Connection of Lync Server to Synway Gateway

1. Summary

Microsoft Lync is a communication service which provides instant messaging (IM), audio and video calls, online meetings, availability (presence) information, and sharing capabilities all from one, easy-to-use program. The Lync client combines many kinds of communication tools together on the updated user interface, which allows people to use it in a way they are accustomed to. It features a control panel for people to easily find and use common functions such as the dial, the visual voicemail, the contact list and the call list.

The Synway SMG series gateway products help bring traditional calls into the IP network in a more stable way.

This file will guide you step by step to configure the connection of a Synway digital or analog gateway to the Microsoft Lync system.

2. Testing Environment

Windows 2008 Server R2, 64bit (Domain Controller) Windows 2008 Server R2, 64bit (Lync Server) Windows 7 (Lync Client) Windows XP (Lync Client) Synway digital gateway: SMG2120, 1.6.1_2015062617 (IP: 201.123.114.144) Synway analog gateway: SMG1032, 1.5.2_Release+2015052812 (IP: 201.123.114.205)

3. Lync Server Installation

First of all, it requires an agent server for the connection of the Lync server and the PSTN gateway. For details about how to install the Lync server, please refer to the document 'Lync Server 2010 Environment Deployment'

For a Lync server installed for the first time, the PSTN gateway to be connected with it must be selected during topology generation. To be exact, run the topology generator and tick the Enterprise Voice option when going to the step 'Function Selection' for defining a new front-end processor pool.

Define N	ew Front End Pool				×
	Select features				
Instan End po	t messaging and presence are always ool to handle.	enabled. Select the ac	ditional features	that you would	like this Front
Co	nferencing, which includes audio, vide	eo, and application shar	ing.		
Γ	Dial-in (PSTN) conferencing				
🔽 Er	terprise Voice				
Ca Ca tra	II Admission Control II Admission Control is an optional cor affic within the deployment. Only one	nponent that manages Front End pool per site	the bandwidth u: can enable Call	sed by unified co Admission Contr	ommunications ol.
He	elp		Back	Next	Cancel
Set the	agent server and specify th	e PSTN dateway	/		
Define N	ew Front End Pool	lo r o r r gatoria	-		X
	Specify PSTN gatew	ays			
The M	ediation Server requires one or more 1	(P/PSTN gateways, IP-F	BXs, or SIP trun	s.	
The fo	llowing gateways are not associated w	vith any Mediation Serv	er. Click Add to	associate them v	with this
Mediat	Gateway	Site	Т		
			Add		
The fo	llowing gateways are associated with . Click Remove to remove a gateway	this mediation server. from the list.	Click New to defi	ne a new gatew	ay and add it to
	Gateway	Site]		
			New Remove		
		Make Default]	_	
He	lo 1		Back	Finish	Cancel
	<u> </u>				

Add the PSTN gateway. The Synway gateway has the IP address of 201.123.114.205 and

uses the monitoring port 5060 in TCP. Fill them in here below.

efine New IP/PSTN Gateway		
Gateway FQDN or IP Address *		
201.123.114.43		
Listening port for IP/PSTN gateway:	•	
5060		
Sip Transport Protocol: • TCP		
C TLS		

Release the topology once it is generated.

For a running Lync server, download the topology, save it to local and open it. Then after adding the corresponding gateway, save and release the topology.

 Connection of Synway Analog Gateway & Lync Server Lync Server IP: 201.123.114.202 Synway Analog Gateway IP: 201.123.114.43

Here we'd like to demonstrate how to initiate a call from the Lync client to the PSTN gateway.

First, go to the menu Active Directory User and PC and add a user qzt as the account of the Lync client.

