

Performance tests

Manager Assistance Skype for Business



Directory
Phone Directory
Jabber UDS Server
Web Directory
IPS Popup / Reverse Lookup
Personal Directory
H350 Video Conf directory
Corporate Speed Dials
ClickNDial

Alerting
Voice Alert
IPS Pager

Admin tools
Morning Check
Phone Remote
Phone Robot
Provisioning
Phone Deployment
CMS Admin & Selfcare
Extension Mobility Report

Manager Assistant
IP Phone / Jabber Interface

Productivity tools
IPS Phone Config
IPS Alarm Callback
IPS Lock
Wakeup Call
Missed Call Alerter
Conference Center
Busy Alerter Callback
Desktop Popup
Finesse Gadgets
Spark Bot

Attendant Console / IVR / Group
Tannounce
Line Group Manager
Silent Monitoring

Extension Mobility tools
TSSO
Delog / Relog
Pin & Password Manager

Recording
Call Recording
Recording Notification

Reference: 180919

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1 Performance tests description

1.1 telisca Manager Assistant Skype for Business 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.

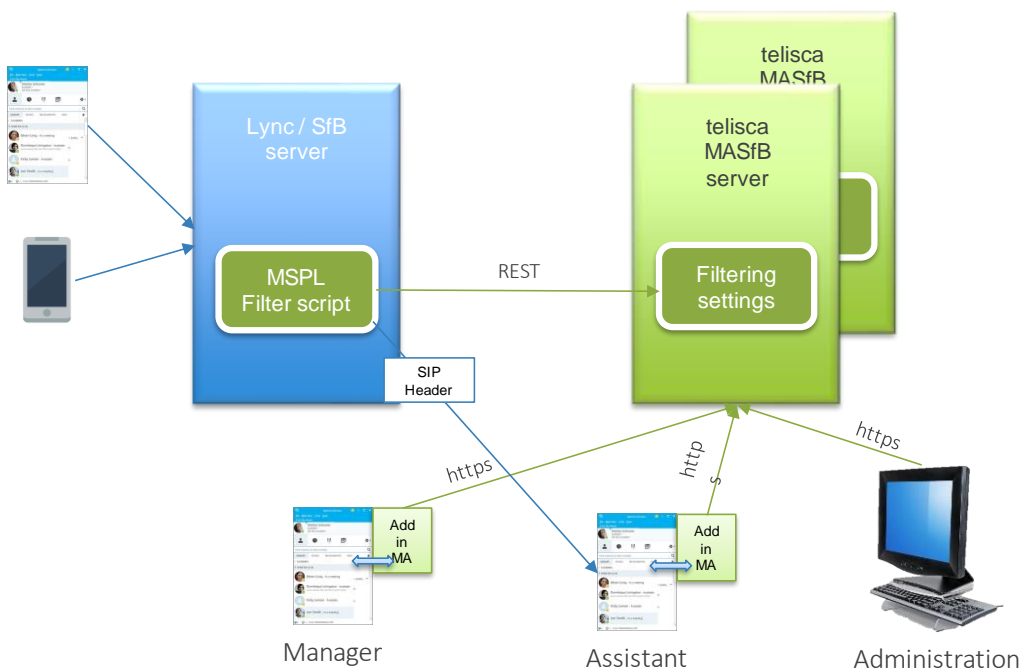
One assistant may manage several managers, and several assistants may manage a manager, with a notion of priority. The assistant may place himself in unavailable in order to redirect the filtering toward other assistants.

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.

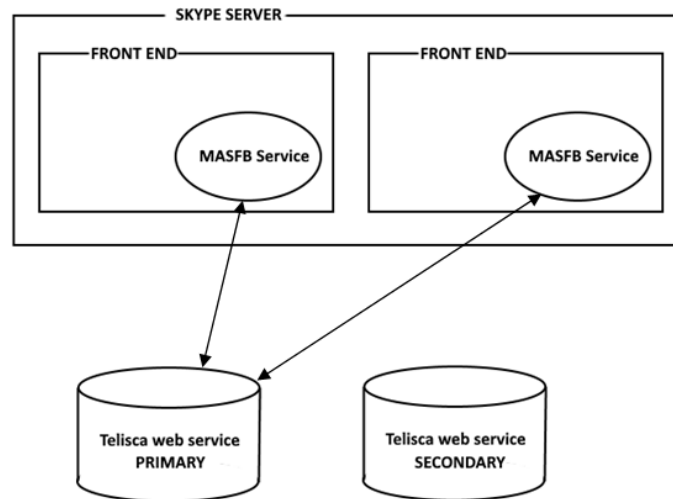
1.2 telisca Manager Assistant Skype for Business architecture

Filtering is based on the MSPL scripts + MASfB Windows Service installed on the Skype for Business Server. MASfB Windows Service queries telisca server to retrieve the Manager filtering status. It keeps in cache the list of Manager.



