

VNC® Viewer Plus

User Guide

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About this Guide

This User Guide explains how to use *VNC Viewer Plus* to connect to and control a 2010 Intel Core vPro host computer running *AMT Server*.

Intended audience

This User Guide has two audiences in mind:

- Chapter 1 through 3 are intended for *VNC Viewer Plus* users.
- Chapter 4 is intended for administrative users with sufficient privileges to configure the host computer running *AMT Server*.

Conventions

Dialogs and other screen artifacts were captured under Windows XP unless otherwise stated.

Services

You can e-mail RealVNC Support if you have a full or trial license to use *VNC Viewer Plus*. At the time of publication, this service is available from www.realvnc.com/support/index.html.

Related information

Visit www.realvnc.com for:

- Supported operating systems and system requirements.
- Instructions on how to install, unlock, and remove *VNC Viewer Plus*, and how to get a trial license key.
- Release Notes and FAQs.
- Information relating to other RealVNC products and solutions.

Note: Once *VNC Viewer Plus* is installed, you can go straight to the *VNC Viewer Plus* home page from the **Start** menu. Select **RealVNC > Documentation > VNC Viewer Plus on the Web**.

1

Introducing VNC Viewer Plus

This chapter introduces *VNC Viewer Plus*: what it is, how it works, and how it can help you.

It explains what you need to do to get *VNC Viewer Plus* ready to use in your environment, and suggests, for users with different requirements, what chapters of this User Guide to read next.

Note: The term *host computer* in this User Guide refers to the computer being controlled, running *AMT Server*. The term *client computer* refers to the computer to control from, running *VNC Viewer Plus*.

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What is VNC Viewer Plus?

VNC Viewer Plus is a premium, dual-mode version of *VNC Viewer 4.5*.

You can use *VNC Viewer Plus* to:

- Establish a standard VNC connection to a host computer running *VNC Enterprise Edition* or *VNC Personal Edition* (or any VNC-compatible Server), in exactly the same way as *VNC Viewer*. Once connected, you see the desktop of the host computer in a new window, and can control it using your keyboard and mouse.

In VNC connection mode, *VNC Viewer Plus* behaves identically to *VNC Viewer*. Providing the latest version of *VNC Enterprise Edition* or *VNC Personal Edition* is installed on the host computer, advanced features such as printing, file transfer, copy and paste, and *VNC Chat* are available. For more information, see the *VNC Enterprise Edition User Guide*.

- Connect to and control a host computer running *AMT Server*, a proprietary version of *VNC Server* embedded in the 2010 Intel Core vPro processor family.

Note: *AMT Server* is a product from Intel Corporation. It is incorporated in Intel AMT major version 6 onwards. For more information, and for hardware requirements, visit www.realvnc.com/products/viewerplus. Please note that RealVNC Limited has no control over, and can take no responsibility for, Intel AMT or *AMT Server* functionality or behavior.

In Intel AMT KVM connection mode, the host computer need not have a functioning operating system, or even be powered on. You can connect in any state, and power the host computer on, wake it from hibernate mode, configure the BIOS, remotely mount an image, and then boot from that image. All the while, video output from the host computer is displayed in a window on your desktop, and you can control it using your keyboard and, where appropriate, mouse. Once an operating system is booted, you see the desktop of the host computer, and can control it in the normal way.

Note that, for connections to *AMT Server*:

- Only one *VNC Viewer Plus* user can connect at a time.
- File transfer, printing, copy and paste, and *VNC Chat* are not available.
- A reverse connection cannot be made from *AMT Server* to *VNC Viewer Plus*.

Getting VNC Viewer Plus ready to use

Before you can establish a connection, certain operations must be performed on both host and client computers.

This section addresses the client computer user and assumes the same person is able (that is, is physically present and has sufficient privileges) to configure the host computer as well. If not, contact a system administrator or a host computer user.

Note: Some operations need only be performed once. Others must be performed before each connection.

Host computer

1. Ensure the host computer is connected to a power supply unless it has an independent power source (for example, a laptop), although it need not be powered on.
2. Ensure the host computer is connected to a network to which the client computer can also connect. This User Guide assumes you are connecting over a private network such as a LAN or VPN, but if you are connecting over the Internet, see also *Connecting over the Internet* on page 20.
3. Ensure *AMT Server* is enabled on the host computer. For more information, see *Chapter 4, Configuring the host computer* on page 39.
4. You need to know a network address for *AMT Server*. For more information, start with *Discovering a network address* on page 41.
5. You may need to know authentication credentials for *AMT Server*. For more information, start with *Discovering authentication credentials* on page 42.
6. If connecting to a host computer running Intel AMT 6.0, ensure the keyboard language of the host computer is mapped to the type of keyboard attached to your client computer. Note you can use *VNC Viewer Plus* to do this after you connect. For more information, see *Keyboard behavior in Intel AMT 6.0* on page 25.

Client computer

1. Ensure the client computer is powered on, has a functioning operating system, and is connected to the same network as the host computer.
2. Install and license *VNC Viewer Plus*. To see how to do this, and for information on trial license keys, visit www.realvnc.com/products/viewerplus.

Note: *VNC Viewer Plus* need not be licensed to make a standard VNC connection.
3. Ensure your client computer is not protected by a proxy server. See *Connecting via a proxy server* on page 20 for more information.

What to read next

To walk through making a connection from a client computer running *VNC Viewer Plus* to a host computer running *AMT Server*, see *Chapter 2, Getting Connected* on page 11.

To learn how to use features of *VNC Viewer Plus* to control a host computer running *AMT Server*, including mission-critical operations such as powering on and mounting an image, read *Chapter 3, Using VNC Viewer Plus* on page 23.

To learn how to configure a host computer for *AMT Server*, see *Chapter 4, Configuring the host computer* on page 39.

Note: For information about using *VNC Viewer Plus* to make a standard VNC connection to a host computer running *VNC Enterprise Edition 4.5* or *VNC Personal Edition 4.5*, read the *VNC Enterprise Edition User Guide*.

2

Getting Connected

This chapter explains how to connect from a client computer running *VNC Viewer Plus* to a host computer running *AMT Server*.

Note: For information about using *VNC Viewer Plus* to make a standard VNC connection to a host computer running *VNC Enterprise Edition 4.5* or *VNC Personal Edition 4.5*, read the *VNC Enterprise Edition User Guide*.

This chapter assumes both host and client computers are set up correctly. For more information, see *Getting VNC Viewer Plus ready to use* on page 8.

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Step 1: Start VNC Viewer Plus on the client computer

To start *VNC Viewer Plus* on the client computer, select **RealVNC > VNC Viewer Plus** from the **Start** menu. The **VNC Viewer Plus: New Connection** dialog opens:



Note: If the **Connection Mode** dropdown is not visible, *VNC Viewer Plus* is not licensed. You must enter a license key before you can connect to *AMT Server*. See *Getting VNC Viewer Plus ready to use* on page 8 for more information.

Starting VNC Viewer Plus programmatically

You can start *VNC Viewer Plus* programmatically, and connect to a host computer, using the following URI scheme:

```
kvm://<username>:<password>@<host_computer>[/?<option>=<value>&...]
```

Note: *VNC Viewer Plus* must be installed and licensed on the computer on which the command runs.

An option/value pair can be any property from the **Expert** tab of the **VNC Viewer Plus Properties** dialog. For more information on this, see *Step 2: Configure VNC Viewer Plus before you connect* on page 13.

For example, you could enter the following at the command prompt:

```
C:\Program Files\RealVNC\VNCViewerPlus\vncviewer.exe -uri kvm://  
adminusr:Pa55w0rd!@amt.acme.org/?AmtUseFQDN=false&AmtRequireConsent=false
```

Or enter the following command in the address bar of a web browser:

```
kvm://adminusr:Acm31ncPwd*@amt2/?AmtUseFQDN=true
```

Or click a hyperlink in a web page constructed from the following HTML:

```
<a href="kvm://stdusr:M1nPr1vs!@192.168.2.55/?ColourLevel=0">Connect!</a>
```

Step 2: Configure VNC Viewer Plus before you connect

In most circumstances, *VNC Viewer Plus* is ready to connect to *AMT Server* out-of-the-box. You do not need to configure it. Carry on from *Step 3: Specify an AMT Server connection* on page 15.

