M05

Jump Start using RDM 4.11

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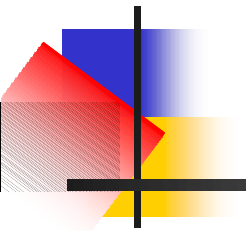
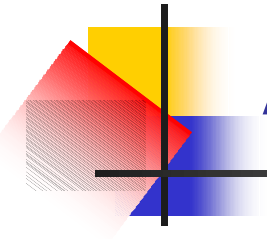


Part I
Remote Deployment Manager



Agenda

1. Part 1 - RDM
   - Introduction
   - Functions/features
   - Components
   - Task processing
   - RDM 4.2

2. Part 2 – Scripting Tookkit
   - Introduction
   - Scenarios
   - Configuring Installation
   - Toolkit 1.1

What is RDM?

An application that simplifies:

- Configuration of a computer and deployment of O/S and applications
- Provides tools and wizards for image setup, task creation and deployment
- Lets system administrator, from a central console, deploy O/S and applications
- Integrated with IBM Director and uses the user interface with same look and feel
- Not a software distribution package

Advantages of RDM

- Challenging and costly function of an IT staff is deploying a new O/S and applications
- Travel cost and travel time is outweighing the actual cost
- Installing software to multiple locations takes more time, energy and money
- RDM lowers the total cost of deploying and maintaining servers, workstations, desktops, laptops, and retail store systems

Areas of cost savings

Administration
- **Eases operating-system installation**
- **Automates and ensures standardization of configurations**

End-User Operations
- **Fast restore of systems**
- **Reduced hassle and wait time**

Support
- **Minimizes deployment problems**
- **Minimizes the need for support**
- **personnel to be present at install location**

Capital

Exploits system management functions built into xSeries hardware such as PXE boot and Wake on LAN

Functions

- Wake on LAN
  - Remotely powers on by sending a magic packet
- Scan Task
  - Discover systems when they first power on
  - Collect hardware information
- CMOS Update Task
  - Modify IBM system's CMOS settings
  - Can use multiple CMOS images in a task
- Donor Image
  - Create an image from a donor system
- Operating-system Deployment Tasks
  - Native or clone install (Windows XP, 2000, 2003)
  - Red Hat Linux 7.3, 8.0, and AS 2.1 (native install)
- System Firmware Flash Task
  - Update IBM system's BIOS and ISMP firmware
- RAID Configuration Tasks
  - Clone – A RAID configuration onto homogenous systems or create DOS batch file containing ipssend, cfg1030, or hypercfg commands

    Custom – Built-in "express configuration" task or create "custom configuration" task
- Power Restore Task
  - Back up to, or restore the boot partition, from a hidden area on the target system's local hard drive
- Secure Data Disposal Task
  - Completely erase a system's hard drives, in preparation for disposal or reassigning
- Custom Task
  - Create your own processes to be run on the system
- Script Task
  - Deploy a single task that runs a sequence of other tasks
  - Use for a complete, end-to-end deployment

DHCP/Routing Considerations

DHCP Server

- Must be installed and available for PXE systems
- Option 60 must be configured on every DHCP Server that is on the same machine as an RDM D-Server
  - If configured incorrectly, you will get a PXE-E53: No boot filename received error message
  - C:\Program Files\IBM\RDM\bin\PXEDHCP.BAT can set this option on Windows 2000, 2003
- Option 3 (router) must be defined for each DHCP scope, even if no router actually exists
  - Use RDM D-Server's IP address if no router exists between the DHCP server and the D-Server that is servicing that subnet

Routing Considerations

Router between Server and D-Server

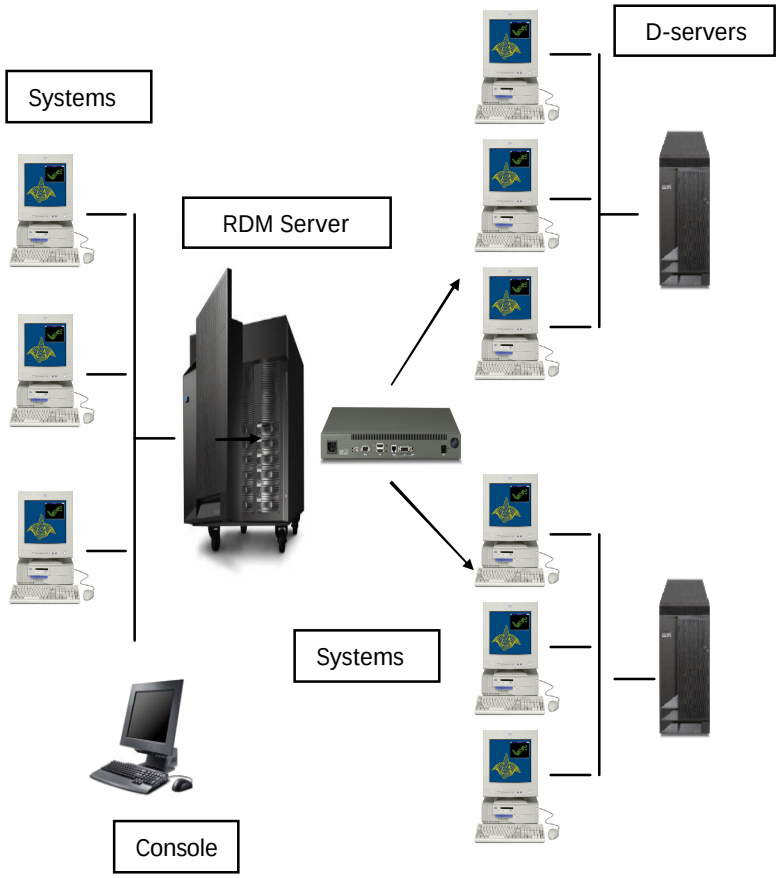
- Must enable
  - HTTP forwarding
- Must disable
  - Spanning Tree Protocol – on all ports to which systems are connected

