

**Honeywell**

# CloneNGo

Device Cloning Application

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**User Guide**

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# Customer Support

## Technical Assistance

To search our knowledge base for a solution or to log in to the Technical Support portal and report a problem, go to [www.hsmcontactsupport.com](http://www.hsmcontactsupport.com).

For our latest contact information, see [www.honeywellaidc.com/locations](http://www.honeywellaidc.com/locations).

## Product Service and Repair

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## Limited Warranty

For warranty information, go to [www.honeywellaidc.com](http://www.honeywellaidc.com) and click **Resources > Product Warranty**.





# 1

## ABOUT DEVICE CLONING

### About CloneNGo

CloneNGo is a peer-to-peer device cloning application that easily transfers the configuration of a master computer to one or more clone (client) computers. You can clone:

- Device settings
- Files
- Applications
- Registry settings
- Licenses
- The operating system

You can also use CloneNGo to create and manage unique device settings for each mobile computer in your data collection system.

**Note:** *The Thor VM3 and RT10W support a subset of these features. For more details, see [CloneNGo and the Thor VM3](#) beginning on page 31 and [CloneNGo and the RT10W](#) beginning on page 37.*

### Supported Computers

**Note:** *The screen images shown in this chapter are examples only. The appearance of the screen may vary depending on the device type and operating system.*

CloneNGo is supported by these operating systems used in the following mobile computers:

- Microsoft® Windows® Embedded Handheld 6.5 with firmware version 1.50 or later:
  - CK3R
  - CK3X
  - CK70, CK71, CN70, CN70e (70 Series), CK75, CN75 (75 Series)

- Ci70
- Microsoft Windows Embedded Compact 7 (CE 7.0):
  - Thor™ CV31
  - Thor™ VM3
- Microsoft Windows 7, Windows Embedded Standard 7:
  - Thor VM3
- Windows 10:
  - Thor VM3
  - RT10W

## About Master and Client Computers

To clone data from one computer to another, you configure a master (server) computer that sends its complete configuration to one or more clone (client) computers. Only computers of the same type, family, and model (TFM) can exchange cloning data with each other.

This example describes the type, family, and model for a CK3R computer:

### Type Family and Model for the CK3R

Identity	Example	Description
Type	C	The first character of the hardware version.
Family	K	The second character of the hardware version.
Model	3R	The third and fourth character of the hardware version.

When you start CloneNGo on a client computer using the ad hoc cloning method, the client computer looks for a master that is most similar to it. For example, if a client finds a master with the identical hardware configuration, it transfers cloning data from that master. If the client computer cannot find a master with identical hardware, the client transfers data from the first master it finds with the same TFM.

## About the Device Cloning Methods

You can use either a wireless ad hoc network or storage device to transfer data from the master to the client computers.

**Note:** You must use a storage device to clone CV31, VM3 and RT10W computers.

### How to Use a Wireless Ad Hoc Network

When you run CloneNGo on a master computer, the computer creates an ad hoc network for client computers to join. This temporary peer-to-peer network is created specifically to clone data from the master to the client computer.

## How to Use a Storage Device

Devices can be cloned using an SD card or USB storage device. See [About Advanced Cloning](#) beginning on page 17 for more information.

This method is useful in these situations:

- Your master computer is not within radio range of the computers you want to clone.
- You have a large amount of data you want to clone, and it may take too long to send the data through a Wi-Fi connection.
- You cannot continuously supply power to the computers you want to clone. For example, a CV31 installed on a vehicle is powered when the vehicle is on, but it is not practical to leave the vehicle on.
- You want to clone computers at a remote location. So, you send the cloning files electronically to the System Administrator at the remote location, and the System Administrator puts the cloning files on a storage device.

You need a USB accessory to clone computers with a USB storage device:

- CK3R/CK3X: insert the computer in an AD20 dock, which has a USB connector.
- 70 Series: insert the computer in a DX1 dock, which has a USB connector.
- CV31: connect a USB adapter cable to the CV31.
- VM3/RT10W: connect a USB adapter cable or use the USB port on the VM3 Enhanced Dock or RT10W Desktop Dock. Minimum free space required on the USB drive is 50MB. An empty USB drive is recommended. Remove any other USB storage media attached to the computer.

## About the Device Cloning Scenarios

The cloning method you use depends on your configuration scenario.

### Device Cloning Scenarios

Scenario	Method	Description	What You Can Clone
Mobile computer out-of-box	Ad hoc network	Configure the master computer, create an ad hoc network, and clone a client computer.	Device settings Security settings Administrator password Device unique settings
Mobile computer SD card	Storage device	Configure the master computer, copy the cloning files to an SD card, and clone a client computer.	Device settings Security settings Administrator password Device unique settings Files and applications Operating System

## Device Cloning Scenarios

Scenario	Method	Description	What You Can Clone
Mobile computer USB storage device	Storage device	Configure the master computer, insert the master computer in a dock with a USB connector, copy the cloning files to a USB storage device, and clone a client computer.	Device settings Security settings Administrator password Device unique settings Files and applications Operating system
CV31 microSD card or USB storage device	Storage device	Configure the master computer, copy the cloning files to a microSD card or USB storage device, and clone a client computer.	Device settings Security settings Administrator password Device unique settings Files and applications Operating System
VM3/RT10W USB storage device	Storage device	Configure the master computer, copy the cloning files to a USB storage device, and clone a client computer.	Device settings

## How the Files are Copied

The cloning files are copied to the storage device using one of two methods:

### Automatic Method

The Master operation uses CloningEx.xml (see [About Advanced Cloning](#) beginning on page 17).

### Manual Method

The directory \SmartSystems\Cloning and the file \SmartSystems\Cloning\AdminPassword.bin are copied from the device on which the Master operation is previously performed or from another storage device where the files were copied using the Automatic Method. The copies are saved to \SmartSystems\Cloning on the storage device.

## How to Clone Basic Settings

Basic settings are settings that you can configure with Intermec Settings that are not device-specific. To clone basic settings, you configure the master computer with the settings you want to clone, and then run CloneNGo. CloneNGo creates a settings backup.

**Note:** For cloning RT10W rugged tablets, refer to [CloneNGo and the RT10W](#) beginning on page 37.

## Configure the Master Computer

You need to configure the master computer with the settings you want to clone.

