User Guide

optima saver Service Panel

March 2018

Version : 5.5.3

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيم

TABLE OF CONTENTS:

Page

1.	Home	З
2.	Carrier	4
3.	Sip User	6
4.	Optima Client	8
5.	Gateway	9
6.	Dial Plan	13
7.	Profile	14
8.	Utility	15
9.	Active Calls	20
10	CDR	21
11	.Scheduler	24
Gl	ossary	25



Greetings!!! Welcome to the Optima Saver service Panel v5.5.3, the most advanced & dynamic panel ever built!!!

We would like to Introduce you with many new and interactive features those have been introduced to Optima Saver service Panel v5.5.3 supported by the most advanced Optima OS - Optima Saver 5.5.3 Edge puppy which is the minimum requirement for the new features. We will describe the latest features & interface one after another:

1. Home:

Optima Saver service Panel v5.5.3 got an Informative home page. Here you may see the required information at a glance. Figure 1 is showing the home page as:

- 1. Server Time is shown with date and time.
- 2. Server info: Server ip, **Call limit** (*Our previous drawback was our system can handle 128 ports/call limit, now there is no limitation*), **Server Uptime**(*each day you must restart the server from utility at your convenient time or you can do it by scheduler, read page no 21*)
- 3. Current calls: Total, Active, Ringing.
- 4. Today's Statistics: ASR, ACD , Duration.
- Active Clients: Up(green)>client pc is ip , Down (red+pending)>client pc is down, Down(red)>communication between server and client pc is being interrupted e.g. by ISP net blocking.

Optima save	ש א Carrier	SIP User	Client De Gateway	📰 Dialplan 🛛 🗧 Quick Stat 🝷		Hi, Optima ▼
^			Server Time (U	ITC): March 12, 2018 10:24:28 AM		
Home						
	Server Info		Current Calls		Todays Stat	istics
Profile	Server IP		Total	0	ASR	0.00 % of (0 Calls)
	Call Limit	32	Active	0	ACD	0 minutes, 0 seconds
JE .	Server Uptime	3 days, 3 hours, 54 minutes	Ringing	0	Duration	0 minutes, 0 seconds
Utility						
د 5	Active Clients					
Active Calls						
	status	Client	Restart Status			
	Up	I 40	Restarted before (1 n	ninutes 1 seconds)		
CDR				ogin to your Portal		
0			Continua	a Saver Client Panel v5 5 3		
Scheduler			- Optime	aver clicht ranel vo.o.o		

6. Optima Saver service Panel V5.5.3.

Figure-1 (Home Page)



you may also view quick stats for last 3 hours / last day / last 7 days from our panel too easily.

shown(Fig-1a) below:

optima saver	➤ Carrier ➤ SIP User ➤ Optima Client	ווווי Gateway i≣ Dialplan 🖉 Quick Stat ד	Hi, Optima≁			
Home		Server Time (UTC): 🖉 Last 3 Hours Quick St 🖉 Last Day 🖉 Last 7 Days	M			
	Summery Report					
Profile	Date Range	2018-03-13 10:00:00 to 2018-03-13 13:00:00				
	Total Calls	lls 0				
JE .	Connected Calls	0				
Utility	ASR	0.00 %				
	ACD (0 minutes 0 seconds)					
~	Median:	(0 minutes 0 seconds)				
Active Calls	Total Durations	0:00:00 (0 minutes 0 seconds)				



2. Carrier:

In this segment carrier information can be added as usual but the interesting part is, now you may also define & control the codecs as well as provide CDR panel web access only to your carrier for CDR checking from Optima Saver service Panel v5.5.3. These awesome features will provide you more control over the codecs which you may want to receive from your carrier end as well as will give transparency to your carrier side with your CDR access.

Optima save	Ƴ → Carrie	r 🕨 SIP Us	er 🛛 🛪 Optima Client	➡ Gateway	📰 Dialplan	📕 Quick Stat 👻		Hi, Optima ▼	
Home	□ View Inactive	ds per page					C Search:	Manage Carrier Portal	
	S/L	Name	🕴 Host IP		Call Limit		Codec	Action	
Profile	1	vps1			5		g729:20,g723:30	20	
Utility	Showing 1 to 1 of	1 entries (filter	ed from 3 total entries)				First	Previous 1 Next Last]
	Add New								
Active Calls		Name Le	tters, numbers and _,\$,#						
		Host IP							
CDR	c	Call Limit							
0	Allowed	Codecs g7	29:20, g723:30		Allowed all - all m	Values: all , g72 eans g711, g72	9:20 , g729:30 9 <mark>,</mark> g723		
Scheduler		S	ave Now						в

Figure-2 (Carrier Page with Allowed Codec option & Manage Carrier CDR only web access)

we will explain how you may do it, in following section:

Here, in Fig 2 we can see the option Allowed Codecs.

- Here, by default g729:20 & g723:30 codecs are allowed. g729 is the codec here and 20 is the payload.shown in fig 2
- If you want to allow g711 codecs then we may do it by typing "all" in the allowed codecs box, so that all codecs will be enabled e.g: g711a, g711u, g729, g723, shown in fig 3.
- You can change the payload if required. like g729:40 and g723:60, shown in fig 4.

Codec	Payload Sizes (ms) default in bold	Profile Used	Payload Type	Base Rate (ms)
G.711 u-Law	10, 20 , 30	4,5,7	0x00	5
G.711 A-law	10, 20 , 30	4,5,7	0x08	5
G.723 53k	30 , 60, 90	5,7	0x04	30
G.729 A/B	10, 20 , 30, 40, 50, 60	5,7	0x12	10

Codec Payload Size

Table-1 (Details about Codec payload format)

Manage Carrier option will provide the web access of CDR only for carriers. First, Need to

create a username, password and assign specific carrier name.

Optima saver	Carrier ➡ SIP User	ill Dialplan 🖉 Quick Stat 🗸	Hi, Optima -
		Carrier Login Management	
Home	Carrier Login		
	Login URL: http://1 3/web/ 4 login	n url with ip	×
Profile	10 v records per page		Search:
F	S/L * User Name	Origination	Actions
Utility	1 telcoplex	vps1	
<i>د</i>	Showing 1 to 1 of 1 entries		First Previous 1 Next Last
Active Calls			
	Add New	-	
CDR	1 Username telcoplex		
0	2 Password 1234		
Scheduler	3 Carrier vps1	-	
	Save Now		

second, provide the login url, username and password to your carrier to access the CDR only.

