

Administrators Guide

Manager Assistant for SfB

telisca

Applications pour
Skype for Business



Version: 5.X

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1 Manager Assistant Sfb description

1.1 Overview

Manager Assistant SFB permits managing, in a simple way, Manager / Assistant call filtering via a client associated to the Skype for Business of the Manager or of the Assistants. Day to day call filtering is facilitated by the use of shortcut buttons.

It is possible to define white lists and a bypass prefix. Manager Assistant SFB also permits the management of redirects toward a personal number, and to filter then consult the Manager on a personal number.

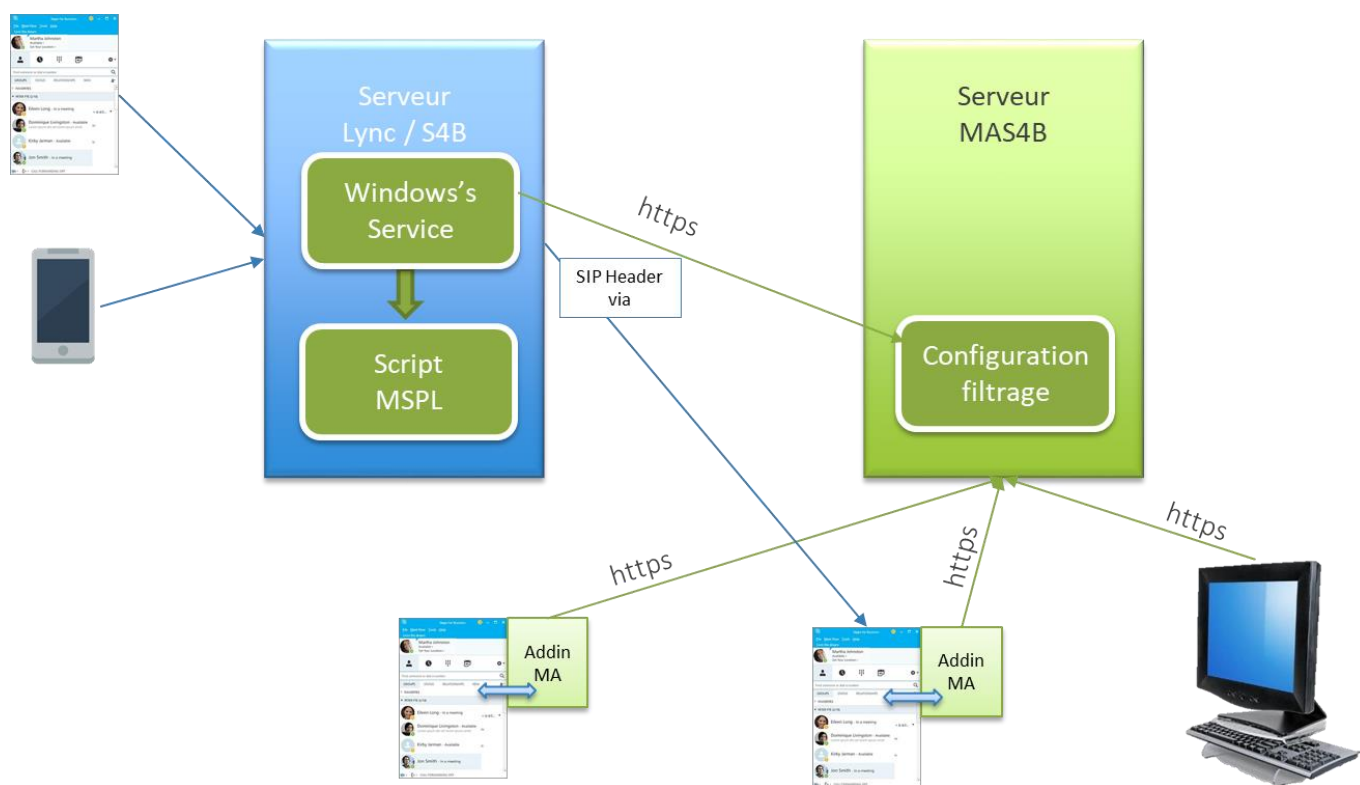
One assistant may manage several managers, and several assistants may manage a manager, with a notion of priority. The assistant may place himself in unavailable in order to redirect the filtering toward other assistants.

Manager Assistant SFB is an interface associated to the Skype for Business client of the user.

The objective of this solution is also to simplify the work of the administrator, by permitting a centralized administration, the definition of managers and assistants may be modified in real time during production.

1.2 Architecture

Filtering is based on the MSPL scripts of the Skype for Business Server. A Windows's service is installed on Skype for Business server. When this service detects a call, it sends a request to MASFB server. The answer contains the destination. The service adds a header named "teliscaDestination" and containing current destination and redirect the call.



