Administrators Guide Phone Robot

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Version: 6.0.x

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1 Phone Robot description

1.1 Overview

Some configuration changes require manual key strokes actions on the IP Phones using the soft keys and key pad. In order to automate these tasks, it is necessary to simulate pressing the keys and buttons on the IP Phones.

Phone Robot allows to automate these processes on a large number of IP Phones:

- Delete the CTL / ITL file of the IP Phone (to update certificate),
- Select a new IP Phone background,
- Upload IP Phone tailored backgrounds on the TFTP server,
- Change network settings,
- Execute non-regression tests after a firmware update,
- Capture IP Phone screen copies.

You can define any script that send keys, execute it on all, or a list, of IP Phones and get an execution report. It is also possible to capture the IP Phone's configuration status and image.

Different scripts can be executed by phone models. Phone Robot helps by splitting the list of phones by model.

1.2 Architecture

Phone Robot takes advantage of IPS Framework & Administration and CTI Server. The key strokes are sent using the CTI (JTAPI) interface. Unlike the push via HTTP, this solution eliminates the need to manage authentication and does not require that the IP Phones are 'Web Enabled'.

Phone Robot is able to retrieve the list of all IP Phones via AXL SOAP queries. It is also possible to load a list of IP Phones from a text file.

To facilitate the operations for a large number of IP Phones Phone Robot is multi-threaded, to be able to send keys simultaneously to several IP phones at the same time.

1.3 Administration and features

The administration Web interface provides a script editor, in order to define the list of IP Phone keys to send, separated by an administrator defined delay.

The script can be tested on one IP Phone. Then it can be applied to a list of IP Phone or all the IP Phones.

During the execution, the amount of IP Phones treated, the total amount of IP Phones selected and the remaining time of execution is displayed.



An execution report is generated, with succeeded and failed information.



Report	Report_SendKeys_Success_110610_082351.txt.txt	▼
SEP0004F2E1F559;OK;	08:23:51	
SEP000DBD905B86;OK;	08:23:52	
SEP000F8F28DAE9;OK;	08:23:53	
SEP000FF76E3C56;OK;	08:23:54	
SEP0013C412C578;OK;	08:23:55	
SEP0016C76B2B04;OK;	08:23:56	
SEP0019306FB9D4;OK;	08:23:57	
SEP001B54CA0D1D;OK	:08:23:59	
SEP001D452D255A;OK	08:23:59	
SEP001E4A92235B;OK;	08:24:00	
SEP001E4AF355A7;OK;	08:24:01	
SEP00233341B755;OK;	08:24:02	
SEP002414B37A58;OK;	08:24:03	
SEP0024C4FE380F;OK;	08:24:04	
SEP0024C4FE39D3;OK;	08:24:06	
SEP0024C4FEACA0;OK	:08:24:06	
SEP0024E8A7955B:OK:	08:24:07	

It is also possible to capture a status parameter from the IP Phone (XML) Web Page and compare it to a target value. In this case, the IP Phones must be Web Enabled.

Phone URL	DeviceInformationX	•	
Node	MACAddress	•	
Value for test			
Source of phone list	Only test phone	•	Execute
Test IP Phone ID			Stop execution

At least it is also possible to capture the image of the IP Phone's screens and save them for a visual control. In this case, the IP Phones must be Web Enabled.

1.4 Requirements

Supported Cisco CUCM:

- CUCM version 10.5, 11.5, 12, 12.5, 14
- Windows servers supported: Windows Server 2012 R2 Essentials or Standard Windows Server 2016 Essentials or Standard Windows Server 2019 Essentials or Standard Windows Server 2022 Standard
- Minimum configuration: 1 vCPU, 4GB RAM, 70GB disk
- Virtual Machine VMware vSphere, Hyper-V or Cisco UCS, Cisco UCS-E
- Cloud ready

It is also possible to capture a status parameter from the IP Phone (XML) Web Page and compare it to a target value. In this case, the IP Phones must be Web Enabled.

Phone URL	DeviceInformationX	•	
Node	MACAddress	•	
Value for test			
Source of phone list	Only test phone	•	Execute
Test IP Phone ID			Stop execution



2 Administration

2.1 Phone Robot Parameters

This screen is accessible from Phone Robot menu, 'Parameters' tab.