$\langle \rangle$	C	88	\oplus	/web/
-------------------	---	----	----------	-------



Third, above page will show with the login url, need to enter username and password to access it.

$\langle \rangle$	С	88	web/admin.php						
			Optima saver	≓ CDR					Hello, telcoplex+
					Server Time	: March 12, 2018 12:16:47			
					Cdi	Management			
			Cdr Filter 1 Date From 2018-03-12 00:00:00 Carrier 45.63.92.157	× III		Date To 2 2018-03-12 12:16:3 Please fill all the necess 3 Search Now	1 ary fields then search.	× III	
			CDR Detail						
			10 v records per page					Search:	
			S/L Call Start Time		Carrier	Gateway 🕴	Number	Duration Sec	÷.
			No matching records found						
			Showing 0 to 0 of 0 entries (filtered fro	om 26 total entries)					$\leftarrow First Last \rightarrow$

Fourth, now your carrier may select date range and click on search to check the CDR.

3. Sip User Now you may create sip users directly from our Optima and test calls through any mobile sip dialer. Steps for creating sip users are:

1. Assign a username. **2.** Assign a password **3.** Assign Call Limit. **4**. Assign Codec.

***To use this feature, disable SIP firewall from Utility. Then you can use **Optima Free Dialer** for testing calls. You may require VPN or BytePlex if your ISP blocks SIP Protocol.

Optima saver	➡ Carrier ➡ SIP User ⊐ Optima C	lient 🕨 Gateway 🛛 i≣ Dialpla	n 🖉 Quick Stat 🗝		Hi, Optima -				
Home	To use this feature, disable SIP firewall BytePlex if your ISP blocks SIP Protoco	rom Utility. Then you can use Optir	na Free Dialer for testing calls.	You may require VPN or	Google Play				
Data saved successfully									
Profile	List Of User								
F	View Inactive				Manage Carrier Portal				
Utility	10 v records per page			Search:					
e l	S/L Username	Password	Call Limit	Codec	Action				
Active Calls	1 optest	opt123	1	g729:20,g723:30					
	Showing 1 to 1 of 1 entries (filtered from	4 total entries)		First Prev	rious 1 Next Last				
	Edit								
0	Username optest	1							
Scheduler	Password opt123	2							
	Call Limit 1	3							
	Allowed Codecs g729:20,g	723:30 4							

Now will explain steps for making calls:

- 1. From Utility , disable firewall.
- 2. Reload All Settings.

Optima saver		SIP User 🛛 🎞 Optima Client	🗭 Gateway 🖉 P		🔗 Route Management 👻	🖉 Quick Stat 👻		
Home				Server Time (UTC): I	ebruary 18, 2018 08:58:00 A Utility	LM		
Profile	2	Firewall status has been set to D Settings	isabled			_	~	
Juliny		Reload Settings Restart Server	Debug Console			Initialize Dial Filte	er Clear Buckets Global Settings	
Active Calls		Normal Dial Retry D	Dial	Normal Ring	Early Ring	Firewall On	Firewall Off	
CDR		List Of Clients				Search		
O Scheduler		Status · · · · · · · · · · · · · · · · · · ·	Client	Restart S	atus		Action	
		Showing Villo Villo Chines					First Previous Next Last	

3. Now download the android application **Optima Free Dialer** from google play store , Open Optima free dialer, go to settings and provide info like below to test calls:

Settir	ngs		
General Info	rmation		
Switch Address	xxx.xxx.xxx.xxx		Provide ip same as your Optima IP
Switch Port	5060		Provide SIP port as 5060
Username	username		Same as sip-user, username
Password			Same as sip-user, password
Phone No.	123456]	
Advanced Se	ettings		
🧹 Advance	audio mode		
Low ban	dwidth		
S	ave Cancel		Click to save
(°)(,	2) 💿 🏇 – 🚺	-	Settings



4. When Dialer got registered , then you may test call according to your dial plan in the panel. You may require VPN or BytePlex if your ISP blocks SIP Protocol.

3. Optima Client:

In Optima Saver service Panel v5.5.3, Optima Client section.

Clients may add the MAC Address of the optima client pc along with other related info, which is a mandatory part as well as can enable tunnels on their own if there is any sorts of protocol/ port blocking with the internet they use, e.g.:

→ SX , TX(new port added 5967), UX

TX tunnel got multiple range of ports except for SX and UX only.



Figure-5 (Optima client page showing available Tunnels)

5. Gateway:

In Optima Saver service Panel v5.5.3 gateway section, we have introduced some important and unique features. e.g.

• **Real IP as Gateway IP** can be set now in optima service pane v5.5.3. You may send calls directly to any real/ public ip of switch/ server or Gateway IP(1) with any specific GW port(2) from now onwards.

optima saver	וווי Carrier וויי SIP User ≭ Optima Client וויי Gateway ﷺ Dialplan וויי Quick Stat →	Hi, Optima -
*	Gateway Management	
Home	List Of Gateway	
4	□ View Inactive 10	
Profile	S/L A Name IP Call Limit GW Port Client Action	
F	No matching records found	
Utility	Showing 0 to 0 of 0 entries (filtered from 2 total entries) First Previous Net	d Last
Active Calls	Edit	
	Name switch_or_goip_with_real_ip GW IP 8.8.8.8	
0	Call Limit 16	
Scheduler	GW Port 5060 2	
	Login Info	

- Gateway wise specific call limit set is an important feature, which was not functional before, but now it's on. That means, the calls will hit the gateway(s) according to the call limit exactly, e.g. if you set call limit as 9, then only 9 calls will hit the specific gateway. (shown in Fig 6)
- **Gateway Browsing** is the unique feature has been added called, with the icon in the action section. (shown from Fig 7 to Fig 12)

N.B. Gateway browsing will not work for Real/ Public IP. Optima Edge 5.00 operating

system

is required for Gateway Browsing Feature at least.

From now onwards, you may browse your gateway from here which ips are added in gateway section. Once it is enabled (it may need up to one minute) it will be disabled by system after 30 minutes for your security, you may again enable it when you will need it.

ATTENTION: if you want to enable this feature you must have to set strong password in the gateway access password section, e.g: (user: admin, pass: 1@Admin1). There is a box named Login Info, there you can save the gateway access info for the gateway.(fig 6)

Benefit: when teamviewer is blocked by ISP, then Gateway Browsing option will be so much effective.you may save Login info of your gateway access username and pass for gateway browsing.