1. Set the correct date, time, and time zone.
2. Configure all other device settings.

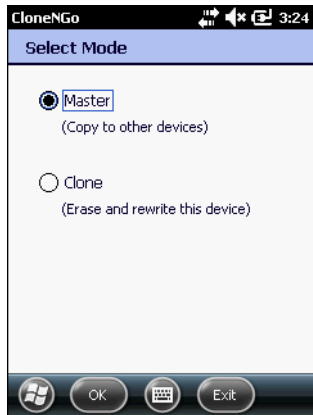
## Run CloneNGo on the Master Computer

**Note:** *These steps do not apply to RT10W tablets. For more information, see [CloneNGo and the RT10W](#), beginning on page 37.*

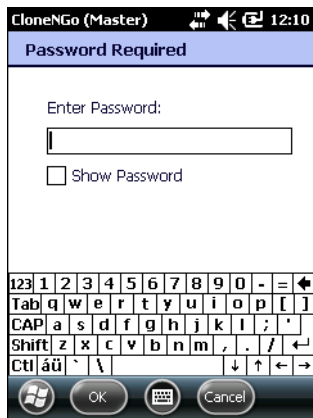
If wireless security is enabled on the master computer, you need to type your pre-shared key or WEP keys. This step is not necessary for Thor VM3.

1. If you are using a storage device, connect the storage device to the master computer. (See [About Advanced Cloning](#) beginning on page 17 for more information.)
2. Launch CloneNGo:
  - For all computers except the Thor VM3, tap **Start > Settings > System > CloneNGo**.
  - For a Thor VM3 with Windows Embedded Compact operating system, tap the CloneNGo icon on the desktop.
  - For a Thor VM3 with all other operating systems, right-click on the CloneNGo icon on the desktop and select **Run as Administrator**.

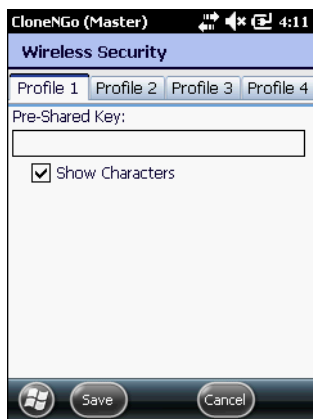
3. Tap **Master**, and then tap **OK**.



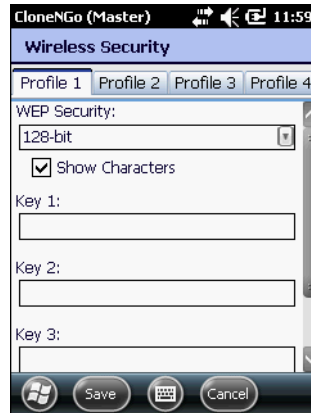
4. If you set an Intermec Settings password, type the password, and then tap **OK**.



5. If you have wireless security enabled, type your pre-shared key or WEP keys.



**Pre-shared Key**



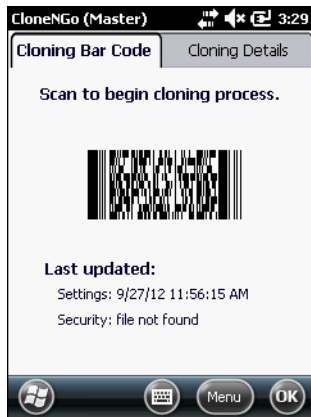
**WEP Keys**

**Note:** On the VM3, there is no prompt for pre-shared key or WEP keys.

6. Tap **Save**. The master computer saves the security data to an encrypted file.

If you are using a wireless ad hoc network, the master computer scans the

network for an isolated channel, creates an ad hoc network for client computers to join, and displays the bar code to start CloneNGo on the client computer.



7. If a success dialog box appears on the screen, tap **OK**.

If you are using a storage device, the master computer copies the cloning files to the storage device and CloneNGo closes.

If you are using a storage device, but no storage device is present, an error message is displayed and no action is performed. The error message may be hidden behind other open windows.

8. Remove the storage device from the master computer.

## How to Start CloneNGo on a Client Computer

**Note:** These steps do not apply to RT10W tablets. For more information, see [CloneNGo and the RT10W](#), beginning on page 37.

Use one of these methods to start CloneNGo on a client computer:

- Scan the bar code that appears on the master computer.
- Scan this bar code:



- For all computers except the Thor VM3, tap **Start > Settings > System > CloneNGo**.
- For a Thor VM3 with Windows Embedded Compact operating system, tap the CloneNGo icon on the desktop.
- For a Thor VM3 with all other operating systems, right-click on the CloneNGo icon on the desktop and select **Run as Administrator**.

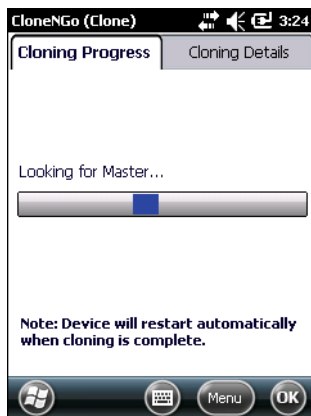
# Clone a Client Computer

**Note:** These steps do not apply to RT10W tablets. For more information, see [CloneNGo and the RT10W](#), beginning on page 37.

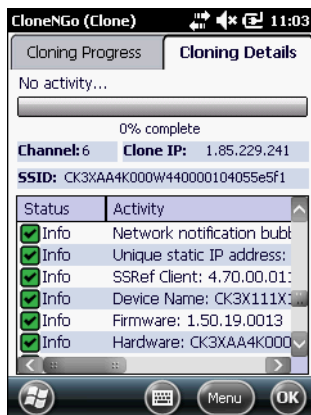
After the CloneNGo bar code appears on the master computer, you are ready to clone client computers.

1. If you are using a storage device, connect the storage device to the client computer. (See [About Advanced Cloning](#) beginning on page 17 for more information.)
2. On the client computer, start CloneNGo.

A progress bar appears on the **Cloning Progress** tab. The client computer automatically restarts after cloning is successfully completed.



3. (Optional) To see the status of the cloning process, tap the **Cloning Details** tab.



4. If you are using a storage device, remove the storage device from the client computer.
5. For a Thor VM3 with a Windows Embedded Compact operating system, the WLAN profiles must be edited. See [Wireless Configuration Utility \(WCU\) WLAN](#) on page 32.



## How to Verify the Cloning Process

After you clone one computer, use Intermec Settings or the Device Health dashboard to make sure that the settings on the master computer were successfully cloned to the client computer before you clone additional computers. You can also use ISpyWiFi or the Wireless Center to verify network settings.

**Note:** To easily verify if the cloning process was successful, include a unique wallpaper image with the cloning files. If the cloned computer displays the new wallpaper, you know that the cloning process was successful. For help, see [Example 2: Transfer Wallpaper](#) on page 20.

*This method cannot be used with the Thor VM3 or RT10W as cloning the wallpaper setting is not supported in CloneNGo.*

## About Device-Unique Settings

**Note:** Device-unique settings are not supported on the Thor VM3 or RT10W. The XML file is encrypted and cannot be edited.

