



## Save server management time and effort for IT staff

OpenManage Mobile and Quick Sync 2 make it faster and easier to perform a subset of common management tasks for new 14th generation Dell EMC PowerEdge servers powered by the Intel Xeon Processor Scalable family

Whether you're making plans with friends, ordering food, or setting the temperature on your thermostat, smartphone and tablet technology make everyday tasks faster and easier. New Intel® Xeon® Scalable processor-powered 14th generation Dell EMC PowerEdge™ servers with iDRAC Quick Sync 2 technology bring these automated advantages to the datacenter, too. IT datacenter administrators (ITDMs) can now connect to the new PowerEdge servers using the OpenManage™ Mobile app on their Android™ or iOS devices and perform a subset of routine, yet essential, server management tasks.

At Principled Technologies, we found it took less time and fewer steps to perform a basic setup of a new 14th generation PowerEdge server, view the health of the server, and view server inventory, using the OpenManage Mobile app and Quick Sync 2 technology compared to traditional, manual methods. The OpenManage Mobile app enables ITDMs to spend less time performing routine tasks and devote more time to other important datacenter initiatives. As you learn more about our findings, we'll explain how you and your company can benefit.



Quickly view server information to verify system settings

Up to 77% less time to view server inventory, firmware, and network details



Easily perform basic server setup for quick deployment

Up to 145 fewer steps to set up IP address and network settings



Troubleshoot more rapidly to attain less downtime

Up to 28% less time to view system events and Lifecycle Controller logs

## Automate datacenter processes to utilize skills more effectively

New 14th generation Dell EMC PowerEdge servers based on the Intel Xeon Processor Scalable family can bring a number of performance advantages to your company. For example, automating datacenter management activities can save time for ITDMs and IT support staff.

Saving time is truly valuable because hectic schedules and mundane repetitive tasks don't allow ITDMs and IT support staff to apply their valuable skills to more critical company operations. Relieving their schedules through increased efficiency allows ITDMs to dedicate more time to solving key operational challenges beyond server management, such as data analysis, capacity planning, and performance tuning. Your company may see boosts in productivity over time as a result.

Though we tested only a single Intel processor-based PowerEdge R640 server, Dell EMC has a broad portfolio of servers that offer the advantages of OpenManage Mobile and Quick Sync 2. Your company, and your ITDMs, could see similar time and effort savings, as well as accompanying benefits, with Dell EMC PowerEdge 14th generation server models. ITDMs who configure multiple servers at once, in addition to being able to see the basic time and steps savings multiplied, may also benefit from increased efficiencies that can come with using OpenManage Mobile and Quick Sync 2 technology to configure additional servers.



## OpenManage Mobile: Faster, easier, and fits in your pocket

Traditional approaches to server management in the datacenter have helped ITDMs for years. Now mobile devices are becoming traditional – and they are helping ITDMs in new ways. In addition to the time and effort savings, it's worth noting other significant differences between using the latest capabilities of OpenManage Mobile and a mobile device versus the traditional datacenter crash cart.