Manager Assistant SfB executes a dynamic filtering, which permits the definition of numbers which are excluded from filtering.

Manager Assistant SfB is installed on two Skype for Business Front End servers. The calls are load balanced on the two servers.



The application supports High Availability with a redundant telisca server.

1.3 Performance goal

This performance test was designed to check the incremental resource usage (mainly CPU) on Skype for Business Front End servers on which MASFB MSPL scripts and Windows Service has been installed.

It is also measuring the workload on telisca server.

1.4 Test platform architecture

We are using a bespoke application integrated with Skype for Business to generate calls between skype users: 10 managers + 10 assistants are used for the test. Each one can call another Manager or Assistant, hence simulating up to 45 simultaneous calls.

CPU usage on each front end, windows service and Telisca server is measured for different call frequencies.

The real call frequency is also measured.

The test is performed on a single pool including two front end servers. Each server is installed on a virtual machine with 4 VCPU and 12 GB RAM

telisca server is a virtual machine with 1 VCPU, 4GB RAM.

We consider that for an administrative use, the BHCA (Busy Hours Calls Average) is 6, with an average of 3 incoming and 3 outgoing calls. Based on 3 outgoing calls per hour, here is a table mapping the call frequency for the number of simulated users.

Call Frequency (call/s)	Simulated users
5	6000
10	12000
15	18000
20	24000
25	30000
50	60000

1.5 Scenario

The different measures have been taken with 3 different configurations:

- 1) MASFB not started (skype load only)
- 2) MASFB started, calls to an assistant (which is not a filtered user)
- 3) MASFB started, calls to Manager which is currently filtered

Test 1 shows the workload of the Skype server without additional application installed as a reference to compare to other tests.

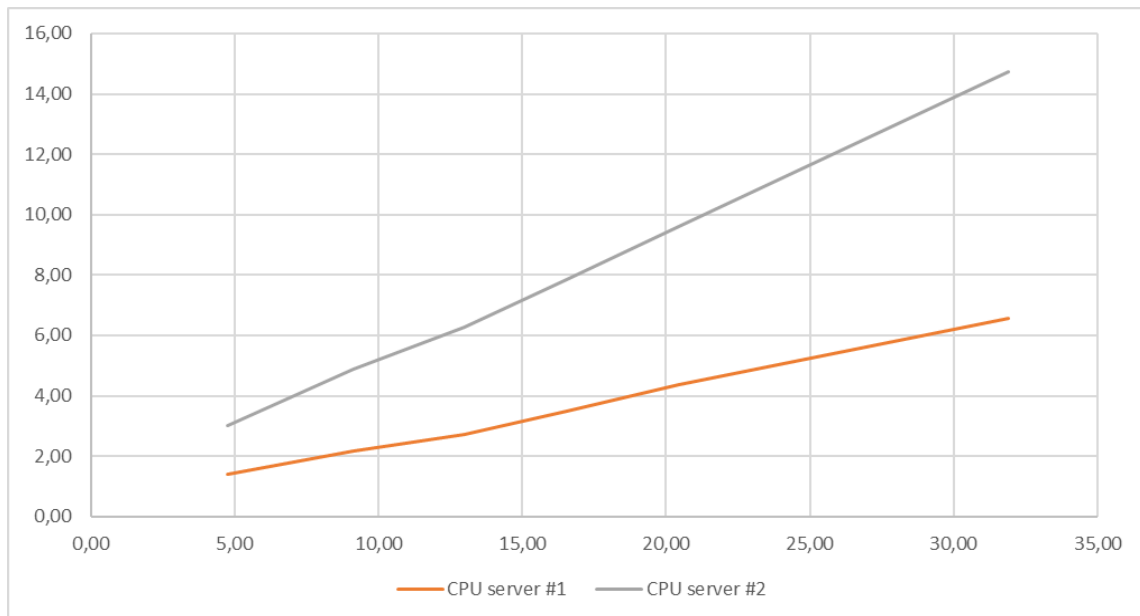
Usually only 2% of the users are filtered Managers so 98% of the calls will ring a destination which is not a filtered Manager. So the results of test 2 are the more relevant.

