

The Dell[™] Latitude[™] 6430u. Powered by Intel.[®]



Faster remote client management
with SCCM 2012

30% faster

to deploy an OS image

56% faster

to import a driver package

11% faster

to deploy Office 2010 updates

57% faster

to install Dell OMCI

8% faster

to capture an OS image

vs. a 4-year-old notebook

Replacing your employees' four-year-old notebook with a new Dell Latitude 6430u Ultrabook can bring a number of advantages. In addition to giving workers extreme portability thanks to its sleek and lightweight profile, the Dell Latitude 6430u can ease the burden on IT staff. It fits effortlessly into your existing Microsoft[®] System Center Configuration Manager 2012 SP1 (SCCM 2012) environment, and enables your IT staff to complete routine client management tasks faster than when working with an older system. Saving time for routine tasks increases IT productivity and ultimately helps improve the bottom line for enterprises.

Dell provides a number of tools to facilitate client management, including Dell Client Integration Pack 3.0 (DCIP). With DCIP and SCCM 2012, your IT staff can manage Dell client systems such as the Dell Latitude 6430u more efficiently from a single management console.

Principled Technologies (PT) tested the recently released Dell Latitude 6430u Ultrabook and an older notebook, the Dell Latitude E6400. We found that the newer system sped up common management tasks considerably, including reducing the time to deploy operating system (OS) images remotely through SCCM 2012 and DCIP by 30 percent. Our findings show that the Dell Latitude 6430u is an excellent choice for enterprises who wish to add light, extremely portable systems to their existing SCCM 2012 environments.



BETTER CLIENT MANAGEMENT

More efficient client management gives IT staff more time to innovate, minimizes disruption to employees, and helps secure the IT infrastructure. Using SCCM 2012, we compared common management tasks on the new Dell Latitude 6430u and the older Dell Latitude E6400. For complete system configuration information, see [Appendix A](#). For detailed steps on how we tested and the specific software versions we used, see [Appendix B](#). For detailed test results, see [Appendix C](#).

Deploying OS images using SCCM 2012 and DCIP

To compare how quickly enterprise IT staff could remotely deploy OS images to the Dell Latitude 6430u and the Dell Latitude E6400, we timed the process of deploying Microsoft Windows® 8 Pro on the Latitude 6430u and Windows 7 Professional on the Latitude E6400 using SCCM 2012 and DCIP. As Figure 1 shows, performing this task on the Dell Latitude 6430u was 30 percent faster.

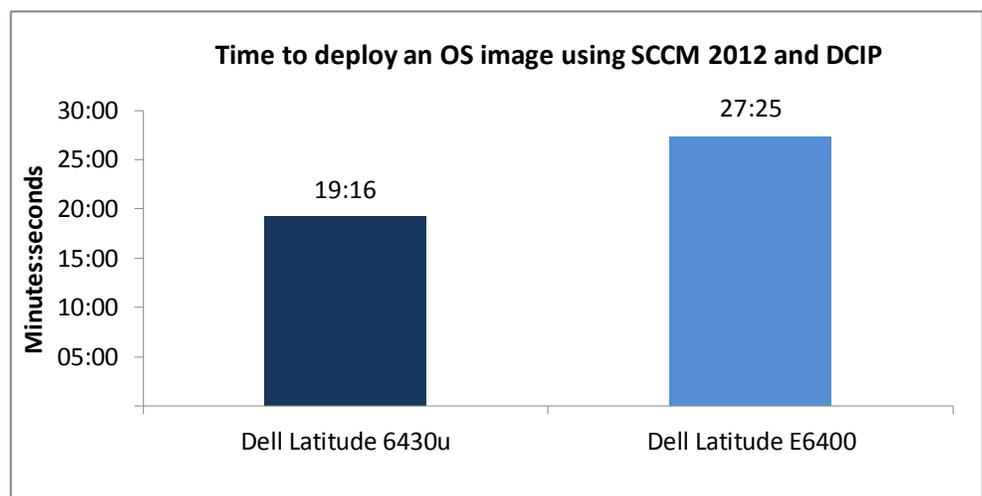
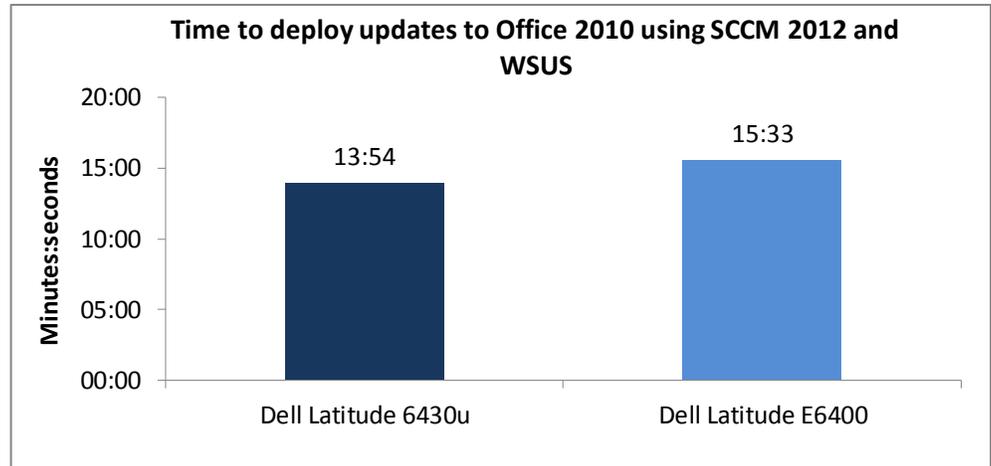