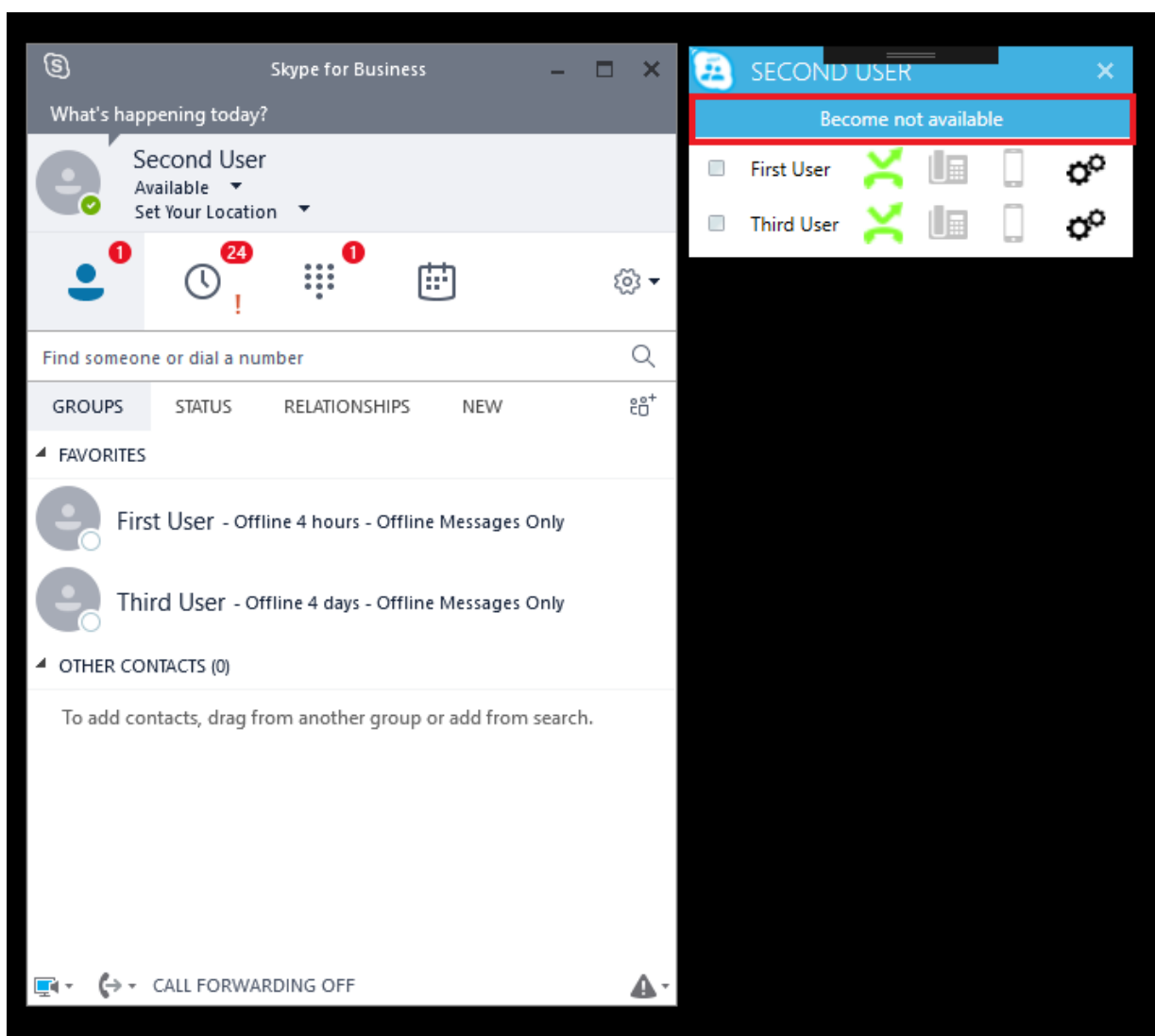
Manager Assistant SFB also effects a dynamic filtering, which permits the definition of numbers which are excluded from filtering. The application supports High Availability with a redundant telisca server.

1.3 Assistant user interface

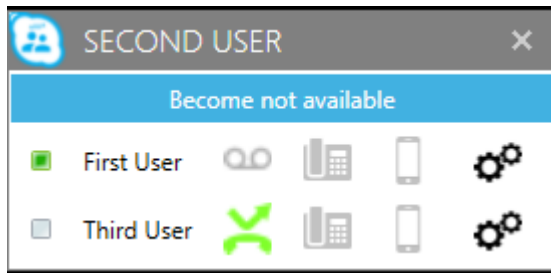
An Assistant associated to a Manager or several Managers can activate or disable filtering of Managers calls and supervise the filtering status. Depending on the administration's configuration, the Assistant can also set call forward of Manager's line to a personal phone number or a voice mail.