2 Performance tests results

2.1 Skype only load

During this test the MASfB MSPL script has been disabled. This test shows the CPU usage of the two Skype servers on which the call are load-balanced and the number of calls it can handle compare to the number of calls generated.

Config	Server#1	Server#2	Call/s	
	CPU %	CPU %	Call/s received	Call/s expected
#1	1,39	3,03	4,77	5,00
#2	2,18	4,88	9,14	10,00
#3	2,71	6,26	13,00	15,00
#4	3,51	7,86	16,55	20,00
#5	4,36	9,62	20,45	25,00
#5	6,56	14,74	31,90	50,00



The CPU load stays low, the tested Skype for Business platform cannot handle more than 32 calls per second.

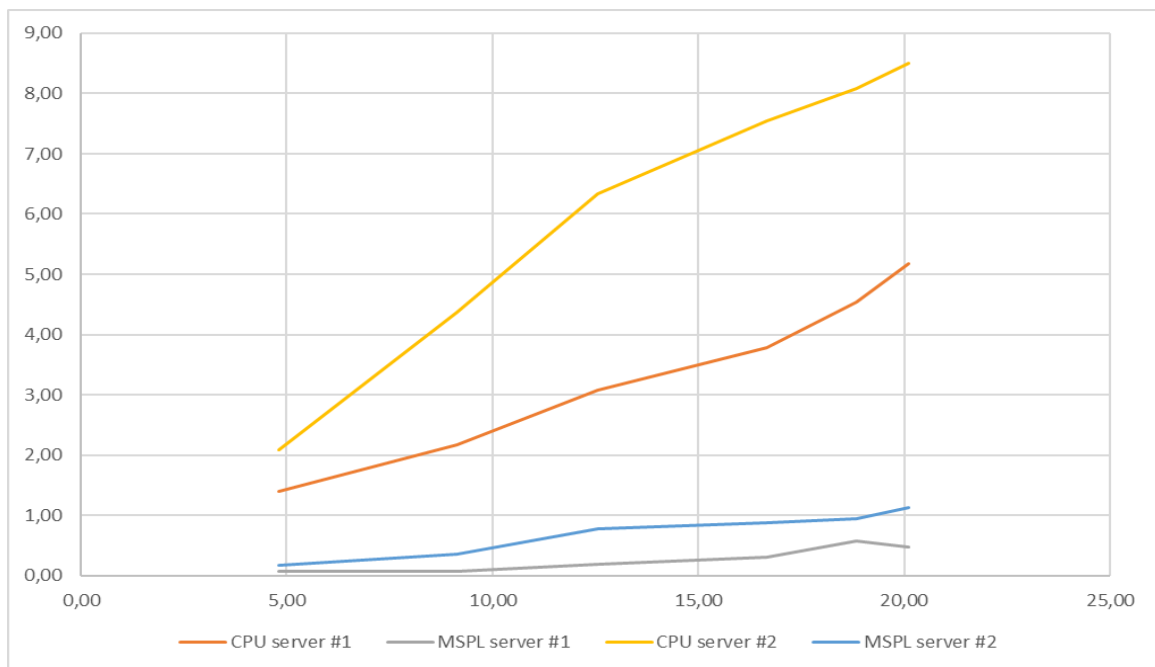
2.2 Not filtered calls

This test is conducted with the MASfB script enabled. However, the calls are calling the assistants which are not in the filtered numbers list. The list of Managers is cached on the MASfB service so when a call is received by MASfB service, no request sent to telisca server.

The test measures the CPU workload of the two Skype for Business servers:

- Total CPU
- MSPL script + MASfB service CPU

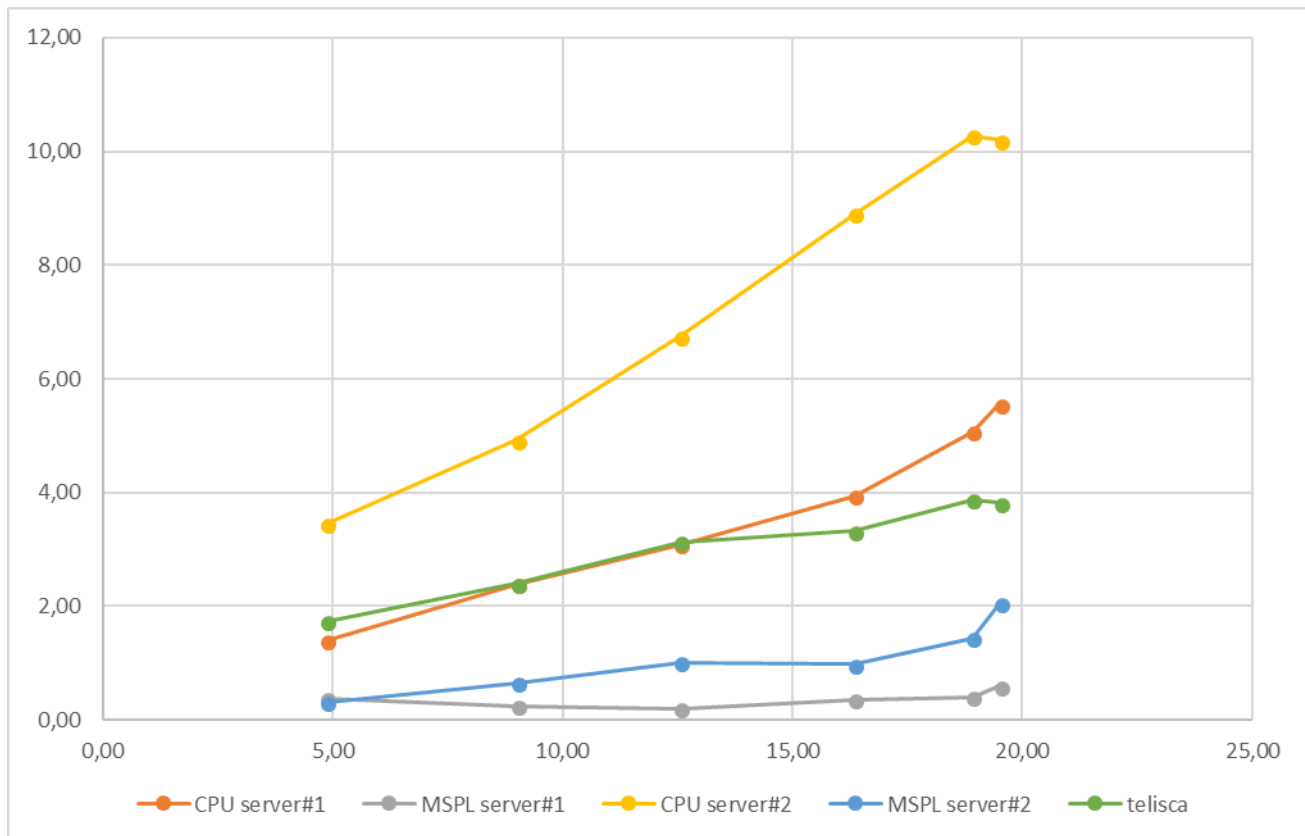
Config	Server#1		Server#2		Call/s	
	CPU %	MSPL %	CPU %	MSPL %	Call/s handled	Call/s expected
#1	1,40	0,07	2,08	0,16	4,80	5,00
#2	2,16	0,06	4,38	0,36	9,13	10,00
#3	3,07	0,19	6,34	0,77	12,56	15,00
#4	3,79	0,30	7,55	0,87	16,65	20,00
#5	4,54	0,57	8,09	0,95	18,85	25,00
#6	5,17	0,46	8,51	1,13	20,10	50,00



The CPU load stays low, the tested Skype for Business platform cannot handle more than 20 calls per second.

2.3 Calls filtered

Config	Server#1		Server#2		Telisca	Call/s	
	CPU %	MSPL %	CPU %	MSPL %	CPU %	Call/s received	Call/s expected
#1	1,39	0,37	3,45	0,31	1,74	4,85	5,00
#2	2,38	0,24	4,93	0,65	2,39	9,00	10,00
#3	3,08	0,20	6,75	1,01	3,13	12,55	15,00
#4	3,94	0,36	8,91	0,98	3,32	16,35	20,00
#5	5,07	0,41	10,28	1,44	3,88	18,90	25,00
#5	5,55	0,60	10,20	2,05	3,82	19,50	50,00



The CPU load stays low, the tested Skype for Business platform cannot handle more than 20 calls per second.