Figure 1: Deploying an OS image using SCCM 2012 and DCIP was 30 percent faster on the new Dell Latitude 6430u Ultrabook. Lower numbers are better.

Deploying software updates using SCCM 2012 and WSUS

We also investigated the process of remotely deploying software updates using SCCM 2012 and Windows Server Update Services (WSUS). After setting up SCCM 2012 and WSUS software update synchronization, we compared how quickly enterprise IT staff could apply software updates to Microsoft Outlook 2010 Professional SP1 on both systems. As Figure 2 shows, performing this task on the Dell Latitude 6430u was 11 percent faster.

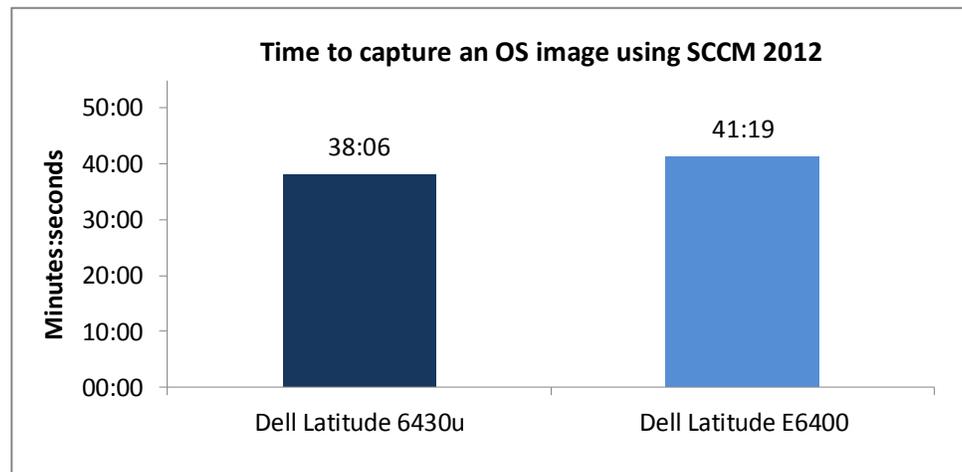
Figure 2: Deploying updates to Microsoft Office 2010 using SCCM 2012 and WSUS took 11 percent less time on the new Dell Latitude 6430u Ultrabook. Lower numbers are better.



Capturing OS images using SCCM 2012

In addition to deploying OS images to the Dell Latitude 6430u and Dell Latitude E6400, we compared how quickly enterprise IT staff could remotely capture OS images using SCCM 2012. We tested the process of capturing a Windows 8 Pro image on the Latitude 6430u and a Windows 7 Professional image on the Latitude E6400. As Figure 3 shows, performing this task on the Dell Latitude 6430u took 8 percent less time.