When you clone a client computer, CloneNGo creates an XML file on the master computer. This file contains these device-unique settings for the client computer:

- Device Name
- Static IP Address
- Subnet Mask
- Gateway
- DNS
- WINS

You can edit this XML file to specify device-unique settings for each client computer. For example, you can clone ten client computers and specify a unique device name for each client computer in the device unique settings XML file.

Sample DeviceUniqueSettings.xml file:

```
<StaticIPAddr>
<Entry SerialNum="101X1200005"
      DeviceName="Device00000001"
      IPAddr="192.168.1.100"
      SubnetMask="255.255.255.0"
      Gateway="192.168.1.1" DNSServer="" WINS="" />
<Entry SerialNum="101X1200023"
      DeviceName="Device00000002"
      IPAddr="192.168.1.101"
      SubnetMask="255.255.255.0"
      Gateway="192.168.1.1" DNSServer="" WINS="" />
<Entry SerialNum="101X1200035"
      DeviceName="Device00000003"
      IPAddr="192.168.1.102"
      SubnetMask="255.255.255.0"
      Gateway="192.168.1.1" DNSServer="" WINS="" />
</StaticIPAddr>
```

## Configure Device Unique Settings

To configure device unique settings, create a custom DeviceUniqueSettings.xml file that contains the device unique settings for each client computer you want to clone.

1. Clone one or more client computers. A DeviceUniqueSettings.template.xml file is created in \SmartSystems\Cloning\ on the master computer.
2. Copy the DeviceUniqueSettings.template.xml file from the master computer to your desktop PC.
3. Rename the file to DeviceUniqueSettings.xml.
4. Open the DeviceUniqueSettings.xml file.
5. Edit any parameters you want to change (except SerialNum).
6. Save the file.
7. Copy the DeviceUniqueSettings.xml file to the \SmartSystems folder on your master computer.
8. Clone the client computers again. The client computers are cloned with the settings you specified in the DeviceUniqueSettings.xml.

## How to Update Master and Client Computers

When you update a master or client computer, you either update the computer with new configuration settings or restore the previous cloning file settings on the computer:

- Update the master cloning files to create a new “golden copy” of settings to distribute to client computers.
- Update client computers by cloning settings from updated master cloning files.
- Reinstall the cloning files to restore the configuration of a master or client computer.

## About the Master Cloning Files

When you update the master cloning files, you select the type of data to update. If your wireless security settings (such as Pre-Shared Key or WEP Keys) have not changed since the computer was last cloned, you can tell CloneNGo to ignore these settings. Otherwise, you need to type in the Pre-Shared Key or WEP Keys (not applicable to the Thor VM3 or RT10W).

### Cloning Data for the Master Computer

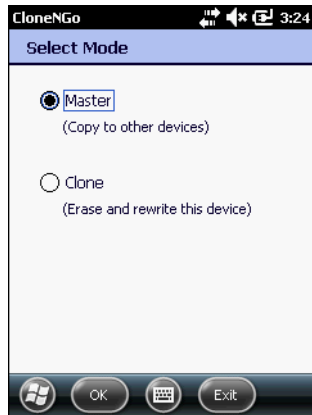
Data	Description
Settings	Select this check box if you changed any settings in Intermec Settings since you last created a master cloning file.
Wireless Security	Only select this check box if you changed the wireless security settings (such as Pre-Shared Key or WEP Keys) since you last created a master cloning file. If you did not change these settings, leave this check box blank. Otherwise, you need to type in the Pre-Shared Key or WEP Keys.

## Update the Master Cloning Files

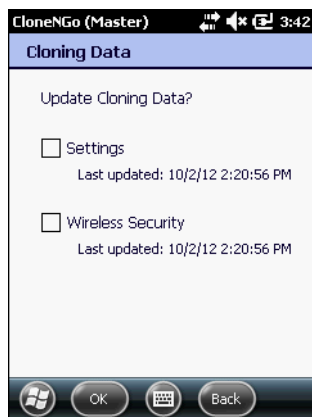
If you changed the device settings or network security settings on a master computer, you need to update the cloning files on the master computer.

1. Close any open applications and save your data.
2. If you are using a storage device, connect the storage device to the master computer. (See [About Advanced Cloning](#) beginning on page 17 for more information.)
3. Start CloneNGo.

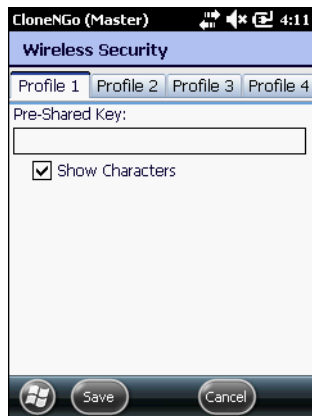
4. Tap **Master**, and then tap **OK**.



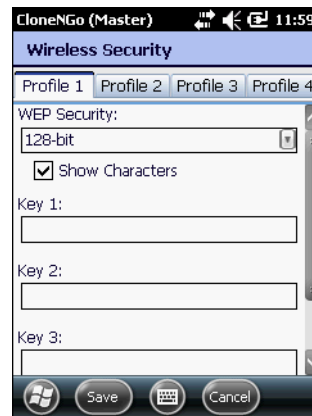
5. If you set an Intermec Settings password, type the password, and then tap **OK**.
6. Select the type of data you want to update.



7. If wireless security is enabled, type the pre-shared key or WEP keys.



**Pre-shared Key**

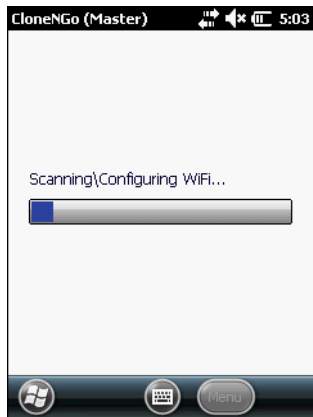


**WEP Keys**

**Note:** On the VM3 and RT10W, there is no prompt for pre-shared key or WEP keys.

8. Tap **Save**. The master computer saves the security data to an encrypted file.

If you are using a wireless ad hoc network, the master computer scans the network for an isolated channel, creates an ad hoc network for client computers to join, and displays the bar code to start CloneNGo on the client computer.



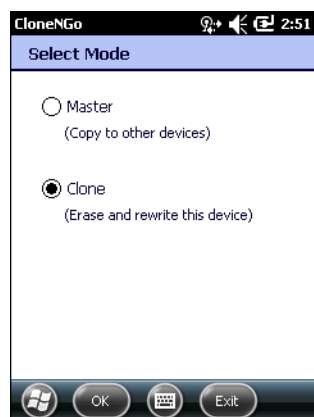
If you are using a storage device, the master computer copies the cloning files to the storage device and CloneNGo closes.