Router between System and D-Server

- Must enable
  - Subnet-directed broadcast forwarding
  - BOOTP/DHCP forwarding
  - Proxy ARP forwarding
  - Multicast
- Must disable
  - Spanning Tree Protocol – on all ports to which systems are connected

RDM Components

- RDM Server
  - An IBM Director server on which RDM components are installed
  - Monitors status communication from systems
  - Controls all RDM processing
- Deployment Server (D-Server)
  - A file server
  - Delivers the required program and data files to systems
  - Master and remote
- Console
  - An IBM Director console on which RDM console functions are installed
- Systems
  - The targets for deployment



RDM Components - Server

- Software
  - Windows 2000 or 2003 server
    - Not on any workstation-class Windows
    - Latest service pack and fixes
  - IBM Director Server 4.11 (or later)
    - RDM will not run on a Director 4.11 Server running on Linux
- Hardware Requirements
  - 1024 MB memory (RAM)
  - 300 MB of disk space for RDM programs
  - 200 MB temporary disk space on system partition
  - 2 GB (usually much more) disk space for RDM Repository
- RDM database
  - Always a Jet database regardless of the database selected for Director
  - Stores hardware information in Director database and its processing information in RDM database

    ..\rdm\local\rdm.mdb
- ServeRAID Manager
  - Must be installed in order for RDM RAID function to work

RDM Components - D-Server

D-server provides files and commands to client systems using TFTP and MTFTP

Subcomponents:

- PXE Service
- MTFTP Service
- Repository
- Replication Service
- D-Server Service
- PowerQuest Unicast Image Server

- At least 1 D-Server is required and is automatically installed during RDM Server installation
- In a routed environment, there may be many D-Servers managed by a single RDM server

Software

- Can be installed on 32-bit Windows 2000, 2003 and XP professional

Hardware Requirements

- 30MB of disk space for RDM programs
- 2 GB (usually much more) of disk space for RDM images
- 1024 MB memory (RAM)

RDM Components – D-Server

PXE Service

(Pre-boot eXecution Environment)

- One of the components of the Wired for Management 2.0 (WFM) specification, based on DHCP
- Contains 2 components
  - Proxy DHCP service – directs the system to the appropriate boot server
  - Boot service – provides the name of the bootstrap program to the system
- PXE is available either as a boot ROM chip on a NIC or as a part of the BIOS if the NIC is on the motherboard
- Using PXE protocol, the system requests configuration parameter values and bootable images from the RDM server

MTFTP Service

- Multicast-capable TFTP Server
- Transports files from an RDM Repository to the RDM systems
- MTFTP or TFTP protocol
- Files up to 2 GB (e.g., larger than 32 MB)
- Native-install tasks use MTFTP for large files (e.g., zipped CD images)
- All tasks use TFTP for DOS and Linux images, bootstrap images, and other small files

NOTE: Windows Clone Install tasks use the PowerQuest Unicast Image Server (included in RDM)

RDM Components – D-Server

Repository

Contains files that RDM uses to run its tasks

- PXE Bootstrap programs
- DOS and Linux Images that are booted remotely
- Programs that are run remotely
- Image files (Windows and Linux, Applications, and Firmware)

- Master Repository
  - Part of the D-Server that is installed on the RDM Server
- Distributed Repository
  - Part of the remote D-servers
  - Contain a subset of the Master Repository

Replication Service

Replicates from the Master Repository to distributed repositories

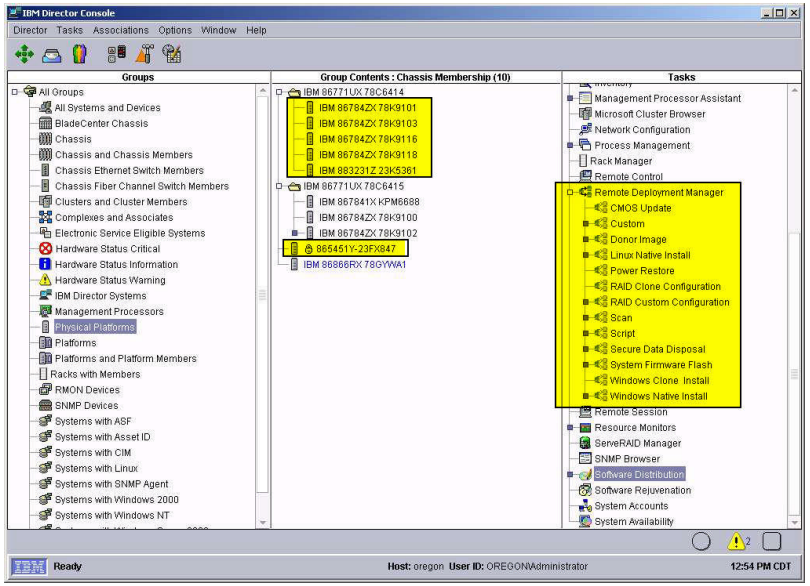
- Manually - user populates the remote D-Servers with the appropriate files prior to their first use by a task
- Using Image Manager - RDM copies files to the remote D-Servers using HTTP protocol
- Automatically - the first time an image is needed by a task, RDM copies files to the remote D-Servers using HTTP protocol

D-Server Service

Handles communications between systems and the RDM Server (HTTP)

RDM Components - Console

- An interface to RDM
- Most RDM functions are started from the console
- Installed on:
  - RDM Server
  - Any other computer (optional)
- Hardware that supports Director 4.11 (or later) console
- Windows 2000, 2003, and XP



RDM Components - Systems

- Targets for RDM deployment tasks
- Connect to the network using PXE protocol
- Run RDM programs or agents

Startup Sequences

- Primary
  - CD ROM
  - Diskette Drive 0
  - Hard Disk 0
  - Network
- Alternate (via WoL)
  - Network
  - CD ROM
  - Diskette Drive 0
  - Hard Disk 0

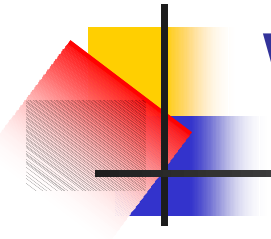
Note: Some systems have no alternate startup sequence

Wake on LAN (WoL) - Enabled

PXE - Enabled

Network Adapter

- Startup Options
  - Planar Ethernet PXE/DHCP [Planar Ethernet] enabled
- Ctrl+S
  - Network Boot Protocol [PXE]
  - Boot Order [Try local drives first, then network]



What Runs on RDM Systems?