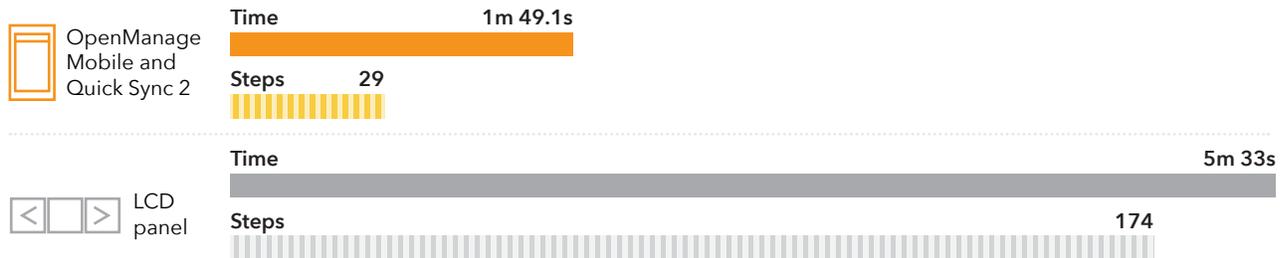
- Crash carts can be big and bulky. They sometimes have storage for tools and replacement hardware, in addition to supporting displays and sometimes desktop computers. Mobile devices running OpenManage Mobile can fit in the pocket of an ITDM (and ITDMs are likely to already carry one).
- Crash carts aren't always conveniently located. All of our crash cart scenarios assume the crash cart is next to the server—a best-case situation. It could take even longer for ITDMs to complete management tasks if they had to track down a crash cart and bring it to the appropriate server rack. Our times for using the crash cart are a minimum.
- A PowerEdge server must be powered on to use the crash cart to perform management tasks. Your ITDMs using OpenManage Mobile and Quick Sync 2 can communicate with servers that are plugged in, regardless of power state. If a PowerEdge server is in a powered-off state, OpenManage Mobile can provide essential info that is not dependent on the power state, such as server inventory and health and logs, and set up the server. In these situations, your ITDMs using traditional methods may also spend time waiting for the server to boot, which extends the time needed to complete the required task.

Some complex tasks might be better suited for traditional methods such as the crash cart. Experienced ITDMs who use either OpenManage Mobile or traditional approaches (or both) can decide how to best complete server management tasks.

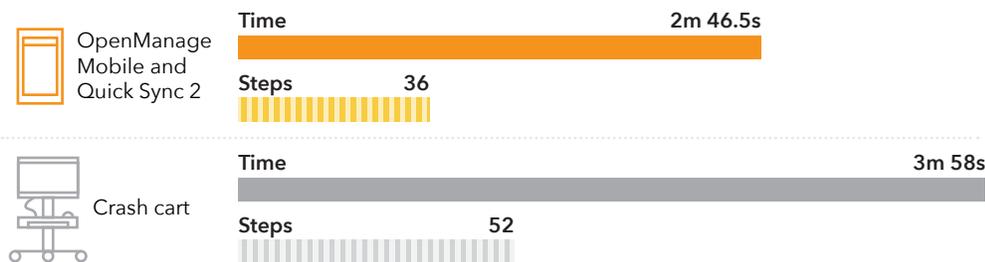


## Spend less time setting up servers

Whether you're adding new Intel processor-powered 14th generation PowerEdge servers to your datacenter or refreshing old servers, the new servers require careful setup to ensure correct functionality and network access. Getting through this process quickly cuts down the time that your ITDMs have to spend doing it and can help the server reach a fast time to value.



In our testing, we set up an iDRAC management IP address when setting up a Dell EMC PowerEdge R640 server. Compared to using the LCD front panel display of the server, using OpenManage Mobile reduced the time to complete this task by 67 percent, saving 3 minutes and 43 seconds. Using the app also reduced the number of steps by 145. That's 145 fewer opportunities to make a mistake.



To compare using the crash cart to using OpenManage Mobile with Quick Sync 2, we set up an iDRAC IP address, verified or enabled three BIOS settings, and changed the default iDRAC management password in a PowerEdge R640 server. Using OpenManage Mobile reduced the time to complete this process by 30 percent, saving 1 minute and 11 seconds. What's more, using the app required 16 fewer steps.

Your ITDMs using OpenManage Mobile could use this time savings to apply their skills to other needs for your company or to contribute to more time-intensive projects.

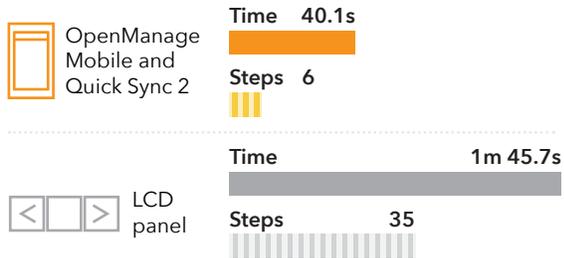
## Open a system console screen without a wired connection

Many server management tasks require quick