Using Virtual Phone

This chapter explains how you can use the Virtual Phone user interface to test your telephony applications.

Virtual Phone Window ^TOP^

The Virtual Phone window, shown in Figure 4.1, displays the text equivalent of the original Telephony Manager function, while the actual AT commands or traces are displayed in the AT Log window.

Figure 4.1 Virtual Phone window

This window displays the Telephony Manager functions that are called and the results of the calls.

Virtual Phone Menu Items ^TOP^

Most of Virtual Phone's functions are available through the following menu items.

File Menu ^TOP^

Select File to work with Virtual Phone configuration files (VPC files).

File > New Profile

Select to open the New Profile wizard to create a new Virtual Phone configuration.

File > Open Phone Config

Select to open the Open dialog, shown in Figure 4.2, to select an existing Virtual Phone configuration file.

Figure 4.2 Open dialog for Virtual Phone configuration (VPC) files

File > Save Phone Config

Select to save the current Virtual Phone configuration file.

File > Save Phone Config As

Select to open the Save VP State dialog, shown in Figure 4.3, to save the current Virtual Phone configuration file with a filename that you specify.

Figure 4.3 Save VP State Dialog

File > Exit

Select to exit Virtual Phone.

Connection Menu ^TOP^

Select Connect to connect the Virtual Phone to the Simulator. Select Disconnect to disconnect the Virtual Phone from the Simulator. Select Reset to clear the Activity Log without disconnecting the Virtual Phone.

View Menu ^TOP^

Select View to open or arrange the secondary Virtual Phone windows.

View > AT Log

Select to open the AT Log window, shown in Figure 4.4.

Figure 4.4 AT Log window

- To save the contents of the AT Log window, click the diskette icon in the toolbar.
- To add a separator line to the window, click the line icon in the toolbar.
- To clear the contents of the window, click the delete icon (the red X) in the toolbar.
- To view the contents of the window in hexadecimal format, click the hex icon (the black H) in the toolbar.

View > Auto Arrange AT Log

Select to position the AT Log window below the Virtual Phone window.

View > Auto Arrange AT+CFG

Select to position the AT Log window to the right of the Virtual Phone window, and the Phone Configuration dialog below the Virtual Phone window.

View > Auto Arrange CFG+AT

Select to position the AT Log window to below the Virtual Phone window, and the Phone Configuration dialog to the right of the Virtual Phone window.

Tools Menu ^TOP^

The Tools menu, shown in Figure 4.5, provides access to several services.

Figure 4.5 Virtual Phone Tools Menu

Tools > Phone Configuration

Select to open the Phone Configuration dialog to set and view the settings for basic services of Virtual Phone. See "Phone Configuration Dialog" for more information.

Tools > Services

Select to open the Service Configuration dialog to set and view the settings for PhoneBook, SMS, and Speech services. See "Service Configuration Dialog" for more information.

Tools > Send AT Commands

Select to open a dialog, shown in Figure 4.6, where you can enter AT unsolicited results that you want to send.

Figure 4.6 Send AT Commands Dialog

Tools > Responses Preferences

Select to define the Virtual Phone services, error numbers, and messages. See "Response Preferences Dialog" for more information.

Tools > Options

Select to define the options for Profiles, Phone use, and window settings. See "" for more information.

Tools > Profile Setup

Select to change or view current Profile settings. See "Profile Setup Dialog" for more information.

Virtual Phone Toolbar Items ^TOP^

Virtual Phone provides additional functions through the toolbar shown in Figure 4.7.

Figure 4.7 Virtual Phone toolbar

AT Button

Toggles the display of the AT Log window.

Clear Button

Clears the contents of the Activity Log

Connection Button

Connects or disconnects Virtual Phone.

Power Button

Turns Virtual Phone on or off, determining whether Virtual Phone can receive AT commands.

CFUN Button

Turns the phone functions on or off (equivalent to processing the AT+CFUN command).

Network Registration Button

Registers the phone to the operator selected (equivalent to processing the AT+COPS=0 command).

Virtual Phone Status Bar ^TOP^

The status bar, shown in Figure 4.8, displays information about the current configuration.

- The communications plug-in link setting
- The phone plug-in setting
- The security state (such as Ready, PIN Expected, PUK Expected)

Figure 4.8 Virtual Phone status bar

Phone Configuration Dialog ^TOP^

The Phone Configuration dialog provides access to the phone configuration settings. To open the Phone Configuration dialog, select Tools > Phone Configuration.

Phonebook Settings ^TOP^

Phonebook Settings, shown in Figure 4.9, displays information about the stored phone books, showing the current phonebook and which phonebooks are activated. Note that the list of phone books depends on the settings in your profile.

Figure 4.9 Phonebook Settings

General

- Maximum Name Length

Enter the maximum length of a name associated to a phone number. A maximum of 30 characters is permitted for the name length.

See alp_tel_phb_get_phonebook in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Phonebook Service.

Current Phone Book

The currently selected Phone Book.

