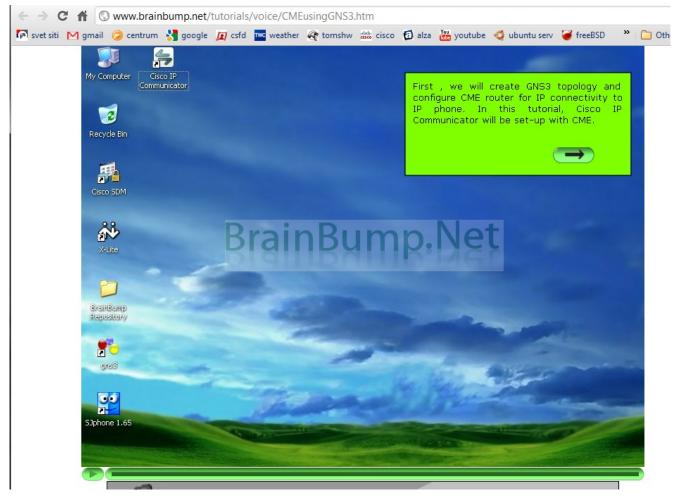
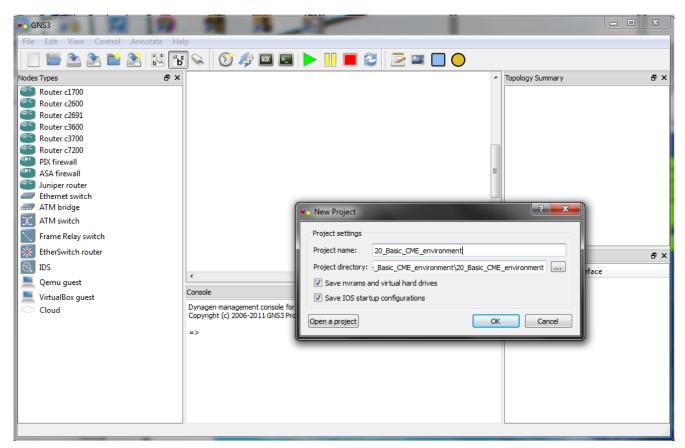
## 0 Preparation of basic VoIP environment with CME

Baseline for our first training environment created with GNS support o f www.brainbump.net/tutorials/voice/CMEusingGNS3.htm . is Testing environment will use cloud component mentioned in earlier topics for interconnection virtual and real pc environment. Me home network use 172.16.0.0/24 private addressing scheme. For training pc where will run also software IP communicator use static assigned 172.16.0.10/24 IP. CME routers fa0/0 interface use 172.16.0.20/24 IP and for future use is planed 172.16.0.15/24 (second sw IP communicator - functionally equal to cisco 7970 ephone) on VMware environment.