Splendi	id! is	sn't i	t.
---------	--------	--------	----

	Gateway Management
Home	List Of Gateway
4	□ Vew Inactive 10 v records per page Search:
Profile	SiL A Name IP Protocol Call Limit Client Action
F	No data available in table
Uility	Showing 0 to 0 of 0 entries
6	
tive Calls	Add New Name noib10
CDR	GW IP 192.168.101.10
0	Cal Limit 32 call limit is effective now
cheduler	Optima Saver Client optimasaver5
	GW Type SIP V
	Login Info admin/@dmin#@1 your gateway access info e.g: user / pass
	Save Now

Figure-6 (Call limit is now functional)

			Serve	er Time (Africa/Cairo): November 15, 2016 00:29	:51 PM	
Data saved su	ccessfully	-	-	Gatewa	iy management	_	
List Of Gatewa	av						
View Inactive	e cords per pag	e				Search:	
S/L 🔺	Name		IP 🕴	Protocol	🛊 Call Limit	🕴 Client	Action
1	goip10		192.168.101.10	SIP	32	optimasaver5	0 🔽 🧕
Showing 1 to 1	of 1 entries					Click the "Ga	ne icon to enable ateway Browsing
Add New						_	
	Name	Letters, n	numbers and _,\$,#				
	GW IP						
	Call Limit						



			Sen	ver Time (Africa/Cairo): N	ovember 15, 2016 00:3	6:04 PM	
				Gateway N	lanagement		
List (Of Gatewa	ay					
	ew Inactive	e					
10	✓ rec	cords per page				Search:	
S/L		Name 🍦	IP 🔶	Protocol	Call Limit	🔶 Client	Action
1		goip10	192.168.101.10	SIP	32	optimasaver5	😳 🔼 🧕
Show	ing 1 to 1 New	of 1 entries				After clicki see, the icc circling due t enabling	ng the icon, you may on with green dots are to gateway browsing it by the system, it may
		Name Letters,	numbers and _,\$,	#		таке	some moment.
		GW IP					
		Call Limit					

Figure-8 (After clicking the icon, gateway browsing is enabling)

List Of Gatew	vay						
☐ View Inaction	ve ecords per page					Search:	
S/L	Name	IP 🕴	Protocol	🛊 Call Limit	¢C	lient	Action
1	goip10	192.168.101.10	SIP	32	o	ptimasaver5	0 🔽 🙆
Showing 1 to 1 Add New	1 of When Ga enable Blue, yo brov Name Letter	ateway brows id, the ip colo u may click o vse your Gate s, numbers and _,\$,	sing will be or will be n the ip to eway. #			when G will be e color v the pict mins, g will be your se again e	ateway Browsing enabled, the icon vill be Green as ure. N.B: after 30 ateway browsing disabled auto for ecurity. you may nable it when will
	Call Limit						require.
Optima S	Saver Client		~				
	GW Type SIP		~				

Figure-9 (Now Gateway Browsing in on, click on the Gateway IP)

2001 I	
http:// Konstanting requires a username and password.	
Site message: Your connection to this site is not private.	
Username: admin	
Password: *****	

Figure-10 (After Clicking Gateway IP, gateway admin panel will open)

O Menu	-		*	-			V Opt	ima Saver	- Bandwi	dti 🗙 📲	GolP32	2		× √ Optin	1a Sav	ver - B	Bandwidt	$ \times +$			—
< > C #	8 €	€	-			default/en_US/statu	s.html														0
	6	is	y	0	0	ne		G	iolP	32								Firmware Module V Last Logi Current 1	e Version: ersion: in Time: Time:	GST1610 G610_V0 1970-01 1970-01	简体中文 Logout)-1.01-55)C.58.0D_T21 01 08:36:02 01 13:44:12
Status	Sum	man	/				<i>a</i>							95 - 14							
Status	СН	Line	MSI	MGS	IOV	P Status	SM	SACD(S)	A SR(%)	Duration(S)	Count	CDR Start	RSSI	Carrier	BST ID	Idle	Remain	SMS Remain		Reset	
Summary		1	YN	N	N	IDLE		0	0	0	0	1970-01-01 08:00:55	99			342	475	NO LIMIT	Remain	SMS	ACD&ASR
General		2	YY	Y	Y	CONNECTED:0		376	28	10528	28/100	1970-01-01 17:55:39	31	vodafone EG		0	305	NO LIMIT	Remain	SMS	ACD&ASR
GSM		3	YY	Y	Y	CONNECTED:01		73	27	5329	73/270	1970-01-01 17:55:39	29	vodafone EG		0	60	NO LIMIT	Remain	SMS	ACD&ASR
SIM Call Forward		4	ΥY	Y	Y	CONNECTED:0		89	29	7476	84/290	1970-01-01 17:55:39	31	vodafone EG		0	60	NO LIMIT	Remain	SMS	ACD&ASR
Configurations		5	ΥY	Y	N	IDLE		0	25	0	40/160	1970-01-01 17:55:39	30	vodafone EG		342	182	NO LIMIT	Remain	SMS	ACD&ASR
Gornigurations		6	YY	Y	N	IDLE		0	24	0	39/163	1970-01-01 17:55:39	26	vodafone EG		342	167	NO LIMIT	Remain	SMS	ACD&ASR
Tools		7	YY	Y	N	IDLE		0	24	0	48/200	1970-01-01 17:55:39	26	vodafone EG		342	182	NO LIMIT	Remain	SMS	ACD&ASR
		8	YY	Y	N	IDLE		2	25	102	51/204	1970-01-01 17:55:39	31	vodafone EG		213	175	NO LIMIT	Remain	SMS	ACD&ASR
		9	YY	Y	N	IDLE		0	18	0	36/200	1970-01-01 17:55:39	31	vodafone EG		342	168	NO LIMIT	Remain	SMS	ACD&ASR
		10	YY	Y	N	IDLE		4	26	192	48/185	1970-01-01 17:55:39	31	vodafone EG		214	172	NO LIMIT	Remain	SMS	ACD&ASR
		11	ΥY	Y	Y	CONNECTED:0		146	24	6716	46/192	1970-01-01 17:55:39	31	vodafone EG		0	198	NO LIMIT	Remain	SMS	ACD&ASR
		12	ΥY	Y	N	IDLE		0	22	0	40/182	1970-01-01 17:55:39	29	vodafone EG		342	162	NO LIMIT	Remain	SMS	ACD&ASR
		13	YY	Y	Y	CONNECTED:0		63	25	4410	70/280	1970-01-01 17:55:39	24	vodafone EG		0	76	NO LIMIT	Remain	SMS	ACD&ASR
		14	YY	N	N	IDLE		246	24	7380	30/125	1970-01-01 17:55:39	26			342	347	NO LIMIT	Remain	SMS	ACD&ASR
		15	YY	Y	N	IDLE		0	31	0	63/203	1970-01-01	26	vodafone EG		342	125	NO LIMIT	Remain	SMS	ACD&ASR