Bootstrap loader

- Contacts the RDM Server
- Receives instructions to do one of:
  - Boot the local hard disk drive
  - Install and boot an RDM System Environment

System Environment

- Single image file
- Installs onto the RDM virtual diskette drive A:
- System boots this environment
  - DOS operating system
  - Communications stack
  - RDM Agent program
- Linux System Environments are implemented differently, but are functionally equivalent

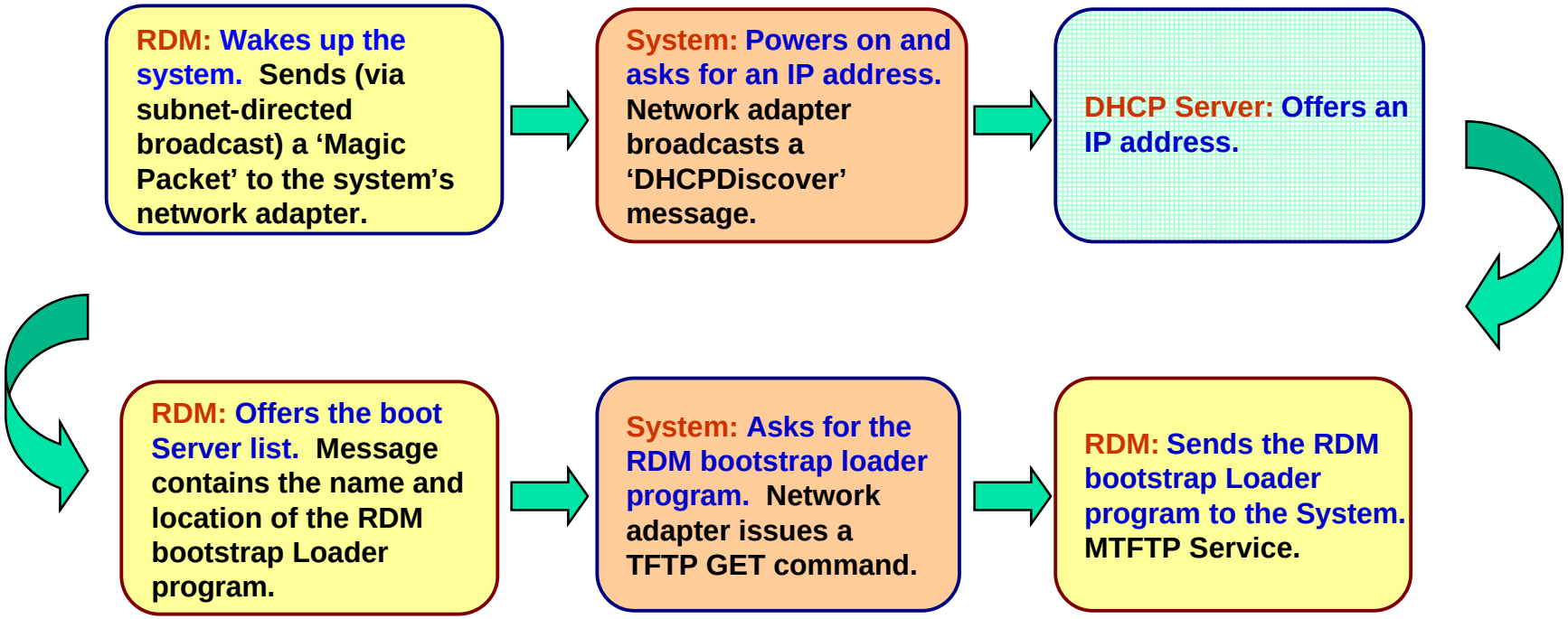
RDM Agent

- Controls the processing on the system
- Runs this in a loop:
  - Request the next command from the RDM Server
  - Run that command on the system
  - Send the results of that command to the RDM server
- Built-in functions
  - !!SHUTDOWN – Power off the system
  - !!REBOOT – Reboot the system
  - !!SETENV – Sets all environment variables for a DOS session on the system