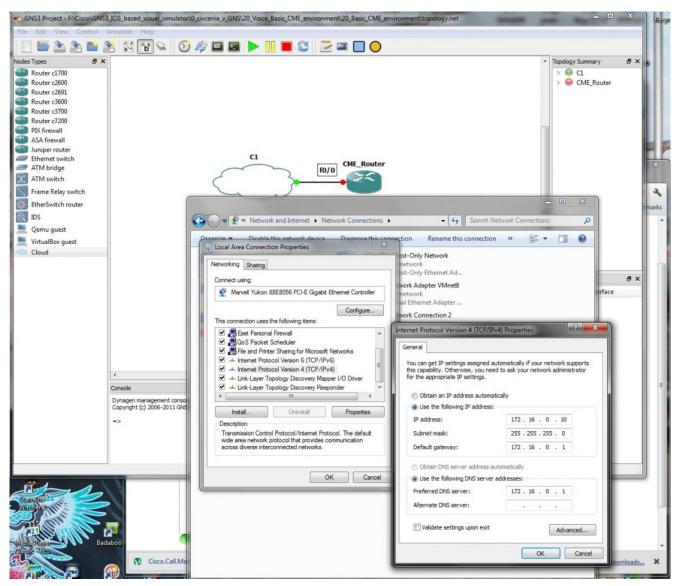


Our project settings show next picture - for smoother transfer

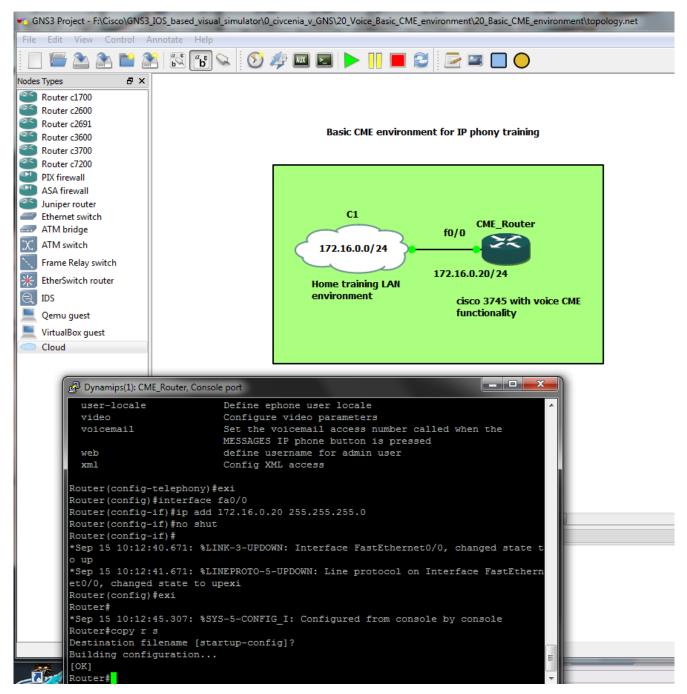
of configs check to save configs and nvrams.



Configuration of hosting (real) computer local stack is



GNS3 training environment is prepared and if you will you can add some eyecandy



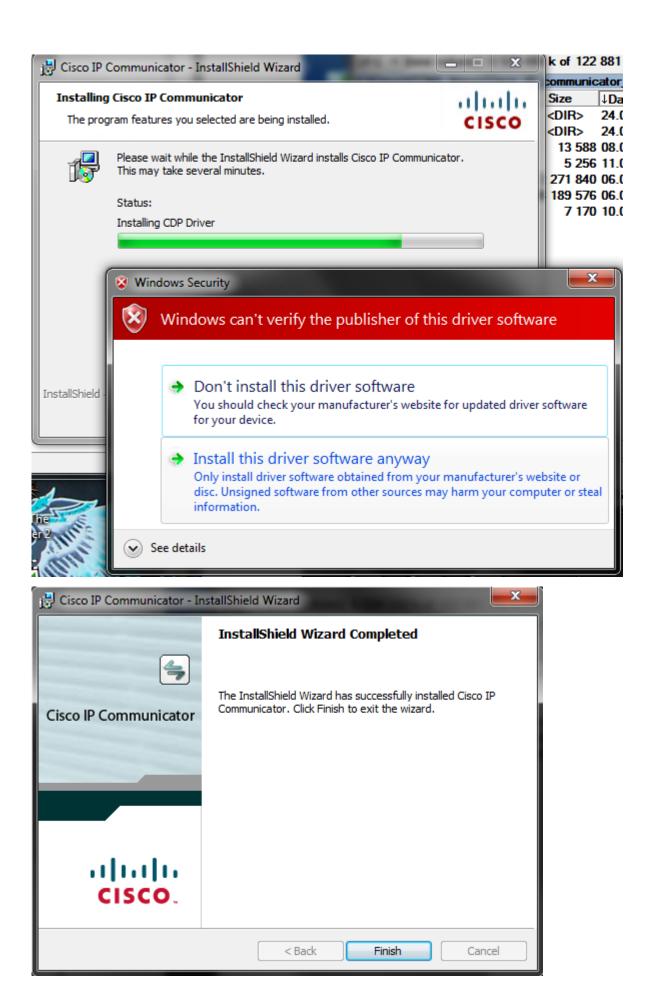
For our first test we can use simple way how to setup telephony-service on router (but only for quick setup, this way is not so flexible as finetunnig of all parameters of telephony-service).

```
_ 🗆 🗙
Dynamips(1): CME_Router, Console port
Router(config)#tele
                                                                                  A
Router(config) #telephony-service setup
Warning: <telephony-service setup> command has been deprecated.
For installation help, please check CME System Administrator Guide.
 -- Cisco IOS Telephony Services already configured. ---
 Please do "no telephony-service" to cleanup & run Setup again -
Router(config) #no te
Router(config) #no tele
Router(config) #no telephony-service
Skinny Deleted entries for 0 phones
Router (config) #tele
Router(config) #telephony-service setup
Warning: <telephony-service setup> command has been deprecated.
For installation help, please check CME System Administrator Guide.
 --- Cisco IOS Telephony Services Setup ---
Do you want to setup DHCP service for your IP Phones? [yes/no]: 20
% Please answer 'yes' or 'no'.
Do you want to setup DHCP service for your IP Phones? [yes/no]: no
Do you want to start telephony-service setup? [yes/no]: yes
Configuring Cisco IOS Telephony Services :
                                                                                  Ξ
  Enter the IP source address for Cisco IOS Telephony Services :172.16.0.20
  Enter the Skinny Port for Cisco IOS Telephony Services :
                                                            [2000]:
  How many IP phones do you want to configure : [0]: 2
  Do you want dual-line extensions assigned to phones? [yes/no]: no
  What Language do you want on IP phones :
      0 English
      1 French
      2 German
      3 Russian
        Spanish
         Italian
      6
        Dutch
        Norwegian
      8 Portuguese
```

