



**Technical
Documentation**

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FastIVR, September 2002

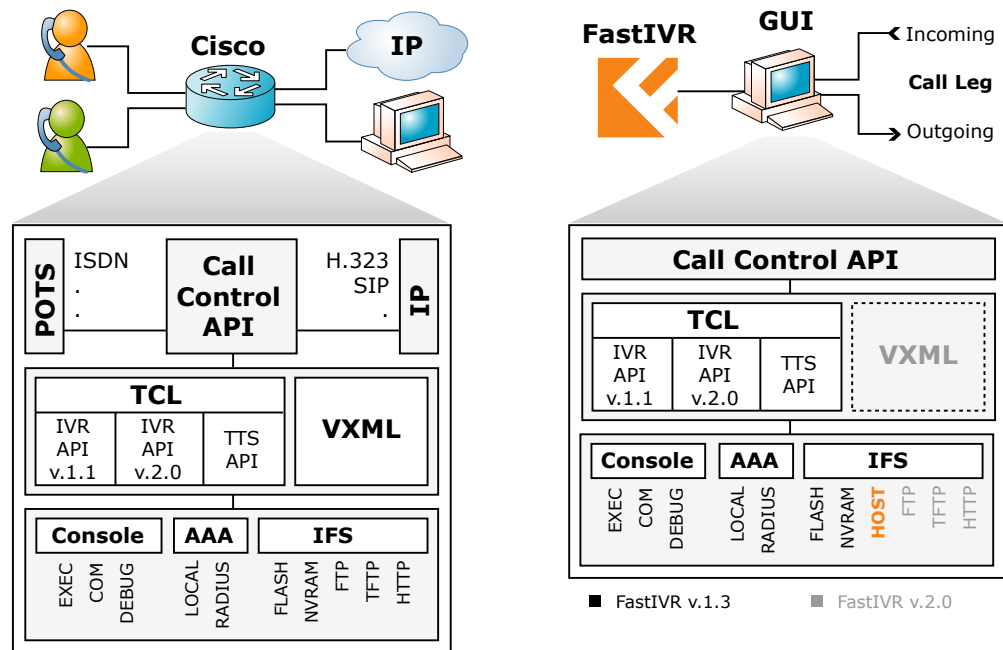
Please address your comments and suggestions to Sales Department,
PortaOne, Inc., Suite 400, 2963 Glen Drive, Coquitlam, BC, V3B 2P7,
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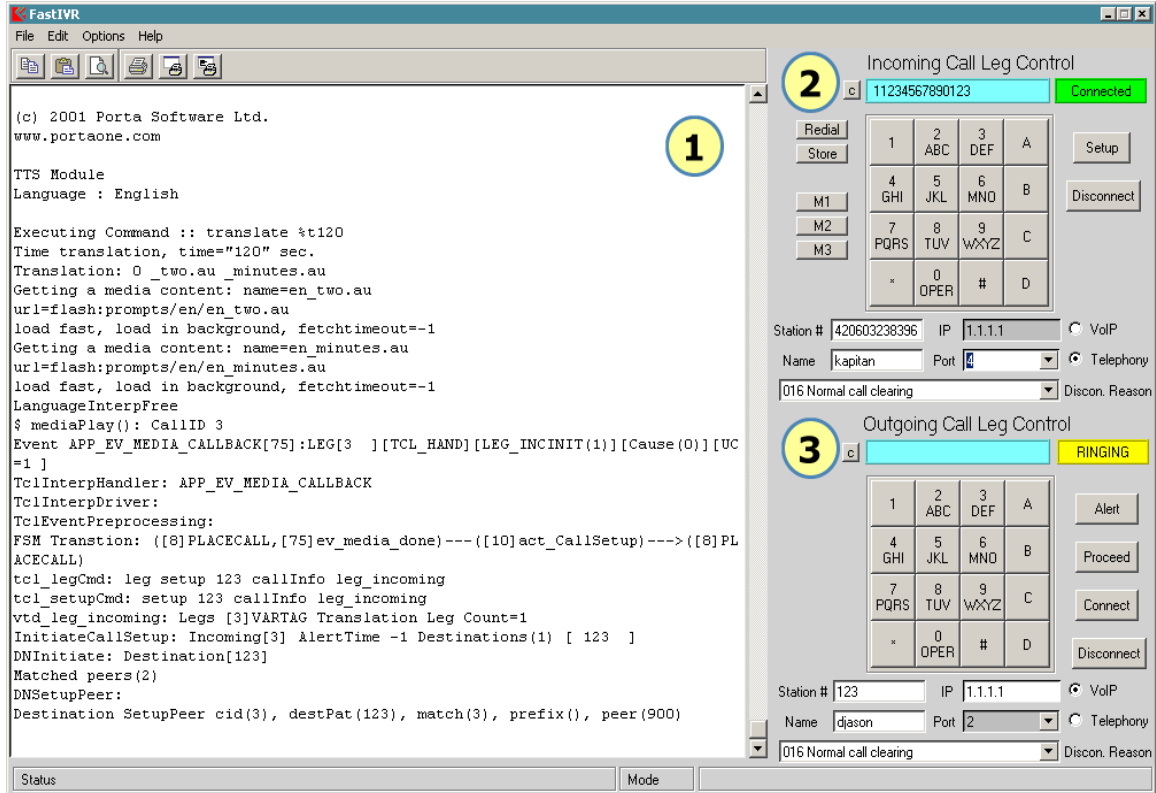
Introduction