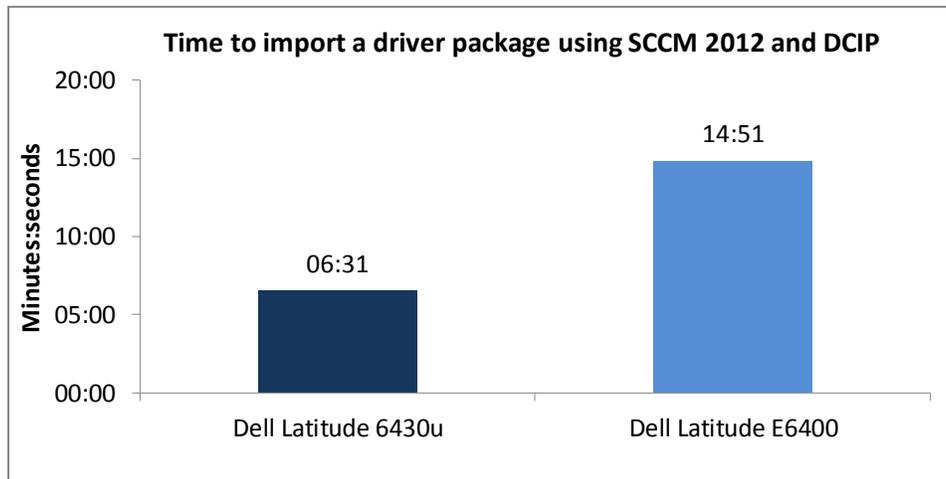
Figure 3: Capturing an OS image using SCCM 2012 took 8 percent less time on the new Dell Latitude 6430u Ultrabook. Lower numbers are better.



Importing driver packages using SCCM 2012 and DCIP

Keeping driver packages up to date can be a time-consuming task that requires IT staff to filter through many drivers to make sure that current driver packages have the correct drivers for client systems. To simplify driver management, Dell provides client driver packages designed specifically for SCCM 2012 that contain the latest drivers for Dell client systems. As Figure 4 shows, performing this task on the new Dell Latitude 6430u took less than half the time it did on the older system.

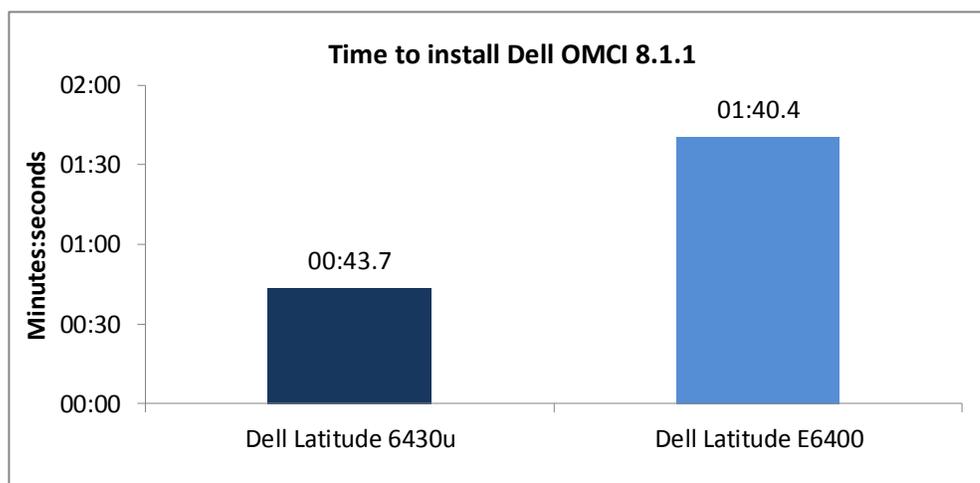
Figure 4: Importing a driver package using SCCM 2012 and DCIP was 56.2 percent faster on the new Dell Latitude 6430u Ultrabook. Lower numbers are better.



Installing Dell OMCI 8.1.1

We also compared how long it would take to install Dell OpenManage Client Instrumentation (OMCI) on the two systems. As Figure 5 shows, the Dell Latitude 6430u reduced the time required to perform this task by 57 percent.