Note: Not really an ‘agent’ in the usual sense

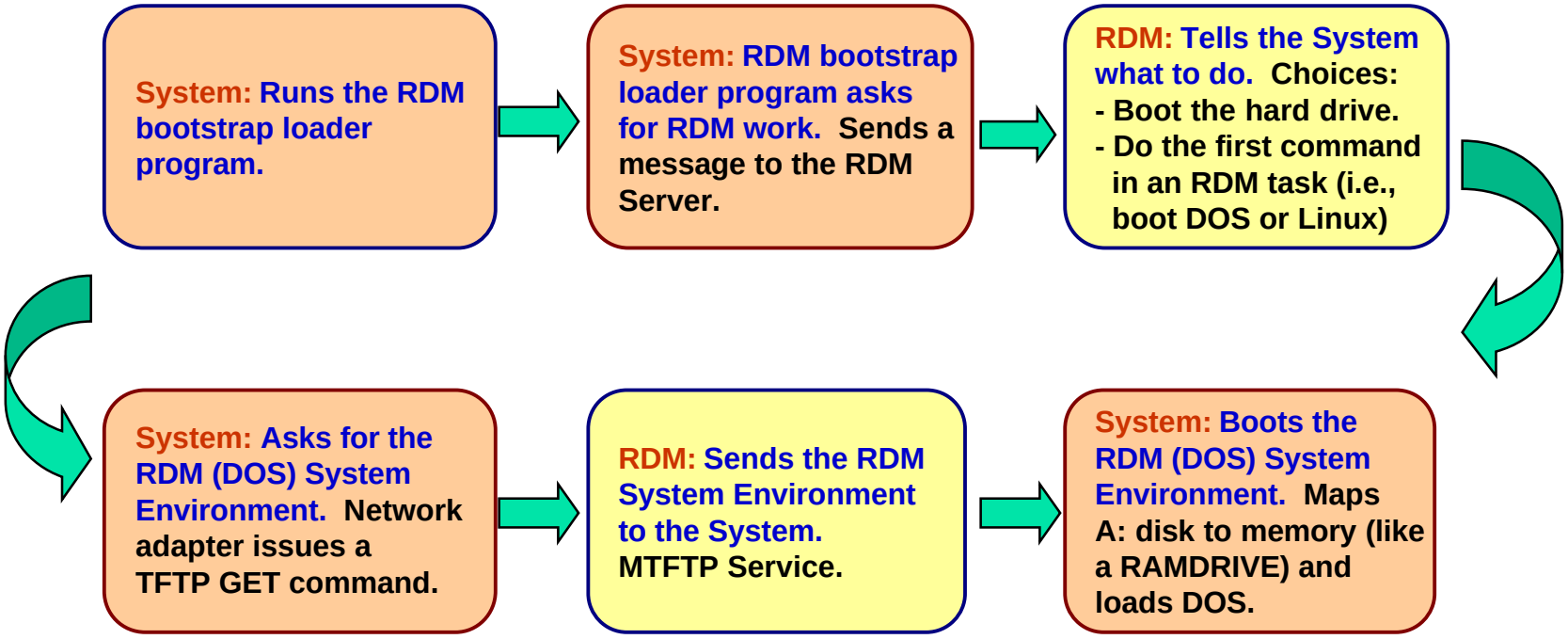
RDM Task Processing

Part 1 of 3



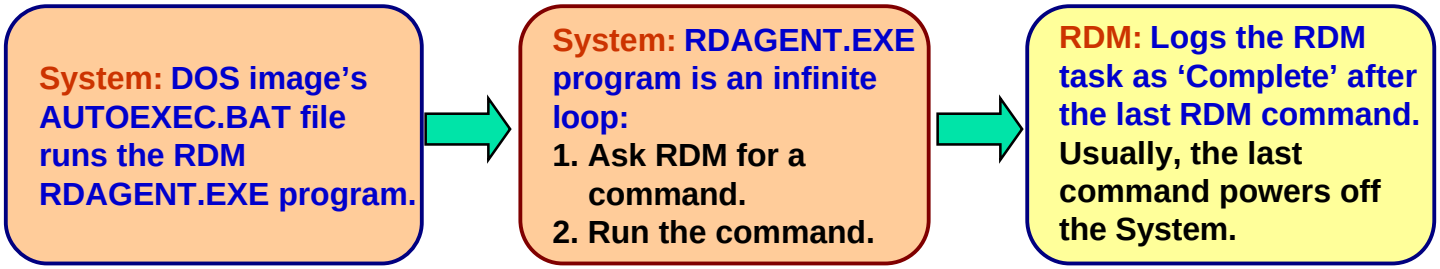
RDM Task Processing

Part 2 of 3



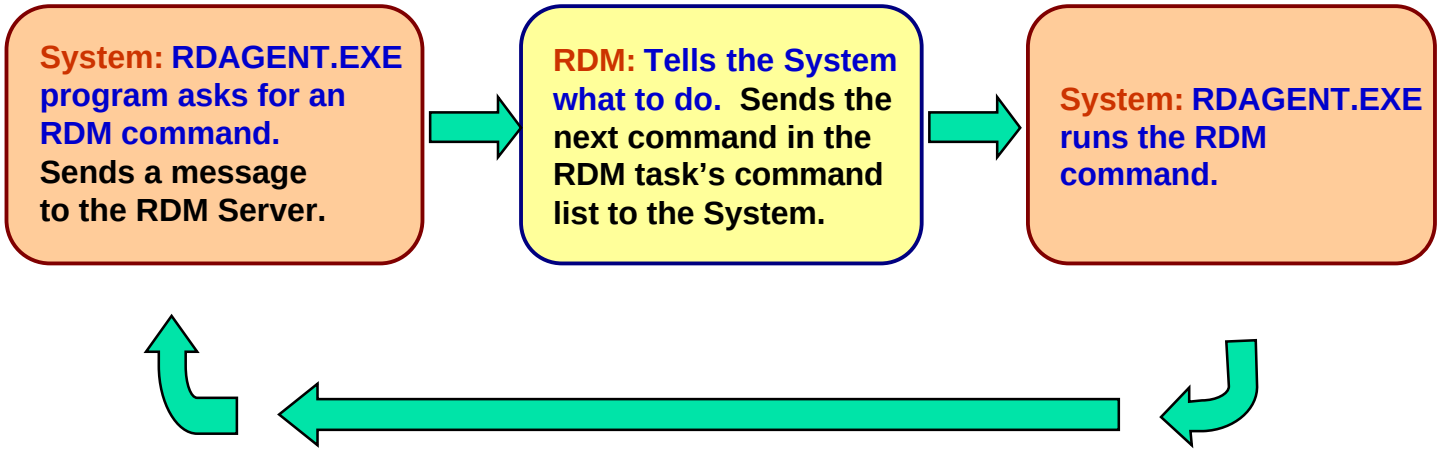
RDM Task Processing

Part 3 of 3



RDM Task Processing

The RDAGENT.EXE Loop



Operational Procedure

1. Unpack boxes, connect cables
2. Discover the systems
   - Service-processor method
     1. Initiate Director discovery, then wait 2 minutes
     2. Drag systems to the Basic Scan task
     3. Select Run systems…, then run the task immediately
   - Power-on method
     1. Power on, press F12 for network boot
3. RDM runs the Basic Scan task on the systems