9. Remove the storage device from the master computer.

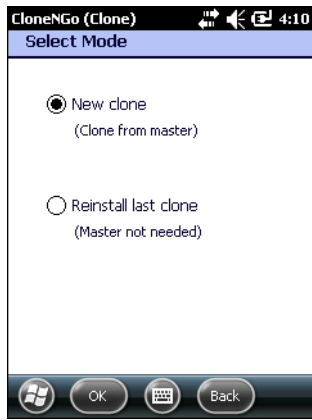
## Update a Client Computer

Update a client computer by cloning settings from a master computer.

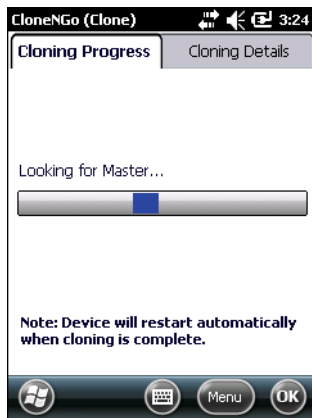
1. Close any open applications and save your data.
2. If you are using a storage device, connect the storage device to the client computer. (See [About Advanced Cloning](#) beginning on page 17 for more information.)
3. Start CloneNGo.
4. Select Clone and tap **OK**.



5. Select **New clone** and tap **OK**.



When the client computer finds the master computer to clone from, a progress bar appears on the **Cloning Progress** tab. The client computer automatically restarts after cloning is successfully completed.

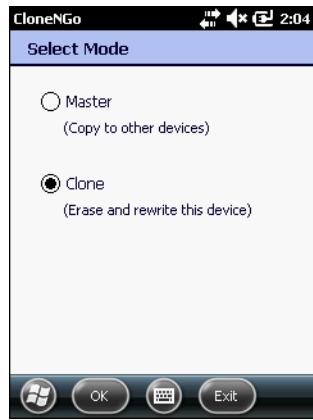


6. (Optional) To see the status of the cloning process, tap the **Cloning Details** tab.

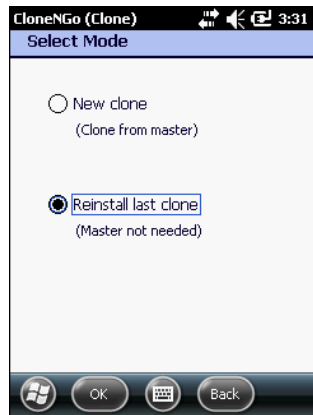
## Restore the Master or Client Computer Configuration

When you configure a master computer or clone a client computer, the cloning files are saved on the computer. You can reinstall these files to restore the configuration of the computer.

1. Close any open applications and save your data.
2. If you are using a storage device, connect the storage device to the client computer. (See [About Advanced Cloning](#) beginning on page 17 for more information.)
3. Start CloneNGo.
4. On the Select Mode screen, select **Clone**.



5. On the Select Mode screen, select **Reinstall last clone**.



6. Tap **OK**. The cloning progress bar appears. After successfully reinstalling the cloning files, the client computer automatically restarts.





# 2

## ABOUT ADVANCED CLONING

### About Advanced Cloning Features

You can create or modify .xml files to use these advanced cloning features:

- Transfer files, applications, and licenses to client computers.
- Configure registry settings.
- Clone the operating system.
- Create a custom set of device-unique settings.

**Note:** *The advanced cloning features discussed in this chapter are not supported on the Thor VM3 or RT10W.*

**Note:** *The CK3X/CX70 must have the latest version of CloneNGo installed to support storage device cloning. See the service release SR17071700\_SS\_WM65\_ALL.*

### Create a CloningEx.xml File

The CloningEx.xml file is a special file that controls the settings for cloning and extends the features of CloneNGo.

1. Start a text editor or XML editor application.
2. Create a new file and name it “CloningEx.xml.”
3. Type opening and closing CloningEx tags in the body of the file:

```
<CloningEx>  
</CloningEx>
```

4. To detect the attached USB storage device or SD card for all devices except CV31, VM3 and RT10W, the CloningEx.Xml must contain a tag <USB FlashDrive="1"/> next to CloningEx opening tag. For example:

```
<CloningEx>  
<USB FlashDrive="1"/>  
</CloningEx>
```

## Transfer Files to Client Computers

Create a CloningEx.xml file to transfer files from the master computer to one or more client computers.

1. Copy the files you want to transfer to your master computer.
2. Create a CloningEx.xml file that specifies the source file location on the master computer and the destination on the client computers. For example:

```
<CloningEx>
<File Source="\SD Card\ExampleFile1.txt"
Dest="\temp\ExampleFile1.txt" HardwareVersion="*" />
<File Source="\SD Card\ExampleFile2.bin"
Dest="\temp\ExampleFile2.bin" HardwareVersion="*" />
      *
      *
<File Source="\SD Card\ExampleFileN.dat"
Dest="\temp\ExampleFileN.dat" HardwareVersion="*" />
</CloningEx>
```

3. Copy the CloningEx.xml file from your desktop PC to one of these directories on the master computer:

\Flash File Store

\SD Card (internal microSD card)

\Hard Disk (USB storage device connected to a dock)

4. Connect a storage device to the master computer.
5. Configure the master computer.
6. Clone one or more client computers.

## How to Transfer Applications

Create a CloningEx.xml file to transfer applications from a master computer to one or more client computers:

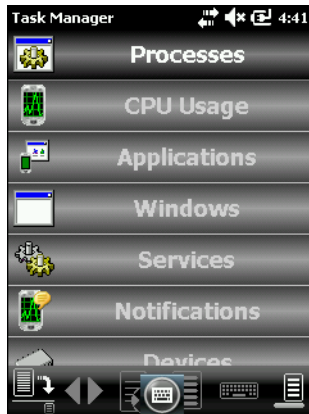
- Transfer an application from a master computer to a client computer.
- Transfer an application from a master computer to a client computer and install or run the application on a client computer. Optionally, you can also create a command line in another application to process the file.
- Transfer an application from a master computer to a client computer, and then create an XML command to run the application.

**Note:** Make sure the run command doesn't result in a reboot during the cloning process. The device reboots automatically after cloning is complete.