Figure 5: Installing Dell OMCI 8.1.1 took less than half the time on the new Dell Latitude 6430u Ultrabook. Lower numbers are better.



WHAT WE TESTED

About Microsoft System Center Configuration Manager 2012

SCCM 2012 is a management solution enables enterprise IT staff to manage physical, virtual, and mobile clients through a single management console. IT staff can facilitate employee productivity while also maintaining compliance with corporate policies and legal requirements. SCCM 2012 provides IT staff with the following integral management capabilities:

- **Application delivery.** By evaluating device type, user identity, and application dependencies, SCCM 2012 helps IT staff provide the best application delivery experience for each user. SP1 for SCCM 2012, released earlier this year, includes support for Windows 8 and the deployment of Windows 8 applications.
- **Desktop virtualization.** SCCM 2012 provides a single point of management for personal and virtual desktops, and integrates with Microsoft Application Virtualization (App-V) for deployment of virtual and physical applications.
- **Device management.** SCCM 2012 introduces interoperability with Windows Intune to manage more devices from a single management console. IT staff can more easily organize device inventory and wipe devices remotely.
- **Security.** SCCM 2012 enables IT staff to manage device health and security through antimalware and vulnerability protection features, all through a single management console.

For more on SCCM 2012, visit

<http://www.microsoft.com/en-us/server-cloud/system-center/configuration-manager-2012.aspx>

About Dell Client Integration Pack

DCIP, formerly Dell Client Deployment Pack (DCDP), provides a set of integrated tools to help IT staff manage Dell clients in an SCCM 2012 environment. Developed specifically for SCCM 2012, DCIP includes the following features for managing Dell clients:

- **Dell CCTK integration.** With DCIP and CCTK integration, IT staff can remotely configuring BIOS settings on Dell client. This includes enabling Trusted Platform Module (TPM), which provides an additional layer of security for enterprise client management.
- **Dell OMCI integration.** With DCIP and OMCI integration, IT staff can remotely deployed client inventory and monitor client health.
- **Dell Warranty Utility integration.** With DCIP and Dell Warranty Utility integration, IT staff can easily collect warranty information for Dell clients.
- **Bare metal OS deployment template.** DCIP provides a template for bare metal OS deployment, where IT staff can deploy OS images using either an OS WIM image or a scripted OS install. The template also enables IT staff to include CCTK packages for custom BIOS configurations in bare metal deployment.
- **Windows Pre-Installation Environment (WinPE) driver package import.** DCIP also includes a wizard to import WinPE driver packages for Dell clients, enabling IT staff to create custom WinPE boot images.
- **Driver package import.** DCIP includes a wizard for IT staff to import packages for Dell clients, including the Dell Latitude E6430.

- **Out-of-band management.** With Intel Active Management Technology (AMT), IT staff can remotely manage Dell client systems regardless of system power or operating system state.

To learn more about Dell Client Integration Pack, visit

<http://en.community.dell.com/techcenter/os-applications/w/wiki/2565.dell-client-integration-pack.aspx>.

IN CONCLUSION

Client management is integral to the enterprise bottom line. Employees have notebooks that travel with them around the globe, and efficient management of client devices throughout the lifecycle improves productivity and security. Upgrading from an older notebook to a sleek and light Dell Latitude 6430u gives your employees extreme portability and even saves your IT staff time when completing routine client management tasks. In our tests, the Dell Latitude 6430u integrated seamlessly into the existing SCCM 2012 environment, and completed several tasks more quickly than the older notebook. This makes the Dell Latitude 6430u a compelling upgrade for older notebooks in any enterprise's SCCM 2012 environment.

APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 6 provides detailed configuration information for the test systems.

