



The science behind the report:

Empower more virtual desktop users with Dell EMC PowerEdge R650xs servers with 3rd Generation Intel Xeon Scalable processors

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 [Empower more virtual desktop users with Dell EMC PowerEdge R650xs servers with 3rd Generation Intel Xeon Scalable processors](#).

We concluded our hands-on testing on September 16, 2021. During testing, we determined the appropriate hardware and software configurations and applied updates as they became available. The results in this report reflect configurations that we finalized on September 15, 2021 or earlier. Unavoidably, these configurations may not represent the latest versions available when this report appears.

Our results

To learn more about how we have calculated the wins in this report, go to <http://facts.pt/calculating-and-highlighting-wins>. Unless we state otherwise, we have followed the rules and principles we outline in that document.

Table 1: Results of our VMware® View® Planner 4.6 benchmark and power efficiency testing.

	Dell EMC™ PowerEdge™ R640	Dell EMC PowerEdge R650xs
Total virtual desktop sessions per server	95	153
Total watts per server	459	652
Watts per VDI session	4.83	4.26

System configuration information

Table 2: Detailed information on the systems we tested.

System configuration information	Dell EMC PowerEdge R640	Dell EMC PowerEdge R650xs	Dell PowerEdge R650 (infrastructure servers and 3-node vSAN cluster)
BIOS name and version	Dell 2.11.2	Dell 1.2.1	Dell 0.4.3
Non-default BIOS settings	N/A	N/A	N/A
Operating system name and version/build number	VMware ESXi™, 7.0.2, 17867351	VMware ESXi 7.0.2, 17867351	VMware ESX, 7.0.2, 17867351
Date of last OS updates/patches applied	09/01/2021	09/01/2021	09/01/2021
Power management policy (OS)	Performance	Performance	Performance
Processor			
Vendor	Intel®	Intel	Intel
Name	Xeon® Gold	Xeon Gold	Xeon Gold
Model number	6230	6330	6330
Number of cores	20	28	28
Core frequency (GHz)	2.10	2.00	2.00
Stepping	Model 85 Stepping 7	Model 106 Stepping 6	Model 106 Stepping 6
Memory module(s)			
Total memory in system (GB)	768	1,024	1,024
Number of memory modules	24	16	16
Vendor and model	Samsung M393A4K40CB2-CTD	Hynix Semiconductor HMAA8GR7AJR4N-XN	Hynix Semiconductor HMAA8GR7AJR4N-XN
Type	PC4-21300	PC4-23400	PC4-23400
Size (GB)	32	64	64
Speed (MHz)	2,666	3,200	3,200
Speed running in the server (MHz)	2,666	2,933	2,933
Storage controller			
Vendor and model	Dell PERC H730P Mini	Dell PERC H755 Front	Dell PERC H755N Front
Firmware	25.5.8.0001	52.14.0-3901	N/A
Driver	7.717.04.00	7.717.04.00	N/A
Storage			
Number of drives	1	2	2
Drive controller	Internal Dual SD Module	Dell BOSS-S1	Dell BOSS-S2
Drive vendor and model	SD card	Micron MTFDDAV480TDS	Micron MTFDDAV480TDS
Drive size (GB)	32	450	450
Drive information (speed, interface, type)	USB	6 Gbps, AHCI M.2, SSD	6 Gbps, AHCI M.2, SSD

