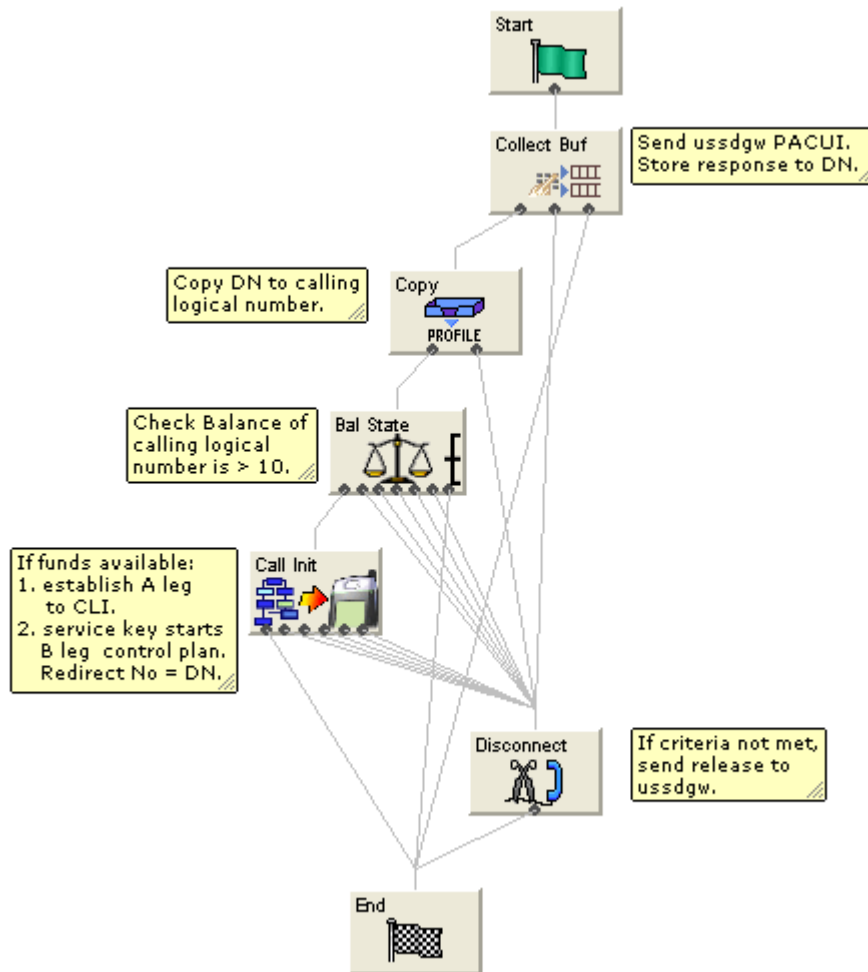


The Call Initiation node will start a simple control plan which connects the A leg based on the CLI. A second control plan is started when the A leg answers and a new IDP arrives at `slee_acs` with the service key from the Call Initiation node. The second control plan connects the B leg normally (for example by using an Attempt Terminate node).

For information about the message flows produced by this control plan, see *USSD GW Technical Guide*.

Collect call back example

Here is an example of a control plan which could be used to set up a collect call, including checking the B party balance before the A leg is established.



Handset Interaction

Introduction

Menus are created by presenting information to mobile users using USSD messages. The user navigates the menus by selecting options and sending back USSD messages (interactive USSD). Service can send specific messages for different services statuses.

Menus can be set up quickly using wizards. Menus can come from a number of sources, including ACS and CPE control plans. Advanced Control Services (ACS) and the ACS Control

Plan Editor (CPE) provide GUI tools which enable the user to use a rich suite of Feature Nodes to define menus which enable decision making, interactive dialogue and more.

Language selection

Users can select the language they want to use for the call from a list of available languages which is defined by the operator.

Status messages

USSD GW can send status messages to a handset when:

- a subscriber's session is ended by the gateway (session cut off).
- a session is put in suspended mode (reconnect) (except when the handset is entering MAP 1 disconnect mode)

Notes:

- If there is no other status cause when the session ends, the display message will have a status cause that maps to "session ending".
- When a session is suspended, the last display must be preserved otherwise it will always be overwritten with the status display.

UPS menus

In general, to use the concept of menu IDs within ACS, menu sets are provided which allow menus to be grouped together in a logical block that may represent a service or a type of service.

- USSD GW feature nodes control extended interaction (including menu branching) and other specific functions.
- Menu sets enable menus to be grouped in logical blocks.

Performance Reports

Description

Performance Reports are generated by the USSD GW application on the SCP. They are single line events that are only output as NOTICE-type Alarm messages.

These reports are designed to have minimal impact on the performance of the SCP. This includes the ability for the output of these reports to be disabled or only activated for specific USSD Trigger Prefixes.

Report timing

The report must be consistently aligned with the system clock on the SLC. To achieve this, only an integer value that can be computed to be a factor of 60 or 3600, must be used.

Example: 30 or 300

See *Example values* for a list of allowed values that can be specified to accurately align reports generation to the SLC system clock.

Warning: A warning message will be displayed if a value NOT divisible by 60 or 3600 is entered. This means the report is not aligned to the system clock and hence reports cannot be generated at fixed intervals.

Example values

This table highlights a list of example values for the Performance Report Period field on the Trigger Prefix tab and the corresponding time interval they will produce.

Value	Interval
30	30 seconds
60	1 minute
300	5 minutes
900	15 minutes
1800	30 minutes
3600	1 hour (use for hourly reports)

Accessing performance reports

Performance reports are generated as single-line alarm messages that can be viewed on one of the following:

- SMS in Operator Functions -> **Alarm Management Panel**
- SLC in the `ussdgw` log file

Example

Here are a few examples of Performance Report.

Example 1:

```
Feb 23 22:23:30.007958 cmnError(24758) NOTICE: USSD Performance:
Trigger Prefix '*999#' Period=11; Requests=5; Responses=5; Timeouts=0; Others=0;
Latency: Min=0.158024, Mean=0.165843, Max=0.177295
```

Example 2:

```
Feb 23 22:24:00.033720 cmnError(24758) NOTICE: USSD Performance:
Trigger Prefix '*999#' Period=30; Requests=23; Responses=22; Timeouts=0; Others=0;
Latency: Min=0.137390, Mean=0.161867, Max=0.219761
```

Example 3:

```
Feb 23 22:24:30.002919 cmnError(24758) NOTICE: USSD Performance:
Trigger Prefix '*999#' Period=30; Requests=2; Responses=3; Timeouts=0; Others=0;
Latency: Min=0.137340, Mean=0.152989, Max=0.174586
```

Example 4:

```
Feb 23 22:25:00.001234 cmnError(24758) NOTICE: USSD Performance:
Trigger Prefix '*999#' Period=30; Requests=12; Responses=12; Timeouts=1; Others=0;
Latency: Min=0.122345, Mean=0.154529, Max=0.174236
```

Result:

On the Trigger Prefix tab screen, the **Performance Report Period** is set to 30 seconds for each of the above examples. Therefore, the following timestamps are generated by the respective alarm message:

- **Example 1:** 22:23:30.007958
- **Example 2:** 22:24:00.033720
- **Example 3:** 22:24:30.002919
- **Example 4:** 22:25:00.001234

2

Getting Started

Overview

Purpose

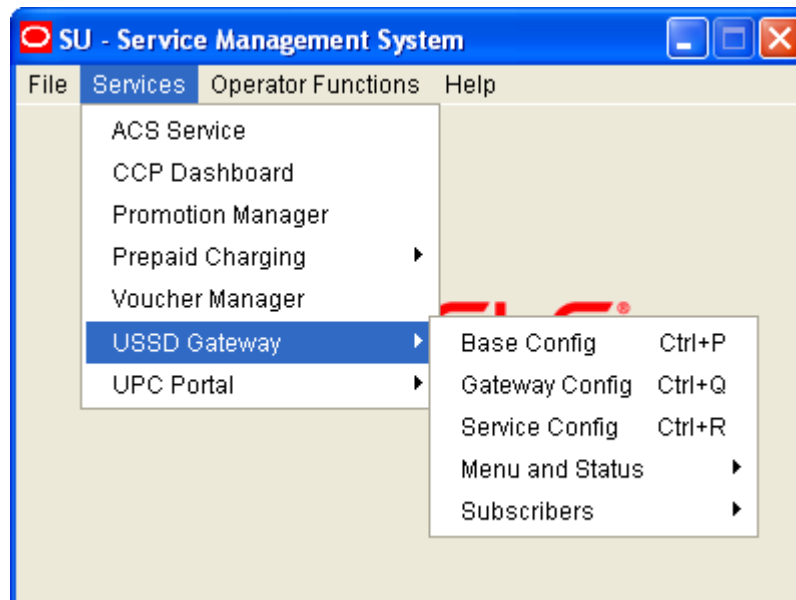
This chapter explains how to access the USSD Gateway and describes the contents of the main screens.

Accessing USSD Gateway

Procedure

Follow these steps to access the USSD Gateway screens.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway**.
3. Select the screen you want to use.

USSD Gateway menu options

This table describes the menu options accessible from the USSD Gateway menu option.

Menu	Description
------	-------------

Base Config	Provides access to the creation and maintenance screens for base USSD Gateway configuration.
Gateway Config	Provides access to the creation and maintenance screens for global USSD Gateway configuration.
Service Config	Provides access to the creation and maintenance screens for USSD Gateway services.
Menu and Status	Provides access to the creation and maintenance screens for menus and statuses of USSD Gateway.
Subscribers	Provides access to the creation and maintenance screens for subscribers.

Base Config screen

The USSD Gateway Base Configuration Screen contains four tabs:

- *Trigger Prefix*
- *Language*
- *Service Interface*
- *Operator*

Gateway Config screen

The USSD Gateway Configuration screen contains one tab:

- *Gateway Configuration*

Service Config screen

The USSD Gateway Service Configuration screen contains one tab:

- *Service Trigger*

Menu and Status screens

The Menu and Status option contains three sub menus:

- Wizard - This option contains two screens:
 - *Menu Wizard*
 - *Status Wizard*
- Config - The USSD Gateway Menu Configuration Screens contains two tabs:
 - *Menu Info*
 - *Status Info Configuration*
- Display - The USSD Gateway Menu Display Screens contains two tabs:
 - *Menu Language*
 - *Status Language*

Subscribers screens

The Subscribers menu option contains the screens:

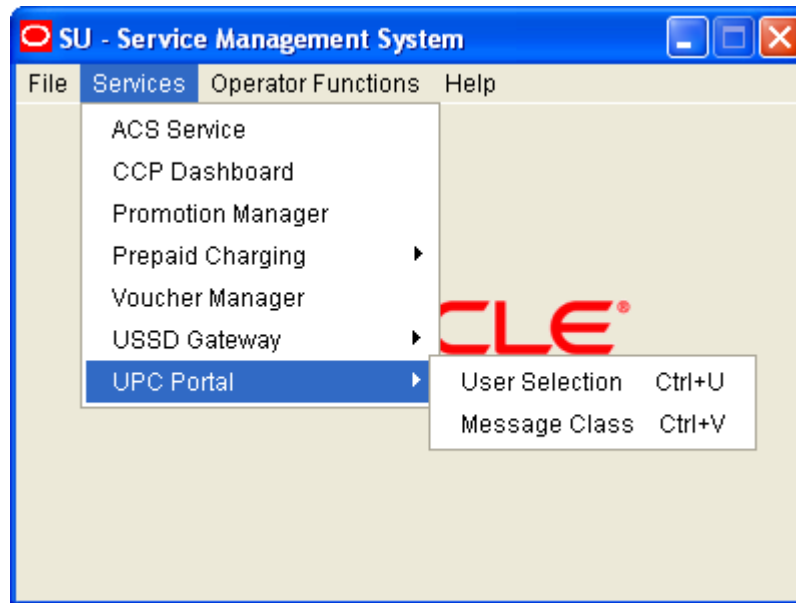
- Access Control Screen (on page 2)
- IMSI Tracing
- CDR Viewer
- UPC CDR Viewer Screen

Accessing UPC Portal

Procedure

Follow these steps to open the UPC Portal screens.

1. From the Service Management System screen, select **Services**.



2. Select **UPC Portal**.
3. Select the entry for the screen you want to use.

UPC Portal menu options

This table describes the menu options accessible from the UPC Portal menu option.

Menu	Description
User Selection	Provides access to the creation and maintenance screens for User Selection.
Message Class	Provides access to the creation and maintenance screens for Message Classes.

Refer to the chapter, *UPC Portal Screens*, for details about using these screens.

Common Buttons and Fields

On-screen buttons

This application uses a set of buttons to start specific actions within each screen.

The table below describes the function of each button.

Button	Function
Find	Opens the Find window, enabling you to find records that match the search criteria.
Save	Saves any changes to the record on the current screen to the database.
Clear	Clears all entries from the screen, enabling you to clear the screen before adding a new record.
Close	Closes the current screen and returns you to the previous screen in the screen hierarchy. Note: Any changes that have been made on-screen will not be saved (unless Save has been clicked previously).
Search	Appears on Find screens and allows you to search the database. This will trigger an Oracle Like% query that returns the first 100 records that begin with the selection criteria. For example, if you enter 123 in the Query field, the system will return records such as 123, 1234, 12345, etc.
Delete	Removes the selected record from the database.
Help	Opens context-sensitive Help containing information about the functionality available in the current screen.

Common fields

The following fields are displayed at the bottom of each screen.

Field	Description
Comment	For adding a comment for the record.
Term	The terminal that the session is using to log on.
Date	Date of last change to record.
User	User who last changed the record.

Data entry

Follow the steps below to enter a new Gateway configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Result: The new Gateway configuration is saved.

Using the Find Screens

Introduction

The find screen enables you to find records that match the selection criteria. All find screens in the system contain the following areas:

- Buttons
- Query fields
- Display grid

Accessing a find screen

To access the context sensitive find screen for a screen or tab, click **Find**.

Example find screen

Here is an example Find Screen.

Note: Each Find Screen has entry boxes for that particular find, with differing grid column headings.

Operator	Trigger	Gateway	Service IF
Base Config	Sam	Global GW config	All interfaces
USSD Operator	USSD Message	Global GW config	All interfaces
BT	USSD_BT	Global GW config	All interfaces

Editing records

Follow the steps below to edit a record.

1. In the Find screen, select the row you want to edit.

Result: The associated screen is populated with this data, which you can edit.

2. On the editing screen, make the changes to the data.
3. Click **Save**.

Result: The edited screen is saved.

Searching the database

Follow these steps to search the database.

1. Enter selection criteria in one or more query fields at the top of the screen and click **Search**.

If a field is left empty, the search retrieves all instances of that field.

Result: This triggers an Oracle Like% query that returns the first 100 records that begin with the selection criteria. These are displayed in the display table at the bottom of the screen.

Example: If you enter 123 in a query field, the system returns records such as 123, 1234, and 12345.

Note: These are the first 100 records entered in the database, and they display in no particular order. If you do not find the record you are searching for, you need to conduct a more specific search.

2. To display the record in the main screen, select the record line and click **Close**.

3

USSD Gateway Base Configuration Screens

Overview

Introduction

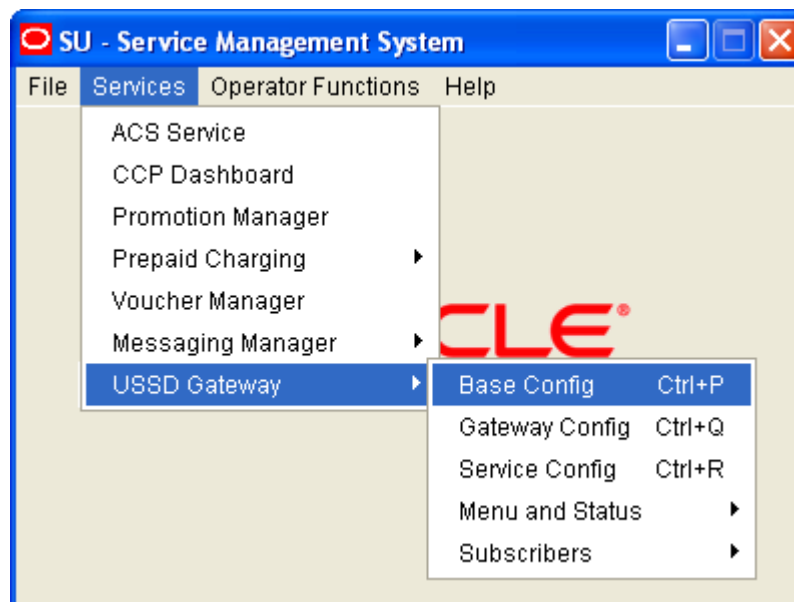
This chapter explains the contents of the Gateway Base Configuration Screens.

USSD Gateway Base Configuration Screen

Accessing USSD Gateway Base Configuration screen

Follow these steps to access the USSD Gateway Base Configuration Screens.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway > Base Config**, or use the **Ctrl+P** shortcut keys.

Trigger Prefix

Introduction

The **Trigger Prefix** configuration tab allows you to name Trigger Prefixes and set up the length of the SAN digit.