Active Directory Users and Com	puters				- 🗆 ×
File Action View Help					
🗢 🄿 🖄 📅 📋 🗎 🖉 😐	s 🛛 🖬 🔧	😹 🔁 🔻 🔁 🤅	8		
 Active Directory Users and Comput Saved Queries Soved Queries Builtin Builtin Computers Domain Controllers ForeignSecurityPrincipals Managed Service Accounts Users 	Name SCSServerAd SCIEserAdmin New Object SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdmin SCIEserAdm	Type Security Group Security Group User Create in: corp.sa qzt qzt name: name (pre-Windows	Description		
x >	RTCSBAUTIV	security group	< Back Next > Members have read acces	Cancel	.
	an UTChevored	Security Croup	Biompore con porticipato i		

Save it and log in the control panel of the Lync server.

00	https://ync.corp.san	uid.com/Cscp/#MainFrame%3DHome	💌 🔒 🐼 🔶 🔀 Bing	P -
🔆 Favorite	es 🛛 👍 🙋 Suggested Site	s 🔻 🙋 Web Slice Gallery 👻		
Home -	Microsoft Lync Server 2010 (ontrol Panel	🏠 🔹 🖻 👻 📑 🛶 🛛 Page 🗸 Safety 🕶 Tools	• 💽 •
2	Lync Server 20	10	Lync Admin Sign o u 4.0.7577	ut .0
窗	Home			
23	Users			
24	Topology	User Information	Resources	
Ģ	IM and Presence	Welcome, Lync Admin	Getting Started	
e	Voice Routing	View your roles	Image: Second	
6	Voice Features	Top Actions	Microsoft Lync Server 2010	k
23	Response Groups	Enable years for luns Server	Getting Help Downloadable Documentation	\mathbb{R}
Ð	Conferencing	Edit or move users	Online Documentation on TechNet Library Lync Server Management Shell	1
	Clients		Lync Server Management Shell Script Library Lync Server Resource Kit Tools	14
	External User Access	• view monitoring server reports	Community Forums	
	Monitoring and Archiving		Blogs	
	Security			
2	Network Configuration			ANXAN
X				XXX
lone			Trusted sites I Protected Mode: Off 🛛 🖓 🗛 💌 🙂 1001	/n -

Go to the User interface to activate the added user.



Click 'Enable Users' and select 'New Lync Server User'. Press the Add button.

iew Lync Server User			
🔆 Enable 🔀 Cancel			
Users:*			
Display name	Status	Add	
		Remove	
Assign users to a pool:*			
Assign users to a pool:*			
Assign users to a pool:* Generate user's SIP URI:		v	
Assign users to a pool:* Generate user's SIP URI: O Use user's email address		•	
Assign users to a pool:* Generate user's SIP URI: Ouse user's email address Use the user principal na	me (UPN)	•	
Assign users to a pool:* Generate user's SIP URI: OUse user's email address Use the user principal na Use the following forma	ıme (UPN) t:	▼	
Assign users to a pool:* Generate user's SIP URI: Use user's email address Use the user principal na Use the following forma <firstname>.<lastname< td=""><td></td><td>▼ ▼</td><td></td></lastname<></firstname>		▼ ▼	
Assign users to a pool:* Generate user's SIP URI: Use user's email address Use the user principal na Use the following forma <firstname>.<lastname following="" forma<="" td="" the="" use=""><td>ıme (UPN) t: ≻ @ t:</td><td>▼</td><td></td></lastname></firstname>	ıme (UPN) t: ≻ @ t:	▼	

On the pop-up interface we can search for available users and find the newly created user qzt. Select it and click the button 'OK'.

S	Microsoft"		Lync Admin Sign ou
	Lync Server 2010		4.0.7577.
	Home	User Search	
22	Users		
M	Topology	Edit Lync Server User - qzt	
₽	IM and Presence	Commit 🗙 Cancel	0
જ	Voice Routing	Display name:	^
C	Voice Features	QZ ■ Exclude for Lune Conver	
23	Response Groups	SIP address:*	
Ð	Conferencing	sip:qzt @ corp.sanhuid.com V	
	Clients	Registrar pool:	
1	External User Access	lync.corp.sanhuid.com	
	Monitoring and Archiving	Enterprise Voice	
4	Security	tel:123456	
Ŷ	Network Configuration	Dial plan policy: <automatic> View</automatic>	
		Voice policy:	•

Fill in the blank under 'Assign Users to a pool' with lync.corp.sanhuid.com. Now we need to set the user's SIP account and subscriber number. Select 'Specify a SIP URI' for 'Generate User's SIP URI', and fill in the SIP URI in the format of sip:qzt@corp.sanhuid.com. Select 'Enterprise Voice' for 'Telephony Service' and fill in 'Line URI' with tel:+123456. Then click the button Enable.

