

Creating WinXP Embedded system images with MOXA multiport serial boards

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In this Technical Note, we cover the following topics:

1. Generating WinXP Embedded system images with MOXA multiport serial boards
2. Creating an initial configuration
3. Identifying target hardware
4. Creating components
5. Building the Windows XP Embedded operating system image
6. Creating and testing the run-time image

1. Generating WinXP Embedded system images with MOXA multiport serial boards

In a MOXA project involving WinXP Embedded systems, each of the client's target systems included a MOXA multiport serial board for the attachment of serial devices. The WinXP Embedded system image that would be used for mass deployment needed to include the appropriate MOXA drivers.

In this paper, we will provide a step-by-step guide to generating and deploying a WinXP Embedded system image that includes MOXA drivers. This may be used as a starting reference point for other similar systems.

The following related products are also suitable for this kind of application: CP102 series, CP104 series, CP114 series ,C168H/PCI...etc. Most MOXA PCI cards can be used in WinXP Embedded systems.

2. Creating an initial configuration

Please note that the settings shown in the following instructions should be modified for your specific application:

- 2.1 Launch Target Designer and create a new configuration.

Configuration Name = XPE_TEST

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The MOXA Group manufactures one of the world's leading brands of device networking solutions. Products include serial boards, USB-to-serial Hubs, media converters, device servers, embedded computers, Ethernet I/O servers, terminal servers, Modbus gateways, industrial switches, and Ethernet-to-fiber converters. Our products are key components of many networking applications, including industrial automation, manufacturing, POS, and medical treatment facilities.

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2.2 Set advanced configuration parameters

Boot Drive = C:
 Windows Folder = D:\Windows
 Program Files Folder = D:\Program Files
 Documents and Settings folder = D:\Documents and Settings
 Boot ARC path = multi(0)disk(0)rdisk(0)partition(2)
 Boot Partition Size (MB) = 700

2.3 Save as a temp folder.

C:\XPE\XPE.SLX

3. Identifying target hardware

Use Target Analyzer, a tool provided with Windows XP Embedded, to detect the hardware on the target system. TAP.EXE runs only on Windows 2000 and XP, and can be found here:

C:\Program Files\Windows Embedded\Utilities\tap.exe

4. Creating components

- 4.1 Identify the component resources and settings or import them from an INF file.
- 4.2 Configure the component resources and options within Component Designer.
- 4.3 Create a repository and add the component files to that repository.
- 4.4 Save the component information as a .SLD file.
- 4.5 Import the component definition into the database using Component Database Manager.

5. Building the Windows XP Embedded operating system image

- 5.1 Add MOXA and additional core components into Target Designer.

MOXA components:

MOXA Ports	Hardware\Device\Ports(COM and LPT)
MOXA Modules	Hardware\Device\Multi-port serial adaptors

Additional core components:

FAT	Software\System\Storage and File Systems\Infrastructure\File Systems
FAT Format	Software\System\Storage and File Systems\Applications
Explorer Shell	Software\System\User Interface\Shells
Device Manager	Software\System\User Interface\Shells\Windows Shell
Users Interface Core	Software\System\User Interface\Shells\Windows Shell
NT Loader	Software\System\System Services\Base
English Language Support	Software\System\System Services\International\Infrastructure

- 5.2 Check dependencies (hotkey F5). All dependencies should be resolved and there should be NO errors or warnings.

6. *Creating and testing the run-time image*

- 6.1 Build Target Image (hotkey F7).
- 6.2 Test the XP Embedded system.
- 6.3 Test the MOXA board.
- 6.4 Install PCommPro.
- 6.5 Open and burn in MOXA serial boards.
- 6.6 Verify that testing is successful.