As part of the installation of USSD GW, a Trigger Prefix is created that represents “all triggers”. It is used for the barring function. This entry has a trigger prefix of “#####”.

Trigger Prefix tab

Here is an example of the **Trigger Prefix** tab.

Fields

Here is a description of the fields.

Field	Description
Name	Unique name of this Trigger Prefix. Required. Allowed values: <ul style="list-style-type: none"> Alphanumeric string up to 30 characters in length.
Prefix	The Prefix that prefixes the IMSI that can trigger a particular service interface. This prefix is used in the Service Configuration screen. Required. Allowed values: <ul style="list-style-type: none"> Alphanumeric string up to 10 characters in length.
SAN Digits	The number of digits that should be sent to the Service Interface as the Service Access Number for this session. Optional. Allowed values: <ul style="list-style-type: none"> 0 to 99.
Cdr Flag	Selecting this check box will enable EDR generation for this Trigger Prefix. Note: The global CDR Flag on the <i>Gateway Configuration</i> tab must also be checked before the USSD GW application on the SLC can begin to generate EDRs.

Field	Description
Performance Report Period	The interval (in seconds) after which the USSD GW application on the SLC will generate performance reports. Allowed values: <ul style="list-style-type: none"> An integer value that is a factor of 60 or 3600. Note: A value of zero means that no performance reports will be generated.
Comment	This field is used to add any comments required for this Trigger Prefix.
Last Change Data	Shows the following details of when this record was last modified: <ul style="list-style-type: none"> Term: For how long was the last change active. Date: Last modified/created date. User: Login ID of the user.

Note: For example text for each field, refer to the Find screen in this topic.

Data entry - trigger prefix

Follow the steps below to enter a new Trigger Prefix configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Trigger Prefix** tab.

Name	Prefix	SAN Digits	Retrieval SAN	Comment	Term	
*12	*12	4	No		192168026105	24/06 ▲
*123	*123	4	No		192168026105	19/05
*1	*1	2	No		192168026105	23/02
Tr4	#1	4	No		<UIS>	10/11
Tr5	#12	4	No		<UIS>	10/11
Tr6	#123	4	No		<UIS>	10/11
*124	*124	5	No		192168026105	10/07
Tr9	4321	23	No		192168026105	20/06
Trb	*12#	55	No		<UIS>	10/11
*171	*171		No		192001002121	11/12
*333	*333	5	No		192168026105	27/07
Tre	#333	4	No		<UIS>	10/11
mjhTrigA	*222	4	No	MJH aaa	192001002058	09/12 ▼

Using the find screen

You can search on:

- Name
- Prefix

For more information about searching and editing records, see *Using the Find Screens* .

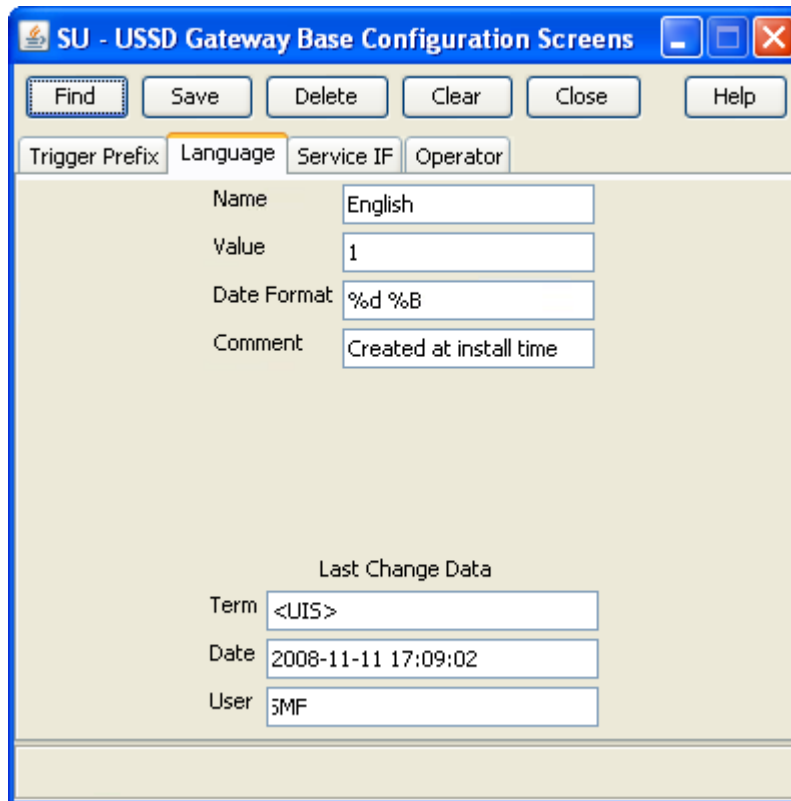
Language

Introduction

The **Language** configuration tab allows you to set up languages and give them specific values. The language value needs to correspond to the language values in the portal.

Language tab

Here is an example **Language** tab.



SU - USSD Gateway Base Configuration Screens

Find Save Delete Clear Close Help

Trigger Prefix Language Service IF Operator

Name English

Value 1

Date Format %d %B

Comment Created at install time

Last Change Data

Term <UIS>

Date 2008-11-11 17:09:02

User jMF

Fields

Here is a description of the fields.

Field	Description
Name	The language, such as English or French. Alphanumeric field up to 20 characters in length. This field is mandatory.
Value	A unique value that is viewed externally and sent to the gateway interface. Numeric field, valid values 0 – 19. This field is mandatory.
Date Format	<p>The format for date variables when put into a message. This field is mandatory. Valid format tokens are shown below. You can separate tokens with spaces, commas, dashes, slashes, or backslashes.</p> <ul style="list-style-type: none"> • %a – Three-character day of the week. For example, Mon, Tue, Wed, Thu, Fri. • %A – Full name for the day of the week. For example, Monday. • %b – Three-character month. For example, Jan. • %B – Full name for the month. For example, January. • %d – Two-digit day of the month. For example, 30. • %y – Two-digit year. For example, 15 for 2015. • %Y – Four-digit year. For example, 2015. • %m – Two-digit month. For example, 01 for January. <p>For example, to specify a date format like 04 September 2015, set Date Format to %d %B %Y, or to specify a date format like 04-09-15, set Date Format to %d-%m-%y.</p>

Notes:

- For example text for each field, refer to the Find screen in this topic.

- If ACS is being used as a service interface, the language ID fields must match the SRF ID in the ACS configuration. This means that if the SRF ID of 1 corresponds to English in the ACS configuration, the language entry on this tab must match.

For example:

```
ACS configuration
English, MSG=2, SRF=1
USSD configuration
Name: English Value: 1 Date Format=%d %B %Y
```

Data entry

Follow these steps to enter a new Language configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Language** tab.

Name	Value	Comment	Term	Date	User
Welsh	5		<UIS>	10/11/2004 22:11:11	SMF
Suffolk	8	mjh	192001002058	10/12/2004 00:31:43	SU
Russian	9		192168026105	18/05/2005 23:14:09	SU
Breton	16	Breton	192168026105	11/02/2005 22:38:17	SU
Flemish	1		192168007108	30/03/2005 22:00:13	SU
French	2		192168007108	30/03/2005 22:00:19	SU
German	3		192168007108	30/03/2005 22:00:32	SU
English	4	Created at install time	192168007215	21/10/2005 01:04:26	SU

Using the find screen

You can search on:

- Name

For more information about searching and editing records, see *Using the Find Screens* .

Service Interface

Introduction

The **Service IF** tab allows you to name the different service interfaces.

Service interfaces can define their own set of menus and status displays using the same menu ids or status cause values as other service interfaces. For example: menu id 1 could result in the display “enter birthday” when sent by service interface 1 and could result in the display “password?” when sent by service interface 2.

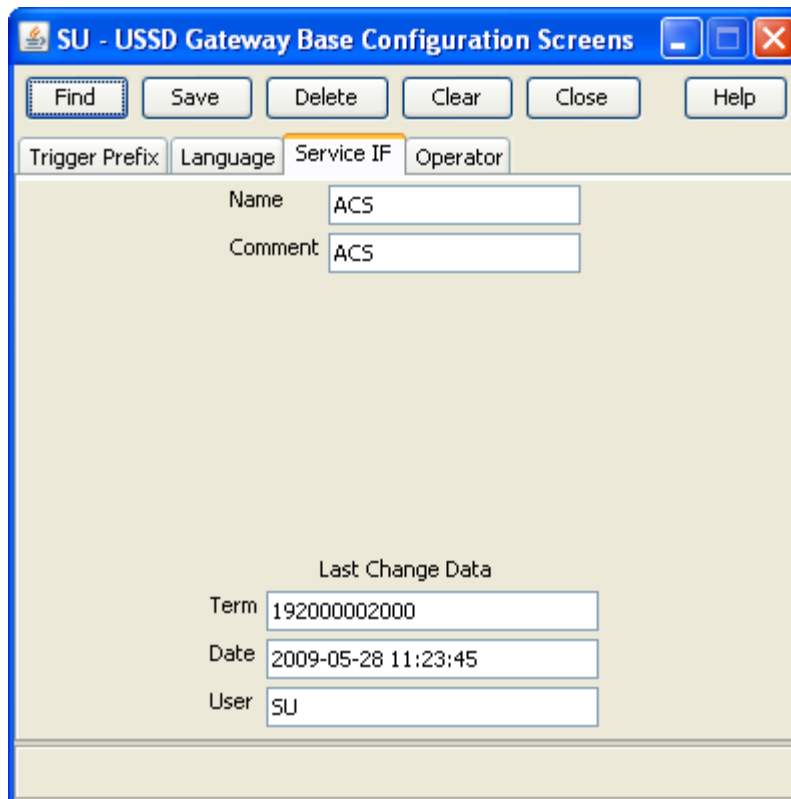
You can partition your menus to a finer resolution (for example: “ACS-mini-News”, “ACS-Weather” and so on). These are entered in the Service Interface tab. You must also configure an associated trigger prefix to uniquely identify the service (not just a service group) and both these entries must be referenced in the Service Triggers.

Two Service Interfaces are configured when USSD GW is installed:

- Gateway - used by the gateway to retrieve displays for error or/and service ending conditions that are generated within the gateway itself and not a service interface
- All interfaces - enables service interfaces to share their menus

Service IF tab

Here is an example **Service IF** tab.



The screenshot shows a web-based configuration interface titled "SU - USSD Gateway Base Configuration Screens". The interface has a blue header bar with standard window controls (minimize, maximize, close) on the right. Below the header is a toolbar with buttons for "Find", "Save", "Delete", "Clear", "Close", and "Help". A tabbed interface is visible, with the "Service IF" tab selected and highlighted in yellow. The "Service IF" tab contains the following fields:

- Name:** ACS
- Comment:** ACS
- Last Change Data:**
 - Term:** 192000002000
 - Date:** 2009-05-28 11:23:45
 - User:** SU

Fields

Here is a description of the fields.

Field	Description
Name	Unique name for this Service Interface. Required. Allowed values: <ul style="list-style-type: none">Alphanumeric field up to 20 characters in length.

Note: For example text for each field, refer to the Find screen in this topic.

Data entry

Follow these steps to enter a new Service Interface configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Service IF** tab.

Name	Comment	Term	Date	User
ACS-mini-News		192168026105	14/05/2005 21:50:07	SU
MJH News		<UIS>	10/11/2004 22:11:11	SMF
ACS	ACS	192168007215	09/01/2006 03:44:27	SU
MJH Mail		<UIS>	10/11/2004 22:11:11	SMF
MJH News2	mjh	192001002058	10/12/2004 00:32:38	SU
MJH mail	mjh	192001002058	10/12/2004 00:56:00	SU
John's itf	test	192168026105	14/01/2005 01:43:31	SU
ACS-E-Refill		192168026105	14/05/2005 21:49:52	SU
Vince 1	blah	192168027122	26/05/2005 22:34:45	SU
Mininews #111#		192168040197	04/08/2005 03:16:47	SU
ussdgv		192168007108	30/03/2005 22:00:57	SU
Mininews *111		192168007108	04/04/2005 22:51:03	SU
Gateway	Created at install time	<UIS>	30/03/2005 21:45:53	SMF
All interfaces	Created at install time	<UIS>	30/03/2005 21:45:53	SMF

Using the find screen

You can search on:

- Name

For more information about searching and editing records, see *Using the Find Screens* .

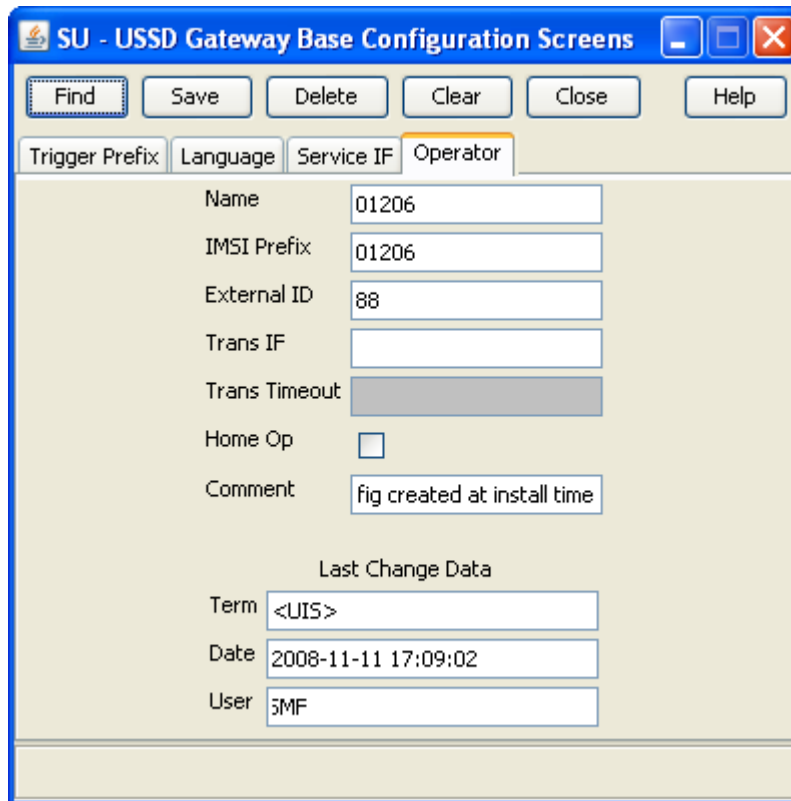
Operator

Introduction

The **Operator** tab allows you to set up different operators against different IMSI prefixes and using different IMSI to MSISDN mapping interfaces.

Operator tab

Here is an example **Operator** tab.



Fields

Here is a description of the fields.

Field	Description
Name	Unique name of the operator. Required. Allowed values: <ul style="list-style-type: none"> Alphanumeric string, up to 20 characters in length.
IMSI Prefix	Unique IMSI Prefix. Must be 5 digits. <ul style="list-style-type: none"> 3 digits for MCC - Mobile Country Code 2 digits for the MNC - Mobile Network Code
External ID	Unique External ID. Required. If a service is located on an external system this ID is used when internal TCAP messages are sent to the external system.
Trans IF	The SLEE ID of the interface which does the IMSI-MSISDN translation. Optional. For information about SLEE IDs, see <i>SLEE Technical Guide</i> .
Trans Timeout	Milliseconds ussdgw process will wait for a response to the IMSI to MSISDN translation request. Required if a Trans IF value is provided. Allowed values: <ul style="list-style-type: none"> 0 – 99
Home Op	If ticked, this operator is the home operator.

Note: For example text for each field, refer to the Find screen in this topic.

Data entry

Follow these steps to enter a new Operator configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

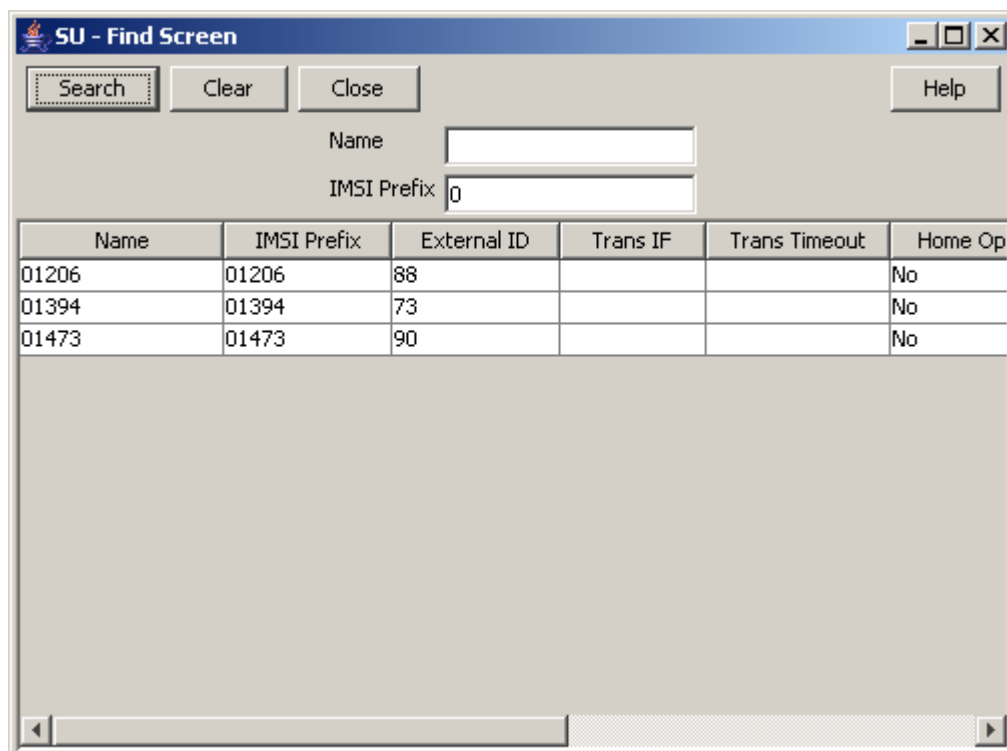
Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Operator** tab.