System configuration information	Dell EMC PowerEdge R640	Dell EMC PowerEdge R650xs	Dell PowerEdge R650 (infrastructure servers and 3-node vSAN cluster)
Local storage			
Vendor and Model	N/A	N/A	Dell Ent NVMe® AGN MU U.2
Size	N/A	N/A	1.6 TB
Count	N/A	N/A	8
Firmware	N/A	N/A	2.1.2
vSAN configuration			
Configuration summary	vSAN HCI Mesh over 2x LACP 10Gb	vSAN HCI Mesh over 2x LACP 10Gb	3-node vSAN cluster over 4x LACP 10Gb
Disk groups per host	N/A	N/A	2
Capacity disks per group	N/A	N/A	3
Cache disks per group	N/A	N/A	1
Storage Policy	N/A	N/A	vSAN Default Storage Policy
Space Efficiency	N/A	N/A	None
Data-at-rest encryption	N/A	N/A	Disabled
Data-in-transit encryption	N/A	N/A	Disabled
RDMA support	N/A	N/A	Disabled
Connectivity/expansion			
Ethernet #1	Intel 82599 10 Gigabit Dual Port Network Connection	Broadcom® BCM57414 NetXtreme-E 10Gb/25Gb RDMA Ethernet Controller	Intel Ethernet 25G 2P E810-XXV OCP
Ethernet #2	Broadcom Adv. Dual 10GBASE-T Ethernet	Broadcom Gigabit Ethernet BCM5720	Broadcom Gigabit Ethernet BCM5720
Power supplies			
Vendor and model number	Dell 09TMRFA01, Dell 0CMPGMA00	Dell 0FR0KXX30	Dell 01CW9GA03
Number of power supplies	2	2	2
Wattage of each (W)	1,100	1,100	1,400

How we tested

For the VDI test environment, we set up three Dell EMC PowerEdge R650 servers, installed VMware ESXi 7.0.2 on them, and created a VMware vSAN® cluster to host the View Planner harness VMs, VMware vCenter®, AD, and Horizon® 8 Connection Server. All three servers were connected to an S4048-ON switch via 10GbE dual-port uplinks using LACP load balancing for performance. Next, we set up the two servers under test: A Dell EMC PowerEdge R640 server equipped with two Intel Xeon Gold 6230 processors and 768 GB of memory; and a Dell EMC PowerEdge R650xs server equipped with Intel Xeon Gold 6330 processors and 1 TB of memory. The 3-node all-flash NVMe VMWare vSAN cluster was set up to support vSAN HCI Mesh over multiple 10GbE uplinks and provided the storage for both servers under test.

To determine the maximum number of VMs that each VDI environment could support, we used VMware View Planner 4.6 to generate workload simulations using common desktop productivity applications. During the benchmark testing, we used an Extech power monitoring unit to collect power data from each server under load. We ran the benchmark three times and collected data each time. We took the median benchmark scores and power utilization data to generate our results.

Configuring the Active Directory VM

We installed and configured a VM to host Active Directory services, DNS, DHCP, NTP, and to be a certificate authority. In addition, we created a golden VM for virtual desktops and applied registry edits to ensure testing executed correctly. All these functions are necessary to run our testing.

Installing Active Directory Domain Services

1. Log into the vSphere client as administrator@vsphere.local.
2. On the infrastructure server, deploy a Windows Server 2019 VM named DC1, and log in as an administrator.
3. Launch Server Manager.
4. Click Manage→Add Roles and Features.
5. At the Before you begin screen, click Next.
6. At the Select installation type screen, leave Role-based or feature-based installation selected, and click Next.
7. At the Server Selection Screen, select the server from the pool, and click Next.
8. At the Select Server Roles screen, select Active Directory Domain Services.
9. When prompted, click Add Features, and click Next.
10. At the Select Features screen, click Next.
11. At the Active Directory Domain Services screen, click Next.
12. At the Confirm installation selections screen, check Restart the destination server automatically if required, and click Install.

Configuring Active Directory and DNS services on DC1

1. After the installation completes, a screen should pop up with configuration options. If a screen does not appear, click the Tasks flag in the upper-right section of Server Manager.
2. Click Promote this server to a Domain Controller.
3. At the Deployment Configuration screen, select Add a new forest.
4. In the Root domain name field, type `test.local` and click Next.
5. At the Domain Controller Options screen, leave the default values, and enter a password twice.
6. To accept default settings for DNS, NetBIOS, and directory paths, click Next four times.
7. At the Review Options screen, click Next.
8. At the Prerequisites Check dialog, allow the check to complete.
9. If there are no relevant errors, check Restart the destination server automatically if required, and click Install.
10. When the server restarts, log on using `test\Administrator` and the password you chose in step 5.

