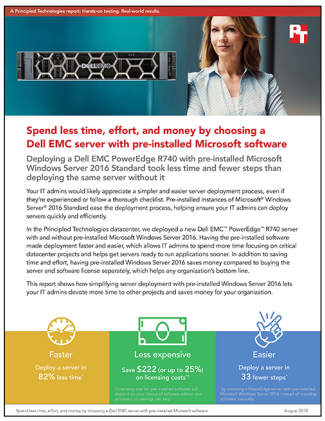

The science behind the report:

Spend less time, effort, and money by choosing a Dell EMC server with pre-installed Microsoft software

This document describes what we tested, how we tested, and what we found. To learn how these facts translate into real-world benefits, read the report "Spend less time, effort, and money by choosing a Dell EMC server with pre-installed Microsoft software".

On May 17, 2018, we finalized the hardware and software configurations we tested. Updates for current and recently released hardware and software appear often, so unavoidably these configurations may not represent the latest versions available when this report appears. For older systems, we chose configurations representative of typical purchases of those systems. We concluded hands-on testing on June 14, 2018.

Our results

The table below presents our findings in detail.

	Without pre-installed OEM software and using Lifecycle Controller		With pre-installed OEM software	
	Time	Steps	Time	Steps
Power on/power on and first time configuration	0:02:58	1	0:03:43	5
Setting up the Lifecycle Controller	0:00:48	4	N/A	N/A
Deploying the OS in Lifecycle Controller	0:02:02	9	N/A	N/A
Reboot	0:03:10	0	N/A	N/A
Installing Windows Server 2016 Standard	0:10:23	11	N/A	N/A
Setting up Windows	0:00:09	2	N/A	N/A
Login	0:00:16	0	N/A	N/A
Installing the iDRAC Service Module	0:00:26	11	N/A	N/A
Total	0:20:12	38	0:03:43	5

System configuration information

The table below presents detailed information on the systems we tested.

Server configuration information	Dell EMC™ PowerEdge™ R740
BIOS name and version	Dell 1.3.7
Non-default BIOS settings	N/A
Operating system name and version/build number	Microsoft® Windows Server® 2016 Standard 10.0.14393 Build 14393 (64-bit)
Date of last OS updates/patches applied	06/05/18
Power management policy	Performance
Processor	
Number of processors	2
Vendor and model	Intel® Xeon® Silver 4108
Core count (per processor)	8
Core frequency (GHz)	1.80
Stepping	4
Memory module(s)	
Total memory in system (GB)	64
Number of memory modules	4
Vendor and model	Hynix HMA82GR7AFR8N-VK
Size (GB)	16
Type	PC4-2666V
Speed (MHz)	2,400
Speed running in the server (MHz)	2,400
Storage controller 1	
Vendor and model	Dell PERC H330
Cache size (GB)	N/A
Firmware version	25.5.3.0005
Driver version	6.604.06.00
Storage controller 2	
Number of drives	BOSS-S1
Drive vendor and model	N/A
Drive size (GB)	2.5.13.2008
Drive information (speed, interface, type)	N/A

Server configuration information	Dell EMC™ PowerEdge™ R740
Local storage	
Number of drives	2
Drive vendor and model	Intel SSDSCKJB120G7R
Drive size (GB)	120
Drive information (speed, interface, type)	6Gb/s, SATA M.2, SSD
Network adapter	
Vendor and model	Broadcom 5720 2P 1Gb Base-T + 57412 2P 10Gb SFP+
Number and type of ports	2 x 1GbE, 2 x 10GbE
Driver version	20.6.0.5, 20.6.123.0
Cooling fans	
Vendor and model	Sunon VF60381B1
Number of cooling fans	6
Power supplies	
Vendor and model	Dell D495E-S1
Number of power supplies	2
Wattage of each (W)	495

How we tested

Deploying the Dell EMC PowerEdge R740 with pre-installed Microsoft Windows Server 2016

Configuring the system

1. Power on the system.
2. Accept the default home country/region, language, and keyboard layout. Click Next.
3. Accept the User Agreement.
4. Enter a password for the administrator, and click Finish.
5. Choose the default 60GB OS partition, and click OK.

When the Windows splash screen appears, setup is complete.

Deploying the Dell EMC PowerEdge R740 without pre-installed software

Setting up the Lifecycle Controller

1. Power on the system.
2. During the boot, select the boot option for Lifecycle Controller.
3. After the boot completes, keep all defaults in the Initial Setup Wizard, and click Next.
4. Click Next.
5. On the Network Settings screen, keep DHCP, verify that the correct NIC is selected, and click Next.

Deploying Windows Server 2016

1. In our testing we assumed the RAID had been configured in the factory.
2. In Lifecycle Controller, select OS Deployment.
3. Click Deploy OS.
4. Select Go Directly to OS Deployment, and click Next.
5. For the Boot Mode, select UEFI, leave the default OS (Windows Server 2016) selected, and click Next.
6. Click Next.
7. Click Next.
8. Click Finish.
9. To boot to the CD drive during reboot, press enter.
10. To enter Window's setup, press enter.

Installing Windows Server 2016 Standard

1. At the Windows Setup window, click Next.
2. Click Install now.
3. Enter the Windows product key, and click Next.
4. Select Windows Server 2016 Standard.
5. When prompted to load a media driver, click Browse.
6. Select Windows Server 2016 Standard Edition (Desktop Experience), and click Next.
7. Check I accept the license terms, and click Next.
8. Click Custom: Install Windows only (advanced).
9. Select the available volume, and click New and Apply.
10. On the pop-up, click OK.
11. Using the Primary partition, click Next.

Setting up Windows

1. Once the installation has completed and restarted into Windows, at the Customize settings screen, enter and confirm the password, and click Finish. We used `Password1`.
2. Using the password you created, log into Windows.

Installing the iDRAC Service Module

1. Navigate to http://www.dell.com/support/home/us/en/04/drivers/driversdetails?driverid=xk42j.
2. Click Download File.
3. Click Run.
4. Click Unzip.
5. Navigate to C:\OpenManage\iSM\windows.
6. Run the iDRACSvcMod.
7. In the Installation Wizard, click Next.
8. Click Next.
9. Click Next.
10. Click Install.
11. Once complete, click Finish.

Read the report at http://facts.pt/zhh82k ▶

This project was commissioned by Dell EMC.

Principled Technologies®

Facts matter.®

Principled Technologies is a registered trademark of Principled Technologies, Inc.
All other product names are the trademarks of their respective owners.

DISCLAIMER OF WARRANTIES; LIMITATION OF LIABILITY:
Principled Technologies, Inc. has made reasonable efforts to ensure the accuracy and validity of its testing, however, Principled Technologies, Inc. specifically disclaims any warranty, expressed or implied, relating to the test results and analysis, their accuracy, completeness or quality, including any implied warranty of fitness for any particular purpose. All persons or entities relying on the results of any testing do so at their own risk, and agree that Principled Technologies, Inc., its employees and its subcontractors shall have no liability whatsoever from any claim of loss or damage on account of any alleged error or defect in any testing procedure or result.

In no event shall Principled Technologies, Inc. be liable for indirect, special, incidental, or consequential damages in connection with its testing, even if advised of the possibility of such damages. In no event shall Principled Technologies, Inc.'s liability, including for direct damages, exceed the amounts paid in connection with Principled Technologies, Inc.'s testing. Customer's sole and exclusive remedies are as set forth herein.