Repeater:

Default VNC ports 5901, 5500 Default Webgui:80 Default user: admin Default password: adminadmi2

The server need to run on a PC with a direct internet connection, like a dedicated server. It doesn't work if your PC is behind a nat router.

The VNC viewer and VNC server can be behind a nat router, but the repeater need to be open on the internet. You can also forward ports from the natrouter, so it look like the repeater is direct connected, this also work.

On First run check for warnings.



In our case, port 80 was already in use by a webserver, repeater use as Gui the first available port 81

Connect your browser to <a href="http://localhost:81">http://localhost:81</a>

	¢	G http:/	/localhost:81/	
<ul> <li>Coogle</li> <li>Suggested Sit</li> <li>Windows Security</li> <li>The server localhost is asking for your user name and password. The server reports that it is from index.html.</li> <li>Warning: Your user name and password will be sent using basic authentication on a connection that isn't secure.</li> <li>admin</li> <li>admin</li> <li>Remember my credentials</li> <li>OK Cancel</li> </ul>	×	Google	Viocalhost:81/ Windows Security The server localhost is asking for your user name and password. The server reports that it is from index.html. Warning: Your user name and password will be sent using basic authentication on a connection that isn't secure. admin etermine Remember my credentials OK Cance	

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Settin	<b>Ult</b>	Password	Repeat	er Stats				
Hostname IP Addres IP Addres IP Addres Listen Po Listen Po Web Serv Use comr	Hostname: rudi-PC       IP Address #1: 192.168.1.5       IP Address #2: 192.168.135.1       IP Address #3: 192.168.239.1       Listen Port Viewer: 5901       Listen Port Server: 5500       Web Server : 81       Use comment as extra viewer check: 0							
Connectio	ons:							
Slot	Time	ID nummer	Viewer	Server	Total kł	b kb/s		comment
Waiting s	ervers:							
Slot		Time	ID nummer	Connection from			comme	nt
Waiting viewers:								
Slot		Time	ID nummer	Connection from			comme	nt
download download download	l connectio l viewer st l servers st	ons stats iats tats						

Press the log button to see if all started OK



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socket() initialized bind() succeded to port 5500 listen() succeded socket() initialized bind() succeded to port 5901 listen() succeded

In case of an error



accept() failed, errno=0 Check if port is not already in use port=5500 accept() failed, errno=0 Check if port is not already in use port=5901 accept() failed, errno=0 Check if port is not already in use port=5500 accept() failed, errno=0

Both ports 5901 and 5500 are already in use.

Make changes to the settings to be sure bind() succeeded for the vnc ports and the webgui is not already used by another application.

Firewall.

When you start the repeater.exe on a windows server 2012/ 2008 you need to manual modify the firewall rules. In home versions some firewall popup ask to allow the repeater.

Sample server 2012

Manage       Tools       View       Help         Component Services       Computer Management         Defragment and Optimize Drives         Event Viewer         iSCSI Initiator         Local Security Policy         ODBC Data Sources (32-bit)         ODBC Data Sources (64-bit)         Performance Monitor         Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		
Component Services Computer Management Defragment and Optimize Drives Event Viewer iSCSI Initiator Local Security Policy ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security	3	Manage Tools View Help
Computer Management Defragment and Optimize Drives Event Viewer iSCSI Initiator Local Security Policy ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Component Services
Defragment and Optimize Drives         Event Viewer         iSCSI Initiator         Local Security Policy         ODBC Data Sources (32-bit)         ODBC Data Sources (64-bit)         Performance Monitor         Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		Computer Management
Event Viewer         iSCSI Initiator         Local Security Policy         ODBC Data Sources (32-bit)         ODBC Data Sources (64-bit)         Performance Monitor         Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		Defragment and Optimize Drives
iSCSI Initiator Local Security Policy ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Event Viewer
Local Security Policy         ODBC Data Sources (32-bit)         ODBC Data Sources (64-bit)         Performance Monitor         Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		iSCSI Initiator
ODBC Data Sources (32-bit) ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Local Security Policy
ODBC Data Sources (64-bit) Performance Monitor Resource Monitor Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		ODBC Data Sources (32-bit)
Performance Monitor         Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		ODBC Data Sources (64-bit)
Resource Monitor         Security Configuration Wizard         Services         System Configuration         System Information         Task Scheduler         Windows Firewall with Advanced Security		Performance Monitor
Security Configuration Wizard Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Resource Monitor
Services System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Security Configuration Wizard
System Configuration System Information Task Scheduler Windows Firewall with Advanced Security		Services
System Information Task Scheduler Windows Firewall with Advanced Security		System Configuration
Task Scheduler           Windows Firewall with Advanced Security		System Information
Windows Firewall with Advanced Security		Task Scheduler
		Windows Firewall with Advanced Security