Configuring the Windows time service on DC1

To ensure reliable time, we pointed our Active Directory server to an upstream NTP server.

1. Open a command prompt.
2. Type the following:

```
W32tm /config /syncfromflags:manual /manualpeerlist:"<ip address of a NTP server>"
W32tm /config /reliable:yes
W32tm /config /update
W32tm /resync
Net stop w32time
Net start w32time
```

Setting up DHCP services on DC1

1. Open Server Manager.
2. Select Manage, and click Add Roles and Features.
3. Click Next twice.
4. At the Select server roles screen, select DHCP Server.
5. When prompted, click Add Features, and click Next.
6. At the Select Features screen, click Next.
7. Click Next.
8. Review your installation selections, and click Install.
9. Once the installation completes, click Complete DHCP configuration.
10. On the Description page, click Next.
11. On the Authorization page, use the Domain Controller credentials (TEST\Administrator), and click Commit.
12. On the Summary page, click Close.
13. In the Add Roles and Features Wizard, click Close.
14. In Server Manager, click Tools→DHCP.
15. In the left pane, double-click your server, and click IPv4.
16. In the right pane, under IPv4, click More Actions, and select New Scope.
17. Click Next.
18. Enter a Name and Description for the scope, and click Next.
19. Enter the following values for the IP Address Range:
 - a. Start IP address: 172.16.10.1
 - b. End IP address = 172.16.100.254
 - c. Length = 16
 - d. Subnet mask = 255.255.0.0
20. Click Next.
21. At the Add Exclusions and Delay page, leave defaults, and click Next.
22. Set the Lease Duration to 30 days, and click Next.
23. At the Configure DHCP Options page, leave Yes selected, and click Next.
24. At the Router (Default Gateway) page, enter the gateway IP address, and click Next.
25. For the parent domain, at the Specify IPv4 DNS Settings screen, type test.local.
26. Type the preferred DNS server and IPv4 address, and click Next.
27. At the WINS Server page, leave the fields empty, and click Next.
28. At the Activate Scope page, leave Yes checked, and click Next.
29. Click Finish.

Installing and configuring SSL Certificate in Microsoft Active Directory on DC1

1. Log onto DC1 as administrator@test.local.
2. Open server manager.
3. Select Manage, and click add Roles and Features.
4. When the Add Roles and Features Wizard begins, click Next.
5. Select Role-based or feature-based installation, and click Next.
6. Select DC1.test.local, and click Next.
7. At the server roles menu, expand Active Directory Certificate Services.
8. Select Certification Authority, Certificate Enrollment Web Service, and Certification Authority Web Enrollment.
9. When prompted, click Add Features, and click Next.
10. Leave Select features as is, and click Next.
11. At the Active Directory Certificate Services introduction page, click Next.
12. Select Certificate Authority and Certificate Authority Web Enrollment.
13. When prompted, click Add Features, and click Next.
14. Click Next two times, click Install, and click Close.
15. In the server manager, click the yellow triangle titled Post-deployment configuration.
16. On the destination server, click Configure Active Directory Certificate Services.
17. Leave credentials as test\administrator, and click Next.
18. Select Certification Authority, Certificate Enrollment Web Service, Certification Authority Web Enrollment, and click Next.
19. Select Enterprise CA, and click Next.
20. Select Root CA, and click Next.
21. Select Create a new private key, and click Next.
22. Select SHA256 with a 2048 Key length, and click Next.
23. Leave the names fields and defaults, and click Next.
24. Change expiration to 10 years, and click Next.
25. Leave Certificate database locations as default, and click Next.
26. Click Configure.
27. When finished configuring, click Close.
28. Open a command prompt, and type ldap.
29. Click Connection, and connect.
30. For server, type dc1.test.local
31. Change the port to 636.
32. Check SSL, and click OK.