All configurations are available on a single window. The client is accessible from a right click on the manager and from the Windows task bar. Also, the client automatically open with every filtered call.

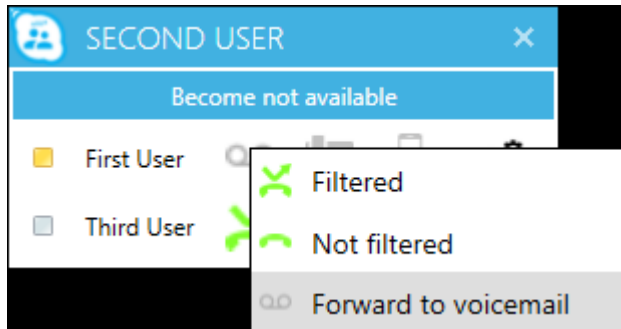
The Assistant can also set the 'Not available' status when he/she is not available. If the Assistant selects 'Not Available', the filtered Manager lines are forwarded to the assistant defined (via administration) as priority n+1. If no Assistant associated to the Manager is available, filtering is terminated or the line forwarded to Voicemail. When the Assistant becomes available again, filters are reactivated, and they are forwarded to the Assistant's line



The Manager may be filtered, then forwarded to a personal number when the assistant transfers the call to him.



In this example, an Assistant is associated to two Managers: Third user is filtered and First user is at 'Forward to voice mail'. With a right click on the filter button, it is possible to configure the filter/forward of the associated manager.

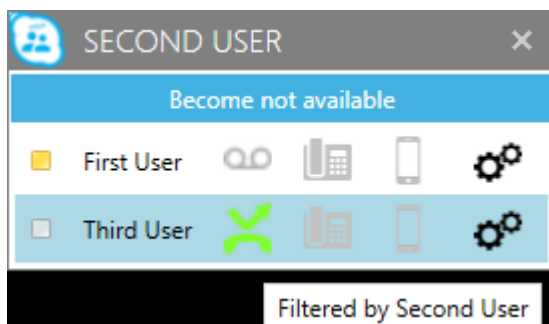


The assistant can enable or disable the filter or configure his line to forward to the voicemail.

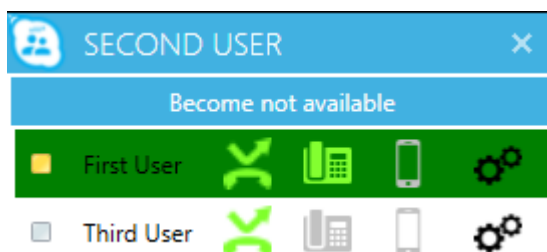
The filtering status is clearly displayed via an icon:

- Green phone: The filter is disable
- Green transfer icon: The manager's line is filtered by current assistant
- Gray transfer icon: The manager is filtered by another assistant
- Voicemail icon: The calls are transferred to voicemail

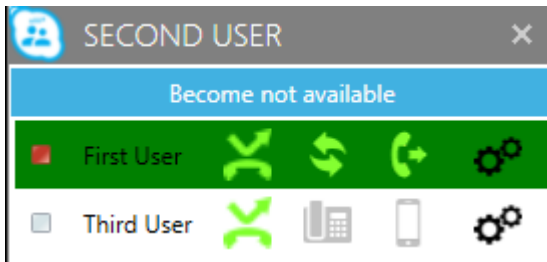
When the mouse is on the icon a tooltip appears explaining current state



When an assistant receives a filtered call, the corresponding manager row changes color, and consultation icons become active



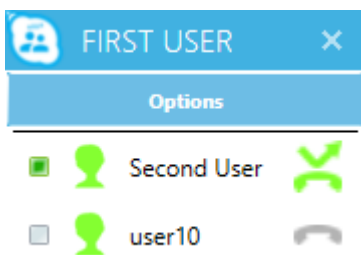
When the manager is consulted, icons change and the assistant can take the caller back, or forward the call to the manager