## Example 1: Transfer Task Manager

This XML example transfers the TaskMgr.cab file from a master computer to a client computer. The /noui command line in the wceload.exe application silently installs Task Manager.

```
<CloningEx>
<File Source="\SD Card\TaskMgr.cab" Dest="\TaskMgr.cab"
App="\windows\wceload.exe"
CommandLine="\TaskMgr.cab/noui" HardwareVersion="*" />
</CloningEx>
```



**Task Manager**

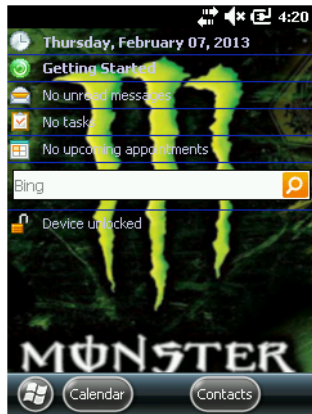
You need to include parameters with spaces, such as a directory path, in quotes. Use the pre-defined entity “&quot;” to include quotation marks within an attribute value. For example:

```
<File Source="\Flash File Store\SetWallPaper.exe" Dest="\Program
Files\SetWallPaper.exe"
CommandLine="&quot;\My Documents\
vqga_monster.bmp&quot;" HardwareVersion="*" />
```

## Example 2: Transfer Wallpaper

This XML example transfers the `qvga_monster.bmp` and `SetWallPaper.exe` files to a client computer. The `\WallPaper\qvga_monster.bmp` command line in the `SetWallPaper.exe` application sets the `.bmp` as the today screen wallpaper.

```
<CloningEx>
<File Source="\SD Card\WallPaper\qvga_monster.bmp"
Dest="\WallPaper\qvga_monster.bmp"
HardwareVersion="*" />
<File Source="\SD Card\WallPaper\SetWallPaper.exe"
Dest="\WallPaper\SetWallPaper.exe"
CommandLine="\WallPaper\qvga_monster.bmp"
HardwareVersion="*" />
</CloningEx>
```



**Monster wallpaper on a client computer**

**Note:** To easily keep track of which devices have been cloned, change the wallpaper when you clone a client device. You can download the `SetWallPaper.exe` application from the [SetWallPaper\\_ARM41.zip](#) file stored on Google Drive.

## How to Configure Registry Settings

To create or change registry settings on client computers, you need to:

- Create a registry settings XML file and copy it to the master computer.
- Use a `CloningEx.xml` file to transfer the registry settings XML file from the master computer to client computers.

## Create the Registry Settings XML File

Create a registry settings XML file to add, delete, or modify registry keys, values, or data on a client. For more information on modifying registry settings, go to the MSDN website at [www.msdn.com](http://www.msdn.com).

1. In a text editor, create a file that specifies the registry settings and updates you want to transfer. For example:
 

```
<wap-provisioningdoc>
<characteristic type="Registry">
<characteristic type="HKCU\Software\Intermec\ExampleRegistry">
<parm name="ExampleInteger" value="42" datatype="integer" />
</characteristic>
</characteristic>
</wap-provisioningdoc>
```
2. Save the file as registry.xml.
3. Copy the registry.xml file to the master computer.

## Configure Registry Settings

Use a CloningEx.xml file to manage specified registry settings on client computers.

1. Create a CloningEx.xml file that specifies the source and destination path of the registry.xml file. The destination path must be \SmartSystems\SSConfigDir.
 

```
<CloningEx>
<File Source="\SD Card\registry.xml"
Dest="\SmartSystems\SSConfigDir\registry.xml"
HardwareVersion="*" />
</CloningEx>
```
2. Copy the CloningEx.xml file from your desktop PC to one of these directories on the master computer:
  - \Flash File Store
  - \SD Card (internal microSD card)
  - \Hard Disk (USB storage device connected to a dock)
3. Connect a storage device to the master computer.
4. Configure the master computer.
5. Clone one or more client computers.

## How to Transfer Licenses

To transfer licenses to client computers, you need to:

- Export licenses from SmartSystems to the master computer.
- Use a CloningEx.xml file to transfer the licenses from the master computer to client computers.

## Export Licenses from SmartSystems

Use SmartSystems to export licenses to your master computer.

1. In SmartSystems, export the licenses you want to transfer. For help, see the SmartSystems online help.
2. From the SmartSystems Console, navigate to the location of the license bundle:  
On Win32 platforms:  
C:\Program Files\Intermec\SmartSystem\SS\_Lib\Licenses  
On Win64 platforms:  
C:\Program Files (x86)\Intermec\SmartSystem\SS\_Lib\Licenses
3. Save the licenses.xml file locally.
4. Copy the licenses.xml file to the master computer.

## Transfer Licenses

Use a CloningEx.xml file to copy licenses to client computers.

1. Create a CloningEx.xml file that specifies the source and destination path of the licenses.xml file. The destination path must be \SmartSystems\SSConfigDir:  

```
<CloningEx>  
<File Source="\licenses.xml"  
Dest="\SmartSystems\SSConfigDir  
\licenses.xml" HardwareVersion="*" />  
</CloningEx>
```
2. Copy the CloningEx.xml file from your desktop PC to one of these directories on the master computer:  
    \Flash File Store  
    \SD Card (internal microSD card)  
    \Hard Disk (USB storage device connected to a dock)
3. Connect a storage device to the master computer.
4. Configure the master computer.
5. Clone one or more client computers.

## How to Clone the Operating System

To clone the operating system, you need to:

- Copy a SmartSystems bundle to removable media.

- Use a CloningEx.xml file to update the operating system on a master computer, and then clone the operating system to client computers.

## Copy a SmartSystems Bundle to Removable Media

You need to copy the SmartSystems bundle with the operating system you want to install to your PC. Then, you need to copy it to a blank removable media device, such as microSD card or USB storage device.

1. Go to the Technical Support Downloads Portal at <https://hsmftp.honeywell.com>.
2. Go to:
  - Software**
  - **Software and Tools**
  - **Device Management**
  - **SmartSystems Foundation**
  - **OS-Firmware Drivers**
3. When prompted, click on **Open Honeywell Software Downloader**.
4. Install and download the files to your PC. The SmartSystems bundle is installed in one of these locations:
  - C:\Program Files\Intermec\SmartSystems\ss\_lib\Software
  - C:\Program Files (x86)\Intermec\SmartSystems\ss\_lib\Software
5. Copy the OS bundle folder to the root directory of the removable media device. For example:
  - C:\ProgramFiles(x86)\Intermec\SmartSystem\SS\_Lib\Software\OS\_Androm-edall1.60.00.1020

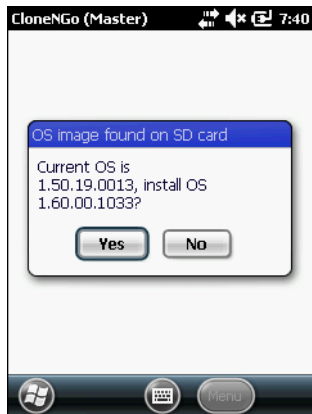
## Update or Clone the Operating System

When you clone the operating system, the computer resets. When the computer restarts, you may need to select a language provision.