=	telisca			telisca Demo	🕒 🔎 🔺 Unknown user
🚯 Da	shboard	Home / Phone Robot / Parameters			⊘ Cancel ✓ Save
os Gio	bal configuration +	Push mode	Pur CTI fram CI/CH		
🔎 Sup	oport >	Delay between phones push (ms)	By CHIFOR CUCM		
🖵 Att	endant Console 🕠	Nb. of parallel executions	F.		
🚰 Co	nference Center +		2		

This screen defines the mode to push scripts on IP Phones:

- **By CTI from CUCM**: telisca CTI Server send a SendData command to CUCM CTI Manager to push keys or URL to the phone by SCCP or SIP protocol. telisca CTI Server can control and CTI monitor dynamically any phone assuming it is checked as CTI enabled.
- **By HTTP**: telisca application does a direct http push to the IP Phones. Push parameters are defined in Global Config menu, Push config tab. It requires that the IP Phone have the parameter Web enabled set to true. For the best performance and security, we also provide an authentication proxy (see below). *Note: See appendix Push by HTTP settings.*

You can set also performance parameters:

- Delay between scripts executions
- Number of simultaneous executions

With this parameter you can tailor the execution speed for large configurations. If by example the script is executed in 5 seconds + 1 seconds of pause between scripts and you execute 10 times simultaneously, the script should be executed on $10 \times 60 / (5 + 1) = 100$ phones in 1 minute.

2.2 Scripts

This screen is accessible from Phone Robot menu, 'Scripts' tab.

It defines the sequence of keys to send and save it in a script. Different scripts may be necessary depending on the IP Phone model. It is possible to define a standard delay between each button and add additional time with the {Delay: valueMs} indicating the timeout in milliseconds.

≡ telisca	1				telisca Demo	b	🐣 Unknown user
🐴 Dashboard	Home / Phone Robot / SCri	pts					✓ Close
Global configuration →							
	Script file	896X-99XX-CTL_Erase	~				
Attendant Console 🕠	Keys to send		~ 🕜	Add Key	Delay betw	een keys (m	s) 150
😤 Conference Center 🔹 🔸	{Key:Applications}444{Key	:Soft3}					
G Silent Monitoring →							
Desktop Popup >							
🔑 Ext. Mobility Report 🕠							
Busy Alerter Callback →							.d
IPS Global Directory +	Name of file	896X-99XX-CTL_Erase		Save or Replace			
PS Manager Assistant 🕠	Source of phone list	Only test phone	~				
OS IPS Phone Config →	Test IP Phone name						
IPS Pager	(JLI AAAAAAAA)	Execute now!					
Missed Calls Alerter →		Stop execution					
O Morning Check >							
📥 TAnnounce 🛛 🔸							
🔑 Phone Robot 🔹 🔸							
Parameters							
Scriots		Copyright telis	ica 2004-2019				

It is possible to send all keyboard keys type commands {Key: key}.

It is possible to reset the environment (for example at the end of the script), for example with the command {Init: Services}.

You can send a sound file (stored on the TFTP server) {Play: fichierRaw}.

It is possible to dial with the {Dial: number} (not supported on very old firmware).

Finally, it is possible to capture a screen shot with the {ScheenShot: user: pwd: x: y: w: h} which is then stored in a PNG file on behalf of the IP Phone. Please note this command requires authentication. It will only operate in push mode providing http login, password or IP Phones by configuring the proxy authentication (see global configuration). Moreover, the web must be IP Phone Enabled.

{ScreenShot format: user: pwd: x: y: w: h} capture a portion of the IP Phone screen:



Note: User / Pwd associated with the IP Phone or with the proxy User / Pwd authentication is replaced by X.

You can execute the script on:

- A test phone
- A list of phones by model
- A list of phones you have loaded
- A report of execution
- A list of directory numbers (which are converted to IP phone by the application)

2.2.1 Phone Capture

This screen is accessible from Phone Robot menu, 'Phone Capture' tab.

It allows you to capture the configuration of IP Phones to XML, extract the contents of an XML tag and compare it to a predefined value. In the report we have generated OK if the value of XML tag matches the value being tested.