Set voice routing, mainly inclusive of the dial plan and the route.

Dial Plan indicates the number-receiving rule for the calls from the Lync terminal, using the regular expressions written in Appendix I. By default there already exists a dial plan and we choose to edit it.

A	Microsoft Server 201	0							Lync Admin Sign
S.	Lyric Server 201								4.0.75
	Home	Dial Plan	Voice Policy	Route	PSTN Usage	Trunk Configurat	tion Test \	/oice Routing	
22	Users	Create v	oice routing te	st case inf	formation				*
N	Topology								
Ģ	IM and Presence	Edit D	ial Plan - Glol	bal					
¢	Voice Routing	1	OK 🗙 Cano	cel					0
C	Voice Features	Diar	- III COINCICHCIICIII	y region.			?		*
23	Response Groups	Exte	rnal access pre	fix:					
Ð	Conferencing						?		
•	Clients	Ass	ciated Normal	ization Ru	les				
3	External User Access	+	New Cop	oy 📋 Pa n rule	ste Select State	Show detail	ls Remov to match	Translation pattern	
	Monitoring		Prefix All		Com	mitted ^(\d{11})	\$	+\$1	
-	and Archiving		to_pstn		Com	mitted ^(8\d{5})	\$	+\$1	
*	Security								
Ð	Network Configuration								
									•

In the following standardized rules which are associated there by default is a rule 'Prefix All' for receiving 11 as the number. Now let's add a new rule. Select 'Add New', enter the name 'to_pstn', and fill in the start digit with 8, the length with 'Exactly, 6', the Digits to remove with 0. It means to receive those numbers which start with 8 and in the length of 6 bits, no longer or shorter.

Plan	Voice Policy	Route	PSTN Usage	Trunk Configuration	Test Voice Routing	
eate v	oice routing tes	st case inf	ormation			
Edit D	ial Plan 🕨 Edit	Normali	zation Rule - t	o_pstn		
1	OK 🗙 Canc	el				6
8						
Lei	ngth:					
E	xactly		▼ 6	8	3	
Dig	gits to remove:					
0	-					
Dig	gits to add:					
+						
Pa	attern to match	*				
1	\(8\d{5})\$					
Т	ranslation rule:*	•				
-	\$1					
-						

Thus, as long as the Lync client dials 6-bit numbers starting with 8, all of them can be received. Save the rule and click 'OK'. Now the Dial Plan interface shows the Global status as 'unsubmitted'.

Click the button 'Submit' to submit all.

Next, add a route. The route tells which PSTN gateway the specified number will go through. Now let's create a new route.

Fill in the name with 'to_pstn'. Write the start digit of the number to be allowed under 'Set up matching mode'. For example, write 8 if the number which will go through the PSTN gateway starts with 8, and then click the button 'Add'. Find out the IP address of the Synway SMG gateway (43) from associated gateways, select and add it. Just choose 'LocalRoute' as the associated PSTN.

Then, when the Lync client dials a number starting with 2, the gateway with the IP address of 43 will receive the call. Click 'OK' to return to the route setting interface and the added route displays 'unsubmitted'.

(
Edit V	OICE KOUTE - TO	o_pstn				(C)
V 0	Alternate caller	H				
	Future currer.					
Asso	ociated gateway	s:				
Ps	stnGateway:201.12	23.114.43			Add	
					Remove	
Ass	sociated PSTN U	sages				
-	Select Rem	iove 👚	÷			
P	STN usage recor	d	Associa	ted voice policies		

Click the option 'Submit All' under 'Submit' and the following interface pops up. Click 'Submit'.