System	Dell Latitude 6430u	Dell Latitude E6400
General		
Number of processor packages	1	1
Number of cores per processor	2	2
Number of hardware threads per core	2	1
Total number of processor threads in system	4	2
System power management policy	Dell	Balanced
Processor power-saving option	EIST	EIST
System dimensions (length x width x height)	13.31" x 9.04" x 0.82" 33.8 cm x 22.9 cm x 2.1 cm	13.25" x 9.60" x 1.25" 33.7 cm x 24.4 cm x 3.2 cm
System weight	3.9 lbs. (1.8 Kg)	5.2 lbs. (2.4 Kg)
CPU		
Vendor	Intel®	Intel
Name	Core™ i5	Core 2 Duo
Model number	3427U	P8600
Stepping	E1	R0
Socket type and number of pins	Socket 988B rPGA	Socket P (478)
Core frequency (GHz)	1.8 (2.8 GHz Turbo Boost Technology)	2.40
Bus frequency	DMI 5 GT/s	1,066 MHz
L1 cache	32 KB + 32 KB (per core)	32 KB + 32 KB (per core)
L2 cache	512 KB (256 KB per core)	3 MB (shared)
L3 cache	3 MB (shared)	N/A
Platform		
Vendor	Dell	Dell
Motherboard model number	0WTRMG	0U692R
Motherboard chipset	Intel QM77	Intel GM45
BIOS name and version	Dell A03 (12/03/2012)	Dell A32 (02/09/2012)
Memory module(s)		
Vendor and model number	Hyundai Electronics® HMT351S6CFR8C-PB	Hyundai Electronics HMP125S6EFR8C-S6
Type	PC3-12800	PC2-6400
Speed (MHz)	1,600	800
Speed running in the system (MHz)	1,600	800
Timing/Latency (tCL-tRCD-tRP-tRASmin)	11-11-11-28	6-6-6-18
Size (MB)	4,096	2,048
Number of memory module(s)	2	2
Total amount of system RAM (GB)	8	4
Chip organization (single-sided/double-sided)	Double-sided	Double-sided
Channel (single/dual)	Dual	Dual

System	Dell Latitude 6430u	Dell Latitude E6400
Storage		
Vendor and model number	LITEON® LMT-128M3M solid-state drive	Western Digital® WD1600BJKT spindle HDD
Number of disks in system	1	1
Size (GB)	128	160
Buffer size (MB)	N/A	16
RPM	N/A	7,200
Type	mSATA SSD	SATA 3.0 Gb/s
Controller	Intel Mobile Express Chipset SATA RAID Controller	Intel ICH9M-E/M SATA AHCI Controller
Driver	Intel 11.5.0.1207 (07/09/2012)	Intel 11.0.0.1032 (11/29/2011)
Operating system		
Name	Microsoft Windows 8 Pro x64	Microsoft Windows 7 Professional x64
Build number	9200	7601
Service Pack	N/A	1
File system	NTFS	NTFS
Kernel	ACPI x64-based PC	ACPI x64-based PC
Language	English	English
Microsoft DirectX version	11	11
Graphics		
Vendor and model number	Intel HD Graphics 4000	Mobile Intel GMA 4500MHD
Type	Integrated	Integrated
Chipset	Intel HD Graphics Family	Mobile Intel 4 Series Express Chipset Family
BIOS version	0.3	2107.23
Total available graphics memory (MB)	1,664	1,695
Dedicated video memory (MB)	32	64
System video memory (MB)	0	0
Shared system memory (MB)	1,632	1,631
Resolution	1,366 x 768	1,280 x 800
Driver	Intel 9.17.10.2932 (12/12/2012)	Intel 8.15.10.2869 (10/04/2012)
Sound card/subsystem		
Vendor and model number	IDT™ High Definition Audio CODEC	IDT High Definition Audio CODEC
Driver	IDT 6.10.0.6421 (08/09/2012)	IDT 6.10.0.6274 (03/09/2010)
Ethernet		
Vendor and model number	Intel 82579LM Gigabit	Intel 82567LM Gigabit
Driver	Intel 12.2.45.5031 (09/24/2012)	Intel 10.0.6.0 (06/12/2009)
Wireless		
Vendor and model number	Intel Centrino Ultimate-N 6300 AGN	Intel WiFi 5100 AGN
Driver	Intel 15.5.6.48 (10/04/2012)	Intel 14.3.2.1 (01/22/2012)
Modem		
Vendor and model number	N/A	HDA CX11270 Soft Modem
Driver	N/A	Microsoft 7.80.2.52 (11/15/2008)