Configuring secure LDAP on DC1.test.local on DC1

1. Open administrative tools, and select Certification Authority.
2. Click test-DC1-CA→Certificate Templates.
3. Right-click Manage.
4. Right-click Kerberos Authentication, and select Duplicate Template.
5. Click General.
6. Rename the template and its display name.
7. Click Request Handling.
8. Check the box for Allow private key to be exported, and click OK.
9. Right-click the new template, and rename it LDAPoverSSL
10. Return to the Certificates console.
11. In the right pane, right-click New Certificate Template to Issue.
12. Select LDAPoverSSL, and click OK.

Joining VMware vCenter to Active Directory

1. In the vSphere client, click the Menu dropdown, and select Administration.
2. Under Single Sign On, select Configuration.
3. In the Identity Provider tab, select Active Directory Domain.
4. Select the vCenter, and click Join AD.
5. Enter the AD administrator credentials, and click OK.

Configuring VMware Horizon 8 Connection Server

Installing a VMware Horizon 8 Connection Server on a VMware View VM

1. On the infrastructure server, deploy a Windows Server 2019 VM with 8 vCPUs and 16 GB of memory named view, and log in as an administrator.
2. Join the VM to the test.local domain, reboot, and log back in as a domain administrator.
3. Browse to VMware View installation media, and run the installation executable file.
4. At the Welcome screen, click Next.
5. Agree to the End User License Agreement, and click Next.
6. Keep the default installation directory, and click Next.
7. Select View Standard Server, and click Next.
8. At the Data Recovery screen, enter a backup password, and click Next.
9. Allow View Server to configure the Windows firewall automatically, and click Next.
10. Authorize the local administrator to administer View, and click Next.
11. Choose whether or not to participate in the customer experience improvement program, and click Next.
12. To finish installing View Connection Server, complete the installation wizard.
13. Click Finish.
14. Reboot the server.

Configuring the VMware Horizon 8 Connection Server on the View VM

1. Open a web browser, and navigate to `http://<view connection1 FQDN>/admin`.
2. Log in as administrator.
3. Under Settings→Product Licensing and Usage, click Edit License.
4. Enter a valid license serial number, and click OK.
5. Under Settings→Servers, in the vCenter Servers tab, click Add.
6. Enter vCenter server credentials, and edit the following settings:
`Max concurrent vCenter provisioning operations: 20`
`Max concurrent power operations: 50`
`Max concurrent Instant Clone Engine provisioning operations: 20`
7. Click Next.
8. Enter full domain name and user credentials.
 - Do not use Reclaim VM disk space or Enable View Storage Accelerator.
9. At the ready to complete screen, click Finish.

Preparing the VMware View Planner 4.6 test harness

Deploying the VMware View Planner 4.6 OVA

1. Download the latest viewplanner-harness OVA file from VMware.
2. From the vCenter client, select the infra host, and right-click Deploy OVF Template.
3. In the deploy OVF Template wizard, select local file, and click Browse.
4. Select the viewplanner-harness OVA, click Open, and click Next.
5. Select a datacenter, and click Next.
6. Select the infrastructure host, and click Next.
7. Review details, and click Next.
8. Accept the license agreements, and click Next.
9. Select the infrastructure datastore, and click Next.
10. Select the isolated network, and click Next.
11. To deploy the harness, click Next, and click Finish.
12. Power on the new VM, and note the IP address.