For a call from the Synway gateway to the Lync client, we need to set via the account of the Lync client. In the properties of the added Lync user, select 'Enterprise Voice' for 'Telephony Service' and enter '<u>tel:+123456</u>' for 'Line URI'. Now the gateway can call <u>+123456@201.123.114.202</u> to reach the user.

Microsoft"	L	ync Administrator]
Lync Server 20	10	4.0.75
主页	用户检索	
用户		
拓扑	新建 Lync Server 用户	
IM 和状态	★ 启用 ¥ 取消	0
语音路由	User	-
语音功能		
响应组		
会议	将用户分配结池:*	
客户端	thetel (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
外部用户访问	《 使用用户的电子邮件地址	
监控和存档	 ● 使用用户主体名(UPN) ● 体田川下総式・ 	
安全性	<名字>.<姓氏> @ ▼	
网络配罟	○ 使用以下掐式:	
P 2-H HULL	<samaccountname> @ ▼</samaccountname>	
	sipuser1 @ corp.sanhuid.com V	
	电话服务:	
	企业语音 ▼ ?	
	线路 URI:	
	tel:8301	•

Configuration of Synway Analog Gateway: Note:

As the gateway is connected with Lync via SIP trunk (point-to-point) using TCP protocol, only SIP settings and corresponding routes need configuring for the gateway. Analog Gateway:

Based on the default settings, modify the setting of 'SIP Transport Protocol' to TCP and that of 'Register Gateway' to No.

Ved Aug 5 10:44:01 U	FC+0800 2015		Language English 👻 C
Operation Info	*		
Quick Config	8	SIP Setting:	S
	*	SIP Address	LAN 1: 201.123.114.43 -
CID		SIP Port	5060
Sin Compatibility			
NAT Setting		Register Status	Unregistered
Media		Register Galeway	No
		Registrar IP Address	201.123.114.163
Advanced	*	Registrar Port	5060
Port	*		
Route	*	Spare Registrar Server	Enable Enable
Num Manipulate	*	Registry Validity Period (s)	3600
System Tools	*		
y system roots		Muiti-Registrar Server Mode	Enable
		SIP Transport Protocol	ТСР 🔹
		IMS Network	Enable

Do port and port group settings by actual requirement. Here we take FXS ports for example. Set the extensions at FXS ports are 2001 - 2016, respectively corresponding to Channel 17- Channel 32.

U Operation into											
-	Č	-					Port Group S	ettings			
🖓 Quick Config	×	Cheek	Index	Description	CID Assessed	Authentication Linemanne	Dada	Red Cale at Made	Dula fac Disaisa hu Tursa	Timesul (ex Diseise hu Turns (e)	Dree
🛱 VolP	*	Check	index	Description	SIP Account	Autrentication Osemame	Polis	Pon Select Mode	Rule for Ringing by runs	Timeout for Ringing by Tums (s)	Fiee
Advanced	¥		1	default			1,2,3,4,9,10,11,12	Increase			
D Port	*	•	-			. 111					•
FXS		Check /		Uncheck All	Inverse	E Delete E Clea	r All			Add Ne	BW
FXO		2 Items To	otal 20 lt	ems/Page 1/1	First Previous	Next Last Go to Page 1	 1 Pages Total 				
Port Group											
Route	×										
Num Manipulate	×										
the second s											

FXO ports are temporarily not used. For details about how to use FXO ports, please refer to the relative gateway user manual.

Add IP->PSTN and PSTN->IP routes to route settings.