System	Dell Latitude 6430u	Dell Latitude E6400
Optical drive(s)		
Vendor and model number	External models available	TSSTcorp® TS-U633A
Type	N/A	DVD-RW
USB ports		
Number	3	4
Type	2 x USB 3.0, 1 x eSATA/USB 3.0	3 x USB 3.0, 1 x eSATA/USB 2.0
Other	Media card reader, HDMI, VGA	Media card reader, display port
IEEE 1394 ports		
Number	0	1 (4-pin)
Monitor		
LCD type	WLED	WXGA
Screen size	14.0"	14.1"
Refresh rate	60 Hz	60 Hz
Battery		
Type	Dell 9KGF8 lithium-ion	Dell PT434 lithium-ion
Size (length x width x height)	13.19" x 4.38" x 0.50" 33.5 cm x 11.1 cm x 1.3 cm	8.25" x 2.00" x 0.80" 20.9 cm x 5.1 cm x 2.0 cm
Rated capacity	5,400 mAh / 11.1V (60Wh)	5,050 mAh / 11.1V (56Wh)
Weight	1 lb. 0.45 Kg	11 oz. 0.31 Kg

Figure 6: Detailed configuration information for the test systems.

APPENDIX B - HOW WE TESTED

In our testing, we configured a typical Microsoft System Center Configuration Manager 2012 SP1 environment. We used three servers, one to serve as our Active Directory® (AD) server, one to serve as our SCCM 2012 central administration site (CAS) server, and one to serve as our SCCM 2012 primary server. We configured all three servers with Microsoft Windows Server® 2008 R2 SP1. Prior to installing SCCM 2012, we configured the CAS and primary servers with all prerequisites, including .NET 3.5.1, Background Intelligent Transfer Service (BITS), Remote Differential Compression, and Microsoft SQL Server® 2008 R2 SP1 with Cumulative Update 6. On both the CAS and primary servers, we installed the Windows Server Update Services (WSUS) 3.0 SP2 role, which is required for the Software Update Point (SUP) role. We configured the SUP to support Configuration Manager Client Agent deployment, which uses Windows Update to push the Configuration Manager Client Agent to client systems.

On the CAS server, we ultimately configured the following site system roles:

- Component server
- Endpoint Protection point
- Site database server
- Site server
- Site system
- Software update point

On the primary server, we configured the following site system roles:

- Application Catalog Web service point
- Application Catalog Web site point
- Component server
- Distribution point
- Management point
- Site database server
- Site server
- Site system
- Software update point

We also installed the Dell Client Integration Pack 3.0 on the primary server, which we used to import client driver packages and deploy operating system images, as we note below in the methodology.

Deploying OS images using SCCM 2012 and DCIP

Through the Configuration Manager Console, we deployed a Windows 8 Pro x64 image to the Dell Latitude 6430u and a Windows 7 Professional SP1 x64 image to the Dell Latitude E6400 using the following steps.

1. Launch the Configuration Manager Console on the primary server, and click Software Library.
2. Expand Overview→Operating Systems, and select Task Sequences.
3. Right-click Task Sequences, then select Dell Client Integration Pack→Create Bare Metal Client Deployment Template, which displays the Bare Metal Client Deployment Task Template window.
4. Enter the name of the task sequence.
5. Under Network (Admin) Account, enter the account name and password.
6. Under Operating System Installation, select Use an OS WIM image for the installation type.
7. For the Operating System package, select the appropriate image (Windows 8 Pro x64 image for the Dell Latitude 6430u or the Windows 7 Professional SP1 x64 image for the Dell Latitude E6400).
8. For the package with Sysprep.inf info, select Configuration Manager Client.
9. Click Create, and close the confirmation message.
10. Right-click the new sequence, and select Properties.
11. Select the checkbox to use a boot image.
12. Click Browse..., select the appropriate x64 boot image, and click OK.