Name	IMSI Prefix	External ID	Trans IF	Trans Timeout	Home Op
01206	01206	88			No
01394	01394	73			No
01473	01473	90			No

Using the find screen

You can search on:

- Name
- IMSI Prefix

For more information about searching and editing records, see *Using the Find Screens* .

4

USSD Gateway Configuration Screen

Overview

Introduction

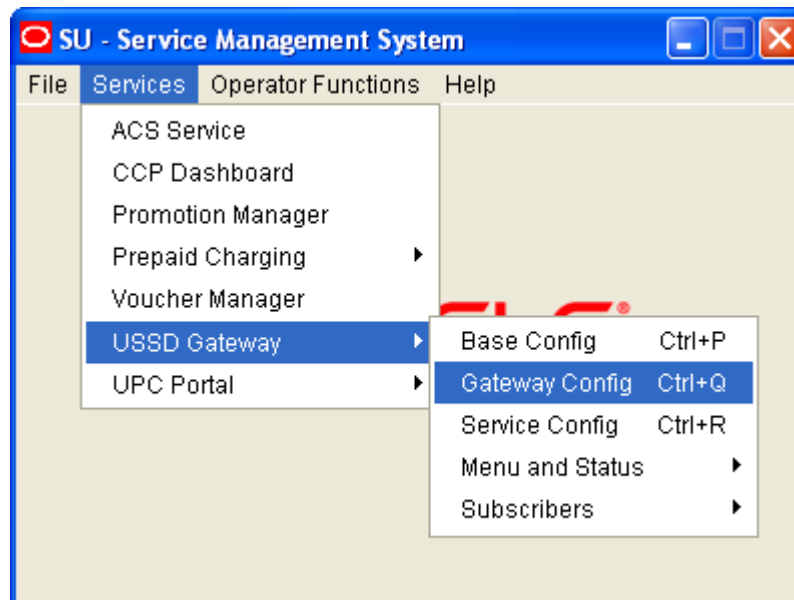
This chapter explains the contents of the USSD Gateway Configuration screen.

USSD Gateway Menu Configuration Screen

Accessing USSD Gateway Configuration screen

Follow these steps to access the USSD Gateway Configuration Screen.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway > Gateway Config**, or use the **Ctrl+Q** shortcut keys.

Gateway Configuration Screen

Introduction

The USSD Gateway Configuration Screen allows you to:

- Change the default gateway interface configuration (Global GW config)
- Add new gateway interfaces

Setting up different gateway configurations enables you to configure different gateways to have different service triggers defined. This enables the treatment of service triggers to be handled differently by different gateways.

You do not have to set up different gateway configuration for each gateway.

Important: reloading the configuration

If the USSD Gateway Configuration Screen is updated, the SLEE must be restarted for these changes to take effect.

For instructions about how to restart the SLEE, see *SLEE Technical Guide*.

Gateway Configuration tab

Here is an example **Gateway Configuration** tab.

Fields

Here is a description of the fields.

Field	Description
Name	Unique name of this gateway interface.
Language	Default language of the gateway interface when no usable user preference is available. This list is populated by the entries in the <i>Language</i> tab in the USSD Gateway Base Configuration Screen.

Field	Description
Characters	<p>Maximum number of characters to send to handset. Required.</p> <p>This is used to truncate the number of characters in the display sent to the end user to a particular number of digits.</p> <p>Allowed values:</p> <ul style="list-style-type: none"> 90 to 185
Trans Opt	<p>How the IMSI to MSISDN mapping should be performed.</p> <p>Allowed values:</p> <ul style="list-style-type: none"> Gateway default. Use the routine specified in the Trans IF field on this screen. Operator specific. The translation interface specified in the Trans IF field of the operator's Operator record will be used to perform the translation.
Trans IF	<p>SLEE ID of interface that translates the IMSI to MSISDN.</p> <p>If an id is not specified this functionality will not be performed by the gateway.</p> <p>To allow the default mapping functionality to be performed, the SLEE ID of the default interface must be specified.</p> <p>Only available if Trans Opt is set to <code>Gateway default</code>.</p>
Trans Timeout	<p>Milliseconds gateway will wait for a response to the IMSI to MSISDN translation request. Required when Trans IF is set.</p>
Inactivity Restart	<p>If set to:</p> <ul style="list-style-type: none"> OFF, the inactive timer is disabled. Each User Activity, the inactive timer is reset whenever a message is received from the handset. TC-BEGIN Rec'd, the inactive timer is reset whenever a TC-BEGIN is received from a handset.
Inactive Timer	<p>Maximum seconds to wait between messages from the mobile network before:</p> <ul style="list-style-type: none"> Returning a TC-END Setting the session to RECONNECT state <p>Optional.</p> <p>Allowed values:</p> <ul style="list-style-type: none"> 1 to 9999 0 = disabled.
Reconnect Timer	<p>Maximum seconds gateway will wait for the handset to send a message after the session has entered RECONNECT state.</p> <p>This timer is stopped if the user reconnects to the service before it expires.</p> <p>The gateway interface can determine if the user is reconnecting to the service if the handset returns the SAN of the currently active service.</p> <p>If the user reconnects, the reconnect timer will be stopped and the service session can return to its normal mode of operation. The inactive timer will be restarted.</p> <p>Required (must be 1 or above if inactive timer is not equal to 0).</p> <p>Allowed values:</p> <ul style="list-style-type: none"> 1 to 9999 0 = disabled.
MAP1 Timer	<p>Seconds gateway will wait when a MAP 1 user enters the RECONNECT state.</p> <p>This timer is stopped if the user reconnects to the service before it expires.</p> <p>A numeric field, valid values 0 to 9999 which represent time in seconds, optional field.</p>
CDR Flag	<p>If this check box is selected, CDRs will be generated.</p>
Last Resort Text	<p>This is the text the gateway will use if no other menus have been configured or defined. Alphanumeric field up to 185 characters in length.</p>

Note: For example text for each field, refer to the Find screen in this topic.

Data entry

Follow these steps to enter a new gateway configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

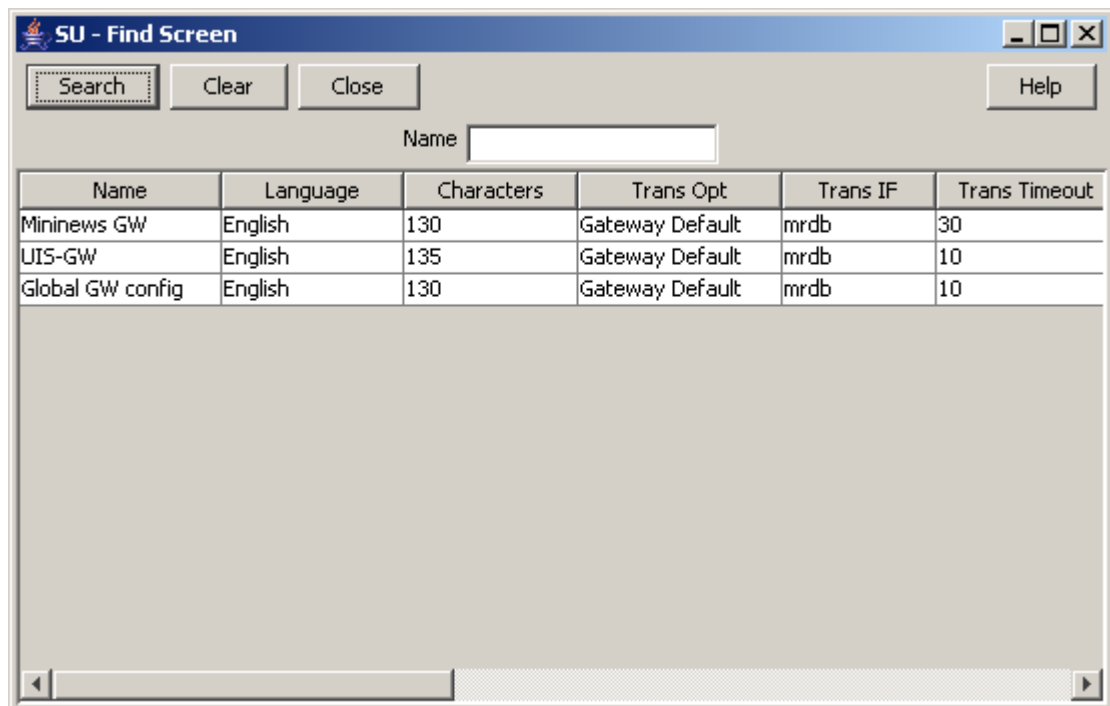
Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Gateway Configuration** tab.



Name	Language	Characters	Trans Opt	Trans IF	Trans Timeout
Mininews GW	English	130	Gateway Default	mrdb	30
UIS-GW	English	135	Gateway Default	mrdb	10
Global GW config	English	130	Gateway Default	mrdb	10

Using the find screen

You can search on:

- Name

For more information about searching and editing records, see *Using the Find Screens* .

5

USSD Gateway Service Configuration Screen

Overview

Introduction

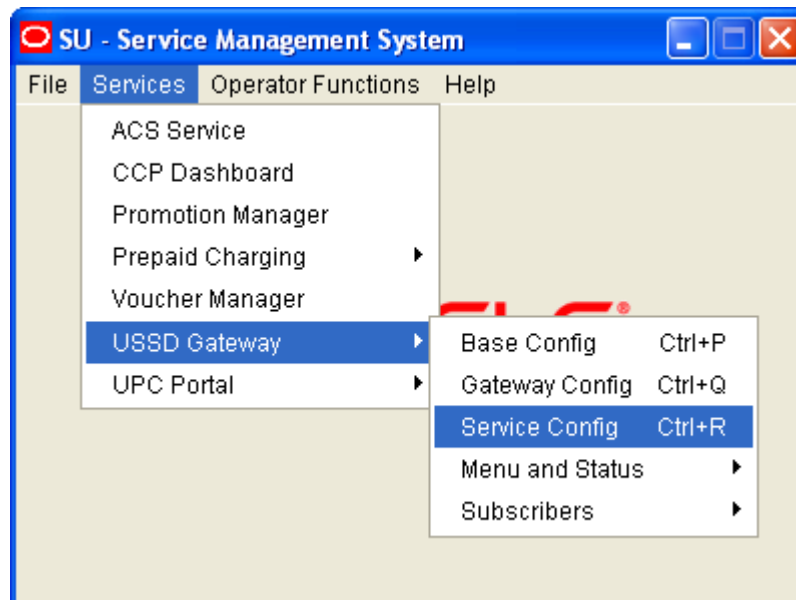
This chapter explains the contents of the USSD Gateway Service Configuration screen.

USSD Gateway Service Configuration Screen

Accessing USSD Gateway Service configuration screen

Follow these steps to access the USSD Gateway Service Configuration Screen.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway > Service Config**, or use the **Ctrl+R** shortcut keys.

Service Trigger

Introduction

The **Service Trigger** tab on this screen allows you to set up service triggers. A service trigger is a combination of operator, trigger and gateway. The same trigger can be set against different operators or different gateways giving a different service.

Service Trigger tab

Here is an example **Service Trigger** tab.

The screenshot shows a window titled "SU - USSD Gateway Service Configuration Screen" with a "Service Trigger" tab selected. The window contains several buttons at the top: Find, Save, Delete, Clear, Close, and Help. Below these are the following fields:

- Operator: 01394
- Trigger: *766
- Gateway: Global GW config
- Replacement SAN: 3535
- Proxy: (empty)
- Dest App ID: (empty)
- Dest Service Key: 101
- Cutoff Timer: 58
- SSF Timer: 56
- Service IF: ACS-E-Refill
- Send Flag: Send * and #
- Barring: Barring Disabled
- Fast Access: With Separators
- Deny Access:
- Prepaid:
- Forbid Alarm: Logged
- Comment: (empty)
- Last Change Data:
 - Term: pts/12
 - Date: 2005-07-07 11:06:52
 - User: SMF

Service Trigger fields

Here is a description of the fields on the **Service Trigger** tab.

Note: The combination of operator, trigger prefix and gateway must form a unique entry.

Field	Description
Operator	The operator this service trigger is set up for. This field is populated by the USSD Gateway Base Configuration Screen <i>Operator</i> tab.
Trigger	The trigger prefix This field is populated with the names of all the trigger prefixes created by the USSD Gateway Base Configuration Screen <i>Trigger Prefix</i> tab.
Gateway	The gateway this record belongs to. This field enables multi-Gateway configurations to be deployed across various SLCs. This type of configuration may result in different triggers being configured for the different gateway. This field is populated by the USSD <i>Gateway Configuration</i> screen.
Replacement SAN	The code that will be sent in the called party number field of the InitialDP instead of the derived service access number from the trigger prefix. Optional. If specified, between 1 to 20 hexadecimal digits. These digits will be BCD encoded.
Proxy	Proxy SLEE ID. Optional. This field should only be populated if the destination service could require a service handover (possibly resulting in a voice call initiation) as this would require the proxy to perform the handover. Allowed values: <ul style="list-style-type: none"> Alphanumeric field up to 20 characters in length.
Dest App ID	SLEE ID for the destination application. If the application is on a remote machine, this should contain the address of the local TCRelay application. Allowed values: <ul style="list-style-type: none"> Numeric field up to 10 digits in length. For more information about SLEE IDs, see <i>SLEE Technical Guide</i> . Note: This field cannot be used with the Dest Service Key field.
Dest Service Key	Service key for the destination application. This service key is placed in the InitialDP used to trigger the application. Required if Dest Service Key is not set. Allowed values: <ul style="list-style-type: none"> Alphanumeric field up to 20 characters in length.
Cutoff Timer	The amount of time after a session is started before the USSD GW will end the session and send a message to the handset (corresponds to the status of "Session cut off timer expiry"). Required. This timer cannot be reset. Allowed values: <ul style="list-style-type: none"> Numeric field up to 9 digits in length.
SSF Timer	Time to wait for a response from the service interface or portal. Required. If no response is received within this period, the session is ended and USSD GW sends the handset a message (corresponds to the status of "SSF timer expiry"). If a response is received before the timer expires, the timer is stopped. Allowed values: <ul style="list-style-type: none"> 1-999999999
Service IF	The service interface triggered by this service trigger. Dictates the menus that are required for the service. This field is populated by the <i>Service Interface</i> (on page 2) tab on the USSD Gateway Base Configuration Screen. Example: For triggers that initiate ACS-Weather control plans, this is must reference the entry in the Service IF tab that has the name of "ACS-Weather".

Field	Description
Send Flag	Whether '*' or '#' characters should be sent to the service interface for responses to PACUIs. If set to "Send '*' and '#'", the characters will be encoded as BCD 'c' and 'd' respectively. The terminating '#' character will never be used as a selection character. This field is populated at startup.
Barring	Contains the following text and database values: <ul style="list-style-type: none"> "Barring Disabled" – value of 0 "Barring IMSI" – value of 1, and "Barring MSISDN" – value of 2.
Fast Access	Indicates whether the "fast access" (also known as dial/type ahead) feature should be enabled for sessions which use this Service Trigger. Fast access causes excess characters to be stored in a buffer and be used as input to subsequent user input requests. This field is populated when USSD GW is installed. It contains the following options: <ul style="list-style-type: none"> Fast Access Disabled Always send max With Separators Always send max and current buffer With Separators and current buffer
Deny Access	Selecting this check box unconditionally bars all users from the service that meet the trigger criteria.
Prepaid	Enables service interfaces to determine whether the service uses prepaid checking or not. Allowed values: <ul style="list-style-type: none"> ticked = prepaid checking is required. clear = prepaid checking is not required.
Forbid Alarm	Specifies whether barred attempts should generate alarms. This box has two values: <ul style="list-style-type: none"> Logged Not Logged

Note: For example text for each field, refer to the Find screen in this topic.