Figure-11 (After providing user and pass, gateway page is open in your browser)

> C # @		defau	ult/en_US/too	ols.html					
	syft	one	GolP	32		Firmware Ver Module Versia Last Login Tir Current Time	sion: GST16 nr: G610_ ne: 1970-0 1970-0	简体中文 Logout i10-1.01-55 V0C.58.0D_T21 i1-01 08:36:02 i1-01 13:45:30	
Chatura	Send USS	D							
Status	Line 1 Line 9 Line 17	Line 2	Line 3	Line 4	Line 5	Line 6	Line 7	Line 8	
Tools	All Lines	LI Line 26	LI Line 27	LI Line 28	LI Line 29	L Line 30	LINE 31	LI Line 32	
Online Upgrade Change Password	USSD Co	Li ommand:	Line 1 GSM S ine 1 GSM Nu	Status:LOGOU Imber:	JT	nd Discon	nect		
Send USSD									
Send SMS									
SMS InBox									
SMS OutBox									
GSM Channel Control									
Ping Test									
Dial Test									
Onthlumber									
Get Number									

6. Dialplan

In Optima Saver service Panel v5.5.3 dial plan segment, we have made some practically useful changes. like:

1. Prefix Manipulation:

- a. you may use null value as mod prefix for some countries trunk prefix is null like 967 (yemen cellular), here truck prefix is not 0, now you may keep the mod prefix blank, it means prefix will be fully stripped as shown in fig 13.
- b. from now, you may use special characters, like _, #, \$, * and + in the prefix and mod prefix field. e.g: for some package sim dialing options with special characters, like 92> *123#0, you may use it, depends upon bundle offer from your operator.
- 2. **Priority** Here the priority works just like any other switch. Calls will jump to next priority in ascending order. e.g: priority 0 means, calls will hit that termination first, priority 1 means, calls will hit the termination if any call fails/ rejected from priority 0 termination and same rule will apply priority wise for priority no 2, 3, 4 etc.
- 3. Allowed Length is a very effective feature which will allow, to pass the calls with the exact length of the number digits provided here. e.g:
 - a. suppose calls will come with 008801212033220, this number have 15 digit. SO allowed length will be 15. No calls will pass less than or more than 15 digits.

Allowed Length option, will prevent the unwanted junk calls with wrong number format.

optima saver	➡ Carrier	SIP User	🗙 Optima Client	➡ Gateway	🔳 Dialplan	🖉 Quick Stat 👻				Hi, Optima •
	List Of D	alplan								
Home	10	 records per page 	je					Search:		
A	S/L	Prefix	Mod. Prefix	allo 🗧	wed Length	🍦 Tem	nination	Priority	Action	
Profile	1	967		12		goip	10	0		
	2	00880	0	15		goip	11	1		
JE .	3	9230	* <mark>1</mark> 23*030	12		goip	12	2		
Utility C Active Calls	Showing Edit	1 to 3 of 3 entries		-				First Previo	us 1 Next	Last
CDR		Incoming Prefix Outgoing Prefix	00880							
0	3	Allowed Length	15							
Scheduler		Gateway	goip11	~						
		Priority	1 Update Now	Cancel						

Figure-13 (Dial Plan)

Profile

Profile segment is an important area of Optima Saver service Panel v5.5.3. The most important thing is your password here. Always use a strong password and change it every week for your own security. you may also input here your name, user login address, email and timezone as per your requirement.

*			Server Time (Africa/Cairo): November 17, 2016 00:	02:57 PM		
Home			Server	Management			
	List of Server						
Profile	10 v records per pag	ge.				Search:	
2	S/L A Name		Login Id	Timezone		IP	Action
Luny Contraction of the second	1 optimat	est	optimatest	Africa/Cairo		107.6.184.244	
C	Showing 1 to 1 of 1 entries					First P	revious 1 Next Last
Active Calls	Edit						
	Your Name	optimatest					
COR	User Login	optimatest					
0	Password						
Scheduler	Address	NA	Please match the reque	sted format.		N.B: W	/ill need a
	Cell/Phone	NA	Must be at least 6 to 12 c least 1 normal character	haracters with at	S	trong p	assword for
	- Frend		special character among !	@#\$%_		our bei	ter security
All Timeszones are synce	d, Email	INA S					
also a standard range of	IP IP	107.6.184.244	4				
time zones have been	Timezone	Africa/Cairo	~				
added in the list.		Undate Nam					

Figure-14 (Profile)

8. Utility

In Optima Saver service Panel v5.5.3 utility segment, we have introduced some new technical features in the advanced settings section, Fig: 15-16, like:

- Normal Dial / Retry Dial.
- Normal Ring/ Early Ring.
- Firewall on/ Firewall Off.

also added some new features like:

- Debug Console.
- Ping Response.

we will explain the features below:

- Normal Dial / Retry Dial: Normal Dial will ring the call once then drop, whereas with retry dial, calls will dial the 2nd time if first attempt failed. With retry dial option on, ASR may increase a bit as well as Failed Calls may reduce if there are many with Normal Dial. Fig 15 *Default Settings: Normal Dial.*
- Normal Ring/ Early Ring : If early ring is enable, asterisk will send immediate 183 session with a ringback tone to caller, before calle get the call, it may lower the PDD, whereas normal ring sends the ringback tone when the call reaches to the callee. Fig 15 *Default Settings: Normal Ring.*
- Firewall on/ Firewall Off: with firewall on no calls will hit without the IP listed in the carrier section, with firewall off calls may hit from other ips but will not succeed to pass the server. with this option on we may see from which ips calls are coming from debug console sections if required. Fig 15

Default Settings: Firewall on.