See alp_tel_phb_get_phonebook or alp_tel_phb_set_phonebook in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Phonebook Service.

Activated Phone Books

Check to indicate that the phone book is to be created, if it does not already exist) and then subsequently updated. Each phone book that you check is created and updated in the Phonebooks folder. If a phone book is not checked, it is not created (or if it already exists, it is not updated).

See alp_tel_phb_get_phonebooks in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Phonebook Service.

SMS Settings ^TOP^

SMS Settings, shown in Figure 4.10, displays information about the SMS features.

Figure 4.10 SMS Settings

The values entered and displayed here are stored in the SMS (Short Message Services) files, SmsStore.db and SmsStoreSend.db.

General setting

- Call Center

Enter the phone's service center.

See alp_tel_cfg_set_sms_center or alp_tel_cfg_get_sms_center in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Configuration Service.

- Max SMS Index

Enter the maximum number of messages to display and store (maximum 500).

See alp_tel_sms_get_storage in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>SMS Services.

- SMS Loopback

Check this option to apply a loopback on the SMS sent by the simulator. This means that the Message Type Indicator is changed from <Submit> to <Deliver>. This loopback provides SMS test facilities.

MO SMS Service

Select the SMS bearer service for Mobile Originated SMS:

- 0 - GPRS
- 1 - Circuit Switched
- 2 - GPRS Preferred
- 3 - Circuit switch preferred

See alp_tel_sms_set_bearer_service or alp_tel_sms_get_bearer_service in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>SMS Services.

New Message indication

Select the mode for new messages:

- 0 - Always buffer unsolicited result codes
- 1 - Discard unsolicited results when link is reserved
- 2 - Buffer unsolicited results when link is reserved

Indication mode according to SMS type

- SMS Deliver

Select the SMS Deliver setting:

- 0 - No indications are routed
- 1 - Memory location is routed (+CMTI)
- 2 - PDU is routed (+CMT)

- SMS Status Report

Select the SMS Status Report setting:

- 0 - No indications are routed
- 1 - PDU is routed (+CDS)
- 2 - Memory location is routed (+CDSI)

- SMS Cell Broadcast

Select the SMS Cell Broadcast setting:

- 0 - No indications are routed
- 1 - Memory location is routed (+CBMI)
- 2 - PDU is routed (+CBM)

Data Settings ^TOP^

Data Settings, shown in Figure 4.11, displays information about the server, server port, communication protocol.

Figure 4.11 Data Settings

Server

These settings are used for data connections (GSM/GPRS). The server specified should be a valid TCP server.

- Server

Enter the name of the server.

- Port

Enter the port for the server.

- Protocol

Select the communication protocol for the server (TCP or UDP).

SIM Settings ^TOP^

SIM Settings, shown in Figure 4.12, displays SIM properties for the phone you are emulating.

Figure 4.12 SIM Settings

International Mobile Subscriber Identity

- IMSI - International Subscriber Identity

Enter the international mobile subscriber identity number corresponding to the SIM card.

Voice Mail Number

- Number

Enter the voice mail number for the SIM card.

- Name

Enter the voice mail name for the SIM card.

NOTE: The Voice Mail Number settings are disabled by default. Click Enable to activate these settings.

SIM Card

- Status

Sim Inserted: Select this setting to indicate whether the SIM card is in use for the emulation.

Provisioning: Select this setting to indicate whether the SIM card is provisioned (emulating the presence of WAP provisioning files such as bootstrap, config1, or config2)

GPRS Settings ^TOP^

GPRS Settings, shown in Figure 4.13, displays GPRS properties for the phone you are emulating.

Figure 4.13 GPRS Settings

GPRS Network registration

- State

Specify the network registration state for the Mobile Equipment (ME).

- 0 - Not Registered, ME Not Searching.

- 1 - Registered

Select this value if the highlighted network is registered to a provider (RegStat=1).

- 2 - Not Registered, ME Not searching

Select this value if the network is not registered (RegStat=2).

- 3 - Registration Denied

Select this value to simulate a denied registration (RegStat=3).

- 4 - Unknown

Select this value if the network is not recognized by Virtual Phone (RegStat=4).

- 5 - Registered, Roaming

Select this value if the network is registered as roaming (RegStat=5).

See alp_tel_nwk_get_status in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

- Attach to GPRS Network

Select to indicate whether the phone is attached to the GPRS network.

See alp_tel_nwk_get_gprs_registration in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

Location

- Cell Id

Enter the value of the current cell. This value is a two-byte cell ID in hexadecimal format.

See alp_tel_nwk_get_location in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

- Area Code

Enter the value of the cell's area code. This value is a two-byte location area code in hexadecimal format.

See alp_tel_nwk_get_location in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

Network Registration Notification

- Mode

Set the network registration notification state.

- 0 - None

Select this value to disable the network registration unsolicited results code.

- 1 - Network Reg.

Select this value to enable the network registration unsolicited results code.

- 2 - Network Reg. & Location Info

Select this value to enable the network registration and location information unsolicited results code.

