



Action URL and Active URI Specifications

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1 Introduction

1.1 Overview

Action URL is used by a telephone set to report the current status to the remote console.

Active URI is used by a remote console to control various operations of a telephone set.

Action URL and Active URI are mainly used in Computer Telephony Integration (CTI) scenarios.

A telephone set reports its own status to a PC and the PC controls the operations of the telephone set. Typical application scenarios include the call center. An attendant operates the telephone set on the PC by using the CTI software.

2 Action URL

2.1 Introduction

When the status of a telephone set changes, the telephone set sends an HTTP Get request to the remote console to notify this event. The console can perform corresponding operations on the telephone set based on the status change.

2.2 Protocol Description

The HTTP URL format of Action URL is defined by the HTTP server of the console. The telephone set is responsible only for initiating an HTTP Get request upon a status change. Generally, the HTTP URL format of Action URL is as follows: [http://192.168.1.100/newcall.xml?num=\\$call_id](http://192.168.1.100/newcall.xml?num=$call_id)

- 192.168.1.100 is the IP address of the remote console.
- newcall.xml? indicates the method of handling different statuses. The method is defined by the HTTP server of the remote console.
- \$call_id indicates an internal variable of the telephone set. Before an HTTP Get request is initiated, the system automatically replaces this variable with the actual current value of the system. The internal variable begins with a dollar sign (\$).

2.3 Action URL Configuration

Log in to the management webpage of the telephone set and choose Phone > Feature > Action URL Settings. Enter the corresponding URL in the text box of each event. For example, enter [http://192.168.1.100/newcall.xml?num=\\$call_id](http://192.168.1.100/newcall.xml?num=$call_id) after the Incoming Call event.

When a new incoming call from number 1234 is received after configuration, the telephone set initiates HTTP Get <http://192.168.1.100/newcall.xml?num=1> (sequence number of the call).

The screenshot displays the 'Action URL Event Settings' configuration page in the Farvil X4G web interface. The interface features a red sidebar on the left with navigation options: System, Network, Line, Phone settings (highlighted), Phonebook, Call logs, and Function Key. The top navigation bar includes tabs for Features, Audio, MCAST, Time/Date, Advanced, Trusted Certificates, and Device Certificates. The main content area is titled 'Action URL Event Settings >>' and contains a list of 25 events, each with an input field and a help icon (a blue circle with a question mark). The events listed are: Setup Completed, Registration Succeeded, Registration Disabled, Registration Failed, Phone Off Hooked, Phone On Hooked, Incoming Call, Outgoing calls, Call Established, Call Terminated, DND Enabled, DND Disabled, Unconditional Call Forward Enabled, Unconditional Call Forward Disabled, Call Forward on Busy Enabled, Call Forward on Busy Disabled, Call Forward on No Answer Enabled, Call Forward on No Answer Disabled, Call transfer, Unattended Call Transfer, Attended Call Transfer, Call hold, Call resume, Mute, Unmute, Missed calls, IP Changed, Idle To Busy, and Busy To Idle. An 'Apply' button is located at the bottom of the settings list. The top right corner of the interface shows the language set to English, a Logout button, and a user profile icon labeled 'admin'. Below the user profile icon are buttons for 'Keep Online', 'Dial', 'Answer', and 'Hangup'.

2.3.1 Event List

Event	Description
Setup Completed	The telephone set is started successfully.
Registration Succeeded	An account is registered successfully.
Registration Disabled	Account registration is canceled.
Registration Failed	Account registration fails.
Phone Off Hooked	The telephone set is hooked off.
Phone On Hooked	The telephone set is hooked on.
Incoming call	A new incoming call is received.
Outgoing call	An outgoing call is made.
Call established	A call is connected.
Call terminated	A call is terminated.
DND Enabled	Do Not Disturb (DND) is enabled.
DND Disabled	DND is disabled.
Unconditional Call Forward Enabled	Unconditional call forwarding is enabled.
Unconditional Call Forward Disabled	Unconditional call forwarding is disabled.
Call Forward on Busy Enabled	Call forwarding on busy is enabled.
Call Forward on Busy Disabled	Call forwarding on busy is disabled.
Call Forward on No Answer Enabled	Call forwarding on no answer is enabled.
Call Forward on No Answer Disabled	Call forwarding on no answer is disabled.

Call transfer	Call transfer.
Unattended Call Transfer	Unattended call transfer.
Attended Call Transfer	Attended cal transfer.
Call hold	Call hold.
Call resume	Call hold is canceled.
Mute	A call is muted.
Unmute	A call is unmuted.
Missed calls	Missed calls are listed.
IP Changed	The IP address of the telephone set is changed.
Idle To Busy	The telephone set switches from the standby screen to other screens.
Busy To Idle	The telephone set switches from other screens to the standby screen.
MWI	Message.
SMS	SMS message.
Start reboot	The telephone set is restarted.