Data entry

Follow these steps to enter a new service configuration.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

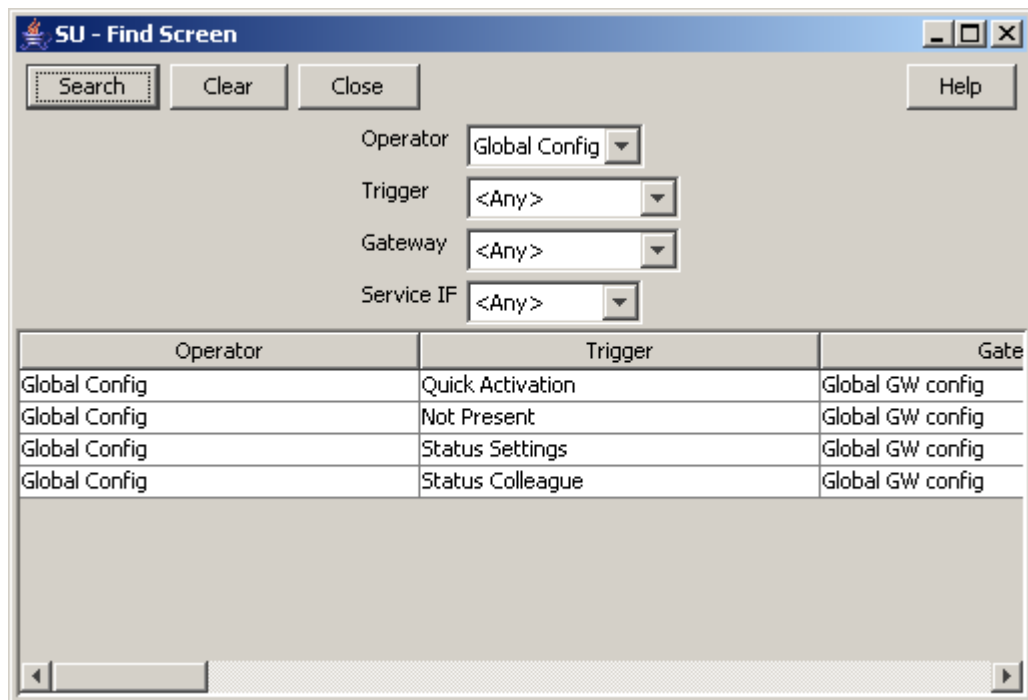
Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Service Trigger** tab.



The screenshot shows a window titled "SU - Find Screen" with a search interface. It includes buttons for "Search", "Clear", "Close", and "Help". Below these are four dropdown menus for filtering: "Operator" (set to "Global Config"), "Trigger" (set to "<Any>"), "Gateway" (set to "<Any>"), and "Service IF" (set to "<Any>"). Below the filters is a table with three columns: "Operator", "Trigger", and "Gate".

Operator	Trigger	Gate
Global Config	Quick Activation	Global GW config
Global Config	Not Present	Global GW config
Global Config	Status Settings	Global GW config
Global Config	Status Colleague	Global GW config

Using the find screen

You can search on:

- Operation
- Trigger
- Gateway
- Service IF

For more information about searching and editing records, see *Using the Find Screens* .

6

Menu and Status Screens

Overview

Introduction

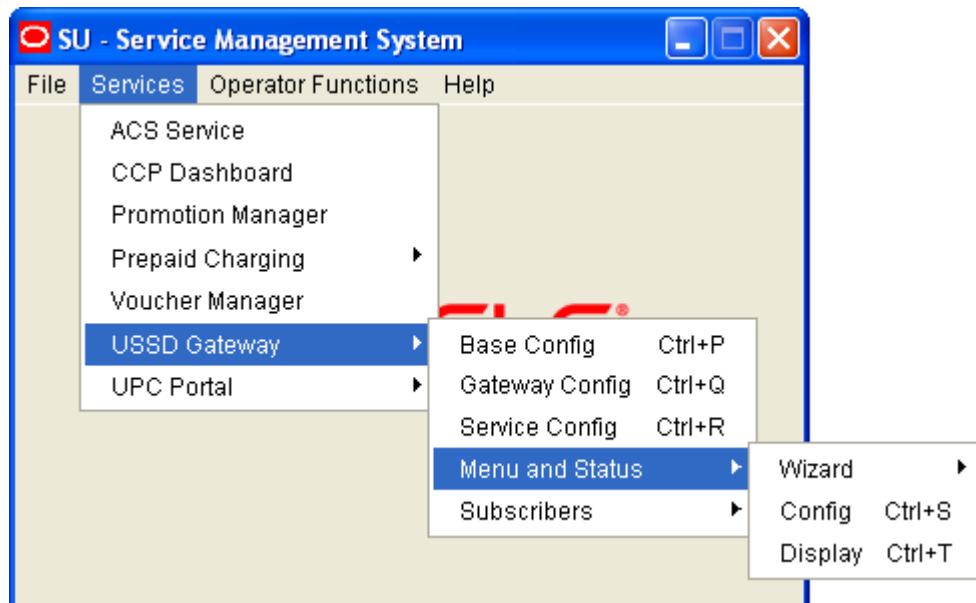
This chapter explains the contents of the USSD Gateway Menu and Status screens.

USSD Gateway Menu Configuration Screen

Accessing USSD Gateway Menu configuration screens

Follow these steps to access the USSD Gateway Menu configuration screens.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway**, then **Menu and Status**.
3. Select the screen you want to use.

Menu Wizard

Introduction

The Menu Wizard allows you to set up menus easily, by allowing you to select and update the Service Interface and Menu Info Entry data, then enter the menu text for MAP 1 and MAP 2. If configuring menus for the *User Selection* node, you will also define a keyword for each branch.

Setting up menus

Follow these steps to set up a menu.

Note: You can select **Previous** to go back through the screens and change any values before saving.

1. Select **Menu Wizard** from the **Menu and Status** option.

Result: You see Step 1 of the Creating New Menu screens.

2. Select the **Language** from the drop down list.

Fill in the fields, as described in *Service Interface* and click **OK**.

Result: The database is updated.

3. Select an existing Service Interface from the drop down list. You can click **Edit** if you need to change the details.

If you require a new Service interface, create a new one by clicking **New** to the right of the **Service** field.

Result: You see the Creating new Service Interface screen.

4. Select an existing Menu information entry from the drop down list. You can click **Edit** if you need to change the details.

If you require a new Menu information entry, create a new one by clicking **New** to the right of the **Menu** field.

Result: You see the Creating new Menu Info Entry screen.

Fill in the fields, as described in *Menu Info Configuration* and click **OK**.

Result: The database is updated, and the step 1 of 6 screen redisplay.

5. Click **Next**.

Result: You see the Step 2 screen. If this is for a new menu info entry, the screen is blank. Otherwise it will contain the existing menu text.

Note: In this example, the text contains variables (%%). Refer to the description of the MAP 1 and MAP 2 fields for the *Menu Language* tab. The menu text can also be edited using this tab.

6. Type in the menu display text for MAP 1.

Tip: The percent symbol (%) is not valid. To include a % type \% where the % is required.

For example, If the text was defined as "Your usage is %%.%%\%", the result on the mobile would appear as "Your usage is 23.23%"

7. Click **Next**.

Result: You see the Step 3 screen.

Creating New Menu - step 3 of 6

Please enter the menu text for MAP Phase 2

Activity 2 %%
Activity start %%
Activity end %%

Char Count
47

Previous Next Cancel Save

8. Type in the menu display text for MAP 2.

Tip: The percent symbol (%) is not valid. To include a % type \% where the % is required.

For example, If the text was defined as "Your usage is %%.%%\%", the result on the mobile would appear as "Your usage is 23.23%"

9. Click **Next**.

Result: You see the following dialog box.

Portal User Selection ?

Do you wish to enter Portal user selection data ?

Yes No

10. The UPC package must be loaded to create menus for the User Selection nodes. If the UPC package is loaded, you can enter Portal Selection data.

To continue, click **Yes**.

Result: You see the Step 4 screen.

Creating New Menu - step 4 of 6

Please enter the selection data for MAP Phase 1

Branch	Keyword
Branch 1	Balances
Branch 2	Promotion
Branch 3	Product

Previous Next Cancel Save

Note: This branch-keyword mapping table is the same as the one accessed on the *User Selection* screen (on page 2).

Otherwise, click **No** to go to the Final Step screen.

11. Select each Keyword cell and type in the selection data for MAP 1.
12. Click **Next**.

Result: You see the Step 5 screen.

Branch	Keyword
Branch 1	Balances
Branch 2	Promotion
Branch 3	Product

13. Select each Keyword cell and type in the selection data for MAP 2.
14. Click **Next**.

Result: You see the Final Step screen.

Press the 'Save' button to complete.
The 'Previous' button can be used to go back and change values.

15. To complete the menu creation, click **Save**.

Status Wizard

Introduction

The Status Wizard allows you to set up status menus easily, by allowing you to select and update the Service Interface and Status Info Entry data, then enter the status text for a specific language.

Setting up status menus

Follow these steps to set up a status menu.

Note: You can click **Previous** to go back through the screens and change any values before saving.

1. Select **Status Wizard** from the **Menu and Status** option.

Result: You see the Creating New Status Menu - step 1 of 3 screen.

2. Select the **Language** from the drop down list.
3. Select an existing Service Interface from the drop down list. You can click **Edit** if you need to change the details.

If you require a new Service interface, create a new one by clicking **New** to the right of the **Service** field.

Result: You see the Creating new Service Interface screen.

Fill in the fields, as described in *Service Interface* and click **OK**.

Result: The database is updated.

4. Select an existing Status information entry from the drop down list. You can click **Edit** if you need to change the details.

If you require a new Status information entry, create a new one by clicking **New** to the right of the **Menu** field.

Result: You see the Creating new Status Info Entry screen.

Fill in the fields, as described in *Status Info Configuration* and click **OK**.

Result: The database is updated.

5. Fill in the fields with the required options from the drop-down boxes and click **Next**.

Result: You see the Step 2 of 3 screen. If this is for a new status, the screen is blank. Otherwise it will contain the existing status text.

Note: The status text can also be edited using the *Status Language* tab.

6. Type in the status text and click **Next**.

Result: You see the Step 3 of 3 screen.

7. To complete the status text creation, click **Save**.

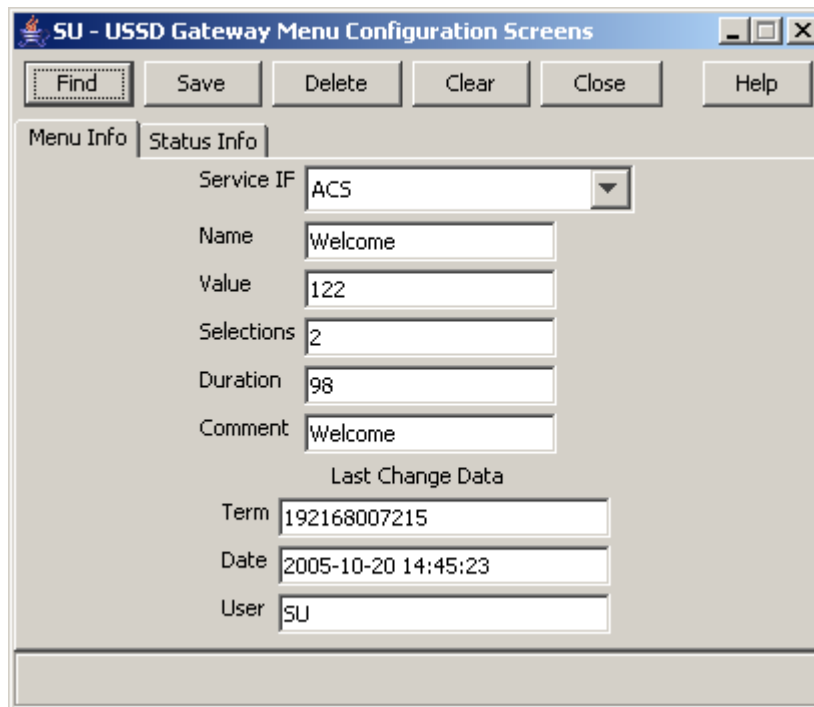
Menu Info Configuration

Introduction

The **Menu Info** tab allows you to set up menus with names and values against service interfaces. The menu information is language independent. See *menu language*.

Menu Info tab

Here is an example **Menu Info** tab.



The screenshot shows a window titled "SU - USSD Gateway Menu Configuration Screens". It has a menu bar with buttons for "Find", "Save", "Delete", "Clear", "Close", and "Help". Below the menu bar are two tabs: "Menu Info" (selected) and "Status Info". The "Menu Info" tab contains the following fields:

- Service IF: ACS (dropdown menu)
- Name: Welcome (text field)
- Value: 122 (text field)
- Selections: 2 (text field)
- Duration: 98 (text field)
- Comment: Welcome (text field)
- Last Change Data section:
 - Term: 192168007215 (text field)
 - Date: 2005-10-20 14:45:23 (text field)
 - User: SU (text field)

Fields

Here is a description of the fields.

Field	Description
Service IF	The list of service interfaces. Note: These are set up on the USSD Gateway Base Configuration Screen <i>Service Interface</i> tab.
Name	Name of the menu for that service interface. Alphanumeric field up to 40 characters in length, mandatory field.
Value	The announcement ID in the PA or PACUI received from slee_acs which will be translated into this message. This record must have an announcement with this id specified in an interaction node used in a control plan or it will not ever be used. For more information about how PAs and PACUIs are used in generating menus, see <i>USSD GW Technical Guide</i> . Numeric field up to 7 digits in length, mandatory value.

Field	Description
Selections	The number of selections that the menu will have. Numeric field, valid values are 0 to 20, mandatory field.
Duration	Specifies the length of time the display will be present to the user. Numeric field, valid values 1 to 99. Optional.

Note: For example text for each field, refer to the Find screen in this topic.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields*.

Clicking **Find** displays the Find screen.

Data entry

Follow these steps to enter a new menu Info.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Find Screen

Here is an example Find Screen for the **Menu Info** tab.

The screenshot shows a window titled "SU - Find Screen" with a search interface. At the top, there are buttons for "Search", "Clear", "Close", and "Help". Below these are input fields for "Service IF" (set to "ACS"), "Name", and "Value". The main area contains a table with the following data:

Service IF	Name	Value	Selections	Duration	Comment	Te
ACS	2nd Menu	112	5	15	2nd Menu	1921680
ACS	last menu	113	1	15	last menu	ttyp6
ACS	timeout	114	1	8	timeout	ttyp6
ACS	abandoned	115	1	8	abandoned	ttyp6
ACS	Main Menu	111	1	10	Main Menu	1921680
ACS	choice2	117	1	15	choice2	ttyp6
ACS	choice3	118	1	15	choice3	ttyp6
ACS	result1	119	1	4	result1	ttyp6
ACS	result2	120	1	4	result2	ttyp6
ACS	result3	121	1	4	result3	ttyp6
ACS	Welcome	122	2	98	Welcome	1921680

Using the find screen

You can search on:

- Service IF
- Name
- Value

For more information about searching and editing records, see *Using the Find Screens* .

Status Info Configuration

Introduction

The **Status Info** tab allows you to map status values to more meaningful status messages. The majority of them are created at install time.

Status Info tab

Here is an example **Status Info** tab.

The screenshot shows a window titled "SU - USSD Gateway Menu Configuration Screens". At the top, there are buttons for Find, Save, Delete, Clear, Close, and Help. Below these are two tabs: "Menu Info" and "Status Info". The "Status Info" tab is active and contains the following fields:

- Service IF: A dropdown menu with "ACS" selected.
- Name: A text input field containing "Welcome".
- Value: A text input field containing "20".
- Comment: An empty text input field.

Below the main fields is a section titled "Last Change Data" with three fields:

- Term: A text input field containing "192168007215".
- Date: A text input field containing "2005-10-20 14:42:53".
- User: A text input field containing "SU".

Fields

Here is a description of the fields.

Field	Description
Service IF	The service interface this status info entry will be used for. Note: These are set up on the USSD Base Configuration Screen <i>Service Interface</i> tab.
Name	Name of this status cause for the selected service interface. Required. Allowed values: <ul style="list-style-type: none"> • Alphanumeric field up to 50 characters in length.

Field	Description
Value	<p>The value that placed in the release cause field of the RELEASE INAP operation sent to the gateway. Required.</p> <p>Allowed values:</p> <ul style="list-style-type: none"> Numeric field up to 7 digits in length. <p>Note: If a status entry is for a service interface other than “Gateway”, you can only enter values between 0 and 127 for this field. This is the range of value allowed for the release cause within an INAP RELEASE operation.</p>

Note: For example text for each field, refer to the Find screen in this topic.

Data entry

Follow these steps to enter a new status info.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields*.

Clicking **Find** displays the Find screen.

Find Screen

Here is an example Find Screen for the **Status Info** tab.

Operator	Trigger	Gateway	Service IF
Base Config	Sam	Global GW config	All interfaces
USSD Operator	USSD Message	Global GW config	All interfaces
BT	USSD_BT	Global GW config	All interfaces

Using the find screen

You can search on:

- Service IF
- Name

- Value

For more information about searching and editing records, see *Using the Find Screens* .

Menu Language Display

Introduction

The **Menu Language** tab allows you to enter language specific text for a given menu. MAP 1 and MAP 2 text can be different.

Menu Language tab

Here is an example **Menu Language** tab.

The screenshot shows a web-based application window titled "SU - USSD Gateway Menu Display Screens". The interface includes a toolbar with buttons for "Find", "Save", "Delete", "Clear", "Close", and "Help". Below the toolbar, there are two tabs: "Menu Language" (selected) and "Status Language".