- Send Notif

Click to send a network registration notification. Note that if you modify the Cell ID or Area Code information, you should click Apply before clicking Send Notif.

GPRS Event Reporting

Use the following options to enable or disable the sending of unsolicited result codes (+CGEV) to the terminal when certain events occur in the Packet Domain MT or the network

- Mode

Select the buffering mode for event reporting.

- 0 - Buffered: Select this value to buffer unsolicited result codes. No codes are forwarded to the terminal.
- 1 - Discard when On Line: Select this value to discard unsolicited result codes in on-line data mode.
- 2 - Buffer when On Line: Select this value to buffer unsolicited result codes in on-line data mode.

- Bfr

Select the buffer behavior.

- 0 - Clear: Select this value to clear the buffer when <mode> 1 or 2 is entered
- 1 - Flush: Select this value to flush the buffer to the terminal when <mode> 1 or 2 is entered

GPRS PDP Management ^TOP^

The Phone Configuration dialog provides one settings page for overall settings, and an additional page for each APN specified.

Figure 4.14 PDP Management

PDP Context Management

The table lists the APN definitions for this Virtual Phone session. The PDP parameters available depend on the selected PDP type.

Actions

- Activate: Click to activate the selected PDP context.
- Deactivate: Click to deactivate the selected PDP context.
- Add: Click to add a new PDP context.
- Remove: Click to remove the selected PDP context.

See alp_tel_ps_get_pdp_activation in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Packet Switch Service.

Unsolicited Result Codes

- Reject

Click to send an unsolicited result code indicating that a network request for PDP context activation was automatically rejected.

- ME Deact

Click to send an unsolicited result code indicating that the mobile termination has forced a context deactivation.

- ME Detach

Click to send an unsolicited result code indicating that the mobile termination has forced a PS detach. This implies that all active contexts have been deactivated.

- NW React

Click to send an unsolicited result code indicating that the network has requested a context reactivation.

- NW Deact

Click to send an unsolicited result code indicating that the network has forced a context deactivation.

- NW Detach

Click to send an unsolicited result code indicating that the network has forced a PS detach. This implies that all active contexts have been deactivated.

Class

- Selection

Choose the class which indicates the mode of operation

- NW Class

Click to send an unsolicited result code indicating that the network has forced a change of the mobile termination (id VirtualPhone) class.

- ME Class

Click to send an unsolicited result code indicating that the mobile termination (id VirtualPhone) has forced a change of its class.

- Flush Result

Click to display the result in the AT Log.

Figure 4.15 MyAPN

Each APN defined has a page for defining packet data protocol parameters.

Packet Data Protocol Parameters

- Context Identifier: This parameter identifies the defined PDP context.
- Type: Select the type of packet data protocol.
- APN: Enter the Access Point Name (used to select the GGSN or the external packet data network).
- Address: Enter the address applicable to the PDP.

Type Parameters

- PD1, PD2,PD3

String parameters with meanings that are specific to the OSPIH PDP type.

Compression

- Header

Check to set the PDP header compression ON.

- Data

Check to set the PDP data compression ON.

See alp_tel_ps_set_context and alp_tel_ps_get_context in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Packet Switch Service.

Required Quality

Use these options to specify a Quality of Service Profile:

- Precedence: Select the value for the precedence class.
- Delay: Select the value for the delay class.
- Reliability: Select the value for the reliability class.
- Peak: Select the value for the peak throughput class.
- Mean: Select the value for the mean throughput class.

See alp_tel_ps_get_qos_requested in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Packet Switch Service.

Minimum Quality

Use these options to specify a minimum acceptable QoS profile:

- Precedence: Select the value for the precedence class.
- Delay: Select the value for the delay class.
- Reliability: Select the value for the reliability class.
- Peak: Select the value for the peak throughput class.
- Mean: Select the value for the mean throughput class.

See alp_tel_ps_get_qos_minimum in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Packet Switch Service.

Speech Settings ^TOP^

Speech Settings, shown in Figure 4.16, displays properties for speech calls.

Figure 4.16 Speech Settings

Connected Line ID present

- TA

Check to show the result code presentation status in the Terminal Adapter (TA) phone book.

- Nwk

Check to show the subscriber connected line identification presentation service status in the network phone book.

Calling Line ID Present

- TA

Check to show the result code presentation status in the Terminal Adapter (TA) phone book.

- Nwk

Check to show the subscriber connected line identification presentation service status in the network phone book.

Calling Line ID Restriction

- Subscription

Set according to the subscription of the calling line identification restriction service.

- On Network

Set to the subscriber calling line identification restriction service status in the network.

Supplementary Service Notifications

- +CSSI

Select to indicate whether +CSSI notifications are supported.

- +CSSU

Select to indicate whether +CSSU notifications are supported.

Speech Forwarding ^TOP^

Speech Forwarding, shown in Figure 4.17, displays information about call forwarding settings.

Figure 4.17 Speech Forwarding

Call Forwarding

- Reason

Select the reason for call forwarding:

- Unconditional

Select this option to always forward.