Systems power off

4. Preparation
   1. Create images using Image Management
   2. Create tasks using the Tasks' Templates
   3. Customize the tasks, if appropriate
5. Execution
   1. Drag systems to a new task
   2. Select Configure systems… and enter parameter values
   3. Schedule the task to run
   4. RDM runs the task on the systems
   5. Systems power off

Scan Task

- Non Blade Servers booting to network are automatically scanned into RDM
- Blade Servers are discovered by IBM Director and are not known to RDM and must be scanned manually

BladeCenter System Naming

An optional way to include the bay number in the name

- Formats:
  - Standard: <MachineTypeModel>-<Serial>
  - Optional: <BladeCenterChassis>-B<BayNumber>
- How to enable – Check the box on the scan task properties (the Naming category on the Setup page).
- How to modify – Edit the SystemNaming.properties file (located in C:\Program Files\IBM\RDM\repository\9).

Warning: If enabled, the task always renames blades.

Examples:

- Out-of-band discovery: IBM 883221X KBP2489
- RDM default discovery: 883221X-KBP2489
  The above are accurate and unique.
- RDM renaming discovery: MyChassis-B03
  This one lets you find the system easily.

Recommendation: Use what you like.

A typical scenario:

1. Create a new Scan task that enables naming.
2. Edit the SystemNaming.properties file as you like.
3. Do out-of-band discovery of the blades.
4. Rename the BladeCenter chassis (and wait!).
5. Run the new scan task on the blades.

CMOS/RAID Tasks

Updates BIOS settings

- Clone of settings from a donor system
- Uses a program on the BIOS diskette
- Requires a “System BIOS” image

Limitation

- Cannot change every BIOS setting
  - ThinkPad – most settings are locked
  - BladeCenter 8832 – LSI IDEal RAID enabling

Supported RAIDs

- IBM ServeRAID adapters
- BladeCenter LSI SCSI RAID (on-board)
- BladeCenter LSI IDEal RAID (on-board)

LSI IDEal RAID Limitations

- Configuration task fails
  - RAID is not enabled (in BIOS)
  - Non-RAID drive contains a partition before you enable RAID
- Enabling RAID with a CMOS Update task
  - Requires customizing the task ç See readme_update1.txt

Secure Data Disposal Task (1)

Overwrites sectors on physical drives or logical RAID drives

- Quick – overwrites MBR, first 100 sectors of each partition, and last 2 sectors with bit pattern 0x0000
- Standard – overwrites every sector with 0x0000
- Secure – overwrites every sector 4 times with
  1. Random 2-byte pattern
  2. bit-wise complement of the first random pattern
  3. Second random 2-byte pattern and
  4. 0x0000 pattern
- Ultra Secure – overwrites every sector 7 times with
  1. Three times with a different 2-byte bit pattern
     1. Random 2-byte pattern
     2. Bit-wise compliment of the random pattern
  2. 0x0000 pattern

Wake-on-LAN Problems

- Improper shutdown
  - Can disable WoL
- Proper shutdown
  - Will not disable WoL
- Methods of recovery
  - Non-BladeCenter
    1. Remove power cable
    2. Wait for about 20 seconds
    3. Insert power cable
  - BladeCenter
    1. Pull out and insert blade
    2. Wait until green light blinking slows
    3. Power on with white button
    4. When logo window appears and POST is complete, power off with white button
- Wake via Management module
  - Only if system supports the function
  - Waits 2 minutes to see if WoL worked
- What happens if WoL failed?
  - Resets Primary Startup Sequence
  - Powers on system
  - Task completes
  - Sets Primary Startup Sequence back

Debugging Procedure

On the target system

- Start the task
- Press F8 key when you see the Starting PC DOS... message
- Press y key to execute each DOS statement
- Look for error messages, commands that appear not to work, etc.

Gotchas

- Spanning Tree Protocol
- Incorrect network configuration
- Typos
- Copy from PDF file, paste to command list file
- Security policy on the RDM repository
- Failure to configure switches and network adapters to “auto negotiate”

Logging/Reporting Problem

1. Run NET STOP TWGIPC from a command window on the RDM Server
2. Remove the #s from the …\Director\data\TWGRas.properties file
3. Run NET START TWGIPC from a command window on the RDM Server
4. Run your failure scenario
5. Capture all logging information
   - All files in …\Director\log directory
   - …\Director\database\IBMDirector.mdb file (if using Jet database)
   - All files in …\RDM\log directory
   - All files in …\RDM\temp directory
   - …\RDM\local\rdm.mdb file

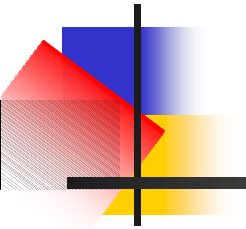
1. Write a detailed, step-by-step scenario
2. Document configuration
   - Hardware
   - Network
3. Submit an E-mail request
   http://www-3.ibm.com/pc/support/site.wss/onlineassistant/submitAQuestion.vm
   - Include scenario and configuration
   - Say “Logging information available upon request”