- **Debug Console:** From here we may see the switch end codec and from which ip's, calls are hitting our server from, Sip debug console fig 17, channel debug console, fig: 18.
- **Ping Response:** Now you may see the ping Latency from optima server to optima client pc end in the utility page. Standard ping time time response in below 300, if it exceeds 300, then we can suspect that there might be any issue with the connectivity like net monitoring, protocol blocking or packet-loss etc. Fig 19



			Server Time (Afri	ca/Cairo): November 17, 2016 02:	53:19 AM		
				Utility			
	Settings						
	Reload Settings Restart Ser	ver Debug Console					
	Advance Settings						
	Normal Dial Retr	y Dial	Normal R	ting Early Ring	Firewall On	Firewall Off	
No	rmal Dial: Calls will di	al 1 time, if	Normal Ri	ng: Caller will hear the	E Firewall On	/Off : when on: n	o calls
Р	fails, will drop.	, al the Ord	ringtone,	when call reaches to	from any ot	her ip will hit the	optima
tim	e, if first attempt fails.	then drop.	the re Farly Rin	ceiver/ callee end.	Server exce	ept the ip/s in the	carrier
			ringtone	as soon as he calls,	ip but will not	pass the server(required
	Up	optimasaver5 (may re	duce PDD in some	for chec	cking purpose onl	y).
		DDi		00000			
	Down	KPI		enaing			
	Down	opt5				Restart	

Figure-15 (Advanced Settings)

Re	load Settings: After any change	Server Time	e (Africa/Cairo): November 17, 2016 02:53:19 AM	
in th	ne panel, press reload settings	to	Utility	
up	date the new settings/ changes		Debug Console: clicking this will ope	n a new page will show in 2
	Reload Settings Restart Serve	Debug Console	1. Sip Debug Console (may see the call status)	codecs , caller id, peer ips, call
Profile		2	2. Channel Debug Console (may see the status will up/	callee number, call connectivity
Je.	Advance Restart Server	ver:		ing.
Utility	Non server. Caut	tima on:	rmal Ring Early Ring Firewall O	n Firewall Off
5	calls will dro	p.		
Active Calls	List Of Clients			
	10 v records per page		Sear	:h:
CDR	Status	Client	Restart Status	Action
~		optimasaver5 (393)	Restarted before (1030 minutes 40 seconds)	Restart
0	Down	RPi	Pending	
Scheduler	Down	opt5		Restart
Active Cats	List Of Clients	Client optimasaver5 (393) RPi opt5	Sear Restart Status Restarted before (1030 minutes 40 seconds) Pending	ch

Figure-16 (Settings)

Debug Console(Sip Debug):

				Utility	: Debug	g Console			
	SIP Debug Co	nsole			_		_		
ome									
									Refresh
1									
e .	Peer	User/ANR	Call ID	Format	Hold	Last Message	Expiry	Peer	
	174.1	8641	28f48ee363616c6	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	557	171c1f7d63616c6	0x100 (g729)	No	Rx: INVITE		carrier	
	174.1	9771	5d9ad4f663616c6	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	1544	73c3f34a63616c6	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	7674	4e480ce963616c6	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	11157873	21451049-368800	0×100 (g729)	No	Rx: ACK		carrier	
	174.1	49	06ac31b663616c6	0x100 (g729)	No	Rx: ACK		carrier	
Contraction of the local division of the loc	174.1	3933371868	21425547-368800	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	8094	34bbd55f63616c6	0x100 (g729)	No	Rx: INVITE		carrier	
	174.1	52420	Dhxnjs69gR@72.2	0×100 (g729)	No	Rx: ACK		carrier	
	174.1	283	behgegiakothcc9	0x100 (g729)	No	Rx: ACK		carrier	
Constanting of	174.1	14181	77e02d8363616c6	0x100 (g729)	No	Rx: ACK		carrier	
	174.1	61	5acb9cb763616c6	0x100 (g729)	No	Rx: INVITE		carrier	
Service of	174.1	845211	17ab0f9163616c6	0×100 (g729)	No	Rx: ACK		carrier	
	174.1	87	2d7871e963616c6	0x100 (g729)	No	Rx: INVITE		carrier	
	174.1	162	04be486e63616c6	0x100 (g729)	No	Rx: INVITE		carrier	
	174.1	6971	5009e4fc63616c6	0x100 (g729)	No	Rx: ACK		carrier	
ALC: NO.	174.1	4	75917ea463616c6	0x100 (g729)	No	Rx: INVITE		carrier	
	174.1	8	67416e1863616c6	0×100 (g729)	No	Rx: INVITE		carrier	
The second second	174.1	238	377087ff63616c6	0x0 (nothing)	No	Rx: INVITE		carrier	
	174.1	26	17734e8963616c6	0x0 (nothing)	No	Rx: BYE		carrier	
	174 1	117	16617a2d63616c6	Qv100 (a720)	No	DV. TMATTE		campion	

Figure-17 (SIP Debug COnsole, check codec & carrier ip here)

Debug (Channel Debug) :

	CHANNEL Debug Console				
lome					Refresh
2	SIP/carrier-000088f3	4484@defau Up	Dial(IAX2/	2#01021684	
	SIP/carrier-00008a7a	8133@defau Up	Dial(IAX2/	2#01011908	
ofile	SIP/carrier-00008a7b	4978@defau Up	Dial(IAX2/	1#01016054	
	SIP/carrier-00008a7f	8620@defau Up	Dial(IAX2/	1#01004428	
	SIP/carrier-00008a51	4209@defau Up	Dial(IAX2/	1#01017234	
6	SIP/carrier-00008a24	7548@defau Up	Dial(IAX2/	1#01060517	
	SIP/carrier-00008a1f	3871@defau Up	Dial(IAX2/	1#01020223	
ility	SIP/carrier-00008a34	8743@defau Up	Dial(IAX2/	2#01028768	
	SIP/carrier-00008a36	1192@defau Up	Dial(IAX2/	1#01006981	
	SIP/carrier-00008a32	1900@defau Up	Dial(IAX2/	2#01005691	
	SIP/carrier-00008aa6	4506@defau Ring	Dial(IAX2/	2#01066554	
	SIP/carrier-00008a2d	8343@defau Up	Dial(IAX2/	2#01010208	
Calls	SIP/carrier-00008aa4	5371@defau Ring	Dial(IAX2/	2#01090605	
	SIP/carrier-00008aa5	5012@defau Ring	Dial(IAX2/	2#01016635	
	SIP/carrier-00008aa3	1501@defau Ring	Dial(IAX2/	2#01007601	
=/	SIP/carrier-00008aa1	0887@defau Ring	Dial(IAX2/	1#01002810	
	SIP/carrier-00008a8c	9919@defau Up	Dial(IAX2/	2#01062839	
DR	SIP/carrier-00008a9f	1555@defau Ring	Dial(IAX2/	2#01064991	
	SIP/carrier-00008a9d	5068@defau Up	Dial(IAX2/	2#01065105	
	SIP/carrier-00008a9e	9148@defau Ring	Dial(IAX2/	1#01011259	
	SIP/carrier-00008a9b	7352@defau Ring	Dial(IAX2/	2#01023867	
	SIP/carrier-00008a9c	9051@defau Up	Dial(IAX2/	2#01065659	
duler	SIP/carrier-00008a88	8137@defau Up	Dial(IAX2/	1#01068268	
	SIP/carrier-00008a99	5452@defau Up	Dial(IAX2/	2#01013775	
And Street Street Street	CTD / 00000-04	FADAGA-F Un	D1-1/TAV0/	2#0100025	