1.4 Manager user interface

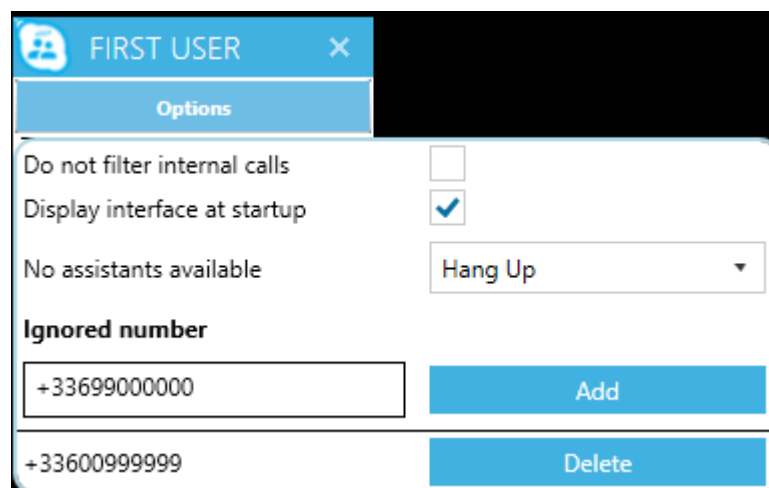
The Manager can enable or disable filtering, forward the calls to a personal number (generally the mobile number), forward to voicemail, or supervise the status of forwards.

The manager interface is like the assistant's. All his associated assistants are displayed and he can control the filtering on each.



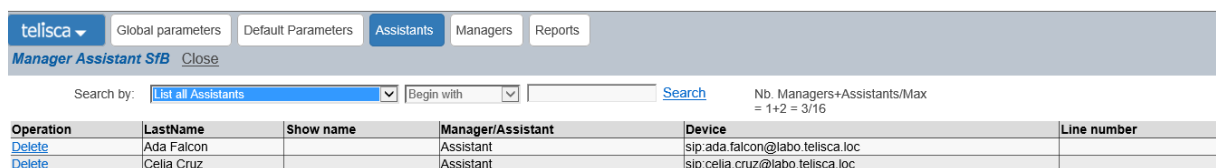
Filter Override

The Manager and even Assistants may define personal numbers which are not filtered. It is also possible to define the default forward if no assistant is available: no filter, hang up or forward to voicemail.



1.5 Administration

Configuration is centralized in a telisca administration. Two levels of administration are available, Administrator and Operation.



Operation	LastName	Show name	Manager/Assistant	Device	Line number
Delete	Ada Falcon		Assistant	sip:ada.falcon@labo.telisca.loc	
Delete	Celia Cruz		Assistant	sip:celia.cruz@labo.telisca.loc	

The definition of Managers / Assistants is effected in a centralized manner via the Web interface of IPS Administration. The interface permits the definition of Managers and Assistants, to associate Managers to one or more assistants with an order of decreasing priority and to define the utilization parameters of each Manager.

1.6 Features

Assistant features
Full filtering control and configuration: Filtered, none filtered, 'do not disturb', forward to the voicemail
Status Available/'do not disturb'
Option: do not filter internal number
Option: forward to the voicemail if no assistant is available
Define non-filtered number
Consult Manager button
Transfer manager button
Conversation manager button.
Manager features
Full filtering control and configuration: Filtered, none filtered, 'do not disturb', forward to the voicemail
Option: do not filter internal number
Option: forward to the voicemail if no assistant is available
Enter non-filtered numbers
Filtering features
Forward call to assistant if filter is on
No filter if calling is the assistant
No filter if calling is on the non-filtered list.
Administration
Define assistant and manager from the AD
The configuration of a Manager and an Assistant may be accomplished in 2 minutes
Two levels of administration: Operation & System/Application configuration
Administration interface is available in English and French
Association Assistants and manager with priority
Visualize all the current filters status
Usage report
Fault tolerance
Supports cluster of SFB servers
Fault tolerance with Windows Network Load Balancer or external Load Balancer
Host Standby fault tolerance (automatic switchover),

1.7 Requirements

- Supported Windows Servers:
 - o Windows Server 2012 or 2012 R2 Essentials, EN/FR,
 - o Windows Server 2012 or 2012 R2 Standard, EN/FR,

- Windows Server 2016 Essentials, EN or FR
- Windows Server 2016 Standard, EN or FR

- Microsoft .Net 4.5.1 to 4.6.2
- Minimum Hardware: 1vCPU, 4GB memory (RAM) and 70GB disk.
- Supported on VMware vSphere, HyperV, Cisco UCS, UCS-E.

Skype for Business 2015 client is supported.

The client MA SFB can be installed on Windows 7, 8, 8.1, 10.

1.8 Fault tolerant operation

Manager Assistant SFB supports **an optional** fault tolerant operation in Hot Standby. Two servers are synchronized.

The Manager Assistant client manages 2 server's IP addresses. If the first server goes down, the client will reach the second one to continue working.

2 Administration

2.1 Overview

Administration is Web-based and secured by an administrator's login/password.