- Busy

Select this option to forward when the line is busy.

- No Reply

Select this option to forward when there is no reply.

- Not Reachable

Select this option to forward when the line is not reachable.

- Class

Select the call type that you want forwarded:

- Voice

Select this option to forward incoming voice calls.

- Data

Select this option to forward incoming data calls.

- Fax

Select this option to forward incoming fax calls.

- Sms

Select this option to forward incoming SMS messages.

- Data Circuit Sync

Select this option to forward incoming synchronous data service calls.

- Data Circuit Async

Select this option to forward incoming asynchronous data service calls.

- Dedicated Packet Access

Select this option to forward incoming dedicated packet access service calls.

- Dedicated PAD Access

Select this option to forward incoming dedicated PAD access service calls.

- Status: Active

Check to indicate that call forwarding is active.

- Number

Enter the phone number of the forwarding address.

- SubAddr

Enter the call forwarding subaddress.

- Time

Enter the time in seconds to wait before call is forwarded. Note that this setting applies only when Call forwarding by class is set to No Reply.

Advice of Charge

The Advice of Charge settings, shown in Figure 4.18, enables you to set the values for notifications of phone charges. See "Speech - Advice Of Charge" for information on using this feature.

Figure 4.18 Speech Advice of Charge

- CCCM notification enabled

Check to enable unsolicited CCCM notifications, which are sent when the current call meter value changes.

- CCWV Notification enabled

Check to enable CCWV notification, which is fired shortly before the ACM maximum value is reached.

- ACM Max

Specify a maximum value for the Accumulated Call Meter (ACM).

- PPU

Specify the price per unit.

- Currency Code

Specify the type of currency, such as EUR for euros, DOL for dollars, and so forth. This is for identification purposes, so you can use any currency value you choose.

Configuration Settings ^TOP^

The Configuration Settings, shown in Figure 4.19, provides access to basic Virtual Phone configuration parameters.

Figure 4.19 Configuration Settings

Phone Settings

Enter the information for the phone you want to emulate.

- Brand

Enter any name (limited to 30 alphanumeric characters).

Use the function alp_mbl_context_gsm_get_manufacturer to access this information. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony
>Mobile Services>GSM Mobile Context.

- Model

Enter any model number (limited to 30 alphanumeric characters).

Use the function alp_mbl_context_gsm_get_model to access this information. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony
>Mobile Services>GSM Mobile Context.

- Revision

Enter the revision number (limited to 30 alphanumeric characters).

Use the function alp_mbl_context_gsm_get_revision to access this information. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony
>Mobile Services>GSM Mobile Context.

- Number

Enter the Phone Number (limited to 30 alphanumeric characters) of the "virtual" mobile phone.

Use the function alp_mbl_context_get_own_number to access this information. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony
>Mobile Services>GSM Mobile Context.

The Phone number can also be set or retrieved through the functions alp_tel_cfg_set_phone_number or alp_tel_cfg_get_phone_number. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Configuration Service..

- Serial Number

Enter the serial number of the phone you are emulating.

Use the function alp_mbl_context_gsm_get_mobile_id to access this information. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony
>Mobile Services>GSM Mobile Context.

- The information (Brand, Model, Revision, Serial Number) can also be retrieved through the function alp_tel_inf_get_identification. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Information Service.

Network Settings

- Emc Number

Enter the emergency call number.

Configuration Facilities ^TOP^

Configuration Facilities, shown in Figure 4.20, displays information about the current emulation session.

Figure 4.20 Configuration Facilities

Facilities

- Select the facility from the list:

- AI-Bar All Incoming Calls
- AO-Bar All Outgoing calls
- FD-SIM fixed dialing memory feature
- IR-Bar incoming calls when roaming outside the home country

- OI-Bar Outgoing International calls
- OX-Bar Outgoing international calls eXcept to home country
- PF-Lock phone to the first inserted SIM card
- PN-Network Personalization
- PS-Lock phone to SIM card
- PU-Network Subset Personalization
-
- SC-SIM asks for password in ME power-up
- Mode

Select Lock to indicate that the facility lock is active or select Unlock to indicated that it is not active.

- Passwd

Enter the facility lock password.

- Class

Select the class of information. Call barring facilities are based on GSM supplementary services (refer GSM 02.88 [6]). The interaction of these with other commands is based on other GSM supplementary services as described in the GSM standard. See the selection descriptions in the "Call Forwarding" section.

Network Settings ^TOP^

Network Settings, shown in Figure 4.21, displays properties that simulate network-oriented services, including authorized networks, forbidden networks, current network, signal strength, and search mode.

Figure 4.21 Network Settings

Set the parameters for the network you are emulating.

Signal Strength

Set the signal level you want to test.

- Entry field

Enter a numeric value between 0 and 31, with 0 being no signal and 31 being the maximum signal strength.

See alp_tel_nwk_get_signal_level See the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

- Not detectable

If checked, Virtual Phone will issue a 99 for Signal Strength. As specified in the GSM Technical Specification.