≡	telisca				telisca Demo	b 🔓 D	🐣 Unknown user
🏠 Da:	hboard	Home / Phone Robot / Pho	ne Capture				✓ Close
📽 Glo	bal configuration >						
₽ Sup	pport ⊬	Phone URL	DeviceInformationX	~			
🖵 Att	endant Console 🛛 🕨	Node	MACAddress	~			
🚰 Co	nference Center +	Value for test					
ନ sile	nt Monitoring +	Source of phone list	Only test phone	~	Execute now!		
De De	sktop Popup >	Test IP Phone name (SEPXXXXXXXXXXX)			Stop execution		

List of values that can be tested:



MACAddress	~
MACAddress	
HostName	
phoneDN	
appLoadID	
bootLoadID	
versionID	
addonModule1	
addonModule2	
hardwareRevision	
serialNumber	
modelNumber	
MessageWaiting	
udi	
time	
timezone	
date	
systemFreeMemory	
javaHeapFreeMemory	
javaPoolFreeMemory	

2.3 IP Phone screen background upload

This screen is accessible from Phone Robot menu, 'Wall paper' tab.

Phone Robot ease the task to load a new background screen on the TFTP server to make it available to IP Phones.

It adapts the size and colors to the different models, upload the image as well as the thumb images and update the XML list files. It is also possible to reset the TFTP from Phone Robot.

You need to enter a login & password suitable to log-in the Cisco Unified OS Administration.

=	telisca				telisca Demo 🕒 🔎 🚢 Unknown user
🚯 Das	shboard	Home / Phone Robot / Wallpapers			TFTP service should now be restarted Ø Cancel Save
a: Glo O Sup	obal configuration +	Cisco Unified OS Administration User	administrator		0
	endant Console	Password			
100 Core	oference Conter	Background image file to upload	Parcourir	Aucun fichier sélec	lectionné.
-	nicience center y		Upload	Restart T	t TFTP
♀ Sile	ent Monitoring	Execution report	Uploaded to se Uploaded to the	erver file business- tp server file busin	ss-directory-old.png and converted to size 320x196 siness-directory-old.png located in remote directory Desktops/320x196x4
۶ جر	. Mobility Report		Uploaded to the Updated and up	tp server file business- ploaded to tftp se	s-autectory-ord_intumping and convertex to size oways inses-directory-old_thumbping located in remote directory Desktops/320x196x4 server file Listsmi located in remote directory Desktops/320x196x4
🕛 Bus	sy Alerter Callback 🛛 🖡		Uploaded to s	erver file business-	ss-directory-old.png and converted to size 320x212
🗐 ips	Global Directory +		Uploaded to the Uploaded to set	tp server file busin erver file business-	siness-directory-old.png located in remote directory Desktops/320x212x16 ss-directory-old_thumb.png_and converted to size 80x53
r ips	Manager Assistant 🕠		Uploaded to the Updated and u	tp server file busin iploaded to tftp se	siness-directory-old_thumb.png located in remote directory Desktops/320x212x16 server file List.xml located in remote directory Desktops/320x212x16
OG IPS	Phone Config +		Uploaded to s	erver file business-	ss-directory-old.png and converted to size 320x216
📢 ips	Pager >		Uploaded to t	erver file business-	ss-directory-old_thumb.png_and converted to size 80x54 ingeschirectory-old_thumb.png_and converted to size 80x54
🖂 Mis	ssed Calls Alerter +		Updated and u	uploaded to tftp se	server file List.xml located in remote directory Desktops/320x216x16
O Mo	orning Check 🛛 👂		Uploaded to s	erver file business-	ss-directory-old.png and converted to size 640x480 siness-directory-old.png located in remote directory Desktops/640x480x24
📥 TAr	nnounce +		Uploaded to s	erver file business-	ss-directory-old_thumb.png and converted to size 123x111
🔑 Pho	one Robot 🔹 🔸				
Pa	irameters				
Sc	ripts				
Ph	none Capture				
W	allpapers				
Sc	cheduled scripts				
Re	sports				
				Copyright telisca	lsca 2004-2019

2.4 Reports

It displays reports of the execution, indicating the time of execution, the IP Phone, the result of execution. Each execution report is stored in a text file with a suffix of the date and time, selectable from the administration.



•

Rapport	Report SendKey	s Success 110610	090552.bd.bd

SEP0004F2E1F559;ERROR;09:05:53 SEP000B905886;ERROR;09:05:54 SEP000F8F28DAE9;ERROR;09:05:55 SEP0015412C578;0K;09:05:57 SEP0016C7682B04;ERROR;09:05:58 SEP0019306F8904;ERROR;09:05:58 SEP0019306F8904;ERROR;09:06:00 SEP001E4A922358;ERROR;09:06:00 SEP001E4AF355A7;ERROR;09:06:03 SEP0024318755;ERROR;09:06:04 SEP0024C4FE3903;0K;09:06:07 SEP0024C4FE3903;0K;09:06:07



3 Appendix

3.1 Push IP Phone by HTTP settings

3.1.1 Set Web enabled option on the IP Phones

In CUCM administration, set the parameter 'Web Access' to 'Enabled' for every destination phones.