Administration is used to define the system configuration in order to be able to interact with Skype for Business Server.

The Administration is used to associate a Skype for Business id with a Manager or an Assistant with several parameters as well as to associate Managers with Assistants. When validating the configuration, the Administration updates the IP Phone or the device profile to create a Service URL button and Speed Dial BLF, and to set global parameters. It also creates the CTI ports used for filtering.

2.2 Login

Administration Web interface is supported with Internet Explorer 7, 8, or 9.

Note: Internet Explorer 6 may also be used but will have some cosmetic display issues due to CSS and JavaScript limitations.

Administration URL is

<http://xxx.xxx.xxx.xxx/IPSCFG/admin>

or

<https://xxx.xxx.xxx.xxx/IPSCFG/admin>.

IPS Administration requires a local administrator login/password that must be part of the "Administrators" or "teliscaAdmin" group.

If user is part of the group "teliscaProd," he/she can only access the Assistant's and manager's subscriptions.

Note: The administration has been designed to be used by one administrator at a time. Concurrent updates are not supported.

2.3 Global parameters

Global parameters can be set from IPS Administration: Manager Assistant SFB/Global Parameters tab.

The administrator can define all the Skype For Business Server used by filling Hosts.

On each server the MSPL file will be copied in the folder defined by Path. The full network path is found by concatenation of each host and path. By example, if the settings are as in the screenshot below, the file will be copied in <\\srvlync.labo.telisca.loc\mas4b>.

The administrator must define the login and the password used to connect to the network folder to copy the file.

When a Skype for Business phone number is called, the server automatically adds a specific domain name before presenting it to MSPL script. To be able to redirect those for the manager, the administrator must define the domain used by the server. By example, with the settings below, if a call is made to a manager with phone number 12345, the MSPL script will receive [1234@labo.telisca.loc](tel:1234@labo.telisca.loc).

When searching new manager and new assistant in Skype for Business, it is possible to filter LDAP's search result. The filter defined by administrator will be add to other relevant filter.

2.4 Default Parameters

Here is a list of functional parameters defined in IPS Administration. Default values of these parameters are defined in Default Parameters panel but can be changed by manager.

Name	Description
Authorize Assistant to view and change unfiltered numbers (default value)	The Assistant may or may not be able to read or update the unfiltered numbers.
Enable voice mail forward	The manager can forward his line to voice mail
Authorize Assistant to set Manager's forward	Enable Assistant to change forward settings of the manager
Do not filter internal call	Internal calls are directly sent to manager

Filter if no assistant available	Define what happens if no assistant are available
----------------------------------	---

2.5 Manager and Assistants selection

The definition of the Assistant and Manager parameters is done centrally from IPS Administration.

You must first define the Assistant(s), then the Managers who are associated with the defined Assistants.

The search criteria can be the SIP or the last name. The search can be of either "Starts with," "Ends with," "Contains," or "Exact" type.

Operation	LastName	Show name	Manager/Assistant	Device	Line number
Delete	Ada Falcon		Assistant	sip:ada.falcon@labo.telisca.loc	
Delete	Celia Cruz		Assistant	sip:celia.cruz@labo.telisca.loc	

It is also possible to view all the Assistants or Managers already subscribed.

2.6 Manager's definition

Edit	Delete	Assistant	DEVICE	Priority
Edit	Delete	sip:ada.falcon@labo.telisca. ✓	sip:ada.falcon@labo.telisca.loc	1
Edit	Delete	sip:celia.cruz@labo.telisca.l ✓	sip:celia.cruz@labo.telisca.loc	2

IP Phone / Device Profile:

Show name:

Line number:

Do not filter internal calls: By default : Disabled

Allow Assistants to define not filtered numbers: By default : Disabled

No answered filtered calls in voicemail: By default : Assistant

Filter if no assistant available: By default : Forward to voicemail

Enable filtered then forwarded to personal number/mobile: By default : Disabled

Enable voice mail forward: By default : Disabled

Not filtered DN or SIP devices list:

This screen appears when creating a new manager or updating an existing one.

It may or may not forward the Manager's calls to voicemail depending on the configuration.

When the last Assistant associated with the Manager is no longer available, filtering is either cancelled or the calls are forward to voicemail.

You may allow the Assistant to define a personal list of unfiltered numbers.

2.6.1.1 Associated Assistants list

Finally, you have to associate one or several Assistants to the Manager, defining each one's priority (1 being the highest priority). The name of the CTI port is created by IPS Administration to enable the BLF filtering.