To accept calls from Lync, add an IP->PSTN route with Source IP of 201.123.114.202 (i.e. the IP address of Lync), with CallerID Prefix and CalleeID Prefix set to the default value * which represents all calls, and with Call Destination set to Route by Number. Thus, a call

								8.883.8 .8.8 8		
/ed Aug 5 10:46:29 (JTC+08	300 2015						Language English	- Current User:	admin Logout
Operation Info	*	Standard Mo	de Charac	ter Mode						
Quick Config	*					Tel->IP Routir	ng Rule			
S VolP	*	Check	Index	Call Initiator	CallerID Prefix	CalleeID Prefix	Destination IP	Destination Port	Description	Modify
Advanced	*		62	*	*	*	201.123.114.163	5060	default	
Dort	*		63	*	*	*	201.123.114.43	5060	default	
Route	*	Check All	Uncheck	All Inverse		Clear All				Add New
Routing Paramete	ers	2 Items Total	20 Items/Pa	ge 1/1 First Previou	s Next Last Go to Page	a 1 🔻 1 Pages Total				
Tel>IP		•								
Num Manipulate	*									

from Lync with the called party number of 2001 will ring the corresponding FXS port.

To make a call from the extension 2001 to the Lync client user1, we need dial the corresponding subscriber number 8301 and add a PSTN->IP route with Call Destination set to IP and port of the Lync server. Check the topology in Lync settings and find the port of the Lync server from the settings of the PSTN gateway connected with the agent server. The default TCP is 5068. Here is 201.123.114.202:5068. Thus, Extension 2001 can dial 8301 to make a call to the Lync client.

Configuration of Synway Digital Gateway:

As the IP address and the monitoring port of the Synway digital gateway are respectively 201.123.114.144 and 5063, we need add a PSTN gateway with the IP address of 201.123.114.144 and the monitoring port of 5063 to the Lync server. First, set SIP Transport Protocol to TCP.

	17		
Operation Info	*		L. LINGOID
E VolP	*	Obtain CallerID from	Username of From Field
SIP		Obtain CalleelD from	'Request' Field
SIP Trunk			
SIP Register		Obtain Redirecting Number/Original CalleelD from Diversion Field	Enable
SIP Account			
SIP Trunk Group		NAT Traversal	Enable
Media		SIP Transport Protocol	ТСР
i) PCM	*		
SS7	*	SIP Encryption	Enable
🔅 Fax	*	RTP Encryption	Enable
Route	*	RTP Self-adaption	Enable
Number Filter	*	UDP Header Checksum	Fnable
Num Manipulate	*		
System Tools	*	Rport	Enable
		DSCP	Enable
		Calls from SIP Trunk Address only	Enable
		Working Period	24 Hours
		Maximum Wait Answer Time (s)	60
		Maximum Wait RTP Time (s)	0
		Maximum Wait PSTN Resource Time(ms)	5000

Operation into	*									
VolP	*						SIP Trunk			
		Check	Index	Remote Address	Remote Port	WAN Option	Outgoing Voice Resource	Incoming Voice Resource	Working Period	Modif
SIP Trunk	_		0	201.123.114.83	5061	NET 1	10	10	24 Hours	
SIP Register	_		1	201.123.114.99	5068	NET 1	128	128	24 Hours	2
SIP Account								·		_
SIP Trunk Group		Check All	Unch	eck All Inverse	E Delete	Clear All			A	dd New
Madia		2 Items 1 ota	al 20 Items/	Page 1/1 First Previou	is Next Last Got	o Page 🕴 🔻 1 Pag	es lotal			
weula										
	×									
D PCM	% %									
D PCM SS7	» » »									
) PCM SS7 Fax Route	* * * *									
PCM SS7 Fax Route Number Filter	* * * * *									
PCM SS7 Fax Route Number Filter Num Manipulate	* * * * * *									

Add a SIP trunk with the remote IP of 201.123.114.202 and the port of 5068.

Add a new SIP trunk and select the SIP trunk just added.