We also need sw ephone, installation is

🗒 Cisco IP Communicator - In	stallShield Wizard
4	Welcome to the InstallShield Wizard for Cisco IP Communicator version 7.0.2.0
Cisco IP Communicator	The InstallShield(R) Wizard will install Cisco IP Communicator on your computer. To continue, click Next.
·IļIII CISCO.	WARNING: This program is protected by copyright law and international treaties.
	< Back Next > Cancel
🔡 Cisco IP Communicator - In	astallShield Wizard
Cisco IP Communicator - In	
License Agreement Please read the following lice	ense agreement carefully.
License Agreement Please read the following lice End User	Instalishield Wizard
License Agreement Please read the following lice End User IMPORTANT: PLEASE REAL CAREFULLY. DOWNLOADI	ense agreement carefully.
License Agreement Please read the following lice End User IMPORTANT: PLEASE REAL CAREFULLY. DOWNLOADI SUPPLIED SOFTWARE COI CISCO SYSTEMS, INC. OR IT OF CISCO SYSTEMS, INC. OR IT	This end user license Agreement This end user license Agreeme
License Agreement Please read the following lice End User IMPORTANT: PLEASE REAL CAREFULLY. DOWNLOADI SUPPLIED SOFTWARE COI CISCO SYSTEMS, INC. OR IT OF CISCO SYSTEMS, INC. OR IT	Anse agreement carefully.
License Agreement Please read the following lice End User IMPORTANT: PLEASE READ CAREFULLY. DOWNLOADI SUPPLIED SOFTWARE COM CISCO SYSTEMS, INC. OR IT OF CISCO SYSTEMS, INC. OR IT	ense agreement carefully.
License Agreement Please read the following lice End User IMPORTANT: PLEASE REAL CAREFULLY. DOWNLOADI SUPPLIED SOFTWARE CON CISCO SYSTEMS, INC. OR IT OF CISCO SYSTEMS, INC. OR IT	ense agreement carefully.

🔡 Cisco IP C	Communicator - InstallShield Wiza	rd	and the second		x
Destination Click Next to	<b>on Folder</b> o install to this folder, or click Change t	to install to a diff	erent folder.	CIS	() (0
	Install Cisco IP Communicator to: C: \Program Files (x86) \Cisco System	s\Cisco IP Comm	unicator \	Change	
InstallShield –		Back	Next >	Cance	4
🔁 Cisco IP (	Communicator - InstallShield Wiza	rd		_	x
Installing	) Cisco IP Communicator				× 1 11
Installing					ili.
Installing	) Cisco IP Communicator	nstalled.	to IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	:o IP Communi	cis	ili.
Installing	y Cisco IP Communicator gram features you selected are being i Please wait while the InstallShield W This may take several minutes.	nstalled.	to IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	:o IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	to IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	to IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	to IP Communi	cis	ili.
Installing	gram features you selected are being i Please wait while the InstallShield W This may take several minutes. Status:	nstalled.	to IP Communi	cis	ili.