The "Menu Language" tab contains the following fields and controls:

- Menu:** A dropdown menu showing "Status Acknowledgement Menu3".
- Language:** A dropdown menu showing "English".
- MAP 1:** A text area containing the text:


```
Activity 2 %%%\nActivity start %%%\nActivity end %%%
```
- MAP 2:** A text area containing the text:


```
Activity 2 %%%\nActivity start %%%\nActivity end %%%
```
- Characters:** Two input fields, both containing the value "47".
- View:** A button next to the character count fields.
- Comment:** An empty text input field.
- Last Change Data:** A section containing three input fields:
 - Term:** p278105M5
 - Date:** 2006-10-27 01:56:33
 - User:** ADMIN

Fields

Here is a description of the fields.

Field	Description
Menu	The menu selected from the list provided when the button is selected. Text screens for MAP 1 and 2 - text to be sent to the mobile hand set. You cannot edit this field directly. See Menu button below.
Language	The list of available languages. Note: These are set up on the USSD Base Configuration Screen <i>Language</i> tab.
MAP 1 and MAP 2	There are separate fields for both MAP 1 and MAP 2. The fields represent the display screen of a mobile phone. The text may contain variable parts, which are assigned using the Variable Part Announcement Dialog (See the <i>User Input</i> node). Enter each variable part as a pair of percentage symbols (%%). Note: The MAP 1 and MAP 2 text may be different, but both must contain the same number of variables.
Characters	Displays the number of characters in the MAP 1 and MAP 2 display screens.

Note: For example text for each field, refer to the Find screen in this topic.

Buttons

Here is a description of the buttons.

Button	Description
Menu	Clicking this button displays the Menu Selector screen, allowing you to search for and select a menu value, which will be entered into the Menu field.
View	Clicking this button displays the Text Display Viewer screen, which displays the text and the number of characters. See <i>Viewing menu text</i> (on page 2).

Data entry

Follow these steps to enter a new menu language.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Viewing menu text

Follow these steps to view menu text.

1. On the **Menu Language** tab, click **View**.
Result: You see the Text Display Viewer.

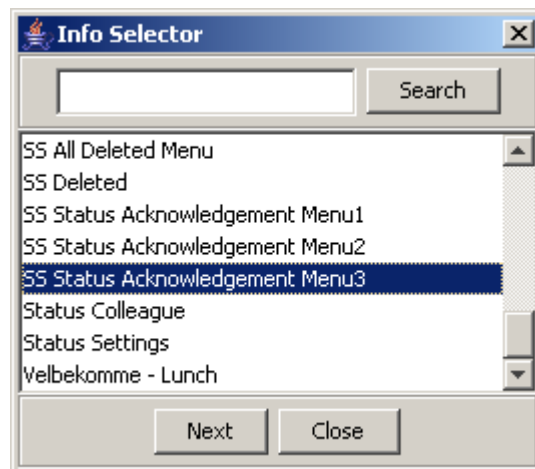
If this is the first time you have used the text display viewer during the current session, the screen will display the text in the MAP 1 and MAP 2 text fields on the tab. If no menu has been selected, the field will be blank.

If you have already used the text display viewer, you will see the last menu text you viewed before.



2. Click **Menu**.

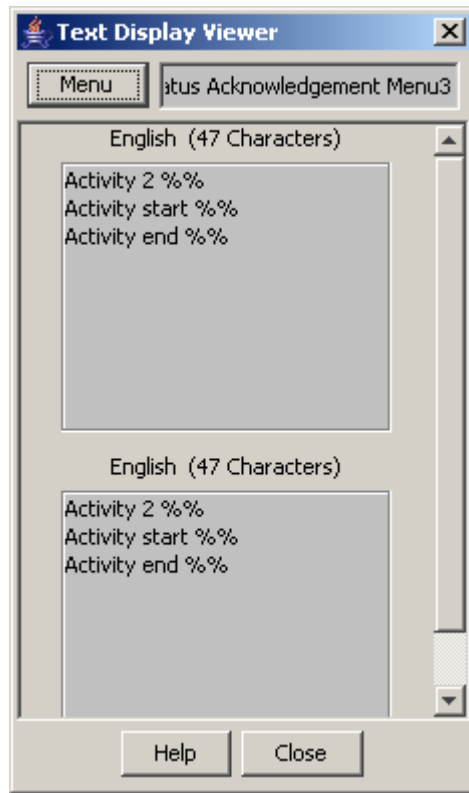
Result: You see the Info Selector, displaying the menus.



You can search for menus by entering search criteria in the box and clicking **Search**.

3. Select the required menu from the list.

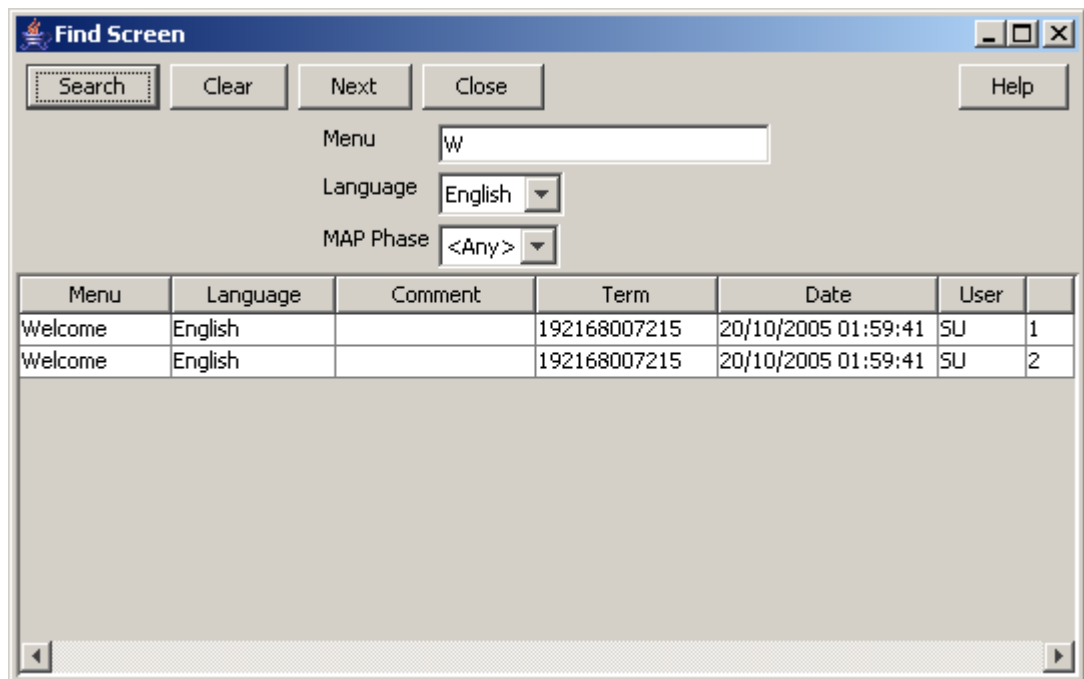
Result: The Menu text is displayed in the Text Display Viewer.



4. To close the text display viewer, in the Info Selector, click **Close**, then in the Text Display Viewer, click **Close**.

Find Screen

Here is an example Find Screen for the **Menu Language** tab.



Using the find screen

You can search on:

- Menu
- Language
- MAP Phase

For more information about searching and editing records, see *Using the Find Screens* .

Status Language Display

Introduction

The **Status Language** tab allows you to set language specific status text for a given status.

Status Language tab

Here is an example **Status Language** tab.

The screenshot shows a web application window titled "SU - USSD Gateway Menu Display Screens". At the top, there are buttons for "Find", "Save", "Delete", "Clear", "Close", and "Help". Below these are two tabs: "Menu Language" and "Status Language", with "Status Language" being the active tab. The main content area contains the following fields and controls:

- Status:** A text field containing "Access is not allowed".
- Language:** A dropdown menu currently set to "English".
- Text Area:** A large text area containing the text "Access is not allowed".
- Characters:** A text field showing "21 Characters" and a "View" button to its right.
- Comment:** An empty text input field.
- Last Change Data:** A section containing three fields:
 - Term:** A text field containing "<UIS>".
 - Date:** A text field containing "2005-03-31 09:45:53".
 - User:** A text field containing "SMF".

Fields

Here is a description of the fields.

Field	Description
Status	Displays status info name once selected, created by the USSD Gateway Menu Configuration Screen <i>Status Info Configuration</i> tab. You cannot edit this field directly. See Status button below.
Language	The list of available languages. Note: These are set up on the USSD Base Configuration Screen <i>Language</i> tab.
Text box	This represents the display screen of a mobile phone
Characters	Displays the number of characters in the message in the field above.

Note: For example text for each field, refer to the Find screen in this topic.

Buttons

Here is a description of the buttons.

Button	Description
Status	Clicking this button displays the Status Selector screen, allowing you to search for and select a value, which will be entered into the Status field.
View	Clicking this button displays the Text Display Viewer, which allows you to view the text of a status, its language and number of characters. See <i>Viewing status text</i> (on page 2).

Data entry

Follow these steps to enter a new status language.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Viewing status text

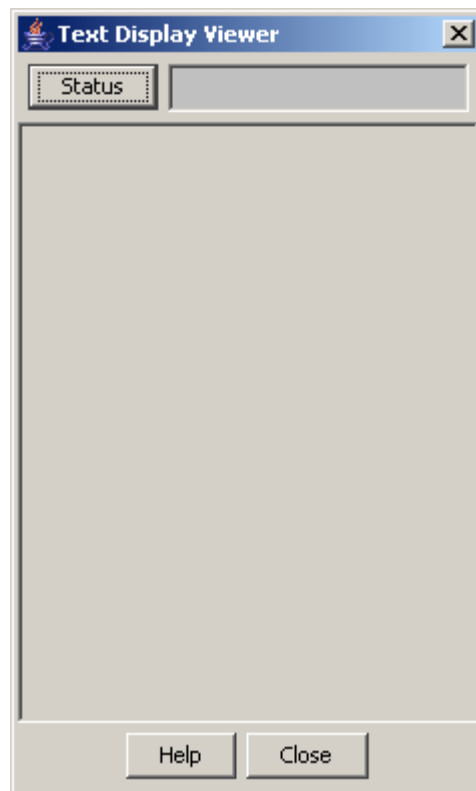
Follow these steps to view status text.

1. On the **Status Language** tab, click **View**.

Result: You see the Text Display Viewer.

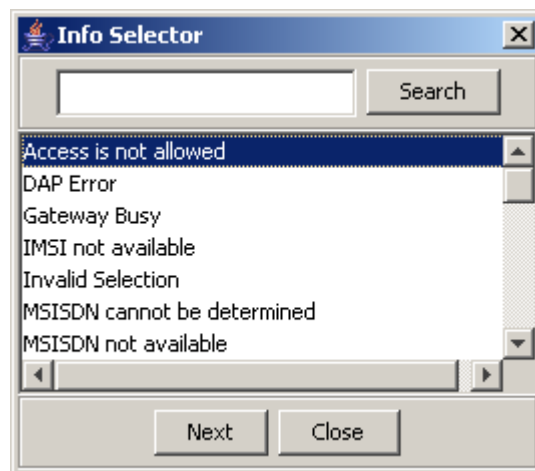
If this is the first time you have used the text display viewer during the current session, the screen will display the text in the field in the tab. If no status has been selected, the field will be blank.

If you have already used the text display viewer, you will see the last text you viewed before.



2. Click **Menu**.

Result: You see the Info Selector, displaying the status info names.



You can search for status info names by entering search criteria in the box and clicking **Search**.

3. Select the required menu from the list.

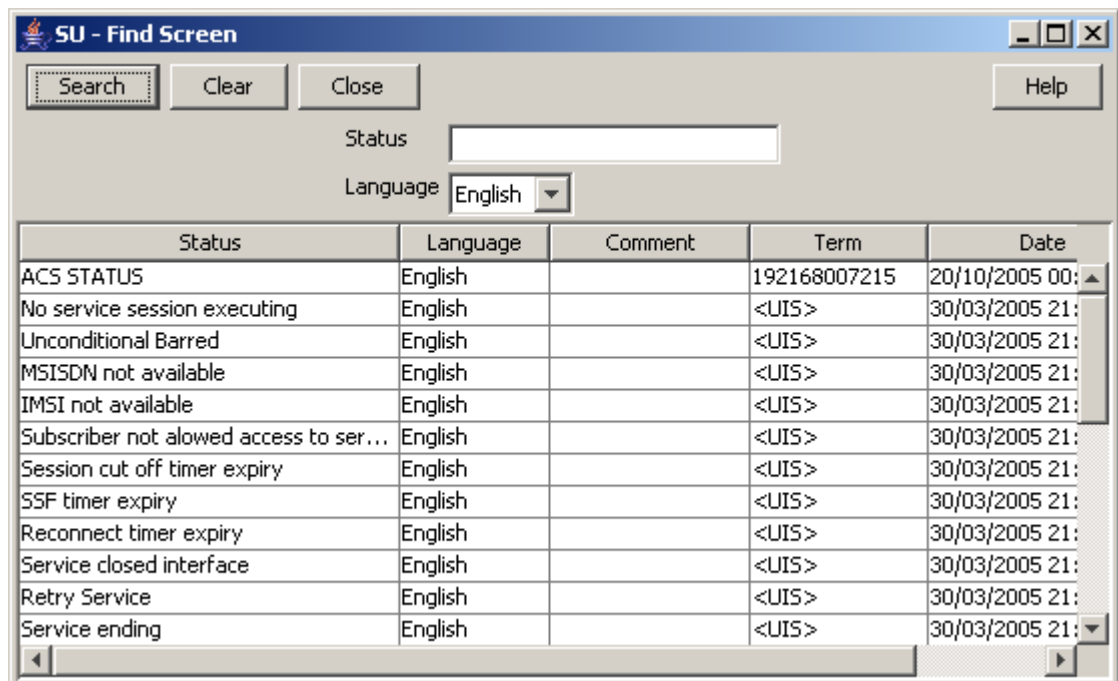
Result: The Status text is displayed in the Text Display Viewer.



4. To close the text display viewer, in the Info Selector, click **Close**, then in the Text Display Viewer, click **Close**.

Find Screen

Here is an example Find Screen for the **Status Language** tab.



Using the find screen

You can search on:

- Status
- Language

For more information about searching and editing records, see *Using the Find Screens* .

7

Subscribers Screens

Overview

Introduction

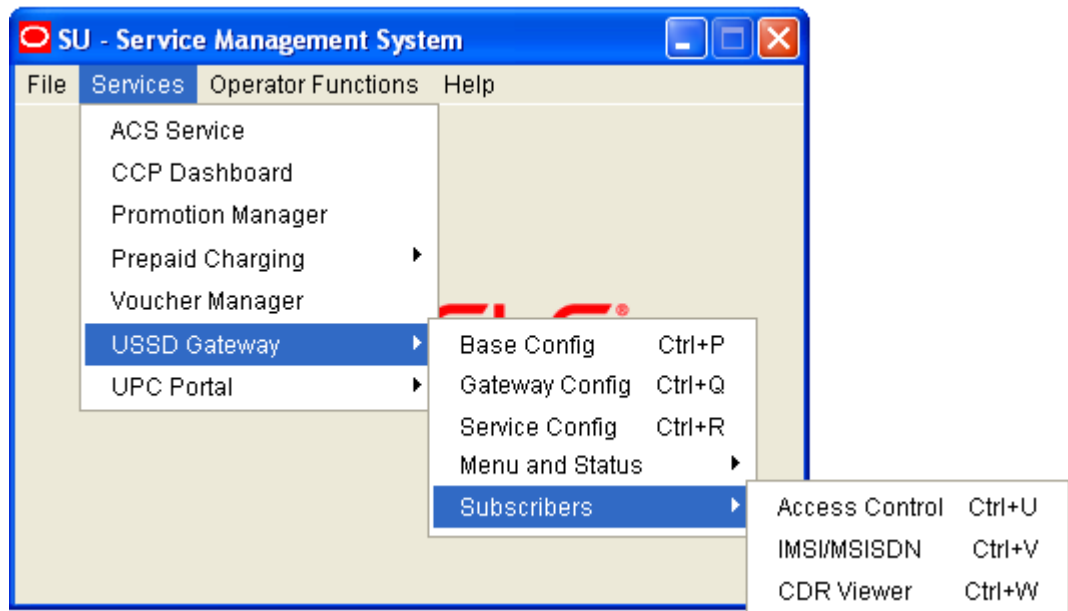
This chapter explains the contents of the Subscribers screens.

USSD Gateway Subscribers Screens

Accessing USSD Gateway Subscribers screens

Follow these steps to access the USSD Gateway Subscribers configuration screens.

1. From the Service Management System screen, select the **Services** menu.



2. Select **USSD Gateway**, then **Subscribers**.
3. Select the screen you want to use.

Access Control Screen

Introduction

The Access Control screen controls access to the services. Its use is dependent on whether barring is set up on each particular service trigger. Barring can be set to:

- Disabled, in which case this screen becomes irrelevant
- IMSI
- MSISDN

For a customer to have access to the service, if barring is set to:

- IMSI, it must be provided with sub_type of IMSI_allowed
- MSISDN, it must be provided with sub_type of MSISDN_allowed.

For these customers then to be barred they must again be provisioned in this screen with IMSI_barred or MSISDN_barred.

Access Control tab

Here is an example **Access Control** tab.

Fields

Here is a description of the fields.