Priority concept: the priority number assigned to an assistant impacts two things:

- **The order in which the Managers Line and Filter BLFs are displayed on the Assistant phone.**

On the assistant's interface, Managers will be ordered by priority number affected to the Assistant: Managers for which the Assistant has priority level 1 will be listed first, other Managers will be listed by increasing with priority level value. It is however possible to rearrange the BLFs from the CallManager directly (but such update will be reset when updating the manager/assistant configuration from telisca administration interface).

- **The order in which the filter is going to move between assistants when becoming unavailable.**

When becoming unavailable, the filter will switch to the assistant who has the highest (lowest number) priority number in the list.

When becoming available, the filters will come back if the assistant currently filtering is of lower (higher number) priority, otherwise becoming available again will leave the filter to the other assistant.

2.6.1.2 Manager/Assistants data

Managers and Assistants configuration is saved in a binary file (serialized dataset): DevServSub_YYMMDD_hhmmss.bin in C:\inetpub\wwwroot\IPSCFG\data.

Each time the user configuration is validated, a new file is created with date and time postfix. Older files are purged after 14 days.

The more recent file is loaded. If it is necessary to go back to a previous configuration, it is possible to erase the last file. However, to update the IP Phone and device profile configuration it will be necessary to validate from the administration the last modified Managers and Assistants.

2.6.1.3 Status data

Filtering status information is saved on CUCM itself by setting the Manager's line's Forward All destination.

However, two statuses are also saved on the IPSMA Server:

- Assistant's "Not available" status is saved in DevServSubHT_YYMMDD_hhmmss.bin
- Manager's "Do not disturb" status is saved in DevServSubDND_YYMMDD_hhmmss.bin

Files are in C:\inetpub\wwwroot\IPSCFG\data. Older files are purged after 14 days.

2.7 Reports

The Reports tab allows you to see:

- The status of all the filtered managers,
- The status of all the assistants
- The IPSMA reports

Status of Managers:

The screenshot shows the 'Reports' tab in the telisca administration interface. The breadcrumb trail is 'Manager Assistant Sfb > Close'. Under 'Type of reports', 'Managers filtering status' is selected. A table displays the following data:

DEVICE	LABEL	LINE NUMBER	STATUS
sip:duke.ellington@labo.telisca.loc	sip:duke.ellington@labo.telisca.loc	tel:7891	Filter ==> (Ada Falcon)

Status of Assistant:

telisca ▾ Global parameters Default Parameters Assistants Managers Reports

Manager Assistant Sfb Close

Type of reports Assistants availability status ▾

DEVICE	LABEL	LINE NUMBER	STATUS
sip:ada.falcon@labo.telisca.loc	Ada Falcon		AVAILABLE
sip:celia.cruz@labo.telisca.loc	Celia Cruz		NOT AVAILABLE

2.8 Backup of configuration data

System and user configuration data are stored in files with « .xml » or « .bin » extension located in sub-directories « data » of the different virtual directories associated to Telisca applications (by default : "C:\inetpub\wwwroot\IPSCFG\data").

Note: the system configuration is saved in an XML file IPSCFG_cfg.xml, in "C:\inetpub\wwwroot\IPSCFG\data". A copy of this file is saved each night with an YYDD postfix. Older files are purged after 14 days.

In case of multi-cluster installation, following directories must be back up too:

- directory "c:\inetpub\wwwroot\MCADMIN\data»;
- directory "data" of each cluster, example "c:\inetpub\wwwroot\01\IPSCFG\data", "c:\inetpub\wwwroot\02\IPSCFG\data".

Backup of all these directories do not require to stop the applications.

2.8.1 Restoring configuration data

Data can be restored by a simple copy to their original place.

Configuration data in « .xml » files are automatically reloaded on detection of a file update. Data of other configuration file types are reloaded at ASP.Net applications start up (after a restart of the « World Wide Web publication Service »).

2.8.2 Application backup, reinstallation

All the applications are installed in IIS directory (default is c:\inetpub\wwwroot):

- C:\inetpub\wwwroot\IPSCFG

To back up all the applications and their data, both directories listed here-above must be saved.

To ease reinstallation, it is recommended to also back up the Setup and license files used to install the application as well as any installed patch files.

In this case, a restore process on a fresh server would be as follows:

- Reinstall IIS
- Reinstall .Net 4.5
- Run SETUP, which will ask for the license files
- Copy patched DLL in the correct directories (search file in installed directories)
- Copy backup data in C:\inetpub\wwwroot\IPSCFG\data
- Start telisca IPS Startup Service and telisca CTI Server service

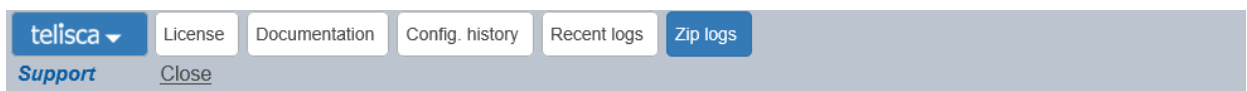
Another solution as an alternative to a complete re-installation is to perform a disk image. This image can be reinstalled on another machine without any limitation due to the license; indeed, the license is not bound to any hardware parameter of the machine, as the disk where the installation is performed or the network card.