## I add 3 Rules Inbound: Add the program Do the same for in and outbound

<b>@</b>	New Inbound Rule Wizard							
Rule Type Select the type of firewall rule to c	reate.							
Steps: Rule Type Program	What type of rule would you like to create?							
<ul> <li>Action</li> <li>Profile</li> <li>Name</li> </ul>	<ul> <li>Program         Rule that controls connections for a program.         </li> <li>Port         Rule that controls connections for a TCP or UDP port.     </li> </ul>							
	Predefined:     BranchCache - Content Retrieval (Uses HTTP)     Rule that controls connections for a Windows experience.     Custom     Custom     Custom rule.							

<b>@</b>	New Inbound Rule Wizard								
Program									
Specify the full program path and executable name of the program that this rule matches.									
Stane-									
Steps:	Does this rule apply to all programs or a specific program?								
Rule Type									
Program	O All								
<ul> <li>Action</li> <li>Brafile</li> </ul>	Action O All programs Pure Rule applies to all connections on the computer that match other rule properties.								
<ul> <li>Name</li> </ul>	This program path:								
	%USERPROFILE%\Desktop\repeater.exe Browse								
	Example: c:\path\program.exe %ProgramFiles%\browser\browser.exe <back next=""> Cancel</back>								
<u>م</u>	New Inhound Pulo Wizord								
Action									
Specify the action to be taken whe	en a connection matches the conditions specified in the rule.								
Steps:									
Rule Type	What action should be taken when a connection matches the specified conditions?								
Program									
Action	Allow the connection     This isolutos connections that are protected with IP-connections that are protected.								
Profile	This includes contributions that are protected with IFSEC as well as those are not.								
Name	Allow the connection if it is secure     This includes only connections that have been authenticated by using IPsec. Connections     will be secured using the settings in IPsec properties and rules in the Connection Security     Rule node.     Customize								
	U Block the connection								

I also needed to add the extra inbound ports to make it work.

P New Inbound Rule Wizard Rule Type Select the type of firewall rule to create. Steps: What type of rule would you like to create? Rule Type Protocol and Ports O Program Action Rule that controls connections for a program. Profile err Port Name Rule that controls connections for a TCP or UDP port.  $\bigcirc$  Predefined: BranchCache - Content Retrieval (Uses HTTP)  $\vee$ Rule that controls connections for a Windows experience. O Custom Custom rule.

New Inbound Rule Wizard								
Protocol and Ports Specify the protocols and ports to which this rule applies.								
Steps: Protocol and Ports Action Profile Name	Does this rule apply to TCP or UDP?							

81,5901,5500

In our case we started the repeater on <u>www.uvnc.com</u> on port 8080

## **VNC SERVER**

@home, running behind a nat router with ip 87.64.166.50 i started a VNC server as service. and added this single line to the vnc server config file.

This line instruct the server to keep making connections to the repeater using ID 12345679

ultravnc.ini

[admin]

Service\_commandline=-autoreconnect ID:12345679 –connect www.uvnc.com:5500

←⊝	🥖 http://w	ww. <b>uvnc.com</b> :808	30/				P - ¢	🦉 UltraVnc Re	epeater Stats
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æ,	Ultr	aVNC	Repea	ter Stats					
Settin	igs F	Password	log	edit comment					
IP Addres Listen Po Listen Po Web Serv Use comr	ss #1: 66.22 rt Viewer: 5 rt Server: 5 ver : 8080 ment as extr	26.75.44 5901 5500 ra viewer checl	k: 0						
Slot	Time	ID nummer	r Viewe	r Server	Total kb	kb/s		comment	
Waiting s	ervers:								
Slot	1	Time	ID numme	r Connection from			comme	ent	
0	2016/1/2	27 13:36:10	12345679	87.64.166.50					
Waiting v	viewers:								
Slot	1	Time	ID numme	r Connection from			comme	ent	
download	connection	ns stats							

download viewer stats download servers stats

After you start the VNC server, he become visible as waiting server in the webgui of the repeater.