Field	Description
Sub Type	This field is populated with all of the NAME values from the UIS_SUB_TYPE table. Note: These values are created at installation time.
Trigger Prefix	Displays the trigger prefix. You cannot edit this field directly. See Trigger Prefix button.

Field	Description
Sub Start Num	Numeric field and is a mandatory field. The number of digits that must be entered in this field is dependent on the value selected in the Sub Type field. <ul style="list-style-type: none"> IMSI_ALLOWED or IMSI_BARRED – length must be between 15 and 20 characters MSISDN_ALLOWED or MSISDN_BARRED – length must be between 10 and 15 characters
Sub Stop Num	Same format as for Sub Start Num and must contain the same number of digits.
Sub Length	This field is automatically populated by the screen during a save operation. The user cannot modify this value. The field will contain the number of digits in the Sub Start/Stop number field.
CC Length	Numeric field used to indicate how many digits are used to represent the country code in the Start and Stop number fields, and is a mandatory field.

Note: For example text for each field, refer to the Find screen in this topic.

Buttons

Here is a description of the buttons.

Button	Description
Trigger Prefix	Clicking this button displays the Trigger Selector screen, allowing you to search for and then select a value to set a trigger prefix for the access control entry. To select, click on the entry in the list and click Close . Note: These are set up on the USSD Base Configuration Screen <i>Trigger Prefix</i> (on page 2) tab.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Clicking **Find** displays the Find screen.

Data entry

Follow these steps to enter a new access control.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Find Screen

Here is an example Find Screen for the **Access Control** tab.

Sub Type	Trigger Prefix	Sub Start Num	Sub Stop Num	Sub Length
IMSI_ALLOWED	*829	123452222222220	123452222222229	15
IMSI_ALLOWED	*321	222225555555555	222225555555555	15
IMSI_ALLOWED	*171	333336666666666	333336666666666	17
IMSI_ALLOWED	*171	333336789012345	333336789012345	15
IMSI_ALLOWED	*171	333336789012344	333336789012344	15
IMSI_ALLOWED	*171	333336666666666	333336666666666	15
IMSI_ALLOWED	mjhTrigB	5000000000000001	6000000000000000	16
IMSI_ALLOWED	mjhTrigB	4000000000000000	5000000000000000	16
IMSI_ALLOWED	MN-Trigger	12345678901234567890	12345678901234567890	20
IMSI_ALLOWED	MN-Trigger	1234567890123456	1234567890123456	16
IMSI_ALLOWED	Tr5	1234567890123456	1234567890123456	16
IMSI_ALLOWED	Tr4	333336666666666	333336666666666	15

Using the find screen

You can search on:

- Sub Type
- Trigger Prefix
- Sub Start Num
- Sub Stop Num
- Sub Length

For more information about searching and editing records, see *Using the Find Screens* .

IMSI Tracing Screen

Introduction

The IMSI Tracing configuration screen is used to set up technical tracing on individual IMSIs.

IMSI Tracing tab

Here is an example **IMSI Tracing** tab.

Fields

Here is a description of the fields.

Field	Description
IMSI	The full IMSI number to be traced. Numeric field of between 15 and 20 digits, mandatory field.
File Name	Name and path of the logging file, may be up to 100 characters in length and is a required field. The file name must have a valid path name.

Note: For example text for each field, refer to the Find screen in this topic.

Buttons and other fields

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields*.

Clicking **Find** displays the Find screen.

Data entry

Follow these steps to enter a new IMSI tracing.

1. Click **Clear** to clear the screen of previous data.
2. Enter new data and click **Save**.

Find Screen

Here is an example Find Screen for the **IMSI Tracing** tab.

IMSI	File Name	Comment	Term	Date
1111111111111111	mjhstest	Admin test	192001002058	09/12/2004 22:51
111116789012345	/tmp/111116789012345		192168026105	20/02/2005 20:41
111225555577777	/tmp/111225555577777		192001002058	09/12/2004 22:41
123451234567890	/tmp/123451234567890		192168026105	18/06/2005 23:31
123452222222222	myimsi.txt		192168007215	19/10/2005 00:31
123453333333333	/tmp/123453333333333		192168026105	17/02/2005 00:41
123453333333335	/tmp/123453333333335		192168026105	17/02/2005 01:11
123453333333339	/tmp/123453333333339		192168026105	17/02/2005 00:41
123456789012345	/tmp/123456789012345		<UIS>	10/11/2004 22:11

Using the find screen

You can search on:

- IMSI
- File Name

For more information about searching and editing records, see *Using the Find Screens*.

CDR Viewer Screen

Introduction

The CDR Viewer screen allows you to view EDRs.

Note: For the EDRs to be logged during calls, the **CDR Flag** check box must be ticked on the *Gateway Configuration screen* (on page 2). You must restart the SLEE after selecting this box.

If cross-linking is enabled, this viewer will search for any Gateway EDRs generated during the same session as the selected item in the UPC CDR Viewer screen.

USSD Gateway CDR Viewer screen

Here is an example USSD Gateway CDR Viewer screen.

The screenshot shows the 'USSD Gateway CDR Viewer' application window. It features a search interface with the following fields and controls:

- IMSI: Text input field
- MSISDN: Text input field
- SAN: Text input field
- Service IF: Dropdown menu (set to 'Any')
- Operator: Dropdown menu (set to 'Any')
- Fast Access: Dropdown menu (set to 'Any')
- Min Start Time: Text input field
- Max Start Time: Text input field

Below the search fields are five buttons: Search, Next, Clear, Close, and Link. A table with the following columns is displayed below the buttons:

IMSI	MSISDN	SAN	Service IF	Operator	Fast Access	Start Time	Session L...

At the bottom of the window, there is an 'Extra Information' section with a radio button and a text area.

Fields

Here is a description of the fields that you can use to search on.

Field	Description
IMSI	Numeric field of between 15 and 20 digits
MSISDN	Numerical field of between 10 and 15 characters
SAN	Service Activation Number Numerical field up to 10 digits
Service IF	Numerical field
Operator	Numerical field
Fast Access	Y or N
Start Time	In the format 2003-04-09 16:31:02.0
Duration	Length of the call

Note: For example text for each field, refer to the Find screen in this topic.

Buttons and other fields

This table describes the function of each field.

Field	Description
Search	Displays all records that correspond to the search criteria entered.

Field	Description
Next	Displays the next CDR.
Link	Only available if the UPC CDR Viewer screen is available.

For information about the buttons and fields at the bottom of the screen, see *Common Buttons and Fields* .

Find screen

Here is an example CDR Viewer screen where the IMSI has been used to search for entries.

IMSI	MSISDN	SAN	Service IF	Operator	Fast Acc...	Start Time	Session...	CDR Type
876546...	004414...	61	28	25	N	2003-04...	1	0
876546...	004414...	61	28	25	N	2003-04...	1	0
876546...	004414...	61	28	25	N	2003-04...	2	0
876546...	004414...	61	28	25	N	2003-04...	2	0
876546...	004414...	61	28	25	N	2003-04...	1	0

● Extra Information

Extra information

Select the entry you require extra information for. Highlight the line to bring up the extra information details:

- General
- Time outs
- Alarms

Trace

Also brought up are the trace details for the call:

- Menu
- Status

Available details

Clicking on any of the sub headings brings up the available details.

The screenshot shows the 'USSD Gateway CDR Viewer' application. At the top, there are input fields for various identifiers: IMSI (876546789012345), MSISDN, SAN, Service IF, Operator, Fast Access, Start Time, and Duration. Below these fields are buttons for 'Search', 'Next', 'Clear', and 'Close'. A table below the buttons lists search results with the following data:

IMSI	MSISDN	SAN	Service IF	Operator	Fast Acc...	Start Time	Session...	CDR Type
876546...	004414...	61	28	25	N	2003-04...	1	0
876546...	004414...	61	28	25	N	2003-04...	1	0
876546...	004414...	61	28	25	N	2003-04...	2	0
876546...	004414...	61	28	25	N	2003-04...	2	0
876546...	004414...	61	28	25	N	2003-04...	1	0

Below the table, there is a tree view for 'Extra Information' with the following structure:

- Extra Information
 - General (Selected)
 - Timeouts
 - Alarms
 - Trace
 - MENU - choice 1
 - STATUS - Invalid Stat

The 'General Information' pane displays the following details:

- Call Id - 1
- Dialed String - Not available
- Interactions - 2
- Map Phase - 2
- Service IF - ACS
- Operator - Acceptance87654

UPC CDR Viewer Screen

Introduction

The UPC CDR Viewer screen enables you to search for and view EDRs created by the Send Buffer feature node.

If the UPC CDR Viewer is available, it can register as a listener to the CDR Viewer to allow cross-linking between the two.

USSD Gateway UPC CDR Viewer screen

Here is an example USSD Gateway UPC CDR Viewer screen.

The screenshot shows a window titled "USSD Gateway UPC CDR Viewer". The window contains a search form with the following fields:

- IMSI:
- Charge Flag:
- Orig Address:
- Dest Address:
- Start Time:

Below the search fields is a row of five buttons: Search, Next, Clear, Close, and Link. The main content area of the window is currently empty, showing a large grey rectangle where search results would be displayed.

8

UPC Portal Screens

Overview

Introduction

This chapter explains the contents of the UPC Portal screens.

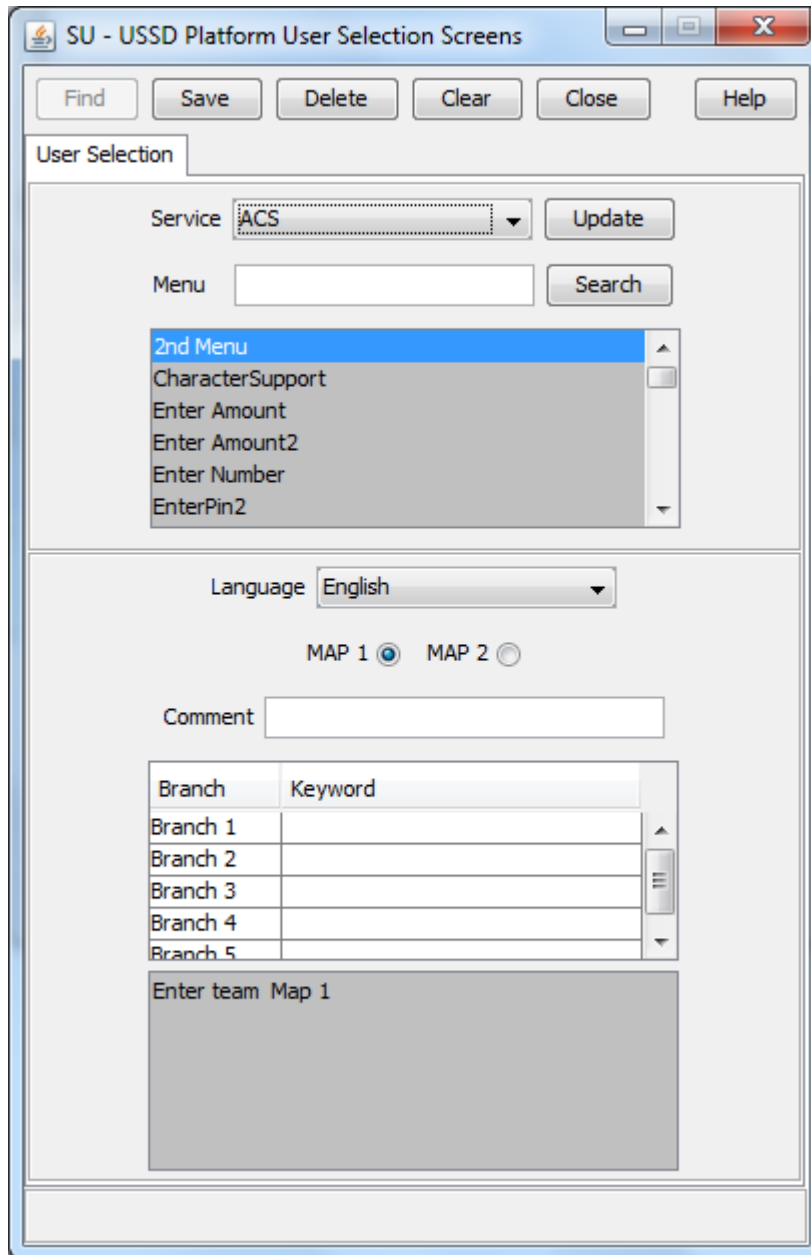
USSD Platform User Selection Screens

Introduction

The User Selection configuration screen allows you to enter keyword specific text for a given menu exit branch. MAP 1 and MAP 2 keywords can be different. This screen is used with the *User Selection* node.

User Selection tab

Here is an example **User Selection** tab.



Fields

Here is a description of the fields.

Field	Description
Service	This field is populated with all the NAMES created by the USSD Gateway Base Configuration Screen <i>Service Interface</i> (on page 2) tab. By selecting a Service, all the menus associated with this Service populate the Menu field.
Menu	By selecting a Service, all the menus associated with this Service populate this field.
Language	This is populated with the language associated with the selected menu.
MAP 1 MAP 2 options	Selecting MAP 1 or MAP 2 shows which keyword corresponds to which MAP version.

Field	Description
Branch	After selecting the menu in the Menu field, this field is populated by the branch number.
Keyword	This field is populated by the keyword for that branch. You can edit this field and modify an existing entry or create a new one.

Buttons

Here is a description of the buttons.

Field	Description
Update	Has no function in this case.
Search	Entering a menu name in the menu field and clicking the Search button will display the menu for the selected service, if it exists in the database.

Data entry

Follow these steps to update a menu.

1. Click **Clear** to clear the screen of previous data.
By selecting a Service, all the menus associated with this Service will populate the Menu listing box. After selecting the menu in the **Menu** field, you can enter keywords associated for each branch.
2. Enter new data and click **Save**.
Note: When editing keywords, you must **Save** before selecting the other MAP version to edit.

USSD Portal Message Class Screens

Message Class tab

Here is an example **Message Class** tab.

Fields

This table describes the function of each field.

Field	Description
Class	Specifies the SMS message class type. This field is mandatory. The valid values are described below: <ul style="list-style-type: none"> 0 – Class 0 SMS message class type. This message type is only displayed on the mobile screen. It is not saved in the message store or on the SIM card, unless explicitly saved by the user. 1 – Class 1 SMS message class type. This message type is stored in the device memory or on the SIM card, depending on available memory. 2 – Class 2 SMS message class type. This message type carries SIM card data. 3 – Class 3 SMS message class type. This message type is forwarded from the receiving entity to an external device.
Description	Describes the SMS message class. This field is mandatory.

Creating a message class

Follow these steps to create a message class.

1. On the **Message Class** tab, click **Clear** to clear the screen of previous data.
2. In the **Class** field, enter a value of 0, 1, 2, or 3.
3. In the **Description** field, enter a description for this message class.
4. In the **Comment** field, optionally enter a comment for this message class.
5. Click **Save**.

Result: The new message class is saved.

Editing records

Follow the steps below to edit a record.

1. In the Find screen, select the row you want to edit.
Result: The associated screen is populated with this data, which you can edit.
2. On the editing screen, make the changes to the data.
3. Click **Save**.
Result: The edited screen is saved.

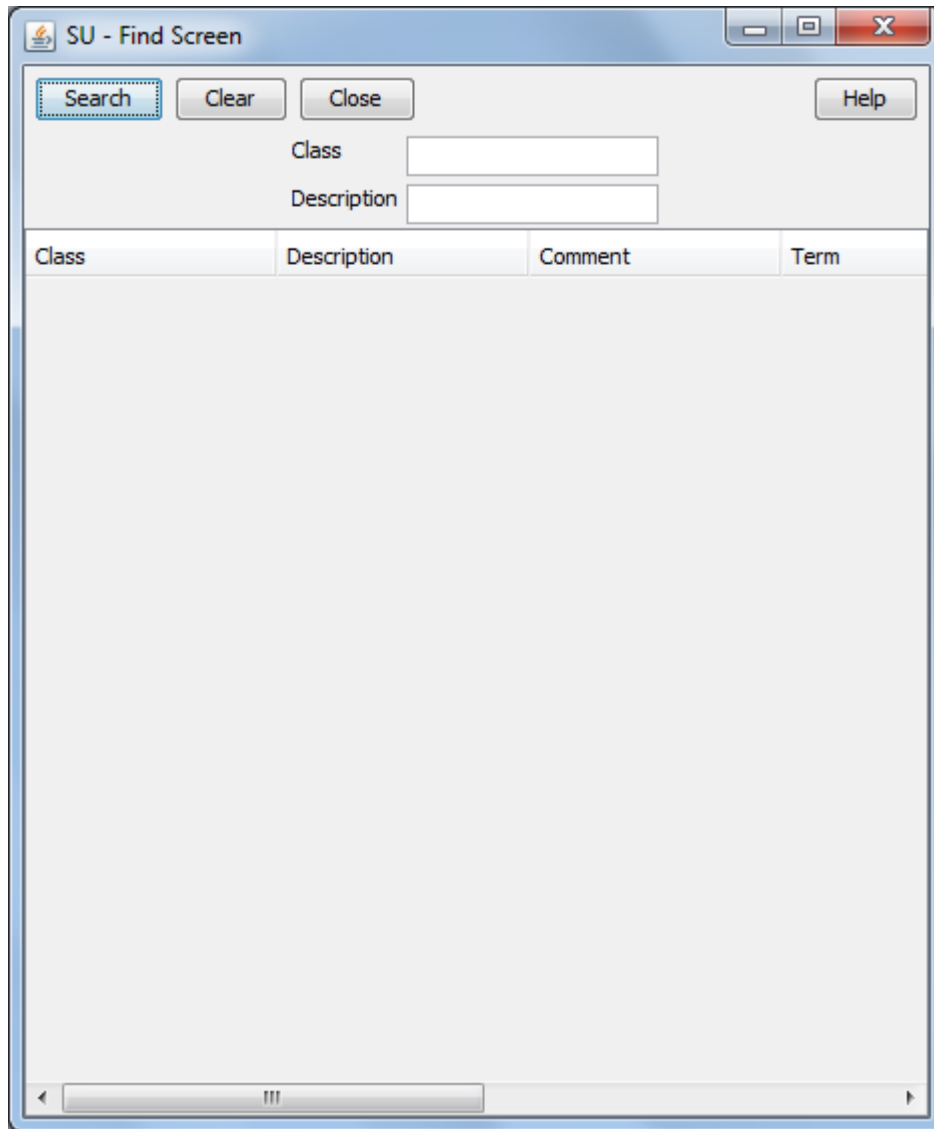
Finding a message class

Follow these steps to find a message class.