🔁 Cisco II	Communicator Installer Information
	You must restart your system for the configuration changes made to Cisco IP Communicator to take effect. Click Yes to restart now or No if you plan to restart later.
	Yes No
Audia 1	Funing Without

Audio Tur	ning Wizard		×
	Select and Tune Audio Device	3	
4)3	Before you begin:		
	Close all other programs that play	or record sound, such as Microsoft Sound Recorder.	
	Make sure the audio devices (head plugged in and turned on.	set, speakers, microphone and handset) you wish to use a	are
	If you are using a headset, positior manufacturer recommends.	its microphone as close to your mouth as the headset	
	To continue, select Next.		
		Back	Cancel
🛞 Audio Tun	ing Wizard - Select Audio Devices		×
	ing Wizard - Select Audio Devices dio Devices		×
Select Au	dio Devices udio mode, you must select the device	e you want Communicator to use. If you need help understa	
Select Au	dio Devices	you want Communicator to use. If you need help understa	
Select Au	dio Devices udio mode, you must select the device	e you want Communicator to use. If you need help understa	
Select Au	dio Devices udio mode, you must select the device	e you want Communicator to use. If you need help understa	
Select Au	dio Devices udio mode, you must select the device	e you want Communicator to use. If you need help understa	
Select Au	dio Devices udio mode, you must select the device		
Select Au For each au audio devic	dio Devices udio mode, you must select the device ces and modes, see the user guide. Default Windows A	udio Device	
Select Au For each au audio devic	dio Devices udio mode, you must select the device ces and modes, see the user guide. Default Windows A	udio Device	
Select Au For each au audio devic Headset: Speakerpl	dio Devices udio mode, you must select the device ces and modes, see the user guide. Default Windows A	udio Device        udio Device       udio Device	
Select Au For each au audio devic Headset: Speakerpt Handset:	dio Devices udio mode, you must select the device ces and modes, see the user guide. Default Windows A Default Windows A	udio Device        udio Device       udio Device	

🛞 Audio Tuning Wizard - Adjust the	Listening Volume for 'Speakers (SB Live! 24-bit)'	×
to their maximum values before tu sounds are being played at a com	playback device below. If your device has external volume controls, in ning. Press the <b>Play</b> button and then adjust the Volume sliders until t fortable level. If you see both a Master and a Wave slider, try setting th ne Master slider to a comfortable level.	he sample
, Playback device: Wave volume:	Speakers (SB Live! 24-bit)	
Master volume:	Play	
	Back Next	Cancel
Adjust the Microphone Volum Make sure you are speaking into th the typical volume at which you wo peaks at the highest yellow segme then adjust the Fine slider to a con	Microphone Volume for 'Microphone (High Definition Aud' e ne recording device listed below. Press the <b>Test</b> button and read this uld speak while on a phone call. Adjust the volume sliders until the le ent. If you see both a Master and a Fine slider, set the Master slider at infortable level. If the level meter does not peak above the green segment their highest levels, enable <b>Microphone Boost</b> if available.	vel meter 75% and
Adjust the Microphone Volum Make sure you are speaking into th the typical volume at which you wo peaks at the highest yellow segme then adjust the Fine slider to a con	e ne recording device listed below. Press the <b>Test</b> button and read this uld speak while on a phone call. Adjust the volume sliders until the le ent. If you see both a Master and a Fine slider, set the Master slider at nfortable level. If the level meter does not peak above the green segm	message at evel meter 75% and

🔬 Audio Tu	ning Wizard
¢٤	You have now completed the Audio Tuning Wizard Run this Wizard again if: • You connect a new device • Experience audio quality issues with your audio devices • Change your audio settings in another program such as the Sounds and Multimedia Control Panel
	This Wizard may reappear automatically when you launch Cisco IP Communicator if you have changed any of your audio settings outside the Wizard. You should choose <b>Revert</b> unless you wish to make changes to your audio settings. To close this wizard, click Finish.
	Back Finish Cancel



Ouse Network Adapter to get Use Network Adapter to get	enerate Device Name
Network Adapter:	Marvell Yukon 88E8056 PCI-E Gigabit Ethernet Co 💌
Device Name:	SEP001E8C02BD12
O Use this Device Name	
FTP Servers	
Ouse the default TFTP serve	rs
O Use these TFTP servers:	
TFTP Server 1:	0.0.0.0
TFTP Server 2:	0.0.0.0

When all is prepared for first test, our ephone will be able to register with CME router acting like a voice gateway. Auto registration was enabled during telephony-service setup for us automatic.

Next picture show you closer look at registering ephone and at screen with button 1 assigned ephone-dn with number 555 (but configuration ephone-dn, ephone-s, buttons and all things associated with VoIP in branch LAN and next with configuration of voice gateways and call legs you can expect in next articles on our web).