Fast IVR is a powerful tool for generating and evaluating TCL scripts for Cisco's VoIP-enabled gateways. FastIVR enables the telecom operator to write and evaluate Cisco IVR TCL scripts without the need to remove an expensive piece of hardware from production network system. Moreover, Fast IVR tool is infused with PortaOne's deep experience in developing and implementing high-capacity flexible Interactive Voice Response programs and strategies - it is most effective and innovative tools available for customer care, contact, and communications.



Two diagrams above show the difference between system flow for Cisco and FastIVR.

System Components



Overview

1. Console Window
2. Incoming Leg Control
3. Outgoing Leg Control

<Ctrl-C>	Escapes and terminates prompts and tasks.
<Ctrl-D>	Deletes the character at the cursor
<Ctrl-E>	Moves the cursor to the end of the command line.
<Ctrl-F> or <Right Arrow>	Moves the cursor forward one character.
<Ctrl-K>	Deletes from the cursor to the end of the command line

IOS Command Shell

Command line editor

List of supported commands

Command (Key)	Description
<Ctrl-A>	Moves the cursor to the beginning of the line.
<Ctrl-B> or <Left Arrow>	Moves the cursor back one character.
<Ctrl-C>	Escapes and terminates prompts and tasks.
<Ctrl-D>	Deletes the character at the cursor
<Ctrl-E>	Moves the cursor to the end of the command line.
<Ctrl-F> or <Right Arrow>	Moves the cursor forward one character.
<Ctrl-K>	Deletes from the cursor to the end of the command line
<Ctrl-N> or <Down Arrow>	Enters next command line in the history buffer
<Ctrl-P> or <Up Arrow>	Enters previous command line in the history buffer.
<Ctrl-U> or <Ctrl-X>	From the cursor to the beginning of the command line.
<Ctrl-Z>	Ends configuration mode and returns you to the EXEC prompt.
 or <Backspace>	Erases mistake when entering a command; reenter command after using one of these keys

EXEC mode

List of supported commands

Command	Description
call application voice load <name>	Load IVR call application
call language voice load <prefix>	Load IVR TTS module
cd	Change current directory
configure memory	Configure from NV memory
configure terminal	Configure from the terminal
copy <file> running-config	Update (merge with) current system configuration
copy running-config <file>	Copy from current system configuration
debug <debug_mode>	Debugging functions (see also 'undebug')
delete	Delete file
dir	List files on a filesystem
exit	Exit from EXEC mode
help	Description of the interactive help system
logout	Exit from the EXEC
mkdir	Create directory
more	Display content of a file
no	Disable debugging functions
pwd	Display current working directory
reload	Halt and perform a cold restart

rename	Rename a file
show call application voice <name>	Show call voice application info
show call application voice summary	Show basic call voice application info
show call language voice <prefix>	Show call voice language info
show call language voice summary	Show basic call voice application info
show debugging	State of each debugging option
show dial-peer voice <1-2147483647>	Voice Encapsulated Peers (POTS or VoIP)
show dial-peer voice summary	Summary of all dial peers
show dialplan dialpeer <tag> number <number>	Voice telephony dial plan, incoming dialpeer
show dialplan incall <port> number <number>	Voice telephony dial plan, incoming interface port
show dialplan number <number> [huntstop]	Voice telephony dial plan, dial number
show file systems	List filesystems
show flash:	display information about flash: file system
show history	Display the session command history
show num-exp <WORD>	Number Expansion (Speed Dial) information
show running-config	Current operating configuration
show startup-config	Contents of startup configuration
show translation-rule [tag]	Show translation rule table
show version	System hardware and software status
show voice port <port>	Voice port configuration
show voice port summary	Summary of all voice ports
terminal history size <0-256>	Size of history buffer (def. 10)
terminal monitor	Copy debug output to the current terminal line
test translation-rule <tag> <number>	Test translation rule table
undebug <debug_mode>	Disable debugging functions (see also 'debug')
write memory	Write to NV memory
write terminal	Write to terminal