2.3.2 Variable List

Variable	Description
\$mac	Device MAC address.
\$ip	Current available IP address.
\$model	Model of the telephone set.
\$firmware	Software version.
\$active_url	Session Initiation Protocol (SIP) URI of the current active account, which is valid in incoming calls, outgoing calls, and conversations
\$active_user	User account of the SIP URI of the current active account, which is valid in incoming calls, outgoing calls, and conversations
\$active_host	Server of the SIP URI of the current active account, which is valid in incoming calls, outgoing calls, and conversations
\$local	X3/4 series: local SIP URI (valid in outgoing calls) Local phone number (valid in incoming calls before they are answered) X6: local SIP URI (valid in incoming calls, outgoing calls, and conversations)
\$remote	X3/4 series: remote SIP URI (valid in incoming calls) Remote phone number (valid in outgoing calls before they are answered) X6: remote SIP URI (valid in incoming calls, outgoing calls, and

	conversations)
\$display_local	Local display name (phone number displayed if no display name is set) (valid in incoming and outgoing calls)
\$display_remote	X3/4 series: remote display name (phone number displayed if no display name is set) (valid in incoming calls) X6: remote display name (phone number displayed if no display name is set) (valid in incoming and outgoing calls)
\$call_id	Call ID (valid in incoming calls, outgoing calls, and conversations)
\$duration	Call duration (valid when a conversation ends)
\$date_time	Acquisition time
\$memory_free	Memory
\$flash_free	Flash memory (not implemented yet)
\$line	Call line (valid in incoming calls, outgoing calls, conversations, and registration)
\$local_user	Local users in a conversation (valid in incoming calls, outgoing calls, and conversations)
\$local_server	Server used in a SIP call (valid in incoming calls, outgoing calls, and conversations)
\$local_domain	Domain of a SIP cal (valid in incoming calls, outgoing calls, and conversations)
\$local_number	Local phone number during a call (valid in incoming calls, outgoing calls, and conversations)
\$local_displayname	Display name of the local phone number during a call (valid in incoming calls, outgoing calls, and conversations)
\$remote_number	Remote phone number during a call (valid in incoming calls, outgoing calls, conversations, and unanswered incoming calls)
\$remote_displayname	Display name of the remote phone number during a call (valid in incoming calls, outgoing calls, and conversations)

Note: The variables highlighted in green are valid only in X6.

Variable description:

- 1) For a variable valid only in incoming calls, this variable is replaced with the corresponding information only if it is set in Incoming call options.
- 2) For a variable valid only in outgoing calls, this variable is replaced with the corresponding information only if it is set in Outgoing call options.

- 3) For a variable valid only in conversations, this variable is replaced with the corresponding information only if it is set in conversation related options such as Call established, Call terminated, Transfer call, Blind transfer call, Attended transfer call, Hold, Unhold, Mute, and Unmute.

3 Active URI

3.1 Introduction

The remote console initiates an HTTP Get request, the HTTP server embedded into the telephone set parses the instruction and responds to the request to remotely control the telephone set.

3.2 Instruction List

Instruction	Description
key=OK key=ENTER key=F_OK	Confirmation key used to answer a call, hook off, or send a number. In standby mode, you can press this key to enter the menu.
key=F_CANCEL key=X	Exit key used to end a call, reject a call, or exit the dial pad.
key=F_RELEASE key=RELEASE	Key used to return to the standby screen.
key=SPEAKER key= F_HANDFREE key= F_HANDSFREE	Speaker key used to turn on or off the hands-free mode.
key= F_SEND	Send key.
key=F_ACCEPT	Answer key used to answer calls.
key=F_REJECT	Reject key used to reject calls.
key=HEADSET key=F_HEADSET	Headset key.
key=RD key=F_REDIAL	Redial key.
key=F_SPEEDDIAL	Speed dial key.
key=UP DOWN LEFT RIGHT key=F_UP F_DOWN F_LEFT F_RIGHT	Navigation keys (up, down, left, and right).
key=VOLUME_UP key=F_VOLUME_UP	Volume key used to increase the volume.
key=VOLUME_DOWN key=F_VOLUME_DOWN	Volume key used to decrease the volume.
key= F_DELETE key=DELETE	Delete key.
key=MSG key=F_MWI	Key used to enter the voice mailbox.
key=F_SMS	SMS message key.
key=F_MEMO	Key used to enter memos.
key= F_PBOOK	Key used to enter the phone book.
key=F_SERVICE	Shortcut key used to enter the network phone book.
key=F_CALLERS	Key used to enter call records.
key=MUTE key=F_MUTE	Mute key.