RDM 4.2 New Functions

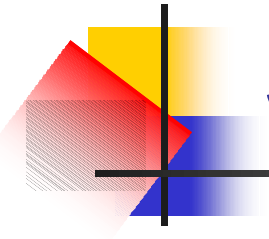
- RDM Execution in Linux Environment
- Import and Export of Template Customizations, Tasks, and Images
  - From one RDM server to another RDM server
- Configuration of Remote Storage
  - Ability to perform any configuration on Remote Storage devices
- Multi-diskette System Firmware Import
  - Allows BIOS image in ‘multi-disk mode’
- Command List Editor Enhancements
  - User selects an image and the syntax to do a download of the image to a client is inserted into the command list
- Customer Logging Enhancements
  - Error messages from batch files running on the client to be uploaded through RdAgent and written to the client.log
- VMware 2.1 Deployment
  - RDM template to deploying VMware ESX Server 2.1
- Support for new hardware
- Selective PXE Response
  - Ignore or accept requests from a list of subnets, MAC addresses, or UUID’s
- PXE and BOOTP Protocols Support
- Multiple NIC Support on Windows
  - Configuration of multiple network cards as part of Windows Native Install and Windows Clone Install

RDM and DeployCenter 5.5

- Get Donor task from RDM uses a “lite” version of Image Center that ships with PowerQuest’s Deploy Center 5.51
  - Captures only boot partition image
- In order to capture image from multiple partitions, you must upgrade to “full” version of ImagrCenter available from PowerQuest
  - Such as boot partition plus a Service Partition and/or an Extended partition containing one or more logical drives
- Steps to upgrade
  - Copy the following DeplyCenter files (which constitutes ImageCenter engine)
    - PQImgCtr.exe
    - PQImgCtr.ovl
    - PQImgCtr.pqg
    - PQDplCtr.rtc
  - Edit PQSTORE.SCR in ../RDM/local/env\71c\capture folder to have the following lines:
    - SELECT DRIVE 1
    - SELECT PARTITION ALL (or include the partitions you want to image: SELECT PARTITION 1)
    - SET DESCRIPTION “”
    - STORE WITH COMPRESSION HIGH
  - Run MKIMAGES.BAT file from ..\RDM\local\env folder
- Follow the instructions for Windows Get Donor and Clone Install
- If upgrading to ImageCenter that comes with Deploy Center 5.51, you must also upgrade UcService.exe
  - Run UcService /unregserver from ..\RDM\bin folder
  - Copy the new UcService.exe
  - Run UcService.exe /imagedir rdmRoot /logfile rdmRoot\log\pqlog.txt

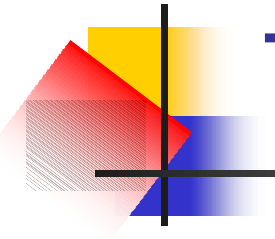


PART II
ServerGuide Scripting Toolkit 1.0



ServerGuide Scripting Toolkit

- Introduction
  - Initially releases in December, 2003
  - Collection of system-configuration tools and installation scripts that one can use to deploy operating systems to IBM xSeries server in a repeatable and predictable manner
  - Allows to deploy Windows 2000, 2003 and Red Hat Linux 7.3, 8.0 and AS 2.1



Tasks

- Performs the following tasks automatically:
  - Detect hardware
  - Configure RAID adapters and delete any existing partitions
  - Create a primary OS installation partition on the first drive of the target server and format the new partition as FAT32
  - Install an operating system
  - Install device drivers – Windows only
  - Dispose of the servers securely

Deployment scenarios

- Uses the following deployment scenarios:
  - DOS-startable diskette and data CD
  - DOS-startable CD
  - DOS-startable diskette and network share
  - Remote Supervisor Adapter II and network share

  Note: You can use any of the scenarios to deploy Windows but for Linux, you must use DOS-startable diskette and network share scenario

Requirements

- Each deployment scenario requires the following items:
  - ServerGuide Scripting Toolkit
  - Licensed copy of operating system to be deployed
  - An UpdatedXpress CD
  - A correctly set up source system with a diskette drive and CD burner

Operational Procedure

- Install ServerGuide Scripting Toolkit
- Create the Source Tree
- Prepare answer file (unattended.txt)
- Select deployment scenario
- Customize the usrvars.bat file
- Customize netvars.bat file

Source Tree

- ---src_Tree
  - |---sg_stk
  - |---w2000drv
  - |---w2003drv
  - |---w2k_srv
  - |---w2k_adv
  - |---w23_std
  - |---w23_ent
  - |---rh73
  - |---rh80
  - |---rhas21

- sg_stk directory is located in ServerGuide Scripting Toolkit install directory (...\stkfiles)
- The device drivers for windows are located in sguide on the ServerGuide Setup and installation CD
- Each operating system directory contains i386 directory from Windows source CD
- For Red Hat, copy the contents of first three RH Linunx installation CDs

Windows Deployment

- For DOS-Startable diskette and data CD
  - Create DOS-Startable diskette using script provide with the STK
  - Edit the usrvars.bat file using the script provided with STK
  - Create the data CD using the source system and the CD burner
    - Example for windows 2003
      - Copy sg_stk dir
      - Copy w23_std dir
      - Copy ‘drv’ and ‘textmode’ dir’s from w2003drv dir
      - Copy unattended.txt to the root of data CD
      - Create an update dir with BOIS and RAID firmware if desired

- Directory structure on data CD
  - --sg_stk
  - --w23_std
    - --i386
  - --drv
  - --textmode
  - --Unattended.txt
  - --update
    - --8670
      - --BIOS
      - --Ismp
    - --8671
      - --BIOS
      - --ismp
    - svraid

Scripting Toolkit 1.1 Enhancements

- Summary of the changes between Toolkit 1.0 and 1.1:
- (Expected availability September, 2004)

- Altiris Deployment Solution support
  - Hardware configuration (RAID)
  - Perform scripted install of supported Windows and Linux O/S
  - Perform clone install of supported Windows and Linux O/S
  - BIOS updates
  - Server disposal
  - Install IBM Director Agent

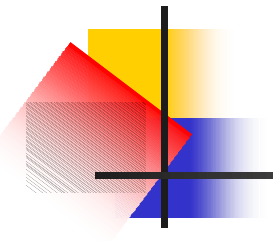
- ADS enhancements
  - Flash (BIOS, ServeRAID BIOS and firmware) updates
  - Install IBM Director agent