You may need to configure *VNC Viewer Plus* before you connect in the following circumstances:

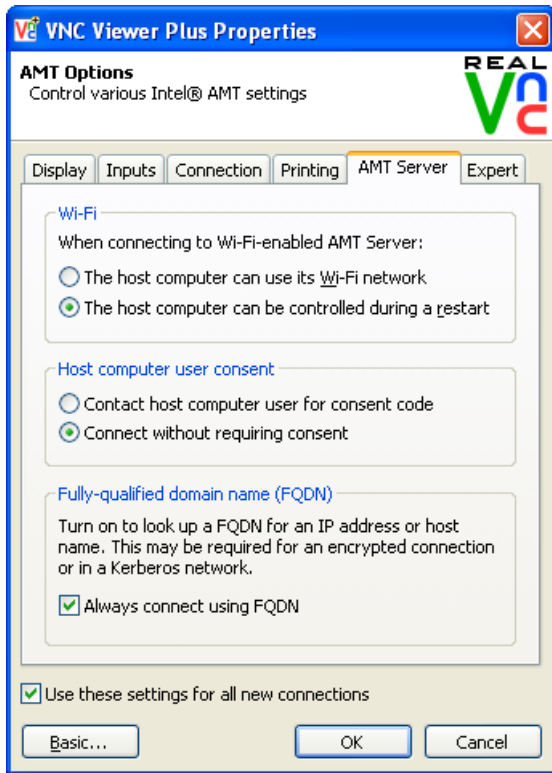
- If the host computer is Wi-Fi-enabled (for example, a laptop), and you want to remain connected while restarting it. See *Restarting a Wi-Fi-enabled host computer* on page 14.
- If you want to connect without entering authentication credentials in a Kerberos network environment. See *Configuring VNC Viewer Plus for Kerberos* on page 15.
- If you want to encrypt a connection. See *Connecting using a FQDN* on page 15.
- If *AMT Server* is configured to require host computer user consent, and you want to override this feature. See *Overriding host computer user consent* on page 15.

Note that Intel AMT administrative privileges may be required to perform some of these operations. For more information on what this means, see *Discovering authentication credentials* on page 42.

To configure *VNC Viewer Plus* before you connect, click the **Options** button at the bottom of the **VNC Viewer Plus: New Connection** dialog box:



The **VNC Viewer Plus Properties** dialog opens. Click the **Advanced** button to see all the tabs:



(In this picture, the dialog is in Advanced mode.)

For more information on this dialog, including a list of features that are not available for connections to *AMT Server*, and tabs that are unavailable after you connect, see *Using the VNC Viewer Plus Properties dialog* on page 29.

Restarting a Wi-Fi-enabled host computer

By default, the operating system of a Wi-Fi-enabled host computer has control of the network interface card while a connection is in progress. This means you are disconnected if you reset the host computer (power it off and on again, or restart the operating system), and cannot reconnect until the operating system restarts and re-establishes a connection to a Wireless Access Point.

If you want to remain connected and watch while a host computer restarts (a key *VNC Viewer Plus* feature), and you have the credentials of an Intel AMT administrative user, you can choose **The host computer can be controlled during a restart** on the **AMT Server** tab.

Note: Intel AMT must be enabled to manage Wi-Fi. See *Enabling Wi-Fi management* on page 44 for more information.

Configuring VNC Viewer Plus for Kerberos

By default, *VNC Viewer Plus* permits single sign-on in a Kerberos network environment. This means you do not have to enter a user name and password in order to connect to *AMT Server*. Instead, the credentials with which you logged on to the client computer are used to authenticate you.

To use this feature, make sure **Use single sign-on if VNC Server supports it** is turned on in the **Connection** tab. We recommend you also follow the instructions in *Connecting using a FQDN* on page 15.

Connecting using a FQDN

A host computer can be identified by an IP address, a host name, or a fully-qualified domain name (FQDN). For more information on this, see *Step 4: Identify AMT Server on the host computer* on page 16.

Encrypted connections, and connections made in a Kerberos network environment, may require a FQDN. If you know a host name or IP address but not the FQDN for a host computer then you may be able to configure *VNC Viewer Plus* to look one up for you. To do this, make sure **Always connect using FQDN** is turned on in the **AMT Server** tab.

Overriding host computer user consent

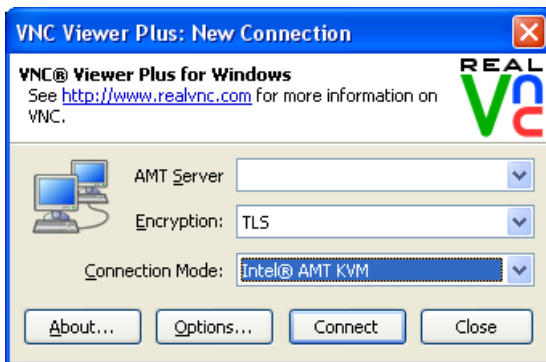
AMT Server may be configured to require the entry of a code in order to complete a connection. This code is available only to a host computer user. Normally, you must contact the host computer user to obtain it.

If you know that no host computer user is present, and you have the credentials of an Intel AMT administrative user, you can override this feature and connect without having to obtain a code. To do this, turn on **Connect without requiring consent** in the **AMT Server** tab.

Note: Intel AMT must be enabled to perform this operation. See *Requiring host computer user consent* on page 44 for more information.

Step 3: Specify an AMT Server connection

By default, *VNC Viewer Plus* makes a standard VNC connection. To connect to *AMT Server*, choose Intel® AMT KVM from the **Connection Mode** dropdown on the **VNC Viewer Plus: New Connection** dialog box:



Step 4: Identify AMT Server on the host computer

You must specify a network address that uniquely identifies *AMT Server* running on the host computer.

If you do not know a network address and you have access to the host computer, you may be able to find one out. See *Discovering a network address* on page 41 for more information. If you do not have access to the host computer, you will need to ask your system administrator or a host computer user.

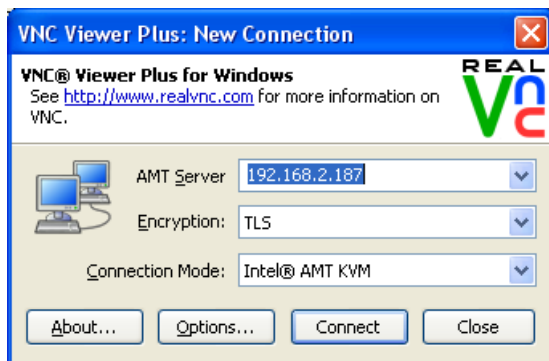
A network address can take the following forms:

- An IP address in IPv4 format, for example 192.168.2.187.
- A host name, for example johndoe.
- A fully-qualified domain name (FQDN), for example johndoe.acme.com.

Note: A FQDN may be required in a Kerberos network environment, or to establish an encrypted connection. You can configure *VNC Viewer Plus* to automatically look one up for you. See *Connecting using a FQDN* on page 15 for more information.

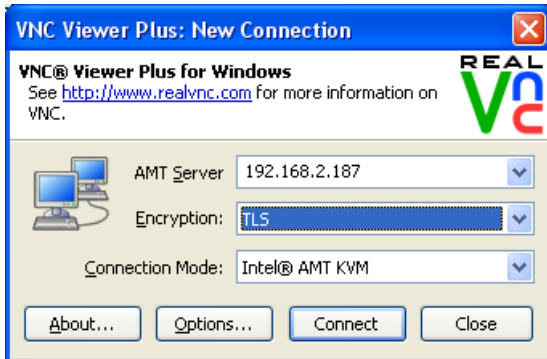
Do not specify a port number. For information on ports, see *Making ports accessible* on page 43.

In the following picture, the host computer is identified by an IPv4 network address:



Step 5: Select an encryption option

To encrypt a connection to *AMT Server*, make sure `TLS` is selected in the **Encryption** dropdown on the **VNC Viewer Plus: New Connection** dialog box:



Note that:

- The host computer must be configured to use Transport Layer Security (TLS).
- A certificate from a Certification Authority must be installed on your client computer. See *Installing a certificate* on page 17 for more information.
- It may be necessary to configure *VNC Viewer Plus* to look up a FQDN. For more information, see *Connecting using a FQDN* on page 15.

To leave the connection unencrypted, choose `None`. Note that:

- The host computer must *not* be configured to use TLS.
- Your user name and password, as well as data transferred between the computers while the connection is in progress, are potentially susceptible to discovery by third parties.

If you do not know whether the host computer is configured to use TLS, and you have access to it, you may be able to find out. See *Setting up encrypted connections* on page 43 for more information. If you do not have access to the host computer, you will need to ask your system administrator or a host computer user.

Installing a certificate

To establish an encrypted connection to a host computer, a certificate must be installed on your client computer. This certificate attests to the legitimacy of the host computer. You only need perform this operation once.

Note: If you do not have access to the host computer, you will need to ask your system administrator or a host computer user to provide you with a valid certificate. For more information, see *Setting up encrypted connections* on page 43.

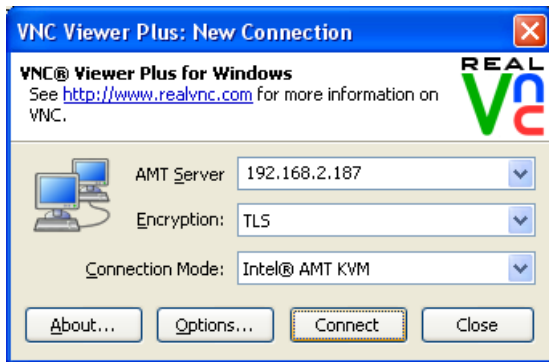
To install a certificate on your client computer:

1. In Control Panel, choose **Internet Options**.
2. On the **Content** tab of the **Internet Properties** dialog, click the **Certificates** button.

3. In the **Certificates** dialog, click the **Import** button.
4. Complete the **Certificate Import Wizard**. On the **Certificate Store** page, choose **Place all certificates in the following store**, and browse to the **Trusted Root Certification Authorities** certificate store.

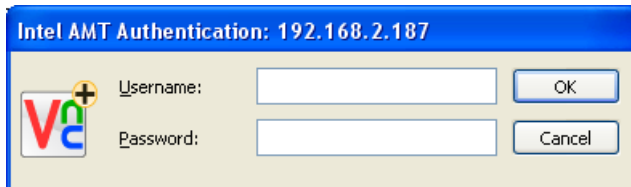
Step 6: Connect to AMT Server

To connect to *AMT Server*, click the **Connect** button at the bottom of the **VNC Viewer Plus: New Connection** dialog:



Authenticating to AMT Server

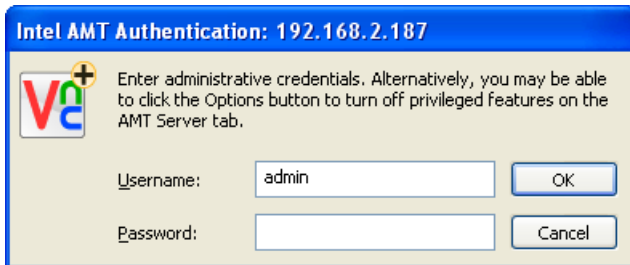
You *may* be prompted to enter authentication credentials:



If you are:

- And you do not know them, but you have access to the host computer, you may be able to find out. See *Discovering authentication credentials* on page 42 for more information. If you do not have access to the host computer, you will need to ask your system administrator or a host computer user.
- But you were not *expecting* to, you may need to configure *VNC Viewer Plus* for single sign-on and then reconnect. See *Configuring VNC Viewer Plus for Kerberos* on page 15 for more information.

If you enter authentication credentials but are then immediately prompted for more:



it may be that the connection requires you to enter the credentials of an Intel AMT *administrative user*. For more information on what this means, see *Discovering authentication credentials* on page 42.

Enter the credentials of an Intel AMT administrative user if you know them. If you do not, you *may* be able to configure *VNC Viewer Plus* to turn privileged features off, and then reconnect. On the **AMT Server** tab, make sure the following two options are selected:

- **The host computer can use its Wi-Fi network**
- **Contact host computer user for consent code**

For more information on these properties, see *Step 2: Configure VNC Viewer Plus before you connect* on page 13.

If when you reconnect you are *still* prompted for the credentials of an Intel AMT administrative user, you will need to ask your system administrator or a host computer user.

Obtaining host computer user consent

You *may* be prompted to enter a six-digit code:



You must normally contact a host computer user in order to obtain this code. For more information on this feature, see *Requiring host computer user consent* on page 44.

If you cannot contact a host computer user (for example, no such user is present), you *may* be able to configure *VNC Viewer Plus* to override this feature, and then reconnect. See *Overriding host computer user consent* on page 15 for more information.

Note that when you reconnect you *may* be prompted to enter the credentials of an Intel AMT administrative user. For more information on what this means, see *Discovering authentication credentials* on page 42.

Completing the connection

If the connection is successful, *VNC Viewer Plus* displays the current video output of the host computer in a new window on the client computer. Carry on from *The VNC Viewer Plus user experience* on page 24. If the connection fails for any reason, start with *Troubleshooting connection* on page 20.

Once connected, you can save the connection so you can quickly reconnect in future without having to remember the network address and any authentication credentials. For more information, see *Saving the current connection* on page 37.

Troubleshooting connection

The following sections provide additional information to help you connect.

If after reading this you still cannot connect, or if you want more information, consult the RealVNC web site, or contact Support. For details of these resources, see *About this Guide on page 5*.

Connecting over the Internet

This User Guide assumes you are connecting over a private network such as a LAN or VPN, and that it is not necessary to configure intermediate firewalls or routers in order to establish a connection.

If you are connecting over the Internet, it is very likely that firewalls and routers protecting the host computer will need to be configured to allow and forward network communications to it. We recommend you read the manufacturers' instructions. To see which ports must be accessible on the host computer, read *Making ports accessible* on page 43.

Connecting via a proxy server

In this release, *VNC Viewer Plus* cannot connect to *AMT Server* if the client computer is protected by a proxy server. You will need to bypass or disable the proxy server in order to connect. Contact your system administrator for more information.

VNC Viewer Plus can still make a standard VNC connection via a proxy server. For more information about configuring *VNC Viewer Plus* for proxy servers, see the *VNC Enterprise Edition User Guide*.

Error messages

If a connection fails, an error message is displayed. Some error messages are generated by *VNC Viewer Plus*; some by *AMT Server*.

Note: *AMT Server* is a product from Intel Corporation. RealVNC Limited has no control over, and can take no responsibility for, *AMT Server* functionality or behavior.

Connecting to a disabled host computer

If you see the following message:

```
KVM is disabled in Intel AMT. Please enable it and try again.
```

then *AMT Server* is disabled on the host computer. If you have access to the host computer, you may be able to enable it. See *Setting up Intel AMT* on page 40 for more information. If you do not have access, you will need to ask your system administrator or a host computer user.

Failing to supply the correct network address

If you see the following message:

```
Connection failed. Check you have entered the correct address/hostname. Check
AMT Server is configured to allow TLS-secured connections.
```

then it may be that you have entered an incorrect IP address or host name in the **AMT Server** dropdown on the **VNC Viewer Plus: New Connection** dialog. Note it is possible for *AMT Server* to be assigned a different network address to that of the host computer's operating system.

If you do not know a network address and you have access to the host computer, you may be able to find out. See *Discovering a network address* on page 41 for more information. If you do not have access, you will need to ask your system administrator or a host computer user.

Failing to specify an encrypted connection

If you see the following message:

```
Connection failed. Check you have entered the correct address/hostname. Check
AMT Server is configured to allow unsecured connections.
```

then it may be that you have chosen `None` in the **Encryption** dropdown on the **VNC Viewer Plus: New Connection** dialog, yet the host computer is configured to use Transport Layer Security (TLS). You must choose `TLS` from this dropdown instead.

If you do not know whether the host computer is configured to use TLS, and you have access to it, you may be able to find out. See *Setting up encrypted connections* on page 43 for more information. If you do not have access, you will need to ask your system administrator or a host computer user.

Failing to provide a certificate for an encrypted connection

If you see the following message:

```
Security failure. The secure connection failed due to an invalid or missing
certificate (12175).
```

then you are connecting to a host computer configured to use Transport Layer Security (TLS), but your client computer either:

- Does not have a security certificate.
- Has a security certificate but it is not in the correct certificate store.
- Has a certificate in the correct store but it is not valid for some reason.

For more information, start with *Installing a certificate* on page 17.

Failing to specify an unencrypted connection

If you see the following message:

```
Connection failed. Check you have entered the correct address/hostname. Check
AMT Server is configured to allow TLS-secured connections.
```

then it may be that you have chosen `TLS` in the **Encryption** dropdown on the **VNC Viewer Plus: New Connection** dialog, yet the host computer is *not* configured to use Transport Layer Security (TLS). You must choose `None` from this dropdown instead.

If you do not know whether the host computer is configured to use TLS, and you have access to it, you may be able to find out. See *Setting up encrypted connections* on page 43 for more information. If you do not have access, you will need to ask your system administrator or a host computer user.

Failing to authenticate correctly

If you see the following message:

```
Either the user name was not recognised, or the password was incorrect.
```

then you have incorrectly entered authentication credentials. Note that both user name and password are case-sensitive.

If you do not know the authentication credentials and you have access to the host computer, you may be able to find out. See *Discovering authentication credentials* on page 42 for more information. If you do not have access, you will need to ask your system administrator or a host computer user

Connecting while another VNC Viewer Plus user is connected

If you see the following message:

```
AMT Server is currently busy serving a session to another viewer, please try again later.
```

then you cannot connect until another *VNC Viewer Plus* has disconnected. Only one *VNC Viewer Plus* user can connect to *AMT Server* at a time.

AMT Server errors

It is possible that you might see error messages with `WsmAn` or `KVMLib` in the dialog title or text.

These errors are generated by *AMT Server*, and are complex to diagnose. The recommended procedure is to wait a few moments and attempt to reconnect.

3

Using VNC Viewer Plus


This chapter explains how to use *VNC Viewer Plus* to control a host computer running *AMT Server*. If you are not yet connected, read *Chapter 2, Getting Connected* on page 11.

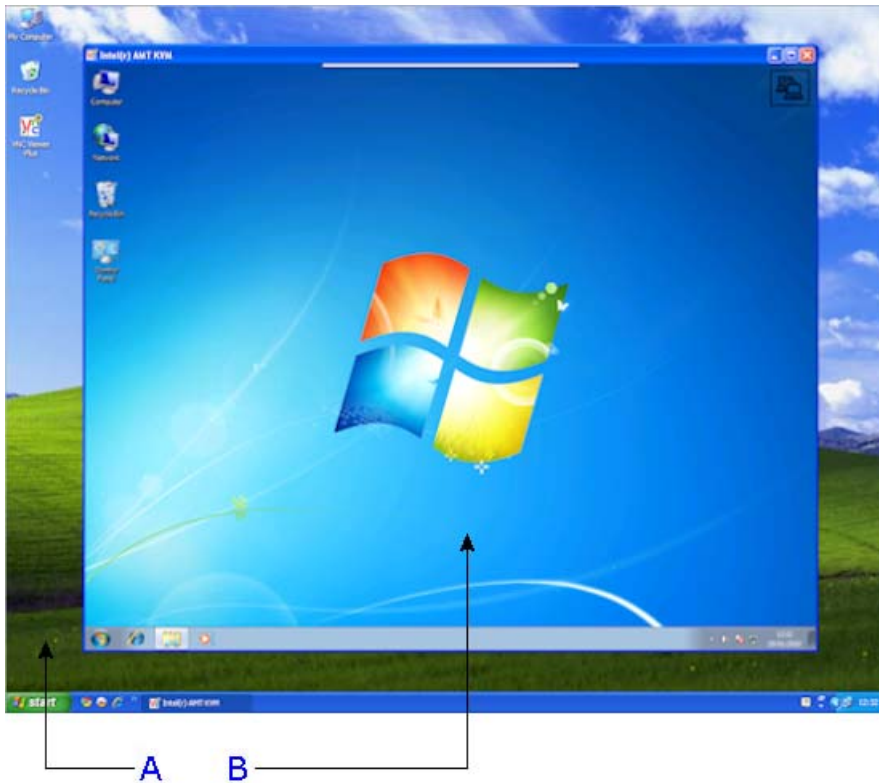
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The VNC Viewer Plus user experience

When a connection is established, *VNC Viewer Plus* displays a new window on the client computer displaying video output from the host computer running *AMT Server*:

- If the host computer is powered off, or in hibernate mode, or has no functioning operating system, the screen will likely be black. To power the computer on, click the **Power**  *VNC Viewer Plus* toolbar button.
- If the host computer is powered on and has more than one monitor, a connection screen will likely be displayed prompting you to choose which monitor to remote. Press the F1 key to toggle between monitors, and then the ENTER key to continue (your mouse is disabled on this screen).
- If the host computer is powered on and an operating system is booted, the desktop of the host computer will likely be shown, or a login screen if no host computer user is currently logged on.



A. Desktop of a client computer running Windows XP. **B.** *VNC Viewer Plus* displaying the desktop of a host computer.

Note: The  graphic in the top right corner of the *VNC Viewer Plus* window flashes to indicate that a *VNC Viewer Plus* user is connected.

Controlling the host computer using your mouse

Your client computer's mouse is now shared with the host computer. This means that:

- Moving the mouse and clicking within the *VNC Viewer Plus* window affects the host computer and not the client.
- Moving the mouse and clicking outside the *VNC Viewer Plus* window, or on the *VNC Viewer Plus* title bar or window buttons (**Minimize**, **Maximize**, and **Close**), affects the client computer and not the host.

Note: If your mouse has no effect on the host computer, it may have been disabled. For more information, see *Restricting access to VNC Viewer Plus functionality* on page 36. Alternatively, it may be that the host computer is not currently accepting mouse input.

If client and host computers have different numbers of mouse buttons, you can configure *VNC Viewer Plus* to emulate those you do not have. See *Changing the appearance and behavior of VNC Viewer Plus* on page 33 for more information.

Controlling the host computer using your keyboard

Your client computer's keyboard is now shared with the host computer, with the exception of:

- The function key that opens the shortcut menu (F8 by default)
- The CTRL-ALT-DELETE key combination.

These are interpreted by your client computer. Alternative ways of sending these commands to the host computer are available; see *Using the VNC Viewer Plus shortcut menu* on page 28 for more information.

Note that you can choose for certain other keys or key combinations to be interpreted by your client computer rather than the host. See *Changing the appearance and behavior of VNC Viewer Plus* on page 33 for more information.

Note: If your keyboard has no effect on the host computer, it may have been disabled. For more information, see *Restricting access to VNC Viewer Plus functionality* on page 36.

Keyboard behavior in Intel AMT 6.0

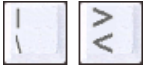
Note: The information in this section only applies to connections made to host computers running Intel AMT 6.0. The issues described have been fixed by Intel Corporation in Intel AMT 6.1 and later.

AMT Server interprets keyboard keys slightly differently to *VNC Server*. For a connection to *VNC Server*, *VNC Viewer Plus* reproduces what you type exactly. For a connection to *AMT Server*, however, it is first necessary to ensure that the keyboard language of the host computer is mapped to the type of keyboard attached to your client computer. For example, if your client computer has a UK keyboard, you should ensure that the host computer's keyboard language is set to `English (United Kingdom)`.

Note: You can change the keyboard language of a host computer running Windows 7 by navigating to **Region and Language** in Control Panel. For other operating systems, consult the manufacturer's documentation.

Note also the following issues:

- If your client computer has a 102 key European-style keyboard, you cannot press the key next to the left SHIFT key. Depending on your keyboard, this may be one of the following keys:



Instead, to enter the characters on these keys, you must first change the host computer's keyboard language to `English (United States)`, and then press the key on your keyboard corresponding to the key that you would press were your client computer to have a 101 key US-style keyboard. For example:

- If your client computer has a UK keyboard, press # and ~ (SHIFT-#) to enter the \ and | characters respectively.
 - If your client computer has a French keyboard, press . (SHIFT-;) and / (SHIFT-:) to enter the < and > characters respectively.
- If your client computer has a 106 key Japanese-style keyboard, you cannot press the following keys:



Note that the last three of these keys are located either side of the space bar.

Interacting with AMT Server

AMT Server is embedded in hardware so there is no Notification area icon or other facet in software to indicate status as there is with *VNC Server*. You cannot configure *AMT Server* over the network using *VNC Viewer Plus*.

If you have access to the host computer, or remote management or provisioning tools from Intel Corporation, you may be able to configure *AMT Server*. See *Chapter 4, Configuring the host computer* on page 39 for more information.

Using the VNC Viewer Plus toolbar





VNC Viewer Plus has a toolbar to facilitate common operations.

Note: If you cannot access the *VNC Viewer Plus* toolbar, it may have been disabled. For more information, see *Changing the appearance and behavior of VNC Viewer Plus* on page 33.

To see the toolbar, hover the mouse over the hot area at the top of the *VNC Viewer Plus* window:



The following table explains the effect of clicking each toolbar button.

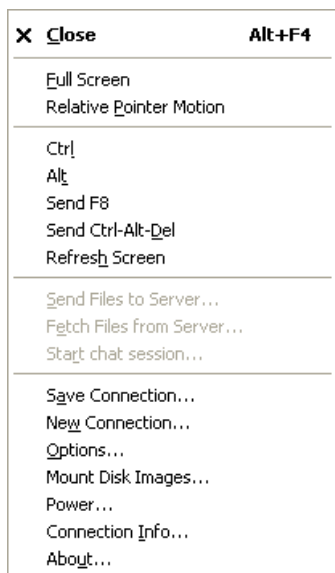
	Button name	Explanation
	New Connection	Opens the VNC Viewer Plus: New Connection dialog. You can start a new connection to <i>AMT Server</i> running on a different host computer, or to a VNC-compatible Server running on any computer.
	Save Connection	You can save the current connection so you can quickly reconnect in future without having to remember the <i>AMT Server</i> network address and any authentication credentials. For more information, see <i>Saving the current connection</i> on page 37.
	Close Connection	Prompts you to close the current connection (and the <i>VNC Viewer Plus</i> window).
	Options	Opens the VNC Viewer Plus Properties dialog. You can configure most aspects of <i>VNC Viewer Plus</i> while the current connection is in progress. For more information, see <i>Using the VNC Viewer Plus Properties dialog</i> on page 29.
	Full Screen Mode	Toggles full screen mode on and off.
	Send Ctrl-Alt-Del	Sends the CTRL-ALT-DELETE command to the host computer. (<i>Pressing</i> this key combination would be interpreted by your client computer.) You could alternatively press SHIFT-CTRL-ALT-DELETE.
	Send Files To VNC Server	This feature is disabled when connected to a host computer running <i>AMT Server</i> .
	Fetch Files From VNC Server	This feature is disabled when connected to a host computer running <i>AMT Server</i> .
	Start Chat Session	This feature is disabled when connected to a host computer running <i>AMT Server</i> .
	Mount Disk Images	Opens the Mount Disk Images dialog. For more information, see <i>Remotely mounting an image on the host computer</i> on page 31.
	Power	Opens the Power dialog. For more information, see <i>Powering the host computer on and off</i> on page 30.
	Connection Information	Opens a dialog displaying technical information about the current connection, such as the encryption method and compression format.
	<i>encryption</i>	The connection is encrypted/not encrypted (only one of these buttons is shown).
	<i>connection speed/activity</i>	Hovering over this toolbar button reveals the current connection speed. For more information on performance, see <i>Changing the appearance and behavior of VNC Viewer Plus</i> on page 33.

Using the VNC Viewer Plus shortcut menu

VNC Viewer Plus has a shortcut menu that facilitates many of the same common operations as the VNC Viewer Plus toolbar.

Note: If you cannot access the VNC Viewer Plus shortcut menu, it may have been disabled. For more information, see *Changing the appearance and behavior of VNC Viewer Plus* on page 33.

By default, to open the shortcut menu, press the F8 key:



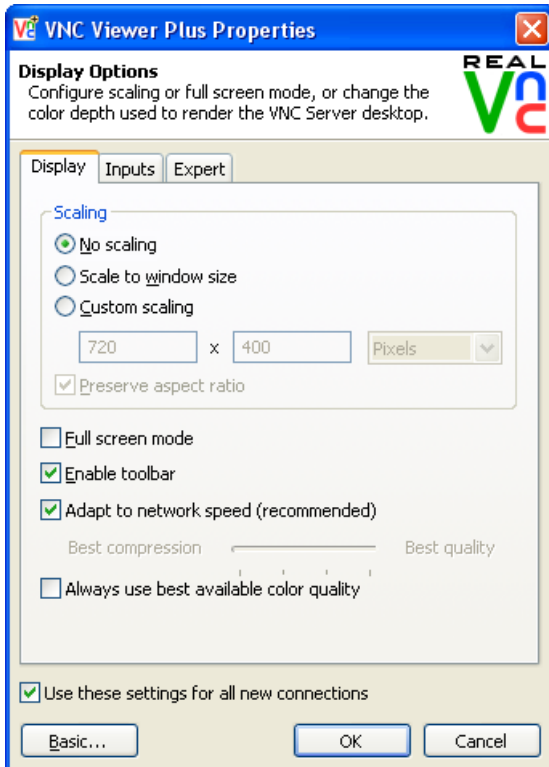
(Note that some standard Windows menu options have been omitted from this picture.)

The following table explains the effect of selecting menu options that do not have equivalent toolbar buttons.


Shortcut menu option	Explanation
Relative Pointer Motion	Turn this option on if the host computer's mouse cursor appears to be behaving abnormally, for example by accelerating too fast.
Ctrl	Turn this option on to simulate holding down the CTRL key.
Alt	Turn this option on to simulate holding down the ALT key.
Send F8	Sends an F8 command to the host computer. (By default, F8 opens the shortcut menu; see <i>Changing the VNC Viewer Plus shortcut menu key</i> on page 36 for how to choose a different key.) You could alternatively press F8 twice in quick succession.
Refresh Screen	Refreshes the display of the host computer's desktop.
About	Displays VNC Viewer Plus version information. You may need this if you contact Support.

Using the VNC Viewer Plus Properties dialog

The **VNC Viewer Plus Properties** dialog enables you to configure *VNC Viewer Plus* while a connection is in progress.



(In this picture, the dialog is in Advanced mode.)

To open the **VNC Viewer Plus Properties** dialog, click the **Options**  toolbar button, or select **Options** from the shortcut menu. (If the *VNC Viewer* toolbar or shortcut menu are not accessible, see *Changing the appearance and behavior of VNC Viewer Plus* on page 33.)

The first time you open this dialog, it opens in Basic mode, and only one tab is available, containing the most common properties. Click the **Advanced** button in the bottom left corner to switch to Advanced mode and see all the tabs in the picture above. Note that the **Expert** tab is recommended for expert users only.

By default, any changes you make apply both to the current connection *and to all future connections to any host computer*. To apply changes just to the current connection, turn off **Use these settings for all new connections** first.

Note that properties on the **Inputs** tab relating to the following features are not available for connections to *AMT Server*:

- File transfer

- Copy and paste text
- *VNC Chat*


Note also that certain properties must be configured before you connect. For more information, see *Step 2: Configure VNC Viewer Plus before you connect* on page 13.

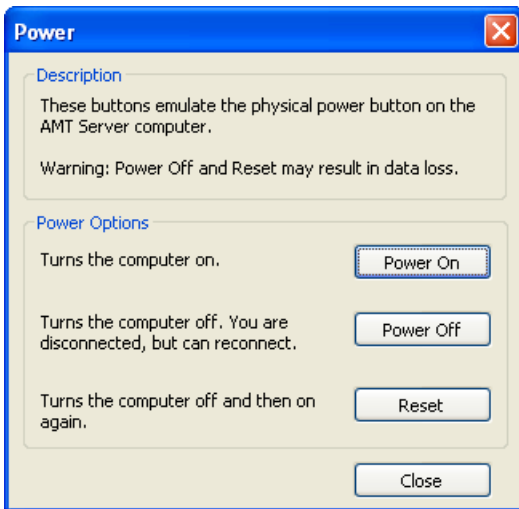
Powering the host computer on and off

You can use *VNC Viewer Plus* to power the host computer on, power it off, and power it off and then on again (that is, power cycle it).

Note: For power on and power cycle, you can choose to boot to BIOS configuration, to an operating system, or to a remotely-mounted image. For more information on the last of these, see *Remotely mounting an image on the host computer* on page 31.

To perform these operations:

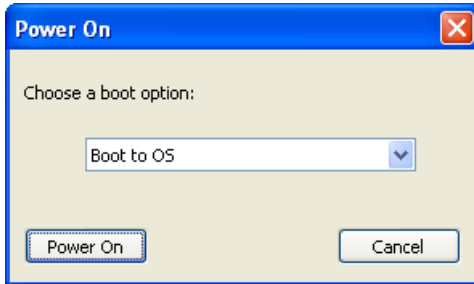
1. Click the **Power**  toolbar button. The Power dialog opens:



2. To:
 - Power the host computer on, click **Power On**. Note this also wakes the host computer from hibernate, but not sleep, mode.
 - Power the host computer off, click **Power Off**. Note that data may be lost if it has not been saved. You are disconnected, but are immediately prompted to reconnect without having to authenticate (actually *establishing* the connection, however, may take several moments).
 - Power cycle the host computer, click **Reset**. Note that data may be lost if it has not been saved. You *should* remain connected. If not, configure *VNC Viewer Plus* for Wi-Fi and then reconnect; see *Restarting a Wi-Fi-enabled host computer* on page 14 for more information.

Note: Power cycling is not the same as restarting an operating system. An operating system may subsequently complain that it was not shut down properly when the host computer powers back on.

3. For **Power On** or **Reset**, choose a boot option:



(This dialog is specific to the **Power On** command.)

Click the **Power On** button to perform this operation. Click the **Cancel** button to return to the **Power** dialog.


Remotely mounting an image on the host computer

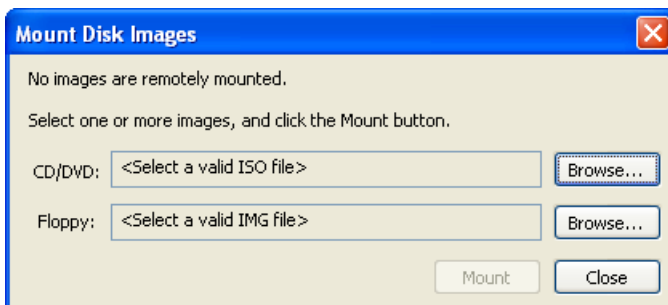
You can use *VNC Viewer Plus* to remotely mount an image representing a CD/DVD or a floppy disk on the host computer. This means you can:

- Boot to that image, perhaps in order to install an operating system or a driver. Note if the image is not bootable it is ignored.
- Register the image as a drive, and navigate it using File Explorer or similar. Note the host computer must have an operating system.

Note: Intel AMT must be enabled for this operation. See *Enabling remote images* on page 43 for more information.



To mount an image:

1. Click the **Mount Disk Images**  toolbar button. The **Mount Disk Images** dialog opens:




2. To mount a:
 - CD/DVD image, browse to a valid `.iso` file.
 - Floppy disk image, browse to a valid `.img` file.
3. Click the **Mount** button. Note the dialog automatically closes.

If you want to:

- Boot to the image, click the **Power**  toolbar button, either **Power On** or **Reset** (depending on the state of the host computer), and choose an appropriate boot option.
- Register the image as a drive, click the **Power**  toolbar button, either **Power On** or **Reset** (depending on the state of the host computer), and choose the `Boot to OS` option.

Note: You need only power cycle in order to register a drive the first time in a *VNC Viewer Plus* session. Subsequent times, you can remove the current image and mount a new one without having to power cycle. This means you can (for example) install a program that is distributed over multiple CDs. (You may need to use a program such as Device Manager (accessible from **System** in Control Panel under Windows 7) to scan for hardware changes in order to actually see the new drive in File Explorer or similar.)

For more information on power operations, see *Powering the host computer on and off* on page 30.

An image remains mounted until you explicitly remove it. To do this, click the **Mount Disk Images**  toolbar button to open the **Mount Disk Images** dialog, and then click the **Remove** button.

Note: If you disconnect (or are disconnected due to inactivity) and an image is still mounted, another newly-connected *VNC Viewer Plus* user cannot mount an image until you have acknowledged the disconnection warning dialog.

Managing the current connection

You can manage aspects of the current connection while it is in progress.


Note: The operations described in this section are facilitated by the *VNC Viewer Plus* toolbar. For more information on this, see *Using the VNC Viewer Plus toolbar* on page 26.

Saving the current connection

You can save the current connection so you can quickly reconnect in future without having to remember the network address and any authentication credentials. In addition, your preferred *VNC Viewer Plus* environment for controlling the host computer is automatically recreated.


To save the current connection, click the **Save Connection**  toolbar button. Carry on from *Saving the current connection* on page 37.

Starting a new connection

You can start a new connection to *AMT Server* running on a different host computer, or to a VNC-compatible Server running on any host computer. To do this, click the **New Connection**  toolbar button. The **VNC Viewer Plus: New Connection** dialog opens. Carry on from *Step 1: Start VNC Viewer Plus on the client computer* on page 12.

By default, any properties you have configured are inherited by the new connection. To prevent this, open the **VNC Viewer Plus Properties** dialog and turn off **Use these settings for all new connections** first. For more information on this dialog, see *Using the VNC Viewer Plus Properties dialog* on page 29.

Closing the current connection

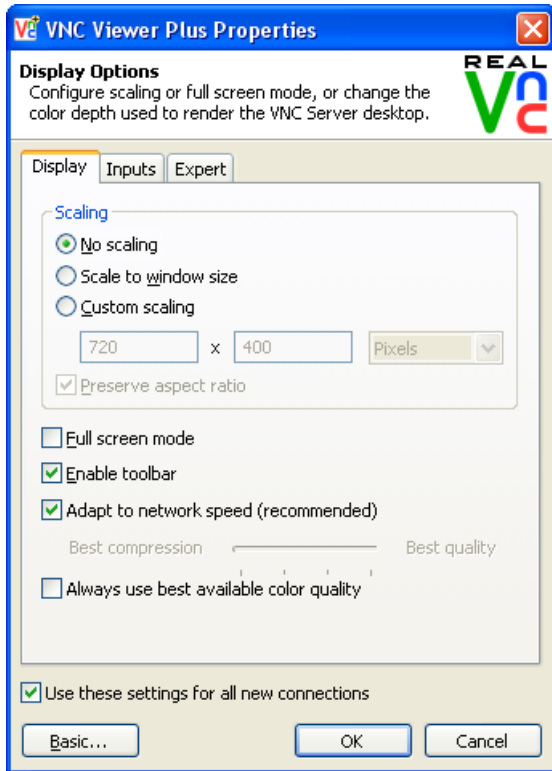
You can quickly close the current connection. To do this, click the **Close Connection**  toolbar button. You are prompted to confirm the operation before the *VNC Viewer Plus* window closes.

Changing the appearance and behavior of VNC Viewer Plus

By default, when a connection is established:

- *VNC Viewer Plus* does not scale the host computer's desktop. Instead, scroll bars are added to the window if the desktop is too large.
- *VNC Viewer Plus* displays the host computer's desktop at a color quality appropriate to the network connection speed.
- Your mouse and keyboard are set to interact with the client and host computers in particular ways.
- The *VNC Viewer Plus* window is set to a particular size.
- The *VNC Viewer Plus* toolbar is accessible.
- The *VNC Viewer Plus* shortcut menu is accessible (by pressing F8).

You can change these defaults by configuring properties on the **Display** tab of the **VNC Viewer Plus Properties** dialog. For more information on this dialog, see *Using the VNC Viewer Plus Properties dialog* on page 29.



Scaling the host computer’s desktop

You can scale the host computer’s desktop, which might make it easier to navigate and to use.

To scale the desktop to the size of the *VNC Viewer Plus* window, choose **Scale to window size**.

To scale it to a custom size, choose **Custom scaling**, and specify a width and height for the *VNC Viewer Plus* window. Turn on **Preserve aspect ratio** to automatically calculate a height for a given width, and *vice versa*. Note you cannot resize a custom-sized *VNC Viewer Plus* window using your mouse.

Trading performance for picture quality

You may be able to enhance the performance of *VNC Viewer Plus* by reducing the number of colors used to display the host computer’s desktop. To do this, turn off **Adapt to network speed (recommended)**, and move the slider towards **Best compression**.

If you want to enhance performance but retain full color, turn on **Always use best available color quality**. Performance is enhanced by other means, for example by reducing the amount of information sent about

the mouse cursor's position. Note this may make mouse cursor movements appear jerky on the host computer.

Note: You can explicitly reduce the amount of mouse cursor position information sent by turning on **Rate-limit mouse move events**. This property is on the **Inputs** tab. This may also be useful if you are connecting over a mobile or dial-up network.

Configuring your mouse

You can emulate buttons missing because your mouse has fewer buttons than the host computer's mouse.

To do this, turn on **Enable 3-button mouse emulation**. To emulate the missing middle button, click the left and right mouse buttons simultaneously. Note this property is on the **Inputs** tab.

Configuring your keyboard

By default, and with the exception of CTRL-ALT-DELETE and the function key used to open the shortcut menu, key presses affect the host computer and not the client. To reverse this behavior for the application-level keys listed below, turn off **Pass special keys directly to VNC Server**. Note this property is on the **Inputs** tab.

Affected keys/combinations: WINDOWS (also known as START), PRINT SCREEN, ALT-TAB, ALT-ESCAPE, CTRL-ESCAPE.

Changing the size of the VNC Viewer Plus window

You can use the mouse to resize the *VNC Viewer Plus* window in the expected way for the platform of the client computer. The window's Application buttons (**Minimize**, **Maximize**, and **Close**) also work in the expected way.

To toggle full screen mode on and off, click the **Full Screen Mode**  *VNC Viewer Plus* toolbar button.

Disabling the VNC Viewer Plus toolbar

You can disable the *VNC Viewer Plus* toolbar. (For more information, see *Using the VNC Viewer Plus toolbar* on page 26.) To do this, turn off **Enable toolbar**.

Note that if you disable the *VNC Viewer Plus* shortcut menu as well you will not be able to access the *VNC Viewer Plus* toolbar again while the current connection is in progress.

Disabling the VNC Viewer Plus shortcut menu

You can disable the *VNC Viewer Plus* shortcut menu. (For more information, see *Using the VNC Viewer Plus shortcut menu* on page 28.) To do this, select `none` from the **Menu key** dropdown. Note this property is on the **Inputs** tab.

Note that if you disable the *VNC Viewer Plus* toolbar as well you will not be able to access the *VNC Viewer Plus* shortcut menu again while the current connection is in progress.

Changing the VNC Viewer Plus shortcut menu key

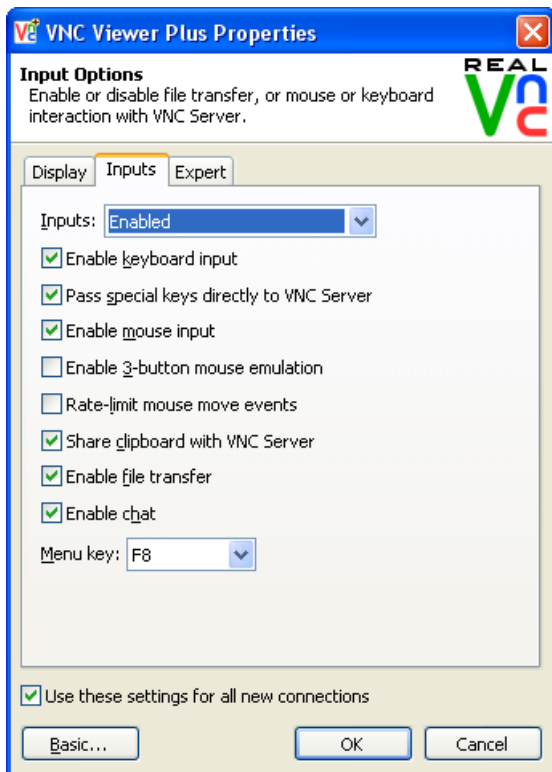
You can change the function key used to open the shortcut menu. To do this, select a function key from the **Menu key** dropdown. Note this property is on the **Inputs** tab. The shortcut menu updates to reflect the fact that you can no longer press the chosen key to send that command to the host computer.

Restricting access to VNC Viewer Plus functionality

By default, while a connection is in progress, and assuming the host computer is in a state to accept keyboard and mouse input, you should be able to control the host computer using the client computer's keyboard and mouse.

You can restrict access to *VNC Viewer Plus* functionality while the connection is in progress by configuring properties on the **Inputs** tab of the **VNC Viewer Plus Properties** dialog. For more information on this dialog, see *Using the VNC Viewer Plus Properties dialog* on page 29. You might want to do this if you are watching a demonstration on the host computer, for example, and want to prevent inadvertent interruption.

Note: You can enable functionality again at any time. To prevent this for the current connection only, disable the *VNC Viewer Plus* toolbar and shortcut menu. For more information, see *Changing the appearance and behavior of VNC Viewer Plus* on page 33.



Making VNC Viewer Plus ‘view only’

You can quickly prevent all interchange with the host computer, making *VNC Viewer Plus* ‘view only’. To do this, select `Disabled (view-only mode)` from the **Inputs** dropdown.

Disabling your keyboard

You can disable the client computer’s keyboard. To do this, turn off **Enable keyboard input**.

Disabling your mouse

You can disable the client computer’s mouse. To do this, turn off **Enable mouse input**.


Saving the current connection

You can save the current connection to a desktop icon on the client computer:



A desktop icon provides an extremely quick and convenient way of reconnecting to a host computer. Simply double-click the icon to connect. The *AMT Server* network address and any authentication credentials are remembered, so you do not have to, and your preferred *VNC Viewer Plus* environment for controlling the host computer is automatically recreated each time.

To save the current connection to a desktop icon:

1. In *VNC Viewer Plus*, click the **Save Connection**  toolbar button.
2. If you entered a password in order to connect to *AMT Server*, you are prompted to save it. Note that doing so may constitute a security risk, since the password is saved in obfuscated, though not encrypted, form. If you do not save the password, you must enter it each time you connect.
3. Choose a location to save the icon file to (for example, the desktop), and an intuitive name.

4

Configuring the host computer

This chapter explains how to configure the host computer running *AMT Server* to best work with *VNC Viewer Plus*, and assumes you have sufficient privileges to do so.

Note: *AMT Server* is a product from Intel Corporation. RealVNC Limited has no control over, and can take no responsibility for, *AMT Server* functionality or behavior.

You cannot configure *AMT Server* over a network using *VNC Viewer Plus*. You must either have access to the host computer, or remote management or provisioning tools from Intel Corporation.

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Setting up encrypted connections	43
Enabling remote images	43
Enabling Wi-Fi management	44
Requiring host computer user consent	44

Setting up Intel AMT

AMT Server is managed by Intel Active Management Technology (Intel AMT), through Intel Management Engine (Intel ME). You must set up Intel AMT for KVM (Keyboard, Video, Mouse) operations before you can enable *AMT Server*.

The following sections explain setup out-of-the-box for two supported versions of Intel AMT. Note that instructions may differ slightly for different hardware. For hardware requirements, visit www.realvnc.com/products/viewerplus/hardware.html.

Intel AMT 6.0

The following operations are valid for a Toshiba Tecra A11 laptop:

1. Connect the host computer to a *wired* network, and power it on.
2. At the appropriate moment, press the appropriate key to enter BIOS configuration, for example F2.
3. On the **Main** page, set **AMT Setup Prompt** to *Enabled*.
4. Exit and save your settings to continue booting.
5. At the appropriate moment, press the CTRL-P key combination to enter Intel ME Setup.
6. Enter the default Intel ME account password: `admin`.
7. Change this default password to one consisting of at least eight upper and lowercase letters, numbers, and the following characters: `! @ # $ % ^ & * ()`
Note: This password (and the Intel ME account user name, which is `admin`) can be distributed to a VNC *Viewer Plus* user in order to connect. For more information, see *Discovering authentication credentials* on page 42.
8. Choose **Intel ME General Settings > Network Setup > Intel ME Network Name Settings**.
9. Specify a **Host Name** and a **Domain Name**.
10. Exit a menu level and choose **Active Network Access**, pressing the Y key to acknowledge the warning.
11. Exit and save your settings to continue booting.

Note: Remote image mounting (IDER) is not enabled by default. For more information, see *Enabling remote images* on page 43.

Intel AMT 6.1

The following operations are valid for a PC with an Intel Desktop Board DQ57TM:

1. Connect the host computer to a wired network, and power it on.
2. At the appropriate moment, press the appropriate key to enter BIOS configuration, for example F2.
3. On the **Intel ME** page, enter the default Intel ME account password: `admin`.

4. Change this default password in order to access Intel AMT configuration settings.

Note: The password you choose (and the Intel ME account user name, which is `admin`) can be distributed to a *VNC Viewer Plus* user in order to connect. For more information, see *Discovering authentication credentials* on page 42.

5. Choose **Intel Active Management Technology Configuration**.
6. Set **Setup and Configuration Mode** to `Local`.
7. Choose **Local Setup and Configuration**.
8. Specify a **Computer Name** and a **Domain Name**.
9. Exit and save your settings to continue booting.

Managing Intel AMT

There are numerous ways to subsequently manage Intel AMT. Sections in this chapter use:

- Intel ME Setup (as above).
- Manageability Commander Tool, a remote provisioning application provided with Manageability Developer Tool Kit. See <http://software.intel.com/en-us/articles/download-the-latest-version-of-manageability-developer-tool-kit/> for more information.
- A web site built-in to the host computer. Navigate to:
 - https://<network_address>:16993/index.htm to access a host computer configured to use Transport Layer Security (TLS). For more information on TLS, see *Setting up encrypted connections* on page 43.
 - http://<network_address>:16992/index.htm to access a host computer that is *not* configured to use TLS.

Note: These tools are subject to change. There may be other tools.

Discovering a network address

A *VNC Viewer Plus* user must enter a network address that uniquely identifies *AMT Server* running on the host computer in order to connect.

A network address can be an IPv4 address, a host name, or a fully-qualified domain name (FQDN). You may be able to discover:

- A host name and/or FQDN by following the instructions in *Setting up Intel AMT* on page 40.
- An IP address by booting an operating system and using a tool such as `ipconfig` (Windows) or `ifconfig` (UNIX). Note it is common for *AMT Server* to share the same IP address as the host computer's operating system, but not compulsory. If the host computer does not have an operating system, ask your system administrator.

Note: For some connections, a FQDN is typically required. A *VNC Viewer Plus* user may be able to configure *VNC Viewer Plus* to automatically look one up from an IP address or host name. For more information, see *Connecting using a FQDN* on page 15.

Discovering authentication credentials

A *VNC Viewer Plus* user may be required to enter a user name and password in order to connect to *AMT Server*.

Note: In a Kerberos network environment, authentication credentials supplied by a *VNC Viewer Plus* user in order to log on to their client computer are automatically used to connect to *AMT Server*. However, a Kerberos-authenticated user must still be an Intel AMT user with sufficient permissions, as described below.

A *VNC Viewer Plus* user can enter the credentials of an Intel AMT *standard user*. This is defined as an Intel AMT account with the following permissions:

General Info	Redirection	Remote Control
--------------	-------------	----------------

In most circumstances, a *VNC Viewer Plus* user entering the credentials of an Intel AMT standard user can connect to and control a host computer, and perform key operations such as powering it on and remotely mounting images.

In some circumstances, it may be necessary for a *VNC Viewer Plus* user to enter the credentials of an Intel AMT *administrative user*. This is defined as an Intel AMT account with the following permissions:

General Info	Redirection	Remote Control
Agent Presence Remote	Circuit Breaker	Disk Encryption
Endpoint Access Control Admin	Event Log Reader	Event Manager
Hardware Asset	Network Time	Storage
Storage Admin	User Access Administration	User Access Control

A *VNC Viewer Plus* must enter the credentials of an Intel AMT administrative user in order to:

- Remain connected while restarting a Wi-Fi-enabled host computer.
- Override host computer user consent.
- Connect if the **Redirection Port** and **Remote KVM Settings** Intel AMT settings are currently disabled.

To create an:

- Intel AMT standard user, use Manageability Commander Tool. See *Managing Intel AMT* on page 41 for more information. Set the required permissions, and specify a user name and password, on the **Intel Management Engine** page.
- Intel AMT administrative user, either:
 - Use Manageability Commander Tool (as above).
 - Navigate to the built-in web site on the host computer. See *Managing Intel AMT* on page 41 for more information. Create a new **Administrator** user, and specify a user name and password, on the **User Accounts** page. Note that choosing **Grant access to** does not create an Intel AMT user even with sufficient permissions to connect.

Alternatively, you can distribute the Intel ME account user name and password to a *VNC Viewer Plus* user. This account is automatically set up as an Intel AMT administrative user. For more information, see *Setting up Intel AMT* on page 40.

Making ports accessible

Intel AMT requires the following ports to be accessible on the host computer:

- 16993 and 16995 (for encrypted connections)
- 16992 and 16994 (for unencrypted connections)

Note that firewalls or routers protecting the host computer (if applicable) must be configured to allow and forward network communications to it on these ports in order for a *VNC Viewer Plus* user to connect.

Setting up encrypted connections

To encrypt communications between a client computer running *VNC Viewer Plus* and a host computer running *AMT Server*:

- Transport Layer Security (TLS) must be enabled on the host computer.
- A security certificate must be deployed to the host computer.
- A certificate from a Certification Authority (CA) attesting to the legitimacy of the host computer's security certificate must be deployed to the client computer running *VNC Viewer Plus*.

To enable TLS, generate certificates, and deploy the certificate to the host computer, use Manageability Commander Tool. For more information, see *Managing Intel AMT* on page 41.

To deploy a certificate to a client computer, a *VNC Viewer Plus* user must follow the instructions in *Installing a certificate* on page 17.

Enabling remote images

You must configure Intel AMT version 6.0 in order that a *VNC Viewer Plus* user can remotely mount an image.

Note: This feature is automatically enabled in Intel AMT version 6.1 and later. However, a *VNC Viewer Plus* user must connect using the credentials of an Intel AMT administrative user in order to remotely mount images. For more information on what this means, see *Discovering authentication credentials* on page 42.

1. Enter Intel ME Setup. For more information, read *Intel AMT 6.0* on page 40.
2. Choose **Intel AMT Configuration**, and press the ENTER key to dismiss the Update network settings in the General Settings menu warning.
3. Make sure **SOL/IDER > IDER** is set to Enabled.
4. Exit and save your settings.

Enabling Wi-Fi management

If the host computer is Wi-Fi-enabled, and the *VNC Viewer Plus* user will perform key operations such as mounting an image or restarting the host computer, you must enable Intel AMT to manage Wi-Fi connectivity (rather than the host computer's operating system).

To do this:

1. Navigate to the built-in web site. For more information, see *Managing Intel AMT* on page 41.
2. On the **Wireless Settings** page, set **Wireless Management** to `Enabled` in `S0, Sx/AC`.

Requiring host computer user consent

You can require a *VNC Viewer Plus* user to enter a six-digit access code in order to complete a connection. This code is available to a host computer user but not to a *VNC Viewer Plus* user. The *VNC Viewer Plus* user must communicate separately with the host computer user in order to obtain the code.

Note: A *VNC Viewer Plus* user with the credentials of an Intel AMT administrative user can choose to override this feature. See *Overriding host computer user consent* on page 15 for more information. See also the sections below for information on setting up Intel AMT to permit this override.

Follow the instructions below appropriate to the version of Intel AMT on the host computer.

Intel AMT 6.0

1. Enter Intel ME Setup. For more information, see *Intel AMT 6.0* on page 40.
2. Choose **Intel AMT Configuration**, and press the ENTER key to dismiss the `Update network settings in the General Settings menu warning`.
3. Choose **KVM Configuration**.
4. Make sure **User Opt-in** is set to `User Consent is required for KVM Session`.
5. To enable a *VNC Viewer Plus* user with appropriate credentials to override this feature, make sure **Opt-in Configurable from remote IT** is set to `Enable Remote Control of KVM Opt-In Policy`.
6. Exit and save your settings.

Intel AMT 6.1

1. Access Intel ME in the BIOS configuration. For more information, see *Intel AMT 6.1* on page 40.
2. Choose **Intel Active Management Technology Configuration**.
3. Choose **User Consent**.
4. Make sure **User Consent** is set to `KVM`.
5. To enable a *VNC Viewer Plus* user with appropriate credentials to override this feature, make sure **Remote Control of Opt-in Policy** is set to `Enabled`.
6. Exit and save your settings.