Web Access*	Enabled	
Web Access	Enabled	\sim

This can be changed globally by setting it in 'Common Phone Profile' and applying the updated Common Phone Profile by CCMBAT.

Note: Web Access is secured by our 'Authentication Proxy' (see after).

3.1.2 Change IP Phone's authentication URL

The authentication URL needs to be changed to redirect the authentication request to IPS Pager server instead of CUCM.

This can be done for test on the device setting or globally in Enterprise parameters.

- External Data Locations I	ntormation (Leave blank to use detaunt)
Information	
Directory	
Messages	[
Services	
Authentication Server	http://IPSPAGER:80/IPSCFG/authenticate/default.aspx
Proxy Server	
Idle	
Idle Timer (seconds)	
Secure Authentication URL	http://IPSPAGER:80/IPSCFG/authenticate/default.aspx
Secure Directory URL	
Secure Idle URL	
Secure Information URL	
Secure Messages URL	
Secure Services URL	
	·

The new URL should be <u>http://ipsPagerHost:80/IPSCFG/authenticate/default.aspx</u>. If HTTPS support has not been configured in telisca and CUCM (see Install & Exploitation guide IPSCFG_ADMIN_EN.pdf), then you can force the HTTP URL on the Secured Phones URL Parameters as well.

Enterprise Parameters Configuration	
🔜 Save 🧬 Set to Default 睯 Reset 🥖 Apply Config	
Phone URL Parameters	
URL Authentication	http://IPSPAGER:80/IPSCFG/authenticate/default.aspx
URL Directories	http://cucm11.telisca.loc:8080/ccmcip/xmldirectory.jsp
URL Idle	
URL Idle Time	0
URL Information	http://cucm11.telisca.loc:8080/ccmcip/GetTelecasterHelp
URL Messages	
IP Phone Proxy Address	
URL Services	http://cucm11.telisca.loc:8080/ccmcip/getservicesmenu.j
Secured Phone URL Parameters	
Secured Authentication URL	http://IPSPAGER:80/IPSCFG/authenticate/default.aspx
Secured Directory URL	https://cucm11.telisca.loc:8443/ccmcip/xmldirectory.jsp
Secured Idle URL	
Secured Information URL	https://cucm11.telisca.loc:8443/ccmcip/GetTelecasterHel
Secured Messages URL	
Secured Services URL	https://cucm11.telisca.loc:8443/ccmcip/getservicesmenu

The IP phones need to be restarted to take into account the change.

3.1.3 telisca Push setting configuration

From Global Configuration menu, Push Config folder, select the Push mode 'User secure authenticate proxy'.

≡ telisca				telisca Demo	P	Q	🐣 Unkno	own user
🚳 Dashboard	Home / Global configuration / IP Phone push						⊘ Cancel	✓ Save
📽 Global configuration 🔹	IP Phone authentication for IPS Pager, F	Phone Robot, Phone Remote,						
CUCM Config	IP Phone authentication mode	IP Phones associated to Application User	~ ?					
Parameters	Associated application user	Х						
Hot Standby config	Password							
Install Services	Request timeout (s)	4						
CTI config						_		
CTI control	Link to another authentication URL					9		
Phone push config	Test device name (SEPXXXXXXXXXX)	SEP00077D42BA24						
Email config		Test Push						

The user login and password is disabled. IPS Pager will generate a one-time user and password.

You can configure the CUCM Host to the CUCM Publisher, so that the authentication is redirected to CUCM if the user is not the one pushed by a telisca application.

The authentication is normally very fast (a few milliseconds) however is the server is 100% busy by pushing with a too high number of threads, it can be usefull to accept a few seconds for the timeout.

You can test the authentication by entering a phone name (MAC address), after validating the configuration. It should display the services menu on the phone. If this does not work, please check the Web Access settings and authentication URL. If it still does not work, you can check the authentication logs from Support Menu, Application logs folder. If you do not see the authentication request in the logs, this may be a problem with one of the previous CUCM settings.