1. Create a CloningEx.xml file that specifies the operating system:
 

```
<CloningEx>
<Data OS="1"/>
</CloningEx>
```
2. Copy the CloningEx.xml file from your desktop PC to one of these directories on the master computer:
  - \Flash File Store
  - \SD Card (internal microSD card)
  - \Hard Disk (USB storage device connected to a dock)
3. Suspend the master computer.

4. Connect a storage device to the master computer:  
microSD card: Insert the card in the master computer.  
USB storage device: Insert the USB storage device into an AD20 or DX1 dock, and dock the CK3R/CK3X or 70 Series master computer, respectively.  
Or  
USB storage device: Connect the USB storage device to the CV31 with a USB adapter cable.
5. Turn on and configure the master computer.
6. When the operating system upgrade dialog box appears, tap **Yes**. When the upgrade is done, the master computer restarts.



7. When the language provisioning window appears, select the language you want to use on the computer. The master computer saves its configuration and automatically recovers it after the OS upgrade.
8. Clone one or more client computers.

## How to Use a Cloned Computer as a Master

Any cloned computer can function as a master computer. However, when certain types of files are transferred from a master to a clone, they are processed (XML files) or installed (CAB files) and then deleted. So, these files do not exist on the cloned computer to be transferred to another computer. To make sure that these files are available on the cloned computer, you need to copy them to two different locations: one copy is processed or installed, and the other copy is available to transfer to another computer. Use a CloningEx.xml file to specify the locations.



Sample CloningEx.xml file:

```
<CloningEx>
<!--copy CloningEx.xml -->
<File Source="\Flash File Store\CloningEx.xml" Dest="\Flash File
Store\CloningEx.xml" HardwareVersion="*" />
<!--copy TaskMgr.cab -->
<File Source="\SmartSystems\Cloning\TaskMgr.cab"
Dest="\SmartSystems\Cloning\TaskMgr.cab" HardwareVersion="*" />
<File Source="\SmartSystems\Cloning\TaskMgr.cab"
Dest="\cabfiles\TaskMgr.cab" HardwareVersion="*" />
<!--copy registry.xml -->
<File Source="\SmartSystems\Cloning\registry.xml"
Dest="\SmartSystems\Cloning\registry.xml" HardwareVersion="*" />
<File Source="\SmartSystems\Cloning\registry.xml"
Dest="\SmartSystems\SSConfigDir\registry.xml"
HardwareVersion="*" />
</CloningEx>
```

## Copy Master Cloning Files to a Cloned Computer

Use a CloningEx.xml file to copy master cloning files to multiple locations on a cloned computer.

1. Copy all .cab files to both of these directories on the cloned computer:
  - \SmartSystems\Cloning so that it can be transferred to client computers
  - \cabfiles so that it can be installed when the computer reboots
2. Copy all .xml files to both of these directories on the cloned computer:
  - \SmartSystems\Cloning so it can be transferred to client computers
  - \SmartSystems\SSConfigDir so that it can be processed
3. Copy the CloningEx.xml to one of these directories on the cloned computer:
  - \Flash File Store
  - \SD Card (such as an internal microSD card or external miniSD card)
  - \Hard Disk (USB storage device connected to a dock)

## Create a Custom Set of Device Unique Settings

To generate a custom set of device unique settings, specify a starting value, such as IP address, and assign automatically incremented values for each device.

1. Create a CloningEx.xml file with this format:

```
<CloningEx>  
<DeviceUnique StartingIpAddress="10.10.1.12"  
SubnetMask="255.255.0.0" Gateway="10.10.1.1" DNS="10.10.1.20"  
WINS="10.10.1.30"/>  
</CloningEx>
```

2. Copy the CloningEx.xml file from your desktop PC to one of these directories on the master computer:

\Flash File Store

\SD Card (internal microSD card)

\Hard Disk (USB storage device connected to a dock)

3. Connect an external storage device to the master computer:

microSD card: Insert the card in the master computer.

USB storage device: Insert the USB storage device into an AD20 or DX1 dock, and dock the CK3R/CK3X or 70 Series master computer, respectively.

Or,

USB storage device: Connect the USB storage device to the CV31 Thor with a USB adapter cable.

4. Configure the master computer.
5. Clone client computers.
6. (Optional) Use Honeywell Settings to verify that each client computer has a unique IP address and that other device unique settings are correct.

# 3

## TROUBLESHOOT DEVICE CLONING

### Problems and Possible Solutions

Try these possible solutions to common problems with device cloning.

#### Problems and Possible Solutions

Problem	Solution
The client computer hangs when searching for the master computer.	<ul style="list-style-type: none"><li>• The client and master computer are too far away from each other. Move the computers closer together.</li><li>• There is an error in the cloning process. Check the Cloning Details tab for more information.</li><li>• Restart the CloneNGo application.</li><li>• Open ISpyWiFi and make sure the master / client are on the same channel AND have the same ESSID and BSSID</li><li>• Make sure the master and clone computer have the appropriate IP address. For example, the IP address should have the format 1.x.x.x.</li><li>• Make sure the master computer's SSID is in the scan list. To do this, go to the Scan folder and press the Scan button,</li><li>• Make sure the client computer can ping the master computer. To make sure the client can ping the master, go to the Ping tab within the ISpyWiFi application.</li><li>• The master or clone computer has CloningEx.xml files in multiple locations. Ensure only one CloningEx.xml exists on the device.</li></ul>

## Problems and Possible Solutions (Continued)

Problem	Solution
The OS upgrade continues indefinitely when you remove the computer from the computer dock.	Place the computer in the computer dock again.
You are stuck in an endless loop trying to download files in the manifest received from the master.	File element Source attribute should only resolve to items on the removable media. For example, locations that are not wiped out by the OS upgrade.
All subfolders are included in the clone.	By default, subfolder recursion is enabled when you use the wildcard character in a path. Use the IncludeSubFolders attribute to disable recursion: <pre>&lt;File Source="\My Documents\*.tsk" Dest="My Documents" IncludeSubFolders="0" /&gt;</pre>
CloneEx.xml has a CommandLine attribute value with spaces and is enclosed by the &quot; entity. The command line parameter is not processed correctly in CloneNGo.	<ul style="list-style-type: none"> <li>• If the parameter is a path, set up CloneEx.xml to use paths that do not contain spaces (if possible).</li> <li>• Download a CloneNGo version 6.90.00.0237 or later.</li> </ul>
Thor VM3 is not cloning expected items.	Thor VM3 supports a subset of the CloneNGo features. See <a href="#">CloneNGo and the Thor VM3</a> beginning on page 31 for details.
RT10W is not cloning expected items.	RT10W supports a subset of the CloneNGo features. See <a href="#">CloneNGo and the RT10W</a> beginning on page 37 for details.
The Clone process ends and the settings are not applied.	CloneNGo was not ended normally but a reset was performed by a command in CloningEx.xml. For example, wceload was launched with a cab that does a reboot. Instead of installing such cab files directly from CloningEx.xml, just let CloningEx.xml copy the cab file to \Cabfiles or \Flash File Store\Cabfiles. This way the cab is installed on the normal reboot issued at the end of CloneNGo.