1. On the **Message Class** tab, click **Find**.
Result: The *Find Screen* (See example on page 2) is displayed.
2. Enter a search query string in the **Class** or **Description** field and click **Search**.
Result: The grid will display all records matching the query.
Note: Leaving both fields blank will return all records.
3. Select the record in the grid.
Result: The record is displayed on the **Message Class** tab.
4. Click **Close**.

Find Screen

Here is an example Find Screen.



9

UPC Portal Nodes

Overview

Introduction

This chapter explains the contents of the Gateway Portal nodes provisioning screens.

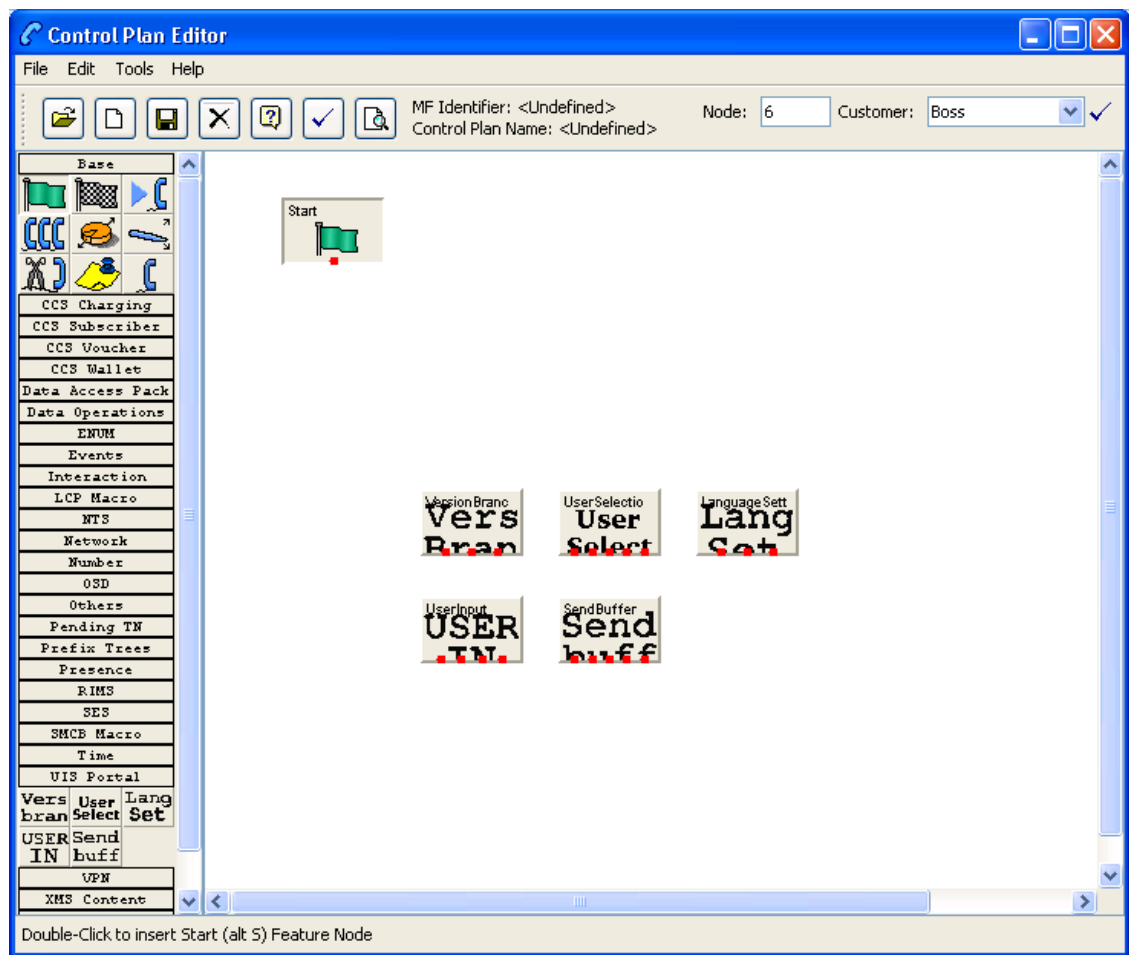
Control Plan Editor Screen

Introduction

You can select the portal nodes from the ACS Control Plan Editor screen, as shown below. Double click on the node icon to open the node configuration screen.

Screen

Here is an example Control Plan Editor screen, showing the portal nodes.



Making Nodes Available

Introduction

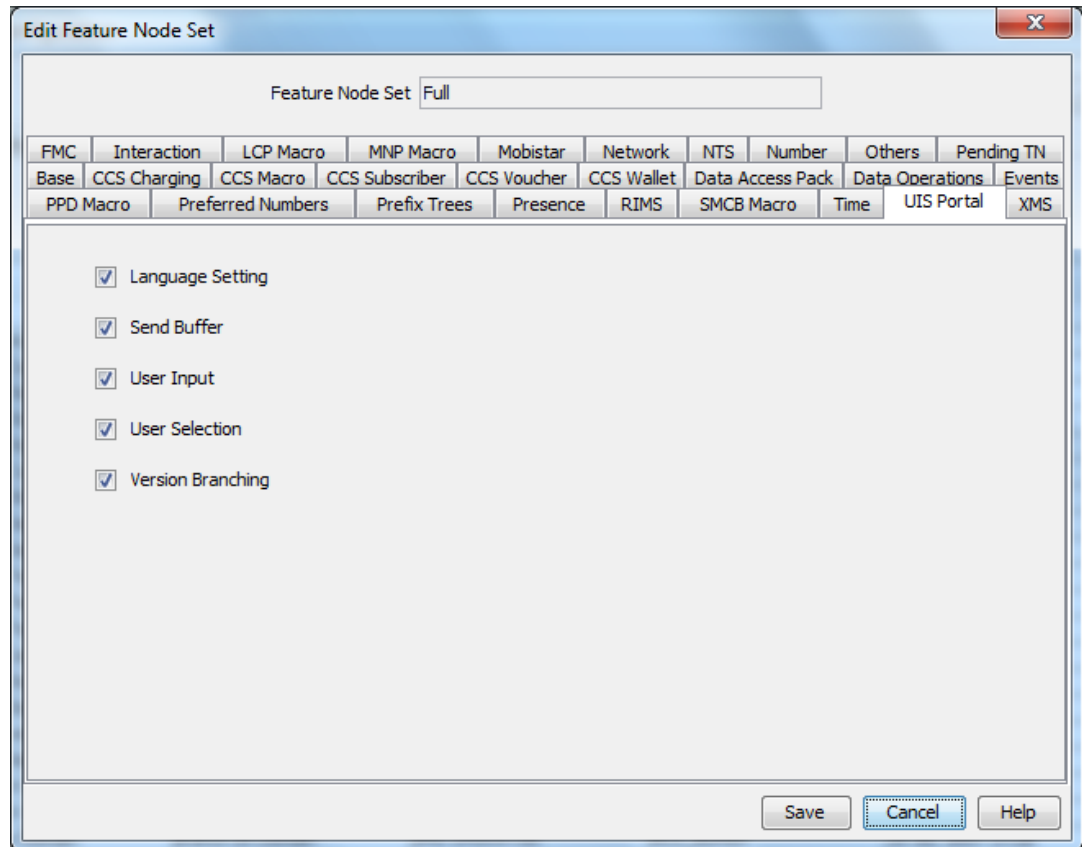
The portal nodes can be added to the Full Feature Node using the ACS Configuration option. Once selected these macro nodes become available to use in the CPE for the configured user.

Procedure

Follow these steps to make the macro nodes available.

1. From the Procedure, select **Configuration**.
Result: You see the ACS Configuration screen.
2. Select the **Feature Sets** tab and click **Edit Set**.
Result: You see the Edit Feature Node Set screen.

3. Select the **UIS Portal** tab.



4. Tick the nodes to be available and click **Save**.




Available Feature Nodes



Introduction

This topic lists all the feature nodes that may be available within the CPE. In some cases, additional nodes may have been created and installed to fit a specific customer need. These custom (and ACS) nodes do not appear in this list.

Node list

This table lists all the available USSD Gateway feature nodes.

Node name	Node icon	Node description	Reference
Language Setting		Enables the caller to select the language they want to use for this service.	<i>Language Setting</i>
Send Buffer		Sends data to the SMSC.	<i>Send Buffer</i>
User Input		Collects input from the calling party.	<i>User Input</i>

Node name	Node icon	Node description	Reference
User Selection		Enables user selection from a menu.	<i>User Selection</i>
Version Branching		Branches on the Version of MAP used.	<i>Version Branching</i>

Language Setting

Node description

The Language Setting node enables the subscriber to select one of a set of configured languages.

This node plays an announcement to the user, prompting them to select a language to use for the USSD call. This user's temporary profile is updated with the selected language.

Note: The selection only lasts for the duration of the call.

Node icon



Restrictions

This node may be used any number of times within a control plan.

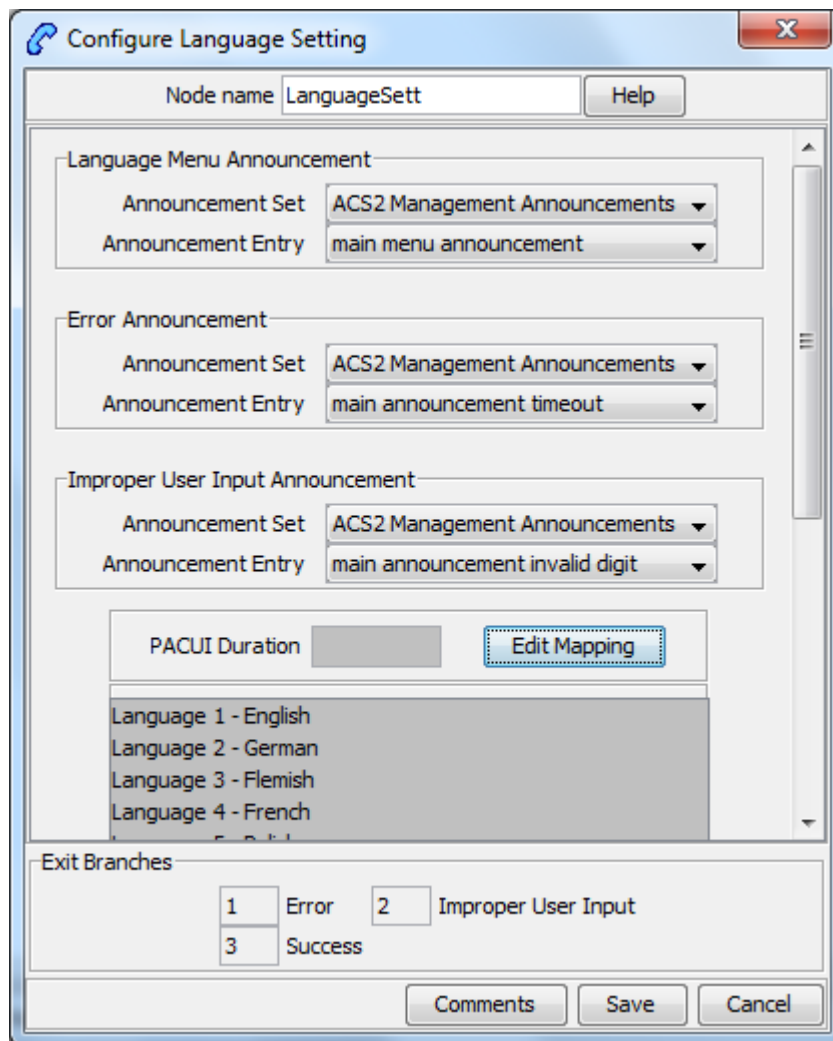
Node exits

This node has one entry and three exits. The number of exits cannot be changed.

Exit	Cause	Description
1	Error	Node encountered an error during execution. The Error or Timeout announcement will be played.
2	Improper User Input	User entered a digit which does not map to a language.
3	Success	Temporary profile updated with selected language.

Configuration screen

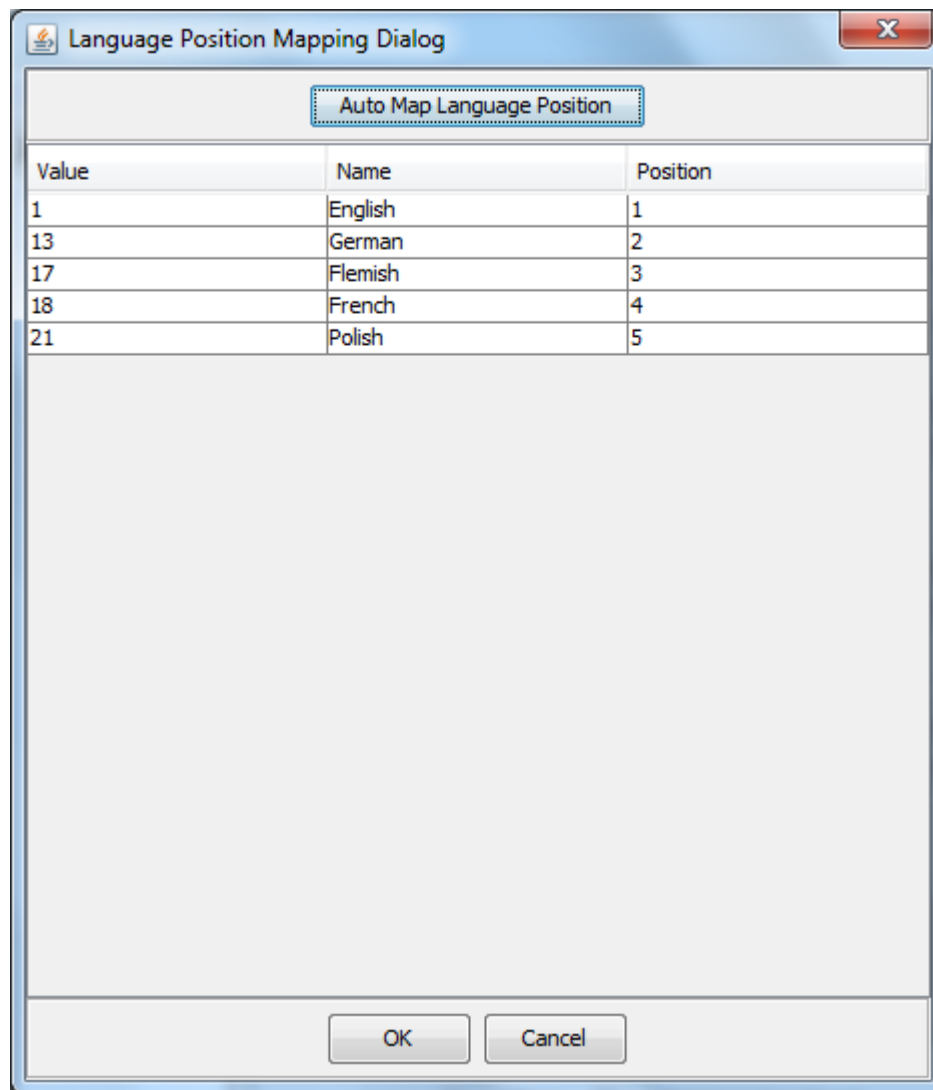
Here is an example Configure Language Setting screen.



Configuring the node

Follow these steps to edit the node configuration.

1. In the Language Menu Announcement area, select the **Announcement Set** which contains the language menu announcement you want to play to the caller.
Result: The **Announcement Entry** field is populated with the entries for the selected set.
2. From the **Announcement Entry** drop-down list, select the announcement you want to play to the caller.
3. In the Error Announcement area, select the Announcement Set and Announcement Entry you wish to play for an error.
4. In the Improper User Input Announcement area, select the Announcement Set and Announcement Entry you wish to play if the user has input incorrectly.
5. In the **PACUI Duration** field type the number of seconds' duration to play announcement and collect user information.