The applications can run under a virtual machine VMWare ESX. In such case, it is possible to create a snapshot which can be restarted on another server.

2.8.3 Debugging, support

All application processes' descriptions are saved in log files.

The administration includes a Global/Support screen that eases the selection and compression of log files on the server side to be sent to telisca support on <http://support.telisca.com>.



Please, contact the support by email at support@telisca.com or by phone

Download the latest software updates, documentation and access the telisca forum at: <http://support.telisca.com>.

Allow distant control by telisca Support: <http://get.teamviewer.com/teliscaSupport>.

To accelerate and facilitate the support, always send the application logs :

Application Date Start Hour End Hour

On the client workstation, logs may be found in `%APPDATA%\telisca\MA4SfB\logs`

3 Client Installation

An msi file is provided. This msi is used to install the client on every workstation. Executable file is copied in C:\Program Files\telisca\mas4b. The parameter file is copied in %APPDATA%\telisca\MAS4Sfb\data\ It is named settings.json and contains address of primary and backup telisca server. By example:

```
{"ServerAddress":"http://primary", "SecondaryAdress":"http://secondary"}
```

"ServerAddress" contains primary server address, "SecondaryAdress" contains secondary server address. If the primary server is not available client will automatically try to contact secondary one. Protocol can be http or https. These values can be defined during installation by launching setup with command below:

```
MAS4BClientSetup.msi SERVERADDRESS="http://primary"  
SECONDARYADDRESS="http://secondary"
```

The client is automatically launched when a new windows session is open. It uses Skype for Business current user to define current interface.

The user may be able to launch Manager Assistant client from Skype for Business. To allow this, administrator has to create the following key in registry:

```
HKLM\SOFTWARE\Microsoft\Office\version\Lync\SessionManager\Apps\{3BCFADA8-69C9-4639-9589-A3F3A9D96EFF}.
```

Where version must be replaced by version number of Skype for Business value.

In this keys following value must be created:

- ApplicationInstallPath : C:\Program Files (x86)\telisca\Manager Assistant\ManagerAssistant.exe
- Path: C:\Program Files\telisca\MAS4b\Mas4BClient.ex
- ApplicationType: 0
- ExtensibleMenu: MainWindowActions, MainWindowRightClick
- Name: Mas4b

4 Installation on Skype for Business server

The goal is to install a windows service on each front-end server. This service will ask Telisca server the destination of each call that passes through that frontend.

Depending on your choice, there is three different installation processes. Each of them is equivalent but will require different execution time and administration rights.

4.1 Manual installation on Skype for Business server

Here is the description for a full manual installation.

4.1.1 MSPL script creation

On each skype for business pool, an MSPL script must be declared.

The MAS4B MSPL script must be run with a lower priority than UserServices, usually 4. In order to get the UserServices priority, one can execute this PowerShell command:

```
Get-CsServerApplication
```

For instance, here it is for the pool `pool_name`:

```
Identity : Service:Registrar:pool_name/UserServices
Priority  : 4
Uri      : http://www.microsoft.com/LCS/UserServices
Name     : UserServices
Enabled  : True
Critical : True
ScriptName :
Script   :
```

Then, one can register MAS4B script with skype topology using the following command. Note that it takes the previous priority, and must be launched **for each pool**:

```
New-CsServerApplication -Identity "Service:Registrar:pool_name/MAS4B" -Uri
"http://telisca.com/MAS4B" -Critical $False -Enable $True -Priority userservices_priority
```

<code>pool_name</code>	Pool on which the script is installed
<code>userservices_priority</code>	UserServices priority on this pool

4.1.2 User service creation

On each front-end one must create a local user.

<code>net user user_name user_password / add</code>	
<code>user_name</code>	Local user created
<code>user_password</code>	Local user password

This user has restricted local rights. He must be granted the following:

- **RTC Component Local Group:** Includes service accounts used to run A/V Conferencing Servers, Web Services, Mediation Server, Archiving Server, and Monitoring Server.
- **RTC Local Administrators:** RTC domain server administrators get local Central management database access
- **RTC Local Config Replicator:** Skype for Business replication services are granted permission to participate in Skype for Business replication
- **RTC Local Read-Only Administrators:** Get local central management database access
- **RTC Local User Administrators:** get local DCOM permissions
- **RTC Server Applications:** Skype for Business Server applications are granted appropriate local permissions
- **RTC Server Local Group:** Grant access to Skype for Business Server settings (not to pool settings).