Configuring the VMware View Planner 4.6 test harness

1. Open a browser, and navigate to `https://<ip address of the harness>`
2. Log in as follows:
 - User name: `vmware`
 - Password: `viewplanner`
3. Click Log in.
4. Click Servers
5. Select `infra`, and click Add New.
6. Enter the following information:
 - Name: `vCenter`
 - IP: `<hostname or ip of vCenter>`
 - Type: `vCenter`
 - Datacenter: `<Datacenter name>`
 - Domain: `vsphere.local`
 - Username: `administrator`
 - Password: `<SSO password for vCenter >`
7. Click Save.
8. Click Identity server.
9. Click Add new.
10. Enter the following information:
 - Name: `test.local`
 - IP: `<IP of DC1>`
 - Type: `microsoft_ad`
 - Username: `administrator`
 - Password: `<password for administrator@test.local>`
11. Click Save.

Preparing the Windows 10 Enterprise (x64) gold image VM

We created a Microsoft Windows 10 Enterprise VM; installed Microsoft Office Professional Plus 2019, Google Chrome™, and Adobe® Reader® DC on it; and prepared the VM for cloning.

Creating the Windows 10 gold VM

1. Log into vCenter via the VMware Web client.
2. Right-click the Virtual Machines tab, and select New Virtual Machine.
3. Select Create a new virtual machine.
4. Assign the name `view-gold`, and click Next.
5. Select the Dell EMC PowerEdge R650xs, and click Next.
6. Select the infrastructure datastore.
7. Choose compatible with ESXi 7.0 U2 and later, and click Next.
8. Choose Windows, choose Microsoft Windows 10 (64-bit), and click Next.
9. For CPUs, select 2 CPUs, 4 GB RAM, 50 GB Disk, and click Next.
10. Click Finish.
11. Right-click the VM, select Edit Settings.
12. Click the CD/DVD Drive dropdown, and select Datastore ISO file.
13. Browse to the Microsoft Windows 10 x64 installation disk ISO.
14. Click Connect.
15. Click OK.
16. Power on the Microsoft Windows 10 VM.

Installing Windows 10 Enterprise (x64) on the gold image VM

1. When the installation prompts you, press any key to begin setup.
2. Click Install now.
3. Select Windows 10 Enterprise, and click Next.
4. Accept the license terms, and click Next.
5. Select Custom, and select the drive that will contain the OS.
6. Click Next.
7. Select the keyboard layout, and click Yes.
8. Click Skip a second keyboard layout.
9. Click Domain join instead.
10. For the username, type `user`, and click Next.
11. Enter no password, and click Next.
12. At the privacy settings screen, click Accept.
13. To decline Cortana, click Not now.
14. Install VMware Tools, and select Complete Installation. For more information, visit http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=340.
15. Reboot the server.
16. Right-click the Start button, and click System.
17. Click Rename this PC, and enter a new name for the VM.
18. Click Next, and click Restart now.
19. Connect the machine to the Internet, and install all available Windows updates. Restart as necessary.
20. Join the domain, and shut down the VM.

Enabling host timer access

1. Open an SSH session to the ESXi host, and edit the `.vmx` file of the gold VM in vi.
2. Add an entry:

```
monitor_control.pseudo_perfctr = "1"
```
3. Save, and exit the file.
4. From vCenter, start the VM

Installing the VMware Horizon 8 agent on the gold Image VM

1. Navigate to the VMware Horizon View 8 media, and run the `VMware-Horizon-Agent-x86_64-2106-8.3.0-18287218.exe` file.
2. Click Run.
3. At the Welcome screen, click Next.
4. Accept the VMware end user license agreement, and click Next.
5. Select defaults, and click Next.
6. Click Install.
7. To reboot, click Yes.

Installing VMware View Planner agent

1. Double-click `viewplanner-agent-4.6.0.0-16995088.exe`.
2. Click Next.
3. Accept the End user license agreement.
4. Click Next.
5. Enter the IP address of the View Planner harness, and click Next.
6. Wait for the installer to complete, and click Finish.
7. Reboot the VM.

