4 Connecting Imagine via network

At this moment we know:

- § Connect two imagines together locally on the same computer
- § Send and receive simple texts and use OnReceive event
- § "Change Me" dialog of the NET object.

This tutorial explains how is possible to connect two or more Imagines together in a real network. To make an experiment we will need two computers with installed Imagine. Note, that most part of this tutorial is aimed to those people who will develop server projects.

1. Let's launch Imagine on the first computer. This computer we will call **server** because we will create and run a simple server project on it:

- § new "NET [style server]
- § net1'connect

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2. Now, we launch Imagine on the **second computer** and we create a simple client project. We start programming with familiar sequence of commands with one significant exception:

- § new "NET [style client server xxx]
- § net1'connect

We used to type the localhost word instead of italic xxx characters – but, because the server project is running on different computer we must replace xxx with:

- § A name of the server computer on which the server project is running;
- Or an **IP address** of the server computer IP address is a group of numbers which identify the computer.

We must know at least one of previous information to be able to connect a client to the remote server. Once we know computer name or IP address we may say it to children in class-room or we may send it by e-mail.

3. We made small break and we describe here **how to find** a computer name or an IP address. Information in this paragraph is important for developers, teachers and peoples that create server version of project.

A. How to find IP Address under Windows 95, 98:

Run	? ×									
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.									
<u>O</u> pen:	winipcfg									
	OK Cancel Browse									



Go to the "Start" menu and choose Run... Type winipcfg into edit box and press OK button. This application displays currently assigned IP address and additional information about status of network.

B. How to find IP Address under Windows 2000 and Windows XP:



1. Right click on the "Network" icon on the desktop and choose Properties command

S Network Connections		_			Local Area Connection St	atus ? 🗙
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools	Adva 🎽 Address 🗟 Network	Connections		~	General Support	
🔇 Back 🔹 🌖 👻 🏂 🔎 Search	🕞 Folders 🛛 🕼 汝 🗙 🗳				Internet Protocol (TCP/IP)	
Name	Туре	Status	Device Name	Phone # or Host Addre	Address Type:	Manually Configured
LAN or High-Speed Internet					IP Address:	153.105.89.6
Local Area Connection	LAN or High-Speed Inter	Enabled	Intel(R) PRO/100 VE Net		Subnet Mask:	255.255.255.192
Winned					Default Gateway:	153.105.89.62
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New Connection Wizard	Wizard					
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 $\label{eq:constraint} \textbf{2. Double-click on } \text{Local Area Connection}$

3. The IP address is displayed on the "Support" tab-sheet

C. It is possible to use the Command Line shell under Windows 2000 and Windows XP, too:



1. Go to the "Start" menu and choose Run... Type cmd into edit box and press OK button

I C:\WINDOWS\System32\cmd.exe	- 🗆 X	🔤 C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600] <c> Copyright 1985-2001 Microsoft Corp.</c>	<u> </u>	Microsoft Windows XP [Version 5.1.2600]
C:∖>		C:\>ipconfig
		Windows IP Configuration
		Ethernet adapter Local Area Connection:
		Connection-specific DNS Suffix .: IP Address:1 <u>153.105.89.6</u> Subnet Mask
		C:\>
	•	•

2. In the shell window type <code>ipconfing</code> and press <code>Enter</code>. This will displays current IP address

D. Computer name under Windows 2000 and Windows XP we find in "My Computer":



1. Right click on the "My Computer" icon on the desktop and choose Properties command

stem Properties	_		?		
System Restore	Automa	Remote			
General Con	puter Name	Hardware	Advanced		
Windows use on the networ	s the following inf k.	ormation to identify	your computer		
Computer description:	Lubo Salanci				
5 .8	For example: "I Computer".	Kitchen Computer''	or ''Mary's		
Full computer name:	Lubo.uniba.edi	4			
Workgroup:	KVI				
To use the Network Ide domain and create a loc ID.	ntification Wizard al user account, r	to join a click Network	Network ID		
To rename this compute	r or join a domain	, click Change.	Change		
	OK	Cancel	Apply		

2. A computer name is displayed on the "Computer Name" tab-sheet. This name have several parts separated by . (dot) mark. It is possible to use a short part of computer name in a local network.

From the previous description we know that:

- S Our computer has IP number 153.105.89.6 this is nearly always working (please, ask your network administrator for details about your this)
- S The computer name in our subnet is Lubo we often use this part of the name for small experiments within one computer room
- § The full computer name in the Internet is Lubo.uniba.edu this always works.

4. Now, we know the name of our server. So we may continue with creating (modifying) the client application. On the second computer we may type:

Note: We often use the first or the second variant. We do not know at this time which one is better – it is always depending on a network configuration where we are connecting Imagines.

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Wel ? n	come ew "	to NET	Imagin [style	e clie	ent s	erve	r 1!	53.10	95.89	.6]			
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?													

At this moment it is possible to send data via real network using:

- § Command net1'send [] [Text]
- § Command sh net1'message
- § Event OnReceive to automatically process received message.

Conclusion

We may see that connecting two or more Imagines in a real network is the same as connecting them locally (on the same computer). Because a developer should know name or IP address of that computer on which a server project is running, we tied to describe several ways how to find this information. We recommend ask your network administrator for a help.