Figure-18 (Channel Debug Console, check gw & call status here)



		Server Tin	ne (Africa/Cairo): November 17, 2016 02:53:19 Al	A	
			Utility		
Home					
	Settings				
	Delead Pattings Destat Con	Dobug Concelo			
Profile	Reload Settings Restan Serv	er Debug Console			
Je .	Advance Settings				
Utility					
	Normal Dial Retry	Dial	Iormal Ring Early Ring	Firewall On Fire	ewall Off
6					
	List Of Clients			144.00	
Up(Green) i	ndicates>Optima Clien	t Op(Green) mac ac	+ Pending Indicates > optima cil Idress duplicate issue (not show	n)	
com	munication is ok				
CDR		Client	Restart Sta.	Action	
	Up	optimasaver5 (393)	Restarted before (1030 minutes 40 seconds)	Restart	
0			Donding		
Scheduler	This is the	e ping response tim	e Between sever		
Scheduler	and clier	nt. Recommended	value below 400	Restart	

Figure-19 (list of clients)



Figure -19a (if mac duplicate in the system)

		erver Time (Africa/Cairo	: November 17, 2016 02:	53:19 AM	
			Utility		
Settings					
Reload Settings Re	estart Server Debug Console				
Advance Settings					
Normal Dial	Retry Dial	Normal Ring	Farly Ring	Firewall On	Firewall Off
List Of Clients					
10 v records i	per page			Search	
	per page			ocuron.	
Down (red) + pe	nding indicates>sei	ver to client con	imunication is in	terrupted due to cl	ient pc is
	boning ta		not connocion.		
	DDi	Pending			
Down	RPI	1 citality			

Figure-20 (Down, red + pending indicates)

		Server Time (Africa/Cairo): November 17, 2016 0	2:53:19 AM
		Utility	
Settings			
Reload Settings	testart Server Debug Console		
Advance Settings			
Advance Settings			
Normal Dial	Retry Dial	Normal Ring Early Ring	Firewall On Firewall Off
List Of Clients			
10 v records	per page		Search:
Status	Client	Restart Status	Action
wn(red) indic	ates, optima client	pc is on but server-client commu	nication is interrupted due to
ISP pi	rotocol/port monitor	ing/ internet fluctuation/ lagged o	due to high latency
Deur	opt5		Restart
DOWI	0000		

Figure-21 (Down, red Indicates)

*		Serv	ver Time (Africa/Cairo): November 23, 2016 00:10:07 PM	
Home			Utility	
•	Settings			
rofile	Reload Settings	estart Server Debug Console		
¢	Advance Settings			
tility	Normal Dial	Retry Dial	Normal Ring Early Ring	Firewall On Firewall Off
-		Optima	Client System restarted before how r	many mins, it is shown
e Calls	List Of Clients	here.	you may restart it from the blue button	n named restart from
	10 v records	per page take sched	help from the scheduler option in our uled time automatically from our syste	panel, to restart at a
DR	Status	Client	Restart Status	Action
૭		optimasaver5 (757)	Restarted before (218 minutes 7 seconds)	Restart
heduler	Showing 1 to 1 of 1 e	entries (filtered from 3 total entries)		First Previous 1 Next Last

Figure-22 (Client system restart time, client restart will drop calls for that specific client)

9. Active Calls

In Optima Saver service Panel v5.5.3, you may see your active calls here.

the local division of					A REAL PROPERTY OF THE REAL PROPERTY.	STREET, STREET	
Active C	all List						
							R
50	 records per 	page				Search:	
S/L	From	е то е	Caller ID	Called Number	Status	Duration	Action
1	voss	goip10			Active	00:26:01	×
2	voss	goip10			Active	00:21:47	×
3	voss	goip10			Active	00:21:40	×
4	voss	goip10			Active	00:21:21	×
5	voss	goip10			Active	00:14:25	×
6	voss	goip10			Active	00:14:10	
7	voss	golp10			Active	00:13:20	
8	voss	goip10			Active	00:13:15	
9	voss	goip10			Active	00:06:53	×
10	voss	goip10			Active	00:06:29	×
11	voss	goip10			Active	00:02:39	
12	voss	goip10			Active	00:02:10	
13	voss	goip10			Active	00:01:13	×
14	voss	goip10			Active	00:01:00	
15	voss	goip10			Active	00:00:41	×
16	voss	goip10			Ring	00:00:41	*
17	VOSS	goip10			Ring	00:00:32	×
18	voss	goip10			Active	00:00:28	×
19	voss	goip10			Ring	00:00:22	×
20	voss	goip10			Ring	00:00:06	×

Figure-23 (Active Calls)

10. CDR:

Optima Saver service Panel v5.5.3 CDR is now more informative than before:

- You may get your total minutes sorting by prefix also along with gateway and carrier. also if you add the rate and currency, your total rate will show in the CDR., shown fig 24
- Client can generate and download PDF invoice using Rate and Currency, shown fig 25