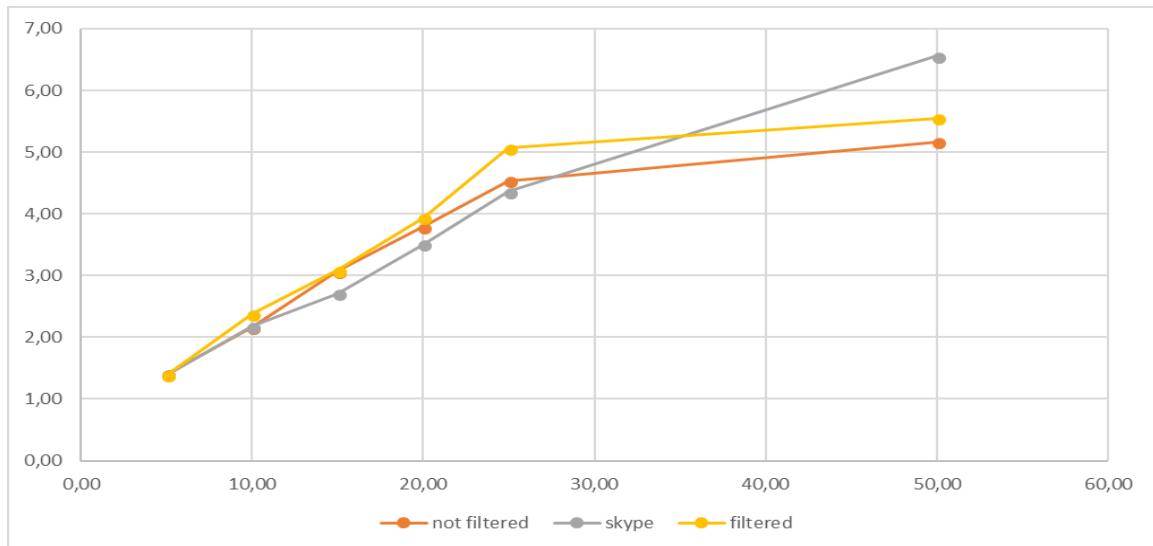
telisca server CPU usage remains very low (less than 4%). The test is conducted with two Skype Front End servers, if additional Skype for Business servers are installed the load will increase as well. With 6 Skype servers the load should be a maximum of 12%.

3 Conclusion

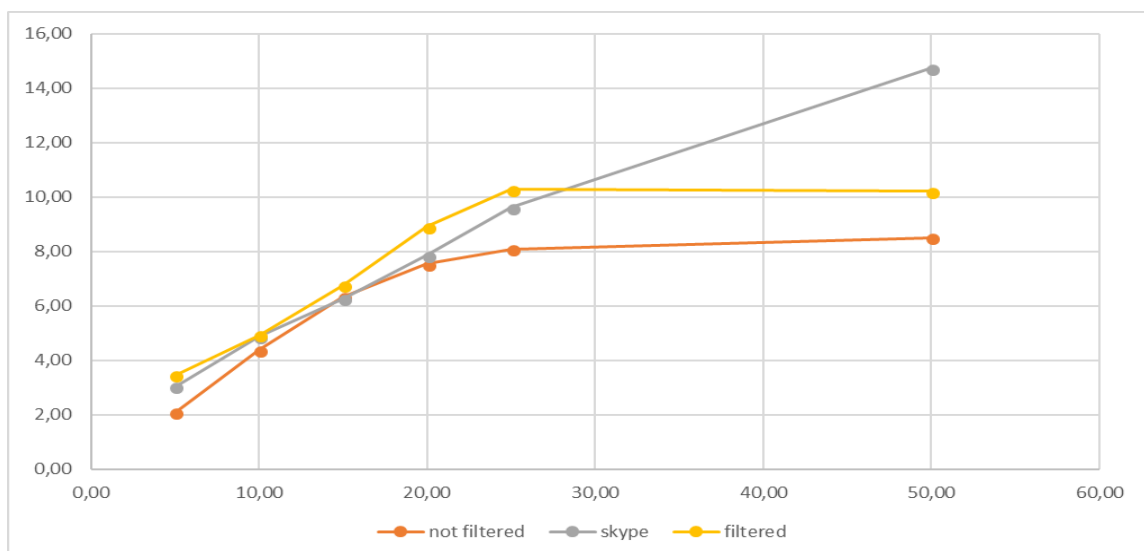
3.1 Cross scenario CPU usage

Here are the CPU load of Skype for Business servers 1 and 2 for:

- Skype only
- Not filtered calls (calls to assistants)
- Filtered calls (calls to managers)



Skype for Business Server #1



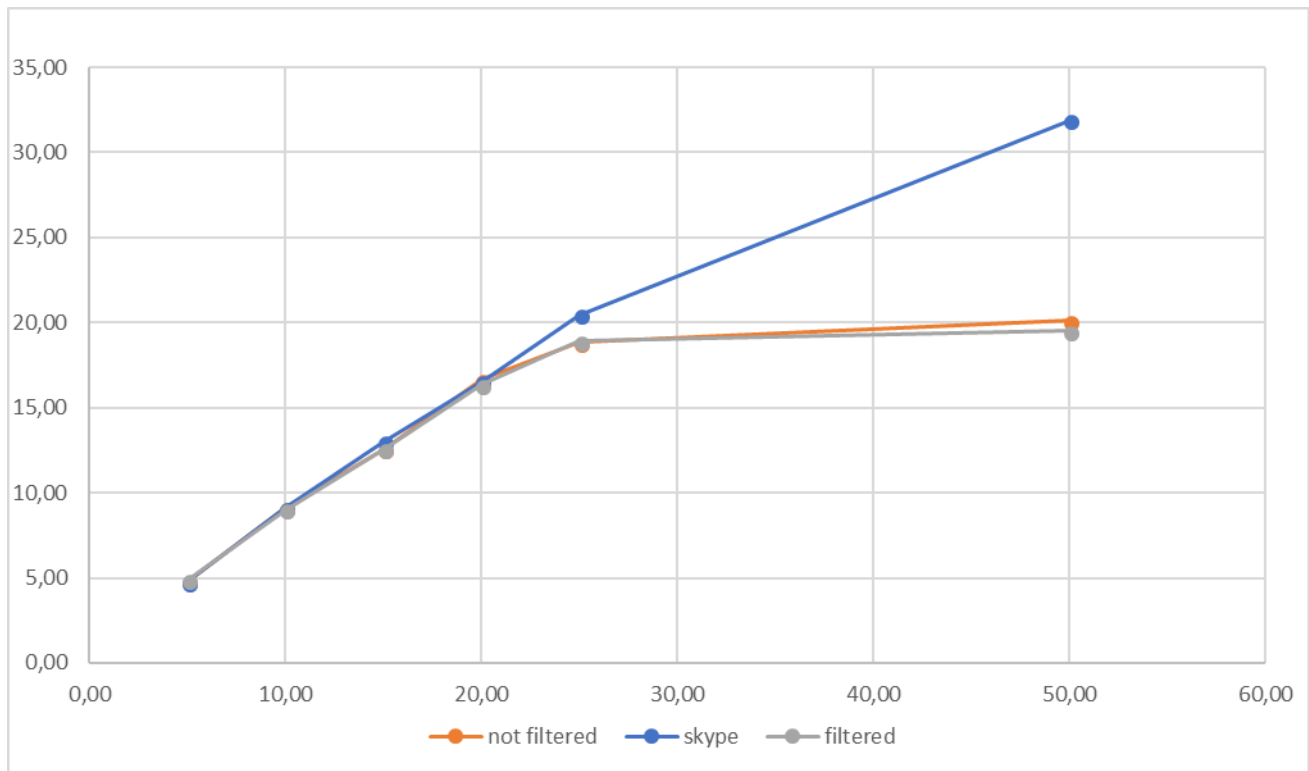
Skype for Business Server #2

The CPU load is always quite low. The filtered calls increase a little bit the CPU load by 15%.

The CPU load for 50 expected calls is lower when Manager Assistant Skype for Business is executing. This may be explained by the fact that in this case the number of calls accepted is higher on Skype only (32) than with MASfB (20).

3.2 Cross scenario Call received

On this graph we compare the calls received with Skype only, not filtered calls and filtered calls.



Up to 25 calls generated there is very little differences between the different scenario.

For 50 calls generated, however the platform cannot accept all the calls even for Skype only. So the tested platform is not sized to accept this amount of calls.

3.1 telisca server performances

Even with the maximum number of calls generated the telisca CPU Server load remains less than 4%. Even with 6 Skype for Business servers instead of the two tested the CPU load will be less than 12%.