13. Click Apply, and then click OK.
14. Right-click the new task sequence again, and select Edit.
15. Click OK to accept the Configuration Manager prompt.
16. Right-click Select Setup Mass Storage (XP-Only), select Delete, and click Yes.
17. Right-click Apply Driver Package, select Delete, and click Yes.
18. Click Apply Windows Settings.
19. Enter the licensing and registration information for installing Windows, and select the default time zone.
20. Click Apply Network Settings.
21. Select the join a domain radio button.
22. Click Browse, select the domain, and click OK.
23. Click Set, enter the username and password for the user account, and click OK.
24. Click Setup windows and ConfigMgr.
25. Click Browse, select Configuration Manager Client Package, and click OK.
26. For the Windows 8 deployment, add and configure a UEFI partition using the following steps.
 - a. Under Configure Hardware, click Step 2.
 - b. Click Add→Disks→Format and Partition Disk.
 - c. Change disk type to GPT.
 - d. Click to create a new volume.
 - e. Enter Windows for the partition name, select Recovery for the partition type, set the fixed partition size to 300 MB, select NTFS for the file system, and click OK.
 - f. Click to create a new volume.
 - g. Select EFI for the partition type, set the fixed partition size to 500 MB, select FAT32 for the file system, and click OK.
 - h. Click to create a new volume.
 - i. Select MSR for the partition type, set the fixed partition size to 128 MB, and click OK.
 - j. Click to create a new volume.
 - k. Enter Windows for the partition name, select Primary for the partition type, set the partition size to 100% of the remaining space on disk, select NTFS for the file system, and click OK.
27. Click Apply, and click OK.
28. Right-click the new task sequence, and select Deploy.
29. Click Browse, select the appropriate collection, and click OK.
30. Click Next.
31. Change the deployment to required, and make the deployment available to Configuration Manager clients, media and PXE.
32. Click New to set an assignment schedule, and select As soon as possible.
33. Select the checkbox next to Software installation and System restart, and click Next.
34. Click Next.
35. Click Next.
36. At the Confirm the settings for this new deployment screen, simultaneously start the stopwatch timer and click Next.
37. Stop the stopwatch timer when the installation has completed on the client.

Deploying software updates using SCCM 2012 and WSUS

After installing Office 2010 Professional SP1 on both the Dell Latitude 6430u and the Dell Latitude E6400, we deployed software updates using the following steps:

1. Launch Windows Server Update Services on the primary server.
2. Select Options→Products and Classifications.
3. On the Production tab, select the checkbox next to Office 2010.
4. Click the Classifications tab, and select the checkbox next to All Classifications.
5. Click Apply, and click OK.
6. Right-click Synchronizations, and select Synchronize Now.
7. Launch Windows Server Update Services on the CAS server.
8. Right-click Synchronizations, and select Synchronize Now.
9. Launch the Configuration Manager Console on the primary server, and click Administration.
10. Expand Overview→Site Configuration.
11. Click Sites.
12. Right-click on the CAS server, and select Configure Site Components→Software Update Point.
13. Click on the Products tab, and select the checkbox next to Office 2010.
14. Click Apply, and click OK.
15. Click Software Library.
16. Expand Overview→Software Updates.
17. Right-click All Software Updates, select Synchronize Software Updates, and click Yes.
18. Check the wsyncmgr.log to confirm that synchronization has completed.
19. In the Configuration Manager Console, select All Software Updates.
20. Batch select all applicable Office 2010 updates, right-click, and select Create Software Update Group.
21. Enter the name for the software update group, and click Create.
22. Select Software Update Groups.
23. Right-click the new software update group, and select Download.
24. Select to create a new deployment package, enter a name for the package, and click Next.
25. Click to select the package source, click Select Folder, and click Next.
26. Click Add→Distribution Point, select the checkbox for the distribution point, and click OK.
27. Click Next.
28. Click Next.
29. Click Next.
30. Click Next.
31. At the Confirm the settings screen, click Next, and close the confirmation message.
32. Right-click the new software update group, and select Deploy.
33. Enter a name for the deployment.
34. Click Browse, select the appropriate collection, and click OK.
35. Click Next.
36. Click Next.
37. For the installation deadline, select As soon as possible, and click Next.
38. Select the checkbox next to Software updates installation and System restart, and click Next.
39. Click Next.
40. Click Next.
41. At the Confirm the settings screen, simultaneously start the stopwatch timer and click Next.
42. Stop the stopwatch timer when all software updates have installed on the client.