DR FIIte	er								
Date Fro	om	Date	Го	View Opt	ion				
2016-11	1-17 00:00:00 🗙 🎫	2016	-11-17 02:19:29 🗙	All	~				
Carrier		Gatew	ay	Prefix	Prefix				
carrier	_1 ~	All		∼ 1062	1062				
Rate/Se	c	Currer	ю	Please fill a	Please fill all the necessary fields then search.				
0.001		usd		Search	Now				
		CDR Fil	ter Options: F	ate wise Carrier w	ise				
Summery	r Report - 2016-11-17 00:00:00	Gateway	wise, prefix w	vise, with rate & cur	ency Save				
					CDR in				
Dial Pref	fix	1062			PDF				
Carrier II	P				format				
Total Cal	Ils	46							
Connect	ed Calls	12							
ASR		26.09	%						
ACD		(7 min	utes 22 seconds)						
Median		(4 min	utes 40 seconds)						
Total Am	ount	5 312							
Total Du	rations	1.29.3	2 (88 minutos 22 seco	nde)					
Total Da	1010113		a loo minutes of secon	ind sy					
			alui a pu rit di a tri						
DR Deta	ail								
10	 records per page 				Search:				
S/L	Call Start Date	Carrier	Gateway	Calling Number	Duration Sec				
1	2016-11-17 00:07:40	carrier_1	gw106	1062	13				
2	2016-11-17 00:10:27	carrier_1	gw106	1062	56				
3	2016-11-17 00:18:01	carrier_1	gw106	1062	20				
4	2016-11-17 00:18:39	carrier_1	gw106	1062	1039				
	2016-11-17 00:36:22	carrier_1	gw106	1062	316				
5		carrier 1	gw106	1062	1026				
5 6	2016-11-17 00:42:59				445				
5 6 7	2016-11-17 00:42:59 2016-11-17 01:02:13	carrier_1	gw106	1062	145				
5 6 7 8	2016-11-17 00:42:59 2016-11-17 01:02:13 2016-11-17 01:05:01	carrier_1	gw106 gw106	1062	4				
5 6 7 8 9	2016-11-17 00:42:59 2016-11-17 01:02:13 2016-11-17 01:05:01 2016-11-17 01:05:12	carrier_1 carrier_1 carrier_1	gw106 gw106 gw106	1062 1062 1062	4 1261				
5 6 7 8 9 10	2016-11-17 00:42:59 2016-11-17 01:02:13 2016-11-17 01:05:01 2016-11-17 01:05:12 2016-11-17 01:26:54	carrier_1 carrier_1 carrier_1 carrier_1	gw106 gw106 gw106 gw106 gw106	1062 1062 1062 1062	145 4 1261 244				

Figure-24 (CDR)

- Now you may find 3 types of CDR report from View Options in CDR segment:
 - CDR Summary, Fig-24a
 - Hourly CDR, Fig-24b
 - Call log/ History you may all call log here with caller id, callee number, carrier name, codec, Fig-24c

CDR Summary

	Date From		Date To		View Option	
	2018-03-13 00:00:00	× III	2018-03-13 18:14:53	× III	CDR Summary	
Home	Carrier		Gateway		CDR Summary	
	All	~	All	~	Hourly CDR	
Profile	Rate/Sec		Currency		wate	
	0.1		USD		Call Log/History	
F	and the second					
Listay						
	Summery Report - 2018	-03-13 00:00:00 to 2	2018-03-13 18:14:53 (Asia/Kabul)			
	the second s					B
	Total Calls					
	Connected Calls					
соя	ASR		24.70 %			
	ACD		(4 minutes 13 seconds)			
9	Median		(2 minutes 3 seconds)			
Scheduler	Total Amount		0 (0 /sec)			
	Total Durations					
						_
and the second state of the	Successful Calls					
	10 V records per p	age			Search:	
	S/L · Call Start D)ate	Carrier Gateway	Calling Numbe	r Duration Sec	
	1 2018-03-13	00:01:42	Carrier SKY_10	320	3	
	2 2018-03-13	00:02:32	Carrier SKY_10	9.43	20	
	3 2018-03-13	00:08:10	Carrier SKY_10	190	2	
	4 2018-03-13	00:05:37	Carrier SKY_10	752	2	

Figure-24a (CDR Summery)

• Hourly CDR

optima saver	Carrier SIP User	🕫 Optima C	lient 🕨	Gateway	📰 Dialplan	🖉 Qui	ck Stat +	t.						
Home Profile		Date From 2018-03-13 00 Carrier All	0:00:00	× III		Date T 2018- Gatew All	io -03-13 18 ay	:14:53 🗙 🛿			View Opti Hourly C CDR St Hourly C	on CDR ummary CDR	~	
₽ UBBy		0.1				USD					Search	Now		
Active Calls	H I	lourly CDR Det	ail rds per pag	e								Search:		
		S/L A Date	Hour	ASR	ACD (Minutes)	• 0	Duration (Minutes)	Total Ca	ills 💧 A	nswered	Busy	No Answer	Failed
CDR		1 2018- 03-13	5:00 pm	26.05%	3.16							6	241	0
0		2 2018- 03-13	4:00 pm	28.45%	3.14							10	374	51
Scheduler		3 2018- 03-13	3:00 pm	29.61%	3.66							11	473	1
		4 2018- 03-13	2:00 pm	29.48%	3.53							8	352	6
		5 2018- 03-13	1:00 pm	22.97%	3.68							6	250	19
		6 2018- 03-13	12:00 pm	20.71%	4.88							5	253	10
		7 2018- 03-13	11:00 am	15.36%	4.47							7	219	0

Figure-24b (Hourly CDR)

• Call Log/ History

optima saver	➡ Carrier ➡	SIP User 🔀 🗘	Optima Client 🛛 🗭 Gate	way 🔳 D	Dialplan 🖉	Quick	Stat -					لي.
		Date F	rom		Da	ite To				View Option		
Home		2018-	03-13 00:00:00 🗙 🗄		2	018-03	3-13 18: <mark>1</mark> 4:53	× III		Call Log/Hi	story	~
		Carrier			Ga	ateway				CDR Sumr	nary	
		All		~	A	All		~		Hourly CDI	२	
Profile		Rate/S	ec		Cu	irrency	r			Call Log/Hi	story	arch.
c		0.1			U	ISD				Search No	N	_
Unity		Contraction of the local division of the loc		-	the state of the s	1000		and the second				
		Call Log	/History									
Active Calls		100	 records per page 							Se	arch:	
		S/L	Call Start Date	Carrier	IP IP		Gateway	Caller ID		Calling Number	Codec	Duration Sec
CDR		1	2018-03-13 00:00:29	Carrier	3	3.46	SKY_10		004	550	g729	0
		2	2018-03-13 00:00:30	Carrier	3	3.46	SKY_10		917	641	g729	0
0		3	2018-03-13 00:00:32	Carrier	3	3.46	SKY_10		798	291	g729	0
Scheduler		4	2018-03-13 00:00:39	Carrier	3	3.46	SKY_10		735	498	g729	0
The second second		5	2018-03-13 00:01:04	Carrier	3	3.46	SKY_10		431	436	g729	0
		6	2018-03-13 00:01:24	Carrier	3	3.46	SKY_10		917	641	g729	0
ALL DESCRIPTION OF		7	2018-03-13 00:01:25	Carrier	3	3.46	SKY_10		004	291	g729	0
		8	2018-03-13 00:01:28	Carrier	3	3.46	SKY_10		305	243	g729	0
		9	2018-03-13 00:01:32	Carrier	3	3.46	SKY_10		004	498	g729	0
		10	2018-03-13 00:01:49	Carrier	3	3.46	SKY_10		350	249	g729	0
Address of the Disease of the		44	2010 02 12 00-02-02	Carrier		2 4 6	CIVY 10		050	074	-730	0