Operation Info	*									
	*	SIP Trunk Group								
		Check	Index	SIP Trunks	SIP Trunk Select Mode	Description	Modify			
SIP			0	0	Increase	1	1			
SIP Trunk										
SIP Register		Check All Unch	neck All Invers	e 🗄 Delete 🗏 Cle	ar All		Add New			
SIP Account		1 Items Total 20 Items	Page 1/1 First Pre	evious Next Last Go to Page 1 -	1 Pages Total					
IP Trunk Group				·····						
1edia										
Media										
Media PCM	×									
Media) PCM SS7	× ×									
Media) PCM] SS7	x x x									
Media) PCM] SS7 } Fax	» » »									
Media) PCM] SS7 } Fax] Route	* * * *									
Media PCM SS7 Fax Route Number Filter	* * * * *									
Media) PCM] SS7 } Fax] Route] Number Filter] Num Manipulate	* * * * * *									
Media) PCM] SS7 } Fax] Route Number Filter] Num Manipulate } System Tools	****									

Set the transport protocol for PCM trunk and relative parameters in PCM settings. The PCM connected here is ISDN-side.

Add PCM trunks.

Add a PCM trunk group.

Add an IP->PSTN route to route SIP calls from the Lync server to the PCM trunk group to go out.

								hihadda	li h. mit	lik.
2015年8月5日 11:01:	48								语言 English	- Logout (
Operation Info	*									
VolP	*	_			1	Routing Rule	S			
🕖 РСМ	*	Check	Index	Call Initiator	CallerID Prefix	CalleeID Prefix	Number Filter	Call Destination	Description	Modify
S S7	*		255	SIP Trunk Group [0]	*	*	none	PCM Trunk Group [0]	默认	
🔅 Fax	*	Check All	Unchec	k All Inverse	Delete Clear.	All			Add	New
Route	*	1 Items Total	20 Items/Pa	ge 1/1 First Previous Nex	t Last Go to Page 1 🔻	1 Pages Total				
Routing Paramete	rs									
IP->PSTN PSTN->IP										
Number Filter	*									
Num Manipulate	*									
System Tools	*									

Add a PSTN->IP route to route calls from the PCM trunk group to the SIP trunk group and then go out to reach the Lync server.

Then all calls from the Lync server will be routed to the PCM trunk group to go out, while all calls from the PCM trunk group will routed to the Lync server.

Application of Lync Client

Usually the Lync client runs on a PC which has logged on a domain, so we can log in it directly. If the PC has not logged on a domain, we shall download the certificate from http://corp.sanhuid.com/certsrv before logging in the Lync client. And what's more, to visit http://corp.sanhuid.com/certsrv before logging in the Lync client. And what's more, to visit http://corp.sanhuid.com/certsrv before logging in the Lync client. And what's more, to visit http://corp.sanhuid.com/certsrv before logging in the Lync client. And what's more, to visit http://corp.sanhuid.com/certsrv before logging in the Lync client. And what's more, to visit http://corp.sanhuid.com/certsrv, we shall set DNS to 201.123.114.201 first.

Click the option 'Download CA certificate, certificate link or CRL' and follow the prompts to download or install the certificate directly. We shall manually select to install the certificate to a directory of trusted root certification authorities.

Then the Lync client can be logged in directly. Enter a complete logging address, such as <u>qzt@corp.sanhuid.com</u>.

Enter the account and the password to log in and the interface will display that Extension 2001 at the FXS port of an on-line gateway can call 8301 to the Lync client User1, while User1 can call 2001 to Extension 2001 at the FXS port of the gateway.

Thus the gateway makes a call to the Lync server.

Appendix I Regular Expressions

Regular expressions are used for matching the Lync dial plan. Here below let's give a brief introduction on relative symbols

- 1. The expression starts with ^ and ends with \$.
- 2. The expression consists of two parts: one for matching and one for convertion.
 - \d represents any digit from 0 to 9.

| means or.

& means and.

Content in {} represents number of digits, such as $d{4}$ indicating a combination of 4 digits from 0 to 9.

[0-9] has the same meaning of \d, representing any digit from 0 to 9.

* means matching numbers in any length, including the length of 0.

? means matching for once only.

Example:

 $^7(d{4})$ is the part for matching, which represents a 5-digit extension number starting with 7 plus any 4 digits from 0 to 9.

+8610591\$1 is the part for conversion, among which \$1 is a dynamic part and +8610591 is the prefix. If we enter 79999 to the part of \$1, the final result is +861059179999.