Search Mode

Select how you want Virtual Phone to select a network.

- Manual

Select this value if you want Virtual Phone to manually select a network

- Auto

Select this value if you want Virtual Phone to automatically select a network.

See alp_tel_nwk_set_registration_mode and alp_tel_nwk_get_registration_mode in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

Network name presentation

Select how you want the network name presented:

- 0-Long Name
- 1-Short Name
- 2-Numeric Name

Network Notifications ^TOP^

Network Notifications, shown in Figure 4.22, displays information about the network location and registration notifications.

Figure 4.22 Network Notifications

Location

Set the location information for the current cell and its area code.

- Cell Id

Enter the value of the current Cell. This value is a two-byte cell ID in hexadecimal format.

See alp_tel_nwk_get_location in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Servicek.

- Area Code

Enter the value of the Cell's area code. This value is a two-byte location area code in hexadecimal format.

See alp_tel_nwk_get_location in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

Network Registration Notification State

Set the network registration notification state.

- 0 - None

Select this value to disable the network registration unsolicited results code.

- 1 - Network Reg.

Select this value to enable the network registration unsolicited results code.

- 2 - Network Reg. & Location Info

Select this value to enable the network registration and location information unsolicited results code.

- Send Notif button

Click to send a network registration notification. Note that if you modify the Cell ID or Area Code information, you should click Apply before clicking Send Notif.

Network Networks ^TOP^

Network Networks, shown in Figure 4.23, displays information about the networks used for this Virtual Phone session.

Figure 4.23 Network Networks

Specify the networks for your phone.

- Current List

Select a list of network from either the Available Networks list or the Preferred Networks list. Select Modify List to display the Network List Management dialog.

A network is defined by its SimId, Id, Short Name and Name.

- SimId

The order number of the operator in the SIM available/preferred operator list.

- Id

This is a hexadecimal value five digits long. The first three digits represent the country code; the next two digits represent the network name. The normal numeric format is the GSM Location Area Identification number, which consists of a three-digit (BCD) country code plus a two-digit (BCD) network code.

- Short Name

An abbreviation of the Name with a maximum 8 alphanumeric characters.

- Name

The normal maximum value for name is 16 alphanumeric characters. Some operators restrict this value to 6 or 8 characters, while some networks allow more than 16 characters for the long name.

See alp_tel_nwk_get_operators and alp_tel_nwk_get_preferred_operators in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

- State

Select the state of the network that is selected in the table. There are four options:

- Unknown

Select this value if the network unknown (Stat=0).

- Available

Select this value if the selected network is available (Stat=1).

- Current

Select this value if the highlighted network is currently selected (Stat=2).

- Forbidden

Select this value if the network is unavailable for security reasons (Stat=3).

See alp_tel_nwk_set_operator in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

- ME Reg State

Select the ME (Mobile Equipment, that is the GSM phone) network registration status.

- 1 - Registered

Select this value if the highlighted network is registered to a provider (RegStat=1).

- 2 - Not Registered, ME Not searching

Select this value if the network is not registered (RegStat=2).

- 3 - Registration Denied

Select this value if the network is secured and registration is rejected (RegStat=3).

- 4 - Unknown

Select this value if the network is not recognized by Virtual Phone (RegStat=4).

- 5 - Registered, Roaming

Select this value if the network is registered as roaming (RegStat=5).

See alp_tel_nwk_get_status in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Network Service.

Power Settings ^TOP^

Use Power Settings to enter the power information for the phone you are emulating.

Figure 4.24 Power Settings

Power management

- Phone Functionality Value

Enter a number indicating the phone functionality status as defined in ETSI standard (see AT+CFUN command).

See alp_tel_pow_get_phone_functionality and alp_tel_pow_set_phone_functionality in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Power Service.

- Battery state

Enter the battery conditions you are testing.

- Powered

Select to indicate that the battery is present and that the Battery Level setting should be taken into consideration.

- Not Powered

Select to indicate that the battery is present but its power level is zero.

- No Battery

Select to indicate that no battery is present.

- Battery Fault

Select to simulate a battery fault condition.

See alp_tel_pow_get_battery_connection_status in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Power Service.

- Battery level

Select the battery range from 0% (for no power) to 100% (for full power).

See alp_tel_pow_get_battery_charge_level in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Power Service.

Security Codes ^TOP^

Security Codes, shown in Figure 4.25, displays information about security settings used for this emulation session.

Figure 4.25 Security Codes

You can change the values of these codes in this dialog.

You can change the PIN1 and PIN2 codes by using the function alp_tel_sty_change_facility_password. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Security Service.

PIN 1

- Value

Enter the primary Personal Identification Number (PIN), between 4-digits and 8-digits long.

- Num tries

Enter the number of times that a user can attempt to enter the PIN 1 value.

PIN 2

- Value

Enter the secondary Personal Identification Number between, 4-digits and 8-digits long.

- Num tries

Enter the number of times that a user can attempt to enter the PIN 2 value.

PUK 1

- Value

Enter the primary Personal Universal Key (PUK). This value is a mandatory 8-digits long.