Hidden Commands

Command	Description
test voip script	Allowing Unsupported Scripts to be Loaded

Configuration terminal

Command	Description
aaa new-model	Enable NEW access control commands and functions
aaa accounting connection <name> {none start-stop stop-only} group <name>	Accounting configurations parameters
aaa authentication login <name> (local group <name>)	Authentication configuration parameters
aaa authorization exec <name> (local group <name>)	Authentication configuration parameters
call application voice <name> URL	Define voice call application
call application voice <name> language <0-9> WORD	Language used for playing audio files
call application voice <name> pin-	Pin Number length (def. 4)

len <0-10>	
call application voice <name>	Phone number to redirect the call
redirect-number WORD	
call application voice <name> retry-count <1-5>	Number of attempts before hangup (def. 3)
call application voice <name> set-location WORD <0-4> URL	Location where audio files are stored
call application voice <name> uid-len <1-20>	User ID length (def. 10)
call application voice <name> warning-time <10-600>	Number of seconds to warn before time-out (def. 60)
call application voice <name> <cli-var> <val>	User defined variable
call language voice <prefix> URL	Define voice call language
default	Set command to it's defaults
dial-peer terminator WORD	Define the address terminate character

dial-peer voice <1-2147483647> pots

Dial Map (Peer) configuration commands

answer-address WORD	The Call Destination Number
application <name>	The selected application (def. session)
default	Set a command to it's defaults
destination-pattern WORD	A full E.164 telephone number prefix
digit-strip	Use digit strip option for the POTS digits replacement
direct-inward-dial	Use Called Number as final call destination exit
forward-digits {<0-32> all extra}	Configure the destination digits forward of this dialpeer
huntstop	Stop hunting on Dial-Peers
incoming called-number WORD	An incoming called number pattern
no	Negate a command or set its defaults
port <1-1000>	Voice port associated with this peer
preference <0-10>	Configure the preference order of this dialpeer (def. 0)
prefix WORD	The pattern to be dialed before the dialed num
session target WORD	A string specifying the session target
shutdown	Change the Admin State of this peer to down (no->up)
translate-outgoing {called calling} <tag>	Translation rule

dial-peer voice <1-2147483647> voip

Dial Map (Peer) configuration commands

answer-address WORD	The Call Destination Number
application <name>	The selected application (def. session)
default	Set a command to it's defaults
destination-pattern WORD	Full E.164 telephone number prefix
exit	Exit from dial-peer configuration mode
huntstop	Stop hunting on Dial-Peers
incoming called-number WORD	incoming called-number WORD
no	Negate a command or set its defaults
preference <0-10>	Configure the preference order of this dialpeer (def. 0)

session target WORD	A string specifying the session target
shutdown	Change the Admin State of this peer to down (no->up)
translate-outgoing {called calling} <tag>	Translation rule
end, exit	Exit from configuration terminal mode
hostname WORD	Set system's network name
gateway	
exit	Exit from gateway configuration mode
gw-accounting {voip h323 [vsa]}	Enable voip gateway accounting
interface Loopback <0-2147483647>	Select an interface to configure
ip address A.B.C.D A.B.C.D	Set the IP address of an interface
ip ftp passive	Connect using FTP passive mode
ip ftp password WORD	Specify password for FTP connections (def. anonymous)
ip ftp username WORD	Specify username for FTP connections (def. username@routername.domain)
ip radius source-interface Loopback <0-2147483647>	Specify interface for source address in RADIUS packets
no	Negate a command or set command's defaults
num-exp WORD WORD	Dial Map Number Expansion configuration commands
radius-server host {WORD A.B.C.D} [auth-port <0-65536>] [acct-port <0-65536>] [timeout <1-1000>] [retransmit <1-100>] [key WORD <1-1000>]	Specify a RADIUS server
radius-server key WORD	Encryption key shared with the radius servers
radius-server retransmit <1-100>	Number of retries for a transaction (def. 3)
radius-server timeout <1-1000>	Wait time (def. 5 seconds)
radius-server vsa send accounting	Send in accounting requests
radius-server vsa send authentication	Send in access requests
translation-rule <1-2147483647>	
rule <0-10> WORD WORD <ntype> <ntype>	Translation rule
default	Set a command to its defaults
exit	Exit from translation-rule configuration mode
no	
username <name>	Establish User Name Authentication
username <name> nopassword	No password is required for the User to log in
username <name> password <pass>	Specify password for the User
voice port <1-1000>	
default	Set a command to its defaults
description	Description of what this port is connected to ??