6.

Click **Edit Mapping**.

Result: You see the Language Position Mapping Dialog.

7. Use the Language Position Mapping Dialog screen to construct a list of ordered languages. This screen displays a grid populated with all of the available languages. The grid has three columns:

- Value - This column contains the language id / value that is sent to the gateway interface. This value will be a number between 0 and 19. Any changes you make to this column will be ignored.
- Name - The language name, for example English, French, or German. Any changes you make to this column will be ignored.
- Position - The position column is used to determine which languages will be included in the list and in what order.

A valid list will contain:

- At least one language (starting at position 1)
- The positions numbered consecutively, for example. 1, 2 and 3
- No more than one language for any given position. If more than one language is mapped to the same position then an error will be generated when **OK** is clicked

You can map the positions of the languages in one of the following ways:

- Manually
 - Automatically
8. To manually map the languages:
 - a. Click on the Position cell in the row for the language.
 - b. Type the number in the cell
 - c. Repeat for each language.

To automatically map the language positions:

- a. Click **Auto Map Language Position**.

Result: A list will be generated which contains all of the available languages, positioned in the order that they are stored in the system database. You can subsequently manually edit this configuration if required.

9. Click **OK**.

Result: Validation checks are carried out to determine whether or not the criteria detailed above has been met. If not, you will be informed via an error dialog. If the validation checks are successful, then the dialog box will close, and the language list on the Configure Language Setting screen will be updated.

Send Buffer

Node description

The Send Buffer node sends the final selection buffer that has been built through the various Menu Selection and User Entry macro nodes to an SMSC through the UCP Interface.

Once the final selection buffer has been sent, the Send Buffer node writes an EDR to record the transaction.

Node icon



Restrictions

This node may be used any number of times within a control plan.

Node exits

This node has one entry and five exits. The number of exits cannot be changed.

Exit	Cause	Description
1	Success	Both the final selection buffer, and the CDR have been successfully sent.
2	Error	Node encountered an error receiving or sending data.

Exit	Cause	Description
3	Empty Buffer	Final selection buffer retrieved from the configured ProfileTag has been allocated but is empty. This situation will occur if the previous node in the call plan was a menu selection node that was set to clear the buffer.
4	No Buffer	Final selection buffer does not exist. Suggests a configuration error in the CPE.
5	Length Exceeded	Received buffer length exceeded 255 characters.

Configuration screen

Here is an example Configure Send Buffer screen.

Configuring the node

Follow these steps to edit the node configuration.

1. In the **Originating Address** field, select an address from the list:

- Called Party Number
- Calling Party Number
- Normalised Called Party Number
- Normalised Calling Party Number
- Pending TN Buffer
- Application Buffer
- Manually Inserted

For details on normalization, refer to either the *USSD Gateway*, or the *ACS Technical Guide*.

2. If you selected:
 - Application Buffer, select the buffer value from the drop down list to the far right of the field.
 - Manually Inserted, type the originating address in the text field to the right of the field. Maximum of 31 characters.
3. In the **Destination Address** field, select an address from the list. This will normally contain the MSISDN of the subscriber using the service.
The available options are the same as for the originating address.
4. Select the **Generate CDRs** check box if you wish to generate CDRs.
Note: You can view these CDRs on the *UPC CDR Viewer Screen*.
5. Select the **Charge CDR** check box if you wish to charge CDRs.
6. Select the **Strip Last Space** check box if you wish to strip the last space from the buffer.
7. Type the name of the UCP interface to be used.
This alphanumeric field can be populated with up to 19 characters.
8. The **Send Text** option allows you to enter hard coded text, in the text field, which is sent to the UCP interface at run time.
9. The **Send Buffer ID** option allows you to select the buffer, in the drop down box, in which data is collected.
10. The **Message Class** drop-down menu selects "Not Set".
Note: This feature is for future enhancements.
11. Click **Save**.

User Input

Node description

This node plays an announcement to the subscriber which prompts them for input. It then collects the input and appends it to the configured selection buffer.

Node icon



Restrictions

This node may be used any number of times within a control plan.

Node exits

This node has one entry and four exits. The number of exits cannot be changed.

Exit	Cause	Description
1	Error	Node encountered an error during execution.
2	Improper User Input	There was a problem with the user's input.
3	Success	Node processed correctly.
4	VA type non-digit	Problem using the Variable Part Announcements configuration.

Configuration screen

Here is an example Configure User Input screen.

Configure User Input

Node name: UserInput

Service IF: ACS

Menu: PA announcement

Variable Parts: 0

Profile Buffer

Profile Block

Pattern List Location: Account Reference Profile

Pattern List Field: CCS CWTR Name

Buffer ID: 1 Duration: []

Min Digits: 4 Max Digits: 9

Add Space Clear Buffer

Supplementary Information

Language: English

MAP 1: This is a map1 PA Announcement

MAP 2: This is a map2 PA Announcement

Exit Branches

1	Error	2	Improper User Input
3	Success	4	VA type non-digit

Comments Save Cancel

Configuring the node

Follow these steps to edit the node configuration.

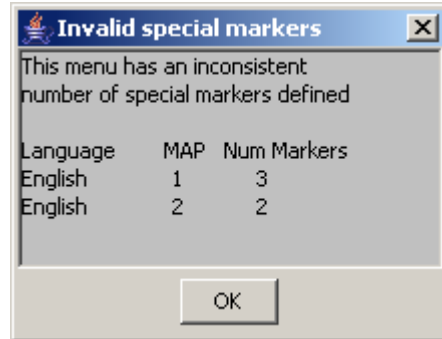
1. In the **Service IF** field, select the service from the drop down list.

Note: The list is populated with all the Service Interface names created by the USSD Gateway Base Configuration screen, *Service Interface* tab.

2. In the **Menu** field, select the menu from the drop down list.

The list is populated with all the Menu names created by the USSD Gateway Menu Configuration screen, *Menu Info* tab which was created for a particular Service Interface.

Note: If the menu has been set up containing variable parts, but a different number of variables have been set up in the text for MAP 1 and MAP 2, you will see an error, for example:



In this example, the MAP 1 menu has 3 variables, but the MAP 2 has only 2.

You must correct this using the *Menu Language* tab before you can select the menu.

- The field to the right of the Variable Parts button displays the number of variable parts contained within the selected menu.

If the value displayed in the field is not 0, then the menu item contains variable parts. These are displayed in the MAP 1 and MAP 2 text display boxes, as pairs of percentage symbols (%%). See *Menu Language* for details.

You must click **Variable Parts** to open the Variable Part Announcement screen and insert substitutions for each variable part in the message. See *Setting Variable Part Announcements*.

- Select the option of where to store the user input:
 - Profile - This allows you to select Profile Blocks and Primary Tags
 - Buffer - This allows you to enter information into a buffer.
- If you selected:
 - Profile option, select the:
 - Pattern List Profile Block** and
 - Pattern List Primary Tag**.

For the USSD Gateway service, the following profiles are writable to the database:

- Customer
- Call Plan
- CLI Subscriber
- Service Number

In addition the following is specified as a temporary profile, stored in memory:

- Application Specific 7

For more information on Profile Blocks and tags, refer to the *CPE User's Guide*.

- Buffer option - fill in the following field:

Buffer ID - This drop-down menu allows you to select which buffer to use to store the user input.

Note: The USSD Gateway Portal run-time system uses ten data buffers to store data.

- In the **Duration** field, set the length of time, in seconds that the user has to enter their selection.

If the duration in the node is set to 0, and the Menu used in the node as described above in step 2 is also configured with duration as 0, node will just play an announcement to the user and will not prompt for any input. Node will take 'improper user input' exit in this case.

Note: Optional

- In the **Min Digits** and **Max Digits** fields, set the minimum and maximum number of digits the user is required to input.
- Ticking the **Add Space** check box will add a space at the end of the string entered into the buffer.
- Ticking the **Clear Buffer** check box will clear any value entered into the buffer before any selection has been entered.
- In the **Language** field, select the language to use.

This is populated with the language names created by the USSD Gateway Base Configuration screen, *Language* tab.

The **MAP 1** and **MAP 2** fields will display the text information presented to the user using a MAP1 or MAP2 version device, in the selected language.

- Click **Save**.

Setting Variable Part Announcements

If the menu contains one or more variable announcement parts, use the Variable Part Announcement screen to define each variable part.

Here is an example Variable Part Announcement Dialog.

This example contains four variable parts, each illustrating a different option from the list of buffers.

Buffers

Here are the buffers available in the Variable Part Announcements Dialog and the action to perform when the buffer is selected.

Buffer	Action
Called Party Number Calling Party Number Normalised Called Party Number Normalised Calling Party Number Pending TN Buffer	No further action required
Application Buffer	Select the buffer used to store the user input in the drop down list
Manually inserted	Type a value in the text field.
Profile Location.	Select the: <ul style="list-style-type: none"> • Pattern List Profile Block and • Pattern List Primary Tag. For more information on Profile Blocks and tags, refer to <i>CPE User's Guide</i> .

For a description of the buffers, refer to *CPE User's Guide*.

User Selection

Node description

The User Selection node displays a menu and collects the user's choice. The node matches the choice to a keyword in the UPC menu string. If a keyword matches, it is appended to the final selection buffer.

Node icon



Restrictions

This node may be used any number of times within a control plan.

Node exits

The User Selection node has one entry and may have 5 through 25 exits. Each exit is mapped to a day of week range, and must be connected to an appropriate node. You can configure the number of exits using the *Editing the number of exit branches* (on page 2).

Exit	Cause	Description
1	Error	Node encountered an error during execution.
2	Improper User Input	User Selection doesn't match keyword choice.
3	VA type non-digit	Problem using the Variable Part Announcements configuration.
4	0	User selected 0.
5	*	User selected *.

Configuration screen

Here is an example Configure User Selection screen.

Exit Branches	
1	Error
2	Improper User Input
3	VA type non-digit
4	0
5	*

Configuring the node

Follow these steps to edit the node configuration.

1. In the **Service IF** field, select the service from the drop down list.

Note: The list is populated with all the Service Interface names created by the USSD Gateway Base Configuration screen, *Service Interface* tab.

2. In the **Menu** field, select the menu from the drop down list.

The list is populated with all the Menu names created by the USSD Gateway Menu Display screen, *Menu Language* tab which was created for a particular Service Interface.

Note: If the menu has been set up containing variable parts, but a different number of variables have been set up in the text for MAP 1 and MAP 2, you will see an error, for example:



In this example, the MAP 1 menu has 3 variables, but the MAP 2 has only 2.

You must correct this using the *Menu Language* tab before you can select the menu.

3. Fill in the **Buffer ID** field. This drop-down menu allows you to select which buffer that the user input has been stored in.

Note: The USSD Gateway Portal run-time system uses ten data buffers to store data.
4. In the **Duration** field, set the length of time, in seconds that the user has to enter their selection.

Note: Optional
5. Ticking the **Add Space** check box will add a space at the end of the string entered into the buffer.
6. Ticking the **Clear Buffer** check box will clear any value entered into the buffer before any selection has been entered.
7. The field to the left of the Parts button displays the number of exits listed in the field below the **Language** field, which displays the Exit-Keyword mapping set up in the *User Selection* tab.

Note: To make these exits available, you must add the required number of exits to the node. See *Editing the number of exit branches* .
8. The field to the right of the Parts button (**Num Selections**) displays the number of variable parts contained within the selected menu.

If the value displayed in the field is not 0, then the menu item contains variable parts. These are displayed in the MAP 1 and MAP 2 text display boxes, as pairs of percentage symbols (%%). See *Menu Language* for details.

You must click **Parts** to open the Variable Part Announcement screen and insert substitutions for each variable part in the message. See *Setting Variable Part Announcements* .
9. In the **Language** field, select the language to use.

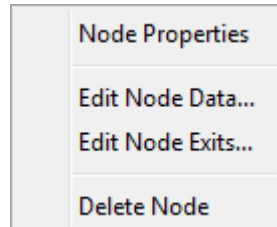
This is populated with the language names created by the USSD Gateway Base Configuration screen, *Language* tab.
10. Selecting the **MAP 1** and **MAP 2** options will display, in the field below, the text information presented to the user using a MAP1 or MAP2 version device, in the selected language.
11. Click **Save**.

Editing the number of exit branches

Follow these steps to edit the number of exit branches of a node.

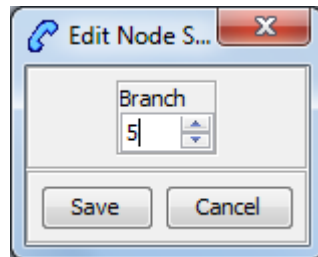
1. Ensure Call Plan Editor is in Graphical mode.
2. Right-click on node you want to change the number exits for.

Result: You see a shortcut menu.



3. Click **Edit Node Exits**.

Result: You see the Edit Node Structure screen.



4. Use the arrows to change the number displayed. The up arrow will increase the displayed number and the down arrow will decrease the displayed number.

The number of exits on the node will now reflect the number that was entered into the Edit Node Structure screen.

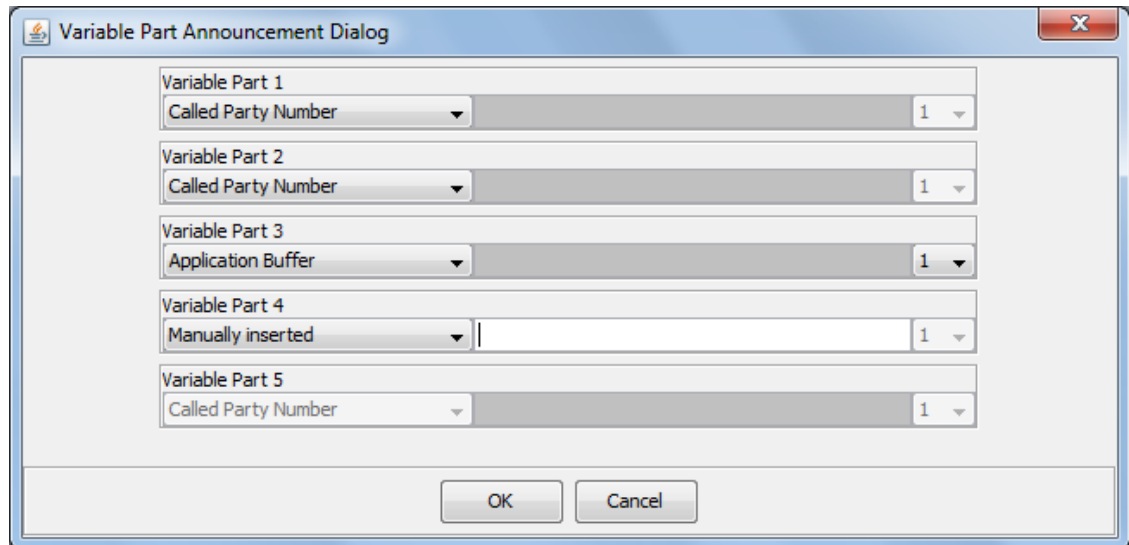
5. Click **Save**.

Result: The Edit Node Structure screen will close.

Setting Variable Part Announcements

If the menu contains one or more variable announcement parts, use the Variable Part Announcement screen to define each variable part.

Here is an example Variable Part Announcement Dialog.



This example contains four variable parts, each illustrating a different option from the list of buffers.

Buffers

Here are the buffers available in the Variable Part Announcements Dialog and the action to perform when the buffer is selected.

Buffer	Action
Called Party Number	No further action required
Calling Party Number	
Normalised Called Party Number	
Normalised Calling Party Number	
Pending TN Buffer	
Application Buffer	Select the buffer used to store the user input in the drop down list
Manually inserted	Type a value in the text field.

For a description of the buffers, refer to *CPE User's Guide*.

Version Branching

Node description

The Version Branching node attempts to determine which version of MAP is being used for the call. It branches on MAP version or takes a default exit if a version cannot be determined.

The node determines the subscriber's MAP version by querying the Additional Calling Party Number using the IDP Query action.

Node icon



Restrictions

This node may be used any number of times within a control plan.

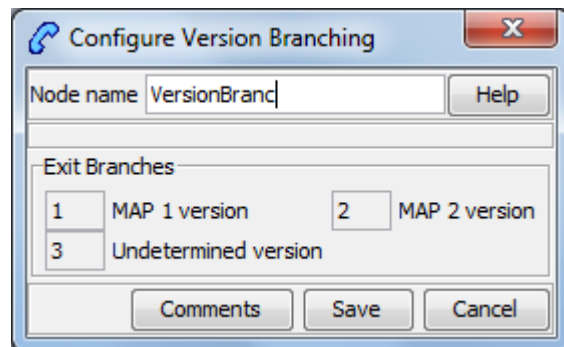
Node exits

This node has one entry and three exits. The number of exits cannot be changed.

Exit	Cause	Description
1	MAP 1 version	Call is using MAP1.
2	MAP 2 version	Call is using MAP2.
3	Undetermined version	MAP version could not be determined.

Configuration screen

Here is an example Configure Version Branching screen.



Configuring the node

This node may have a Tracking String added. It does not require any other configuration.

Click **Save** to save the node.