Capturing OS images using SCCM 2012

Through the Configuration Manager Console, we captured a Windows 8 Pro x64 image from the Dell Latitude 6430u and a Windows 7 Professional SP1 x64 image from the Dell Latitude E6400 using the following steps.

1. Launch the Configuration Manager Console on the primary server, and click Software Library.
2. Expand Overview → Operating Systems, and select Task Sequences.
3. Right-click Task Sequences, and select Create Task Sequence, which displays the Create Task Sequence Wizard window.
4. Select the Build and capture a reference operating system image radio button, and click Next.
5. Enter the name for the task sequence.
6. Click Browse, select the appropriate x64 boot image, click OK, and click Next.
7. Click Browse, select an image package, and click Next.
8. Enter a name for the workgroup, and click Next.
9. Click Next.
10. Click Next.
11. Click Next.
12. Click Next.
13. Click Next.
14. At the Capture image settings screen, click Browse and select the location for the captured image.
15. Click Set, enter the credentials of the user account with access to the output folder, and click Next.
16. Click Next, and close the confirmation message.
17. Right-click the new task sequence, and select Edit.
18. Right-click Build the Reference Machine, select Delete, and click Yes.
19. Click Add → General → Join a Domain or Workgroup.
20. Enter a workgroup, click Apply, and click OK.
21. Right-click the new task sequence, and select Deploy.
22. Click Browse, select the appropriate collection, and click OK.
23. Click Next.
24. Change the deployment to required, and make the deployment available to Configuration Manager clients, media and PXE.
25. Click New to set an assignment schedule, and select As soon as possible.
26. Select the checkbox next to Software installation and System restart, and click Next.
27. Click Next.
28. Click Next.
29. At the Confirm the settings for this new deployment screen, simultaneously start the stopwatch timer and click Next.
30. Stop the stopwatch timer when the capture has completed on the client.

Importing drivers using SCCM 2012 and DCIP

We imported driver packages for the Dell Latitude 6430u and the Dell Latitude E6400 using the following steps.

1. Launch the Configuration Manager Console on the primary server, and click Software Library.
2. Expand Overview → Operating Systems.
3. Right-click Driver Packages, and select Dell Client Integration Pack → Import Client Driver Package.
4. Click Browse, and navigate to the location of the Dell driver package.
5. Click to select the checkbox next to the distribution point.
6. Click Browse, and navigate to the location of the destination directory for the driver package source.
7. Simultaneously start the stopwatch timer, and click OK.

8. Stop the stopwatch timer when the driver package import has completed.

Installing OMCI 8.1.1

We installed the Dell OpenManage Client Instrumentation (OMCI) 8.1.1 on the Dell Latitude 6430u and the Dell Latitude E6400 using the following steps.

1. Launch the command prompt with administrator privileges.
2. Navigate to the directory with the downloaded OMCI update package, and run the executable.
3. Click Install.
4. Click Next.
5. Accept the license agreement terms, and click Next.
6. Select the typical installation type, and click Next.
7. Simultaneously start the stopwatch timer and click Install.
8. Stop the stopwatch timer when the installation has completed.

APPENDIX C – DETAILED TEST RESULTS

Figure 7 gives the detailed results for the tasks we completed on both the new Dell Latitude 6430u and the older Dell Latitude E6400.

Task	Dell Latitude 6430u	Dell Latitude E6400
Time to deploy an OS image using SCCM 2012 and DCIP	19:15.7	27:24.9
Time to apply updates to Office 2010 SP1 using SCCM 2012 and WSUS	13:53.9	15:33.0
Time to capture an OS image using SCCM 2012	38:06.4	41:19.1
Time to import a driver package using SCCM 2012 and DCIP	06:30.5	14:50.8
Time to install Dell OMCI 8.1.1	00:43.7	01:40.4

Figure 7: Time (in mintues:seconds) to perform client management tasks on the two systems. Lower numbers are better.

ABOUT PRINCIPLED TECHNOLOGIES



Principled Technologies, Inc.
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