<code>exit</code>	Exit from voice-port configuration mode
<code>no</code>	Negate a command or set it's defaults
<code>shutdown</code>	Take voice-port offline
<code>timeouts initial <0-120></code>	Initial Timeout duration in seconds (def. 10)
<code>timeouts interdigit <0-120></code>	Timeout duration in seconds (def. 10)
<code>timeouts ringing <5-60000></code>	Ring no answer timeout duration in seconds
<code>timeouts ringing infinity</code>	Ring no answer infinite timeout
<code>translate {called calling} <tag></code>	Translation rule

Non Standard Commands

Command	Description
<code>username <name> vsa <vsa> <value></code>	Authorization helper

IVR API

IVR API V1.0

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/vapp_dev/tclivrpg.htm

Functions	Description / Comment
acceptCall	
ani	
authenticate	
authorize	
callID	
callProceeding	
clearOutgoingLeg	no information on returnInfo array available from Cisco
conferenceCreate	no information on returnInfo array available from Cisco
conferenceDelete	no information on returnInfo array available from Cisco
creditTimeLeft	settlement is not supported (always \"uninitialized\")
did	
dnis	
exit	
failureCode	
getVariable	+ undocumented totalLanguages
insertMessage	
insertTone	
placeCall	
playFailureTone	
playPrompt	%s is ignored (as Cisco does), %p same as %n (as Cisco does). Note %d prompts are absent in Cisco TCLware package
playTone	
port	
promptAndCollect	
puts	
rdn	
setLocation	cisco bug: if category is not digit then command does not report error
setTimeout	
setVariable	
setupAck	
startTimer	
waitEvent	

IVR API V2.0

CISCO TCL IVR API 2.0 documentation

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_serv/vapp_dev/tclivr2/

Commands

Functions	Description / Comment
aaa accounting	
aaa authenticate	
aaa authorize	
call close	
Clock	Native TCL command
command terminate	
connection create	
connection destroy	
fsm define	
fsm setstate	
handoff appl	Not implemented yet
handoff callappl	Not implemented yet
handoff return	Not implemented yet
infotag get	
infotag set	
leg collectdigits	
leg connect	
leg disconnect	
leg proceeding	
leg setup	
leg setupack	
leg vxmldialog	Not implemented yet
leg vxmlsend	Not implemented yet
media pause	
media play	
media resume	
media seek	
media stop	
playtone	
puts	
requiredversion	
set avsend	Native TCL command
set callinfo	Native TCL command
timer left	
timer start	
timer stop	

Info Tags

Info Tag	Description / Comment
aaa_avpair	
aaa_avpair_exists	
aaa_new_guid	Not implemented yet
aaa_roaming	Undocumented
cfg_avpair	
cfg_avpair_exists	

```
con_all
con_ofleg
evt_connections
evt_dcdigits
evt_digit
evt_digit_duration
evt_event
evt_iscommand_done
evt_handoff_string          Not implemented yet
evt_legs
evt_status
evt_vxmlevent              Not implemented yet
evt_vxmlevent_params       Not implemented yet
last_command_handle
leg_all
leg_ani
leg_ani_pi
leg_ani_si
leg_cdi_nso
leg_cdi_rr
leg_chn_noa
leg_chn_npi
leg_chn_num                - r/o only
leg_cid_cid
leg_cid_ton
leg_cnn_noa
leg_cnn_npi
leg_cnn_num
leg_cnn_pi
leg_cnn_si
leg_cpc
leg_dnis
leg_dnis
leg_fdc_dat
leg_fdc_fname
leg_fdc_instr
leg_fdc_parm
leg_gea_cni
leg_gea_noa
leg_gea_npi
leg_gea_num
leg_gea_pi
leg_gea_si
leg_gea_type
leg_gno_ni
leg_guid
leg_incoming
leg_incoming_guid
leg_inconnection
leg_isdid
leg_ocn_noa
leg_ocn_npi
leg_ocn_num
leg_ocn_pi
leg_oli
leg_outgoing
```

leg_password	
leg_pci_dat	
leg_pci_instr	
leg_pci_tri	
leg_rdn_pi	
leg_rdn_si	
leg_redirect_cnt	
leg_remoteipaddress	
leg_rgn_noa	
leg_rgn_npi	
leg_rgn_num	
leg_rdn_pi	
leg_rdn_si	
leg_redirect_cnt	
leg_remoteipaddress	
leg_rgn_noa	
leg_rgn_npi	
leg_rgn_num	
leg_rgn_pi	
leg_rgn_si	
leg_rni_orr	
leg_rni_rc	
leg_rni_ri	
leg_rni_rr	
leg_rnn_inn	r/o only
leg_rnn_noa	r/o only
leg_rnn_npi	r/o only
leg_rnn_num	
leg_rnr	
leg_settlement_time	
leg_suppress_outgoing_auto_acct	r/o only
leg_tns_cc	
leg_tns_nip	
leg_tns_ns	
leg_tns_ton	
leg_username	
med_backup_server	r/w
med_language	r/w
med_language_map	r/w
med_location	r/w
med_total_languages	
sys_version	