<pre>net localgroup "RTC Component Local Group" user_name /add net localgroup "RTC Local Administrators" user_name /add net localgroup "RTC Local Config Replicator" user_name /add net localgroup "RTC Local Read-Only Administrators" user_name /add net localgroup "RTC Local User Administrators" user_name /add net localgroup "RTC Server Applications" user_name /add net localgroup "RTC Server Local Group" user_name /add</pre>	
<code>user_name</code>	Local user created

4.1.3 Service creation

Select a location on each front-end and unzip MASFBService folder.
Then install the service:

```
sc create MASFBService binpath="service_location\MASFBService.exe" DisplayName=
"telisca Manager Assistant Skype for business" obj= ".\user_name" password=
"user_password" start= auto
```

service_location	Folder containing the service
user_name	Local user created
user_password	Local user password

Grant the user the corresponding rights to MASFBService folder (PowerShell syntax)

```
icacls "service_location" /grant "user_name:(OI)(CI)F" /T
```

user_name	Local user created
service_location	Folder containing the service

One can launch the service:

```
sc start MASFBService
```

Finally, in the data folder, a configuration file settings.json has been created and needs to be configured.
The process is described on chapter 4.4.

4.2 Semi-automatic installation on Skype for Business server

Here is a description of a semi-automatic deployment.

4.2.1 MSPL script creation

The process is the same than in chapter 3.3.1

4.2.2 Service creation

Select a location on each front-end and unzip MASFBService folder.
Then install the service with the following command line:

<code>service_location\MASFBService.exe -install user_name user_password</code>	
<code>service_location</code>	Folder containing the service
<code>user_name</code>	Local user created
<code>user_password</code>	Local user password

It will create and associate a local user with required rights, then start the service.
A prompt invite will ask for service configuration. For more details, see chapter 4.4.

4.3 Automatic installation

The following installation needs to be run as a domain administrator.
Unzip the MASFBService folder on a given server of the skype topology.

Then run the following command:

```
MASFBInstaller.exe -install
```

The skype topology is explored and the user will be prompted:

- Service configuration.
- In which pool install MASFB.
- Install location on Skype frontends.
- User login and password for MASFBService.

For more details about service configuration, see chapter 4.4.
Finally, all created services on each frontend pool selected will be launched.

4.4 Service configuration

MA_HOST_1	URL to primary telisca server.	string
MA_HOST_2	URL to secondary telisca server (redundancy)	string
MA_FT_PERIOD	Time between two KEEP_ALIVE to telisca server	integer
MA_TIMEOUT	Timeout for http request to telisca server	integer
DEBUG	Will trace SIP requests content on log files	boolean
CACHE	Enable manager caching for network load	boolean
LIST_CALLMANAGER	List of server IP address regarded as internal	string list

Here is an example of prompted configuration file content (automatic and semi-automatic modes):

```
Do you want to create configuration file ? [Y/N] [default:Y]Y
Enter primary host: http://server1
Enter secondary host: http://server2
Enter timeout (ms) [default:1500]:
Enter fault tolerance periode (ms) [default:30000]: 30000
Do you want to cache manager list ? [Y/N] [default:Y]Y
Enter internal call manager list
Enter a value [Press enter to terminate]: ip_1
Enter a value [Press enter to terminate]: ip_2
Enter a value [Press enter to terminate]: ip_3
Enter a value [Press enter to terminate]:
```

And the corresponding file created:

```
{
  "CACHE":true,
  "DEBUG":false,
  "LIST_CALLMANAGER":["ip_1","ip_2","ip_3"],
  "MA_FT_PERIOD":30000,
  "MA_HOST_1": "http://server1",
  "MA_HOST_2": "http://server2",
  "MA_TIMEOUT":1500
}
```

4.5 Update of an existing solution

4.5.1 Automatic update

MASFBInstaller is delivered with an uninstallation process:

```
MASFBInstaller.exe -uninstall
```

it will ask the user on which pools the uninstallation should be done.

Then, follow instructions from chapter 4.3 to install the entire solution again.

Note that it will cause a service interruption. If you want to minimize the duration, follow instructions from chapter 4.5.2 instead.

4.5.2 Manual and semi-automatic update.

On each frontend server

- stop the service MASFBService.
- overwrite the MASFBService folder with the new content.
- Restart the service MASFBService.

This method provides a minimal service interruption on each server.