Installing Google Chrome on the gold image VM

1. Download the newest version of Chrome.
2. Double-click the installer executable, and click run.
3. Close Chrome.
4. Find the Selenium driver that matches your current version of Chrome at chromedriver.chromium.org/downloads.
5. Create a folder named `[baseVersion_fullVersion]` inside `C:\viewplanner\lib\chrome_driver`.
6. Extract chromedriver from downloaded zip, and copy to a new folder.
7. To prevent version changes during testing, rename `C:\Program: Files\Google\GoogleUpdate.exe` to `GoogleUpdateDisabled.exe`

Installing Adobe Reader DC

1. Download and install Adobe Reader from <http://acrobat.adobe.com>.
2. Do not install any McAfee add-ons.

Installing Office Professional Plus 2019 on the gold image VM

1. Install Microsoft Office Professional Plus 2019.
2. Open Windows Update, and click Advanced options.
3. Enable Receive updates for other Microsoft products, and click the back button.
4. Click Check for updates, and reboot if necessary.

Disabling Windows Updates

1. Click Start, and type `Services`
2. Scroll down to Windows Update, right-click it, and select Properties.
3. Under Startup type, select Disabled.
4. Under Service status, click Stop, and click OK.

Disabling Windows Firewall

1. Click Start, and type `Firewall`
2. Select Firewall & Network Protection.
3. Turn off Microsoft Defender Firewall for Domain, Private, and Public networks.

Setting Windows Media Player as default Video Player

1. Click Start, and select Settings.
2. Click Apps.
3. In the left pane, click Default.
4. Under Video player, select Windows Media Player.

Configuring Regedit for QuickPrep

To clone the clone the gold image with quick prep we needed to disable activation. To do this, we needed to edit the registry.

1. Click Start→Run, and type `regedit`
2. Browse to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\vmware-viewcomposer-ga`.
3. Right-click Skip License Activation, and click Modify.
4. Change the value from 0 to 1, and click OK.

Configuring Regedit for autologin

1. Click Start→Run, and type `regedit`
2. Browse to `HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Common\General`.
3. On the Edit menu, click New→DWORD (32-bit) Value.
4. Name the value `shownfirstrunoptin` and click Enter.
5. Double-click `shownfirstrunoptin`.
6. In the Edit DWORD dialog box, type 1 and click OK.
7. Browse to `HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\FirstRun`.
8. On the Edit menu, click New→DWORD (32-bit) Value.
9. Name the value `BootedRTM`, and click Enter.
10. Double-click `BootedRTM`.
11. In the Edit DWORD dialog box, type 1 and click OK.
12. Browse to `HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Registration`.
13. On the Edit menu, click New→DWORD (32-bit) Value.
14. Name the value `AcceptAllEulas`, and click Enter.
15. Double-click `AcceptAllEulas`.
16. In the Edit DWORD dialog box, type 1 and click OK.

Configuring Regedit to disable lock screen

1. Click Start→Run, and type `regedit`
2. Browse to HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows.
3. Right-click Windows.
4. Click New→Key.
5. Name the new key `Personalization`, and click Enter.
6. In the Personalization folder, right-click the right pane of the Registry Editor, and select New→DWORD (32-bit) Value.
7. Name the value `NoLockScreen` and click Enter.
8. Double-click `NoLockScreen`.
9. In the Edit DWORD dialog box, type `1` and click OK.

Configuring Regedit to suppress MS Office 2019 First Things First message

1. Click Start→Run, and type `regedit`
2. Browse to HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Common\General.
3. On the Edit menu, click New→DWORD (32-bit) Value.
4. Name the value `shownfirstrunoptin`, and click Enter.
5. Double-click `shownfirstrunoptin`.
6. In the Edit DWORD dialog box, type `1` and click OK.
7. Browse to HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\FirstRun.
8. On the Edit menu, click New→DWORD (32-bit) Value.
9. Name the value `BootedRTM`, and click Enter.
10. Double-click `BootedRTM`.
11. In the Edit DWORD dialog box, type `1` and click OK.
12. Browse to HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Registration.
13. On the Edit menu, click New→DWORD (32-bit) Value.
14. Name the value `AcceptAllEulas`, and click Enter.
15. Double-click `AcceptAllEulas`.
16. In the Edit DWORD dialog box, type `1` and click OK.