Key=F_LOCK	Key lock.
key=DND	Key used to enter the DND setup menu.
key=DNDOOn	Key used to enter DND setup when DND is disabled.
key=DNDOFF	Key used to enter DND setup when DND is enabled.
key=F_REC	Key used to leave a voice message.
key=F_POWER	Power indicator setup key.
key=F_SDTMF	Dual tone multiple frequency (DTMF) setup key.
key=F_FLASH	Key used to switch between two calls and automatically connect a call.
key=F_PREFIX	Prefix.
key=F_HOTDESKING	Hot desk key.
key=F_AGENT	Key used to enter agent setup.
key=F_DISPOSITION	Key used to identify the call record type in BroadSoft Call Center (press the key during a call or when dialing a number).
key=F_ESCALATE	Key used to add an administrator to conduct a three-party call in BroadSoft Call Center.
key=F_TRACE	Key used to notify the server to record a call in BroadSoft Call Center (press the key during a call or when dialing a number).
key=F_PRIVATEHOLD	Key used to hold a call but not share the call hold information in BroadSoft Shared Call Appearance. Its function is opposite to the public hold key.
key=F_HOLD	Call hold key.
key=F_CFWD	Key used to enter call forwarding setup.
key=F_DIVERT	Call forwarding key.
key=F_TRANSFER key=F_A_TRANSFER	Call transfer key used to transfer an ongoing call.
key=F_B_TRANSFER	Blind transfer key.
key=F_CONFERENCE	Third-party conference key.
key=F_JOIN	Key used to join a call.
key=F_PICKUP	Key used to pick up a call.
key=F_PARK	Key used to park an incoming call.
key=F_LOR key=F_CALLBACK	Callback key.

key=F_AUTOREDIAL	Autodial key (press the autodial key during dialing).
key=F_UNAUTOREDIAL	Key used to end dialing (press the autodial key during dialing).
key=0-9 key=F_0-F_9/F_*/ F_STAR	Number keys.
key=* key=F_* key=F_STAR	Asterisk key.
key=# key=POUND key=F_POUND	Pound key.
key=L1-L4 key=F_L1-F_L4	Line selection keys (lines 1 to 4).
key=D1-D8 key=F_D1-F_D4	DSS keys 1 to 8.
key=F1-F4 key=F_F1-F_F4	Function keys 1 to 4.
key=Reboot key=F_REBOOT	Reboot key.
key=AutoP	Restart configuration key used to reinitiate auto provision detection (not implemented yet).
key=F_LOCK&code=openCode	Key used to implement the function of remotely opening the door.
key=F_GROUPLISTEN	Group listening key.
key=F_LOCALCONTACTS	Key to enter local contacts.
key=F_LOCK	Lock key.
key=exit	Exit key.
key=clear	Key used to clear the entered number during dialing.
key=split	Key used to cancel a conference.
key=prev_line/ key=next_line	Key used to switch to another line.
key=prev_call/ key=next_call	Key used to switch to another call.
key=menu	Menu key.

3.3 Protocol Description

The format of the HTTP URL of Active URI is as follows:

<http://192.168.1.190/cgi-bin/ConfigManApp.com?key=OK>

- 192.168.1.190 is the IP address of the telephone set.
- "/cgi-bin/ConfigManApp.com" is the fixed format of Active URI. The telephone set parses it and considers it as the control instruction of Active URI.
- "?key=OK" is the instruction type indicating the action to be performed by the telephone set. Generally, this instruction is a key event.

In some environments, HTTP authentication is enabled by default for telephone sets at delivery

to ensure security. The HTTP URL format is as follows:

<http://admin:admin@192.168.1.190/cgi-bin/ConfigManApp.com?key=OK>

"admin:admin" indicates the default authentication user name and password of the HTTP server embedded into the telephone set. The user name and password are consistent with those used for logging in to the management webpage.

3.4 Sending a Group of Numbers

The preceding Active URI instruction supports initiating only one operation event with the telephone set at a time. For example, the instruction supports entering only one key at a time when a user enters a number, making the operation complex. Active URI supports sending a group of numbers in the URL.

- Initiating a call with a number

<http://admin:admin@192.168.1.190/cgi-bin/ConfigManApp.com?key=SPEAKER;000;ENTER>

When the telephone set receives this instruction in the standby state, it enters the hands-free off-hook state and automatically initiates a call to number 000.

- Blind transfer with a number

http://admin:admin@192.168.1.190/cgi-bin/ConfigManApp.com?key=F_TRANSFER;000;F_TRANSFER

When the telephone set receives this instruction during a call, it automatically transfers the current call to number 000.