- Num tries

Enter the number of times that a user can attempt to enter the PUK 1 value.

PUK 2

- Value

Enter the secondary Personal Universal Key (PUK). This value is a mandatory 8-digits long.

- Num tries

Enter the number of times that a user can attempt to enter the PUK 2 value.

The relevant values in this dialog are checked against the value set in the function alp_tel_sty_enter_authentication. See the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Security Service.

Reset State

Click to reset the security values to the default state.

Security Status ^TOP^

Use Security Status to set the security for this Virtual Phone session.

Figure 4.26 Security Status

Actual Security Status

Enter the security state of the phone.

See alp_tel_sty_get_authentication_status in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Security Service.

- Ready

Select this value if Virtual Phone is ready to receive AT commands. State=0.

In this state, Virtual Phone answers "Ready" to any +CPIN? command, and does not apply PIN Security before answering other AT commands.

- PIN1 expected

Select this value to indicate that Virtual Phone should expect a primary Personal Identification Number (PIN). State=1.

- PUK1 expected

Select this value to indicate that Virtual Phone should expect the primary Personal Universal Key (PUK). State=3.

- Phone to SIM expected

Select this value to indicate that Virtual Phone should expect the Phone to Subscriber Identification Module (SIM) code. State=5.

- Phone to First SIM expected

Select this value to indicate that Virtual Phone should expect the Phone to First SIM Key (PH-FSIM PIN).

- PIN2 expected

Select this value to indicate that Virtual Phone should expect a secondary Personal Identification Number (PIN). State=2.

- PUK2 expected

Select this value to indicate that Virtual Phone should expect the secondary Personal Universal Key (PUK). State=4.

- SIM Wrong

Select this value to simulate a deactivated SIM card, such as a SIM card with the PUK code blocked

Lock SIM Card

Check to activate PIN1 security.

Service Configuration Dialog ^TOP^

To open the Service Configuration dialog, select Tools > Services. The Service Configuration dialog displays settings for PhoneBook, SMS, SIM, and Speech.

PhoneBook ^TOP^

The PhoneBook page, shown in Figure 4.27, displays information about each of the active phonebooks.

Figure 4.27 PhoneBook

See alp_tel_phb_get_phonebooks in the ACCESS Linux Platform SDK API documentation under Modules>Telephony>Telephony Mgr>Phonebook Service.

- Write Protected

Check to indicate that the phone book is write protected.

- Total Entries

Enter the maximum number of entries allowed in the phone book.

- Total Used

The value in this field indicates the number of entries present in the selected phonebook.

- Add button

To manually add an entry in the phone book, click Add. This generates an index entry for the item, and you can click on the fields in the table to add data.

- Remove button

To remove an entry, select the entry and click Remove.

- Remove All button

To remove all entries in the phone book, click Remove All.

- Populate button

To add random data to the phone book, click Populate.

SMS PDU Viewer ^TOP^

Use PDU Viewer, shown in Figure 4.28, to create a new SMS delivery message, which is an SMS message received by Virtual Phone from the GSM network. The message is stored in the first available location in the SmsStore.db file.

Figure 4.28 PDU Viewer

PDU Viewer

- PDU

Enter the PDU (Protocol Data Unit) for this message.

Action

- Direction

Select whether this is an incoming message or an outgoing message.

- Incoming SMS (SC to MS) - Select if this is an incoming message.
- Outgoing SMS (MS to SC) - Select if this is an outgoing message.

- Decode

Click to decode this message.

SMS PDU Manager ^TOP^

Use the PDU Manager page to set options for the SMS Center.

Figure 4.29 PDU Manager

SMS Center

- Configured in MS

Check to indicate that the SMS Center is configured in the MS (Mobile Station).

- Address

Enter the address of the SMS Center. This option is available when the SMS Center is configured in MS checkbox is not selected.

- TON

Select the "Type of Numbering (TON)" phone number format:

- Unknown - Address octet 129 ISDN
- International - Address octet 145 ISDN
- National - Address octet 161 ISDN

- Message Parameters

Enter the other message data in the scrollable table.

- Create PDU button

Click to create a PDU.

- Reset

Click to reset the data to the default data.

- Receive PDU button

Click to receive a PDU.

With the default Virtual Phone configuration, you can create a standard SMS message by clicking Receive PDU. Virtual Phone creates a Class 1 SMS text message with the text Hello world!

To create a multiple-part SMS message, simply add enough characters to the message.

SMS Storage ^TOP^

The SMS Storage page shows the content of the memory area that is used for SMS reading, writing, deleting, sending, or receiving.

Figure 4.30 SMS Storage

Messages

- Id

The identification number of the message.

- Type

The message type.

- Multi Part

Indicates whether the SMS is composed of several parts. For a single-part message, the field says None. For a multiple-part message, the field contains a relative number indicating the part displayed, such as 1/3 for the first part of a three-part message.

- Status

Indicates the status of the message: received unread, received read, stored unsent, or stored sent.

