bootix®

BootManage Administrator

Windows PE Based Terminal Clients

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Introduction

Overview

This is a "bootix Best Practices" document that shows how to implement Windows PE based terminal clients in the BootManage Administrator (BMA) environment.

The sample configuration discussed here refers to the "Microsoft Remote Desktop Connection", but can also be used as a template for implementing other terminal clients (e.g. VNC) in the same manner.

The term "terminal client" can mean two things: a dedicated hardware device that represents a terminal client, or a piece of software that turns a general-purpose hardware (e.g. a PC) into a terminal client.

In our case, the general-purpose hardware is a standard PC that can boot via PXE and meets the minimum hardware requirements to run Windows PE from a RAM disk. The terminal client software is taken from an installed Windows XP or Windows Server 2003 system.

The presented configuration works with both Windows PE 2005 and 2.0.

Prerequisites

An installed BMA (version 7.1 or greater) environment is needed that already contains a Windows PE 2005 or 2.0 boot image. Also, an installed Windows XP or Server 2003 system is needed from which the terminal client files are obtained.

Note that the upcoming BMA version 7.4 will already contain a "Windows PE based terminal client" OS. This document is intended for existing BMA 7.1, 7.2 and 7.3 installations.

Terminal Client Setup

Overview

Setting up a Windows PE based terminal client environment requires three steps:

1. In the BMA console, add an OS of type “Diskless”
2. Extend the OS’s project script
3. Copy the terminal client files to the OS’s project directory

The following description shows how to perform these steps.

Add Diskless OS

In the BootManage Administrator console, add an operating system of type “diskless”

Edit OS Project Script

In the BMA console, right-click the just-added diskless OS entry, and select “Open Directory” from the context menu. A Windows Explorer window pops up that displays the contents of the OS’s project directory.

Locate the ***BMA_WINPE_PROJECT.CMD*** script within this directory, and open the script file with a text editor, e.g. NotePad.

Add the following command to the bottom of the script (but above the END label):

```
rem *** Execute the Windows Terminal Client
  mstsc
```

Save the modified script and close the text editor.

Copy Terminal Client Files

On a Windows XP or Windows Server 2003 machine, locate the two files ***mstsc.exe*** and ***mstscax.dll*** in the *%windir%\system32* directory, and copy these files to the project directory on the BMA installation server.

Make sure that ***mstsc.exe*** and ***mstscax.dll*** are located in the same directory as the project script file, ***BMA_WINPE_PROJECT.CMD***.

Using Terminal Clients

Booting Terminal Clients

Assign the just-created terminal client OS to a PC, and boot this PC via PXE. This will cause the PC to launch the Microsoft Remote Desktop Connection client, ao that you can interactively choose and logon to the terminal server.

Commandline Parameters

The Microsoft Remote Desktop Connection client (***mstsc.exe***) accepts commandline parameters that control its initial behaviour. Using BMA variables, one can pass one or more commandline paramaters to the ***mstsc.exe*** program, and configure the parameter values for each terminal client PC individually from within the BMA console.

For detailed information about BMA variables, please consult the BMA product documentation.

Configuration Files

The Microsoft Remote Desktop Connection client (***mstsc.exe***) supports a configuration file, so that one can place all configuration settings in a single (*.***rdp***) text file, and pass the filename of this configuration file as the single commandline parameter to ***mstsc.exe***.

So, multiple *.***rdp*** configuration files, combined with a single BMA variable (that indicates the configuration file's name), one can implement an easy-to handle, flexible terminal client scenario, where each terminal client can be assigned its own configuration set through a single BMA variable.