# Troubleshoot Cloning the Operating System

You may be able to troubleshoot problems cloning the operating system by understanding how the operating system is cloned.

**Note:** *The master computer recovers items from the removable media. Client computers recover items from the master computer.*

*Operating system cloning is not supported on the Thor VM3 or RT10W.*

## Operating System Pre-Installation Actions (Master Mode)

CloneNGo performs these actions to make sure you have an uninterrupted boot cycle and that your settings and applications are recovered after the upgrade:

- (Master) Creates the cloning settings backup directory \Flash File Store\cloning.backup.
- (Master) Copies these cloning files (if they exist) to the backup directory:
  - \SmartSystems\Cloning\settings.xml
  - \SmartSystems\Cloning\security.xml
  - \SmartSystems\AdminPassword.bin
  - \SmartSystems\DeviceUniqueSettings.xml
- (Master and client) Deletes SR\*.cab and SP\*.cab files from the \CABFILES directory on all removable media.
- (Master and client) Deletes SR\*.cab and SP\*.cab files from the \2577 directory on all removable media.
- (Master and client) Deletes SR\*.cab and SP\*.cab files from the \SSPB\SRS directory on all removable media.
- (Master and client) Deletes specified files using the CloningEx.xml file.
- (Master and client) Renames all files in the \CABFILES directory on all removable media.
- (Master and client) Renames \2577\autouser.dat on all removable media.
- (Master and client) Renames \UserAutoInstall\\_sstransferagent.xml on all removable media.

## Operating System Post-Installation Actions

After the operating system is installed, CloneNGo performs these actions to recover settings and applications:

- (Master) Restores the cloning settings files from the backup directory to their original location.

- (Master and client) Applies settings and applications. (The client reconnects and copies from Master.)
- (Master and client) Renames files to their original names. For .cab file, clears the system attribute bit to force re-installation on the next boot.
- (Master and client) Cold boots.

# 4

## CLONENGO AND THE THOR VM3

### Supported Features

The Thor VM3 only supports cloning device settings. The items below cannot be cloned on the Thor VM3:

- Files.
- Applications
- Registry settings
- Licenses
- The operating system

Settings supported by CloneNGo for the Thor VM3 include:

- Enterprise Client Package (includes Enterprise Browser, Enterprise Launcher and Enterprise Terminal Emulator)
- RFTerm
- Options (see note below)
- Screen Control (see note below)
- SSD State Monitor (see note below)
- ZoomZone
- Wireless Configuration Utility (WCU) WLAN (see note below)

**Note:** *Options, Screen Control, SSD State Monitor and Wireless Configuration Utility (WCU) are not fully supported. Refer to the sections below for limitations on using CloneNGo to clone these settings.*

### Options

CloneNGo supports the following settings on the Options control panel:

- COM port pin 9 +5V or RI
- Touch screen disable

- Keyboard backlight
- USB powered in sleep

## Screen Control

CloneNGo supports the following settings on the Screen Control control panel:

- Enable automatic brightness control
- Low to medium light level threshold
- Medium to high light level threshold
- Enable defroster
- Defroster trip point

## SSD State Monitor

CloneNGo supports the settings on the SSD State Monitor control panel for Thor VM3 with Windows 7, Windows Embedded Standard 7 and Windows 10 operating systems only.

## Wireless Configuration Utility (WCU) WLAN

CloneNGo supports cloning the WCU (WLAN) settings with the following caveats:

- If any WLAN profiles already exist on the client Thor VM3, CloneNGo does not remove those profiles. When CloneNGo is completed, the client Thor VM3 retains any previously existing WLAN profiles and any profiles added from the CloneNGo process. Therefore the cloned Thor VM3 may have more WLAN profiles than the master Thor VM3.
- All WLAN parameters in the WCU are available for cloning except Logging Enable and Logging Level on the Roaming tab of the WCU. These values are set on the individual Thor VM3.
- Power Save Level and Limit DataRate (along with the Mbps rate selected) on the Radio tab can be cloned from the master device to the client device. However, these parameters are reset to the default values upon rebooting the Thor VM3. This same behavior happens when these items are configured manually.
- For a Thor VM3 with a Windows Embedded Compact 7 operating system only: WLAN profiles created by CloneNGo do not automatically connect on the client Thor VM3. After the Thor VM3 reboots, follow the [Enable Automatic Connection of Cloned WLAN Profiles](#) process to enable the profiles to auto connect. For password protected profiles you must have the login credentials available for this process.

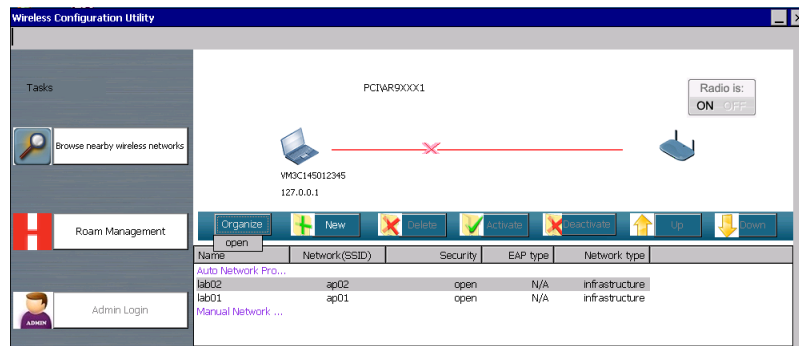


## Enable Automatic Connection of Cloned WLAN Profiles

This section applies to Thor VM3 with Windows Embedded Compact operating system only. Refer to the Thor VM3 User's Guide for more information on the Wireless Configuration Utility (WCU).