Optimizing the Windows 10 gold image VM

1. Download the Windows optimization tool from VMware.
2. Extract the zip file, and run `VMwareOSOptimizationTool.exe`.
3. Click Template, and select `VMWare\Windows 10`.
4. Click Analyze.
5. Select all suggestions, and click Optimize.
6. When settings finish applying, reboot the VM.

Finalizing the Windows 10 gold image VM

1. In vCenter, shut down the Windows 10 gold image, and copy it to the other two servers under test.
2. Start each clone
3. To accept the EULA and activate Office on each clone, run Word.
4. Shut down the VMs.
5. For all three gold images, right-click, and select Take a snapshot.
6. Name each snapshot, and click OK.

Deploying virtual desktops using VMWare Horizon 8 Connection Server

1. Open Horizon 8 View Administrator.
2. Log in as an administrator.
3. Select Settings→Domains.
4. Under Instant Clone Engine Domain Accounts, click Add.
5. Enter the Domain Name, Username, and Password for the domain administrator.
6. Click OK.
7. Under Inventory, click Desktops, and click Add.
8. If a More Information message pops up, click Ignore.
9. Select Automated Desktop Pool, and click Next.
10. Select Instant Clone, and click Next.
11. Select Dedicated, and leave Enable Automatic Assignment checked.
12. On the Storage Policy Management page, select Use VMware Virtual SAN, and click Next.
13. For the pool ID and display name, type pool, and click Next.
14. Under Naming Pattern, enter an appropriate name pattern for the pool with a variable name defined, such as `vditest-{n:fixed=3}`
 - Note this for the View Planner testing settings in the next section.
15. Select All Machines Up-Front.
16. Under Pool Sizing, type the max number of desktops, the number of spare (power on) desktops, and click Next.
17. Under vCenter Settings, select the following depending on where you are deploying virtual machines:
 - Golden Image in vCenter
 - Snapshot
 - VM folder location
 - Cluster
 - Resource pool
 - DataStore
18. Click Next.
19. On the Desktop Pool Settings page, leave defaults, and click Next.
20. On the Remote Display Protocol page, leave defaults, and click Next.
21. On the Advanced Storage Options page, leave defaults, and click Next.
22. Under Guest customization, select the following:
 - Domain: test.local (Administrator)
 - AD container: CN=Computers
 - Use Clone Prep
23. Click Next.
24. Click Submit.
 - Note: Because this testing is local, you do not need to specify any entitlements.

Creating the VMware View Planner benchmark run profiles

1. Log into the View Planner run harness GUI: [https://\[runharness IP\]/admin](https://[runharness IP]/admin).
2. Log in with the following credentials:
 - Username: `vmware`
 - Password: `viewplanner`
3. In the left pane, click Run Profile.
4. In the top-right window corner, click Add New.
5. Add a name for the profile.
6. Select local as the Run Mode.
7. Enter the desired number of VMs for VM/Session Count.
8. Leave Iteration Count at 5
9. Leave Rampup Time at 180, set Think Time to 1, and click Next.
10. Enter a name for the workgroup.
 - Note that it cannot start with a number.
11. Select the Workprofile Standard_Profile.
12. Leave Percent VM at 100%.
13. Next to Desktop VM, click the plus sign.
14. Enter in a prefix name which matches the prefix used in the pool above, "vdiptest-"
15. From the Infraserver dropdown, select your vCenter server.
16. Leave Vdiserver Name unfilled, click the green check, and click Next.
17. Review your profile, and click Finish.

Running the VMware View Planner benchmark

1. Open a browser to <http://<viewplanner IP address>/admin>, and login as `vmware`
2. Click Run, and click NEW RUN.
3. Select the Run Profile, enter a Run Name, and click Start.

Read the report at <http://facts.pt/kFl8QAd> ►

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