- Message Text

Content of the SMS message.

- Refresh button

Click to refresh the messages table.

- Delete button

Click to delete a selected message. To select a message, either use Ctrl+A or else Ctrl-click the message.

SMS Log ^TOP^

The SMS Log page keeps a record of SMS messages you have sent.

Figure 4.31 SMS Log

Messages

- Id

The identification number of the message.

- Multi Part

The SMS is composed of several parts.

- Status

Indicates the status of the message: should always be set to stored sent.

- Report Status

The SMS contains a status report request.

- Message Text

Content of the SMS message.

- Refresh List button

Click to refresh the messages table.

- Send Report button

Click to send an SMS status report for the selected SMS message (if applicable).

- Delete button

Click to delete a selected message. To select a message, either use Ctrl+A or else Ctrl-click the message.

Speech - New Call ^TOP^

Use the New Call page to create a new call.

Figure 4.32 New Call

New Incoming Call

- Name

Enter the name for the incoming call.

- Number

Enter the phone number for the incoming call.

- Forwarded

Check if you want this call treated as a forwarded incoming call.

- Start

Click to make the call you have created.

Speech - Manage Calls ^TOP^

The Manage Calls page allows you to change the state of calls that you have placed or received

Figure 4.33 Speech - Manage Calls

Speech - Advice Of Charge ^TOP^

The Advice of Charge page allows you to send a notification that includes the current call meter value of the call. The values used for the notification are set in Phone Configuration dialog. See the "Advice of Charge" for more information.

- Set AoC interval (in s)

Sets the timer that will increment the current call meter value by the specified number of seconds. Press Start to start the timer. Once the timer has started, the button text changes to Stop, and you can press the button to stop the timer.

- +CCCM notification

Press Start to start the timer to send the notification every 10 seconds. After you press Start, the button text changes to Stop, and you must press the button to stop the notification.

- +CCWV notification

Press Send to send the notification that simulates that a "maximum value" has been reached.

Response Preferences Dialog ^TOP^

To open the Response Preferences dialog, select Tools > Response Preferences. Use this screen to select an error which will systematically be returned by a service.

Figure 4.34 Response Preferences Dialog

For more details regarding the AT command set, see the 3GPP TS 27007 specification: "AT command set for User equipment"

The following list associates a Virtual Phone service to a Telephony Manager function as supported by a standard GSM phone driver.

Table 4.1 Virtual Phone Services and Telephony Manager FunctionsÂ

Services	Associated Functions
Accept Call	alp_tel_spc_accept_call
Add Entry	alp_tel_phb_add_entry
Auto Operator Select	alp_tel_nwk_set_registration_mode
Call Number	alp_tel_spc_initiate_call
Change Authentication Code	alp_tel_sty_change_facility_password

Close Line and Reject Call

alp_tel_spc_release_call

Delete Entry

alp_tel_phb_delete_entry

Delete Message

alp_tel_sms_delete_message

Enter Authentication Code

alp_tel_sty_enter_authentication

Get Authentication State

alp_tel_sty_get_authentication_status

Get available Storage

alp_tel_sms_get_storages

Get Available Phone Books

alp_tel_phb_get_phonebooks

Get Battery State

alp_tel_pow_get_battery_connection_status

Get Brand Number

alp_tel_inf_get_identification

Get Call State

alp_tel_spc_get_call

Get Entries

alp_tel_phb_get_entries

Get Location

alp_tel_nwk_get_location

Get Model Number

alp_tel_inf_get_identification

Get Mute status

alp_tel_snd_get_mute_status

Get Networks

alp_tel_nwk_get_operators

Get Network status

alp_tel_nwk_get_status

Get Phone Number

alp_tel_cfg_get_phone_number

Get Revision

alp_tel_inf_get_identification

Get Selected Phone Book

alp_tel_phb_get_phonebook

Get Selected Network

alp_tel_nwk_get_operator

Get Selected Storage

alp_tel_sms_get_storage

Get Signal Level

alp_tel_nwk_get_signal_level

Get Sms Center

alp_tel_cfg_get_sms_center

Hold Line

alp_tel_spc_hold_active_calls

Mute

alp_tel_snd_set_mute_status

Operator Select

alp_tel_nwk_set_operator

Read Message

alp_tel_sms_read_message

Read Messages

alp_tel_sms_read_messages

Select Phone Book

alp_tel_phb_set_phonebook

Select SMS Storage

alp_tel_sms_set_storage

Send DTMF tones

alp_tel_spc_play_tone

Send Short Message

alp_tel_sms_send_message

Set Phone Number

alp_tel_cfg_set_phone_number

Set Sms Center

alp_tel_cfg_set_sms_center

Response Configuration

- According to Phone's State

Select this option to return a value according to the current state of Virtual Phone.

- Reply with Error

Use this option to return the selected error message.