**VNC VIEWER** 

UltraVNC Viewer - 1.2	2.1.0	<b>—</b>
VNC Server:	ID:12345679 (host:display or host::port)	•
Quick Options		
AUTO (Auto     ULTRA (>2M     LAN (>1)     MEDIUM (128     MODEM (19 -     SLOW (< 19	o select best settings)  bit/s) - Experimental  bit/s) - Max Colors - 256Kbit/s) - 256 Colors  128Kbit/s) - 64 Colors  kKbit/s) - 8 Colors	Connect
MANUAL (Use	options button ) Auto Scaling 🔲 Confirm Exit	Options
Use DSMPlugin Proxy/Repeater	No Plugin detected	Config
1. 1920 x 1080 @ 1	920,0 - 32-bit - 60 Hz	•
Save connection s	settings as default Delete save	ed settings

We use the same ID:12345679 and connect to viewer port 5901 of the repeater. You should see that the viewer negotiate the protocol and opens the window showing the server desktop.

In the repeater webGui you now see connection for ID 12345679

## WARNING

For first test it's ok to run without encryption....it's easier to test and this need to work before you can activate the encryption.

By default, the connection doesn't ask a password, so if someone know the ID or access the webgui he can connect to your server without any password.

ALWAYS activate encryption, activating encryption auto activate the password.

Special over the in internet use the longer encryption plugin passwords or predefine a encryption key.

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x Go	ogle				👻 🚼 Sea	irch 🛨 🔁 Sl	hare More »	Ĺ
👍 🧧 s	uggested Sites 🔻	🙆 Web Slice Gal	lery 🔻					
	Ultr	aVNC I	Repeater	Stats				
Set	tings P	assword	log edit d	omment				
Listen I Listen I Web Se Use cor	Port Viewer: 5 Port Server: 55 Prver : 8080 nment as extra tions:	901 500 a viewer check:	0					
Slot	Time	ID nummer	Viewer	Server	Total kb	kb/s	comment	
0	2016/1/27 13:49:32	12345679	87.64.166.50	87.64.166.50	466	0		
Waiting	g servers:							
Slot	Т	ime	ID nummer	Connection from		comn	nent	
Waiting	g viewers:							
Slot	Т	ime	ID nummer	Connection from		comn	nent	
downlo	ad connection	s stats						

download connections stats download viewer stats download servers stats

## ENCRYPTION

Activating encryption using the encryption plugin "SecureVNCPlugin.dsm" The plugin is part of the addons you can download.

The plugin need to be in the same folder as the server/viewer, If installed with the installer, that should be the case.

If you open the viewer, he list the installed plugins, to activate you select the [v] use plugin



On the server site you set it in the server properties

UltraVNC Server Property Page			
Incoming Connections           Incoming Connections           Image: Accept Socket Connections           Display Number or Ports to use:	When Last Client Disconnects Do Nothing Cock Workstation (W2K)		
<ul> <li>Display N°</li> <li>Ports Main: 5900</li> <li>Auto</li> </ul>	Cogoff Workstation Keyboard & Mouse		
Intp: 5800      Intp: 5800	<ul> <li>Disable Viewers inputs</li> <li>Disable Local inputs</li> <li>Alternate keyboard method</li> </ul>		
Authentication VNC Password: •••••• View-Only Password: •••••• Require MS Logon (User/Pass./Doma	Misc. Re Re Misc.		
Configure MS Logon Gr			
File Transfer       File Transfer       Image: Construction       Image: Construction	n (for Service only)		
DSM Plugin           Use :         SecureVNCPlugin.dsm	✓ Config.		

Using the [config] button you can set a long password "passprase"

If you want to use a predefined key, use the [Generate Client Authentication key] button.

This generate 2 key. 20160127\_Server\_ClientAuth.pubkey 20160127\_Viewer\_ClientAuth.pkey

The viewer key you need to copy in the same folder as vncviewer.exe and leave the server key in the server folder.

SecureVNCPlugin Configuration	<b>—</b>	
SecureVNCPlugin 2.4. Created by Adam D. Walling Server will automatically create a new private	<b>0.0</b> te key.	Query on Displa Displa Default a Multi view
Enabled Ciphers 3AES-CFB (128- to 256-bit keys) AES-CFB (128- to 256-bit keys) AES (128- to 256-bit keys) Blowfish (56- to 448-bit keys) IDEA (128-bit keys) CAST5 (56- to 128-bit keys) ARC4 (56- to 256-bit keys)	Enabled Key Lengths 448-bit 256-bit 192-bit 128-bit 56-bit RSA: RSA-2048 V Use new key algorithm	Refuse Re
Passphrase: Confirm: Use 56-bit Blowfish ciphe	er for passphrase	DisableTrayIco Forbid the user refault Server
	✓ Use : SecureVNCPlugin.dsm    Config.	Log debug info