- RAID support
  - ServeRAID 7e SATA configuration
  - ServeRAID 7e SCSI configuration
  - ServeRAID 7t configuration
  - ServeRAID 7.0 support

- Fibre support
  - Install Windows to Fibre boot device
  - Configure fiber boot device

- Additional Windows unattended installation support
  - Install Windows via BladeCenter Management Module virtual floppy
  -

- Application installations
  - Add Director agent for Windows Installs
  - Install Altiris agent for Windows



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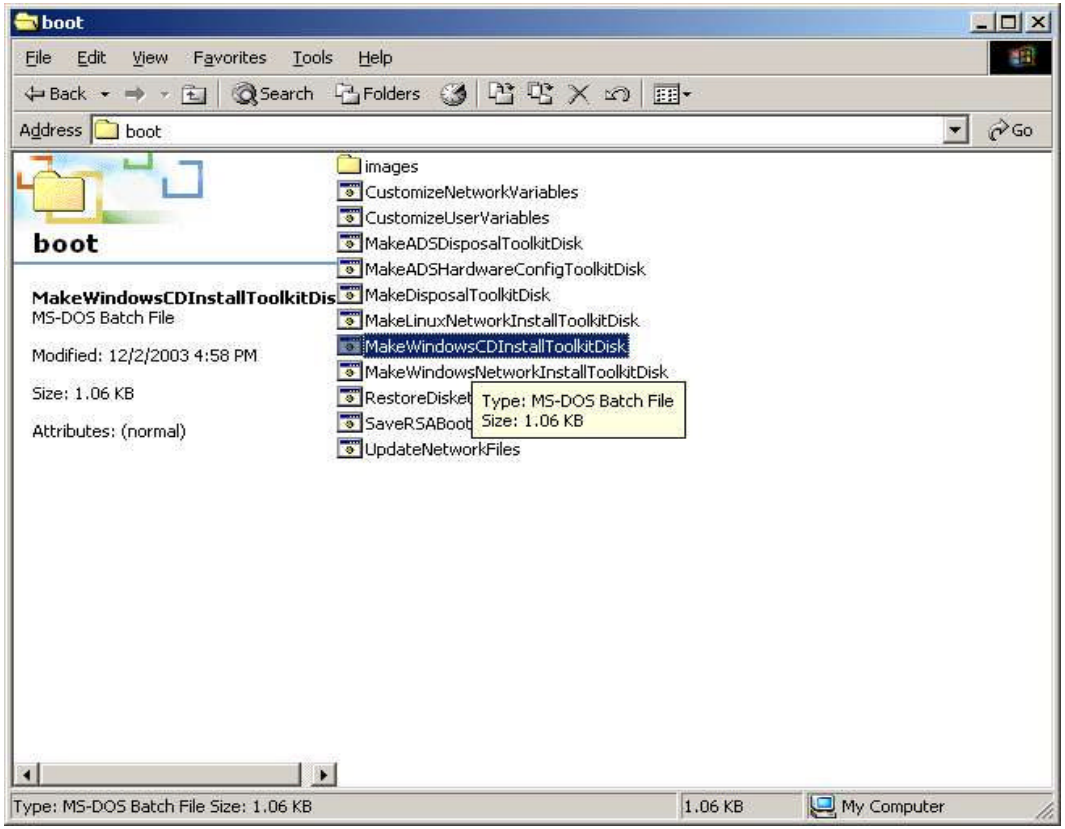
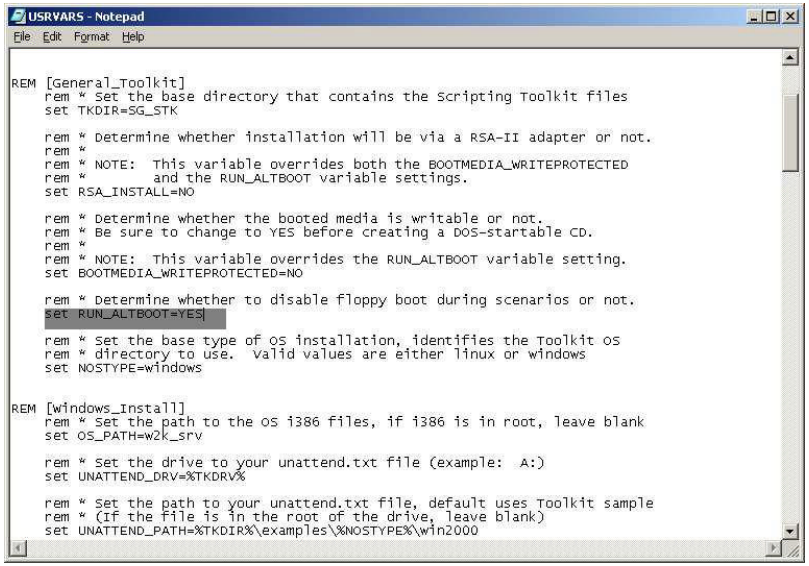
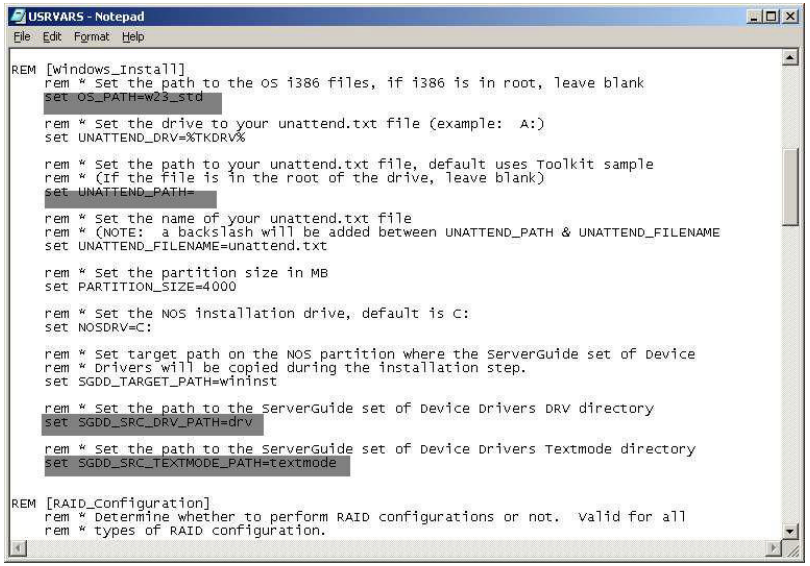
Creating DOS Startable diskette