Options Dialog ^TOP^

Table 4.2 GSM General ErrorsÂ

GSM Error Number	Error	Telephony Constant
0	Phone failure	ALP_STATUS_TEL_COMMAND_FAILED
1	No connection to phone	ALP_STATUS_TEL_PHONE_COMM
2		

Phone-adapter link reserved

ALP_STATUS_TEL_PHONE_COMM

3

Operation not allowed

ALP_STATUS_TEL_OPERATION_NOT_ALLOWED

4

Operation not supported

ALP_STATUS_TEL_FEATURE_NOT_SUPPORTED

5

PH-SIM PIN required

ALP_STATUS_TEL_PHONE_TO_SIMPIN_REQUIRED

10

SIM not inserted

ALP_STATUS_TEL_NO_SIM_INSERTED

11

SIM PIN required

ALP_STATUS_TEL_SIMPIN_REQUIRED

12

SIM PUK required

ALP_STATUS_TEL_SIMPUK_REQUIRED

13

SIM failure

ALP_STATUS_TEL_SIM_FAILURE

14

SIM busy

ALP_STATUS_TEL_SIM_BUSY

15

SIM wrong

ALP_STATUS_TEL_SIM_WRONG

16

Incorrect password

ALP_STATUS_TEL_PASSWORD

17

SIM PIN2 required

ALP_STATUS_TEL_SIMPIN2_REQUIRED

18

SIM PUK2 required

ALP_STATUS_TEL_SIMPUK2_REQUIRED

20

Memory full

ALP_STATUS_TEL_PHONE_MEM_ALLOCATION

21

Invalid index

ALP_STATUS_TEL_INVALID_INDEX

22

Not found

ALP_STATUS_TEL_ENTRY_NOT_FOUND

23

Memory failure

ALP_STATUS_TEL_PHONE_MEM_FAILURE

24

Text string too long

ALP_STATUS_TEL_INVALID_STRING

25

Invalid characters in text string

ALP_STATUS_TEL_INVALID_STRING

26

Dial string too long

ALP_STATUS_TEL_INVALID_DIAL

27

Invalid characters in dial string

ALP_STATUS_TEL_INVALID_DIAL

30

No network service

ALP_STATUS_TEL_NO_NETWORK

31

Network time-out

ALP_STATUS_TEL_NETWORK_TIMEOUT

32

Network not allowed -emergency calls only

ALP_STATUS_TEL_NETWORK_NOT_ALLOWED

40

Network personalization PIN required

ALP_STATUS_TEL_NETWORK_PIN_REQUIRED

41

Network personalization PUK required

ALP_STATUS_TEL_NETWORK_PUK_REQUIRED

42

Network subset personalization PIN required

ALP_STATUS_TEL_NETWORK_SUBSET_PIN_REQUIRED

43

Network subset personalization PUK required

ALP_STATUS_TEL_NETWORK_SUBSET_PUK_REQUIRED

44

Service provider personalization PIN required

ALP_STATUS_TEL_PROVIDER_PIN_REQUIRED

45

Service provider personalization PUK required

ALP_STATUS_TEL_PROVIDER_PUK_REQUIRED

46

Corporate personalization PIN required

ALP_STATUS_TEL_CORPORATE_PIN_REQUIRED

47

Corporate personalization PUK required

ALP_STATUS_TEL_CORPORATE_PUK_REQUIRED

100

Unknown

ALP_STATUS_TEL_UNKNOWN

Error	
The command is not supported.	
No response	
The phone received no response; equivalent to a ALP_STATUS_TEL_TIMEOUT	

Table 4.3

GPRS related Error Number	Error	Telephony Constant
103	Illegal MS	ALP_STATUS_TEL_PS_ILLEGAL_MS
106	Illegal ME	ALP_STATUS_TEL_PS_ILLEGAL_ME
107	GPRS services not allowed	ALP_STATUS_TEL_PS_SERVICES_NOT_ALLOWED
111	PLMN not allowed	ALP_STATUS_TEL_PS_PLMN_NOT_ALLOWED
112		

Location area not allowed

ALP_STATUS_TEL_LOCATION_AREA_NOT_ALLOWED

113

Roaming not allowed in this location area

ALP_STATUS_TEL_ROAMING_NOT_ALLOWED

148

GPRS unspecified error

ALP_STATUS_TEL_PS_UNSPECIFIED_ERROR

Use the Options dialog to set general options for Virtual Phone. To open the Options dialog, select Tools > Options.

Profiles Options ^TOP^

Use the Profiles page to set options for when you start and exit Virtual Phone.

Figure 4.35 Options - Profiles

Phone Options ^TOP^

Use the Phone page to set options for general phone simulation.

Figure 4.36 Options - Phone

Dialog Options ^TOP^

Use the Dialog page to set options for how Virtual Phone windows are handled at start-up.

Figure 4.37 Options - Dialog

Profile Setup Dialog ^TOP^

The Profile Setup allows you to change the settings that get written to the Virtual Phone configuration file (VPC) when you run the New Profile wizard (described in "Creating a Virtual Phone Profile"). To open the Profile Setup dialog, select Tools > Profile Setup.

Figure 4.38 Profile Setup Dialog

{moscomment}