Figure-24c (Call Log/ History)

Invoice PDF:

CDR Summary StatisticsDate Range:2016-11-01 00:00:00 to 2016-11-17 03:30:22 (UTC)Call Prefix:180Total Calls:67136Connected Calls:17137ASR:25.53 %ACD:(5 minutes 34 seconds)Median:(2 minutes 8 seconds)	CDR Summary Statistics	
Date Range : 2016-11-01 00:00:00 to 2016-11-17 03:30:22 (UTC) Call Prefix : 180 Total Calls : 67136 Connected Calls : 17137 ASR : 25.53 % ACD : (5 minutes 34 seconds) Median : (2 minutes 8 seconds)	CDR Summary Statistics	
Call Prefix:180Total Calls:67136Connected Calls:17137ASR:25.53 %ACD:(5 minutes 34 seconds)Median:(2 minutes 8 seconds)	016-11-01 00:00:00 to 2016-11-17 03:30:22 (UTC)	
Total Calls:67136Connected Calls:17137ASR:25.53 %ACD:(5 minutes 34 seconds)Median:(2 minutes 8 seconds)	80	
Connected Calls:17137ASR:25.53 %ACD:(5 minutes 34 seconds)Median:(2 minutes 8 seconds)	7136	
ASR : 25.53 % ACD : (5 minutes 34 seconds) Median : (2 minutes 8 seconds)	7137	
ACD : (5 minutes 34 seconds) Median : (2 minutes 8 seconds)	5.53 %	
Median : (2 minutes 8 seconds)	minutes 34 seconds)	
	e minutes 8 seconds)	
Total Amount : 5739.16 USD (0.001 USD/sec)	739.16 USD (0.001 USD/sec)	
Total Duration : 1594:12:40 (95652 minutes 40 seconds)	594:12:40 (95652 minutes 40 seconds)	

Figure-25 (Invoice PDF, after clicking the save button from Fig 24)

11. Scheduler :

You said, we heard!

We have introduced the scheduled restart facility of your server or client in a scheduled time in the Optima Saver service Panel v5.5.3, the most advanced panel ever built!. shown on fig 26.

Schedule Restart Vist Of Scheduler You may set & Restart Server at any scheduled time, it will repeat daily in the same time. Search: SL Restart Optima Client Time (Africa/Cairo) Action 1 Server N/A 04:00 AM Image: Client	
List Of Scheduler You may set & Restart Server at any scheduled time, it will repeat daily in the same time. Search: SL Restart Optima Client Time (Africa/Cairo) Action 1 Server N/A 04:00 AM I 2 Client optimasaver5 05:00 AM I 3 Client RPi 06:00 AM I First Previous 1 You can set & restart the multiple client side config at any scheduled time, it will repeat daily class Add New	
You may set & Restart Server at any scheduled time, it will repeat daily in the same time. Search: S/L Restart Optima Client Time (Africa/Cairo) Action 1 Server NA 04:00 AM Image: Client Image: Client 05:00 AM Image: Client Image: Client	
S/L Restart Optima Client Time (Africa/Cairo) Action 1 Server N/A 04:00 AM 1 2 Client optimasaver5 05:00 AM 1 3 Client RPi 06:00 AM 1	
1 Server N/A 04:00 AM I 2 Client optimasaver5 05:00 AM I 3 Client RPi 06:00 AM I You can set & restart the multiple client side config at any scheduled time, it will repeat daily Add New	n
2 Client optimasaver5 05:00 AM Image: Client side config at any scheduled time, it will repeat daily and scheduled time. Add New Add New	
3 Client RPI 06:00 AM You can set & restart the multiple client side config at any scheduled time, it will repeat daily Add New	
You can set & restart the multiple client side config at any scheduled time, it will repeat daily Add New	
	Next Last
Restart You may add your scheduled restart time of server and	
Client All Client from here at your own time zone, which can be changed from the	
Time (Africa/Cairo) 03:59 AM Profile(timezone) Page.	

Figure-26 (Scheduler settings)

N.B: If you change the timezone in profile section then all the time zone's will be changed in the panel as well as the time will be adjusted as per new time zone. e.g: suppose you have set the timezone as UTC and time 12:00 am, if you change the timezone in profile section as Africa/Cairo, then time will be adjusted to 2:00 AM automatically as Africa/Cairo time is UTC+2.





ACD - Average Call Duration.

ASR - Answer-Seizure Ratio.

CDR - Call Details Record.

Codec - Compression decompression, e.g: g729, g723, g711u, g711a.

MAC Address - Media Access Control Address, which may consists 12 alpha-numeric/ numeric, within the range of 0 to 9 & A to F. This is known as physical address of NIC (Network Interface card) like lan card, wlan card etc.

SIP - Session Initiation Protocol, is an application layer communications protocol for signaling and controlling multimedia communication session such as voice and video calls. The most common applications of SIP are in Internet telephony, as well as instant messaging, over Internet Protocol (IP) networks.

Latency - The amount of time it takes a packet to travel from source to destination. Together, latency and bandwidth define the speed and capacity of a network.

PDD (Post Dial Delay) - Time between the last number of the called phone is pressed and the audio signal ring or the called party is heard by the caller.

Packet Loss - The losses of data in a packet based network, usually due to congestion and consequent buffer overflow. In VoIP (Real Time communication) the packets lost are not sent again and should not be over 5%.