Usrvars.bat


USRVARS - Notepad
File Edit Format Help
REM [General_Toolkit]
rem * Set the base directory that contains the Scripting Toolkit files
set TKDIR=SG_STK
rem * Determine whether installation will be via a RSA-II adapter or not.
rem *
rem * NOTE: This variable overrides both the BOOTMEDIA_WRITEPROTECTED
rem * and the RUN_ALTBOOT variable settings.
set RSA_INSTALL=NO
rem * Determine whether the booted media is writable or not.
rem * Be sure to change to YES before creating a DOS-startable CD.
rem *
rem * NOTE: This variable overrides the RUN_ALTBOOT variable setting.
set BOOTMEDIA_WRITEPROTECTED=NO
rem * Determine whether to disable floppy boot during scenarios or not.
set RUN_ALTBOOT=YES
rem * Set the base type of OS installation, identifies the Toolkit OS
rem * directory to use. Valid values are either linux or windows
set NOSTYPE=windows
REM [Windows_Install]
rem * Set the path to the OS i386 files, if i386 is in root, leave blank
set OS_PATH=w2k_srv
rem * Set the drive to your unattend.txt file (example: A:)
set UNATTEND_DRV=%TKDRV%
rem * Set the path to your unattend.txt file, default uses Toolkit sample
rem * (If the file is in the root of the drive, leave blank)
set UNATTEND_PATH=%TKDIR%\examples\%NOSTYPE%\win2000


USRVARS - Notepad
File Edit Format Help
REM [Windows_Install]
rem * Set the path to the OS i386 files, if i386 is in root, leave blank
set OS_PATH=w23_std
rem * Set the drive to your unattend.txt file (example: A:)
set UNATTEND_DRV=%TKDRV%
rem * Set the path to your unattend.txt file, default uses Toolkit sample
rem * (If the file is in the root of the drive, leave blank)
set UNATTEND_PATH=
rem * Set the name of your unattend.txt file
rem * (NOTE: a backslash will be added between UNATTEND_PATH & UNATTEND_FILENAME
set UNATTEND_FILENAME=unattend.txt
rem * Set the partition size in MB
set PARTITION_SIZE=4000
rem * Set the NOS installation drive, default is C:
set NOSDRV=C:
rem * Set target path on the NOS partition where the ServerGuide set of Device
rem * Drivers will be copied during the installation step.
set SGDD_TARGET_PATH=wininst
rem * Set the path to the ServerGuide set of Device Drivers DRV directory
set SGDD_SRC_DRV_PATH=drv
rem * Set the path to the ServerGuide set of Device Drivers Textmode directory
set SGDD_SRC_TEXTMODE_PATH=textmode
REM [RAID_Configuration]
rem * Determine whether to perform RAID configurations or not. Valid for all
rem * types of RAID configuration.

Configuring the installation

- Usrvars.bat file
  - Contains the following sections
    - [General_Toolkit]
      - General Variables
    - [Windows_Install]
      - Windows installation variables
      - By default, these variables are set for Windows 2000
    - [RAID_Configuration]
      - Basic RAID configuration
    - [Toolkit_Updates]
      - For updating BIOS and RAID firmware
- Netvars.bat

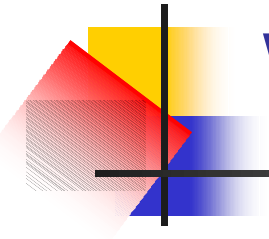
  Contains network variables
    - [Bootable_Media_Information]
      - Target name and IP address
    - [Source_System_Information]
      - Source system name, IP address, Gateway IP address, Subnet mask, share name, client name and password

Directory Structure

Directory	Description
\stkfiles	Root directory
\stkfiles\sg_stk\boot	Files for creating and modifying the DOS-startable diskette images
\stkfiles\sg_stk\docs	Documentation
\stkfiles\sg_\DOS	IBM PC-DOS files used by Toolkit
\stkfiles\sg_stk\examples	Files that run the deployment scenarios
\stkfiles\sg_stk\examples\linux	Linux installation script files
\stkfiles\sg_stk\examples\linux\redhat	Sample kickstart files
\stkfiles\sg_stk\examples\windows	Windows installation script files
\stkfiles\sg_stk\examples\windows\win2000	Sample answer files
\stkfiles\sg_stk\examples\windows\win2003	Sample answer files
\stkfiles\sg_stk\utils	Scripting toolkit utilities

Altiris

- Install Altiris Deployment Server 6.1 for Windows
- Install ServerGuide Scripting Toolkit 1.1 and when the ‘Location to Save Files’ windows open, type ..\Altiris\express\Deployment Server and complete the installation
- From Altiris Deployment Solution GUI, click File->Import/Export->Import Jobs
- Make sure that the Import to Job Folder check box is NOT selected
- Click Browse
- Navigate to ..\Altiris\express\Deployment Server\sgdeploy\sgtk\altiris\windows directory
- Select Altiris-format binary file, ServerGuideToolkitAltiris.bin and click Open
- Click OK to complete the import process.



Windows

- Customize unattended.txt file
- Two sample files are included
- Add information to the [UserData] section
- Create the DOS-startable diskette
- Create the data CD