Repeat the process below for each profile imported by CloneNGo:

1. Use **Admin Login** to log in to the WCU.
2. Select the desired profile from the main screen of the WCU.



3. Tap **Organize > Open**.
4. Select the **Connection** tab.
5. Uncheck and then re-check the box for **Connect automatically when this network is in range**.
6. Click **OK** to close the window.
7. If the profile is open (no authentication) the process is complete for this profile. Otherwise, see the following sections:

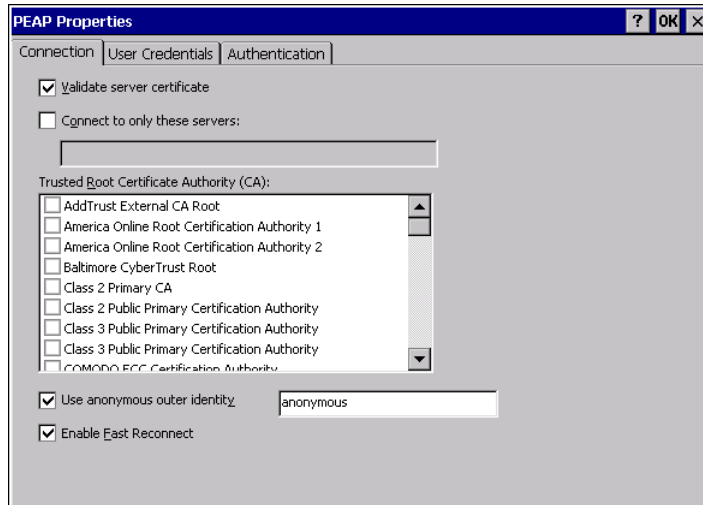
[Profiles Using WPA2- Enterprise or CCKM Security](#) on page 33

[Profiles Using WPA2- Personal Security](#) on page 34

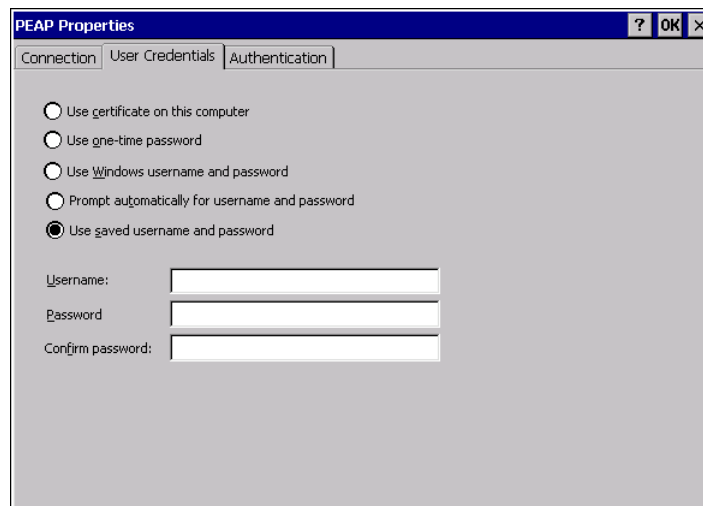
### Profiles Using WPA2- Enterprise or CCKM Security

1. Select the desired profile from the main screen of the WCU.
2. Tap **Organize > Open**.
3. Select the **Security** tab.
4. Click the **Settings** button.

5. On the Connection tab uncheck **Validate Server Certificate**.



6. On the **User Credentials** tab select **Use saved username and password**.

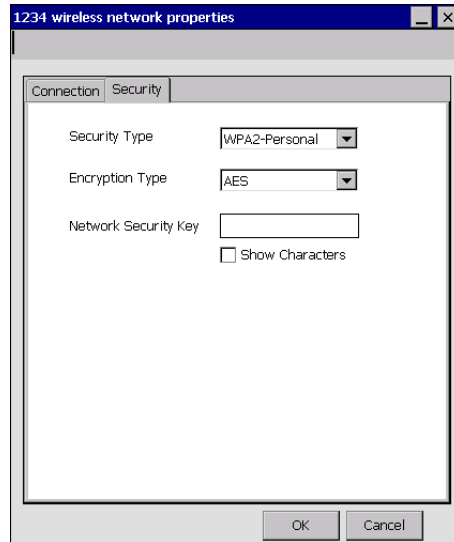


7. Enter valid credentials corresponding to the profile selected.
8. Click **OK** to close the window and save changes.
9. The process is complete for this profile.

## Profiles Using WPA2- Personal Security

1. Select the desired profile from the main screen of the WCU.
2. Tap **Organize > Open**.

3. Select the **Security** tab.



4. Check and then uncheck the **Show Characters** box.
5. Enter the password in the **Network Security Key** field.
6. Click **OK** to close the window and save changes.
7. The process is complete for this profile.



# 5

## CLONENGO AND THE RT10W

### Supported Features

The RT10W only supports cloning basic device settings. The items below cannot be cloned on the RT10W:

- Files
- Applications
- Licenses
- The operating system
- Device-unique settings

Settings supported by CloneNGo for the RT10W include:

- Enterprise Client Package (includes Enterprise Browser, Enterprise Launcher and Settings configured in Enterprise Settings application)

### Cloning Device Settings using USB storage Device

You must use a storage device (USB stick) to clone RT10W computers. Connect a USB adapter cable or use the USB port. Minimum free space required on the USB drive is 50MB. An empty USB drive is recommended. Remove any other USB storage media attached to the RT10W.

### How to Clone Basic Settings

Basic settings are settings that you can configure with Intermec Settings that are not device-unique. To clone basic settings, you configure the master computer with the settings you want to clone, then run CloneNGo. CloneNGo creates a settings backup.

The directory \SmartSystems\Cloning and the file \SmartSystems\Cloning\AdminPassword.bin are copied from the device on which the Master operation is previously performed. The copies are saved to \SmartSystems\Cloning on the storage device.

## Configure the Master Computer

You need to configure the master computer with the settings you want to clone.

1. Set the correct date, time, and time zone.
2. Configure all other device settings from Enterprise Settings application.

## Run CloneNGo on the Master Computer

1. Connect the storage device to the master computer.
2. Launch CloneNGo by right-clicking on the CloneNGo icon on the desktop and selecting **Run as Administrator**.
3. Select **Master**, then tap **OK**.
4. If a success dialog box appears on the screen, tap **OK**.

If you are using a storage device, the master computer copies the cloning files to the storage device and CloneNGo closes.

If you are using a storage device, but no storage device is present, an error message is displayed and no action is performed. The error message may be hidden behind other open windows.

5. Remove the storage device from the master computer.

## Clone a Client Computer

1. Connect the storage device to the client computer
2. Right-click on the CloneNGo icon on the desktop and select **Run as Administrator**.
3. Select **Clone**, then click **OK**.
4. A progress bar appears on the Cloning Progress tab.  
After successfully cloning the settings, CloneNGo closes.
5. If you are using a storage device, remove the storage device from the client computer.

## How to Verify the Cloning Process

After you clone one computer, use Intermec Settings to make sure that the settings on the master computer were successfully cloned to the client computer before you clone additional computers.

## How to Update Master and Client Computers

Refer to [How to Update Master and Client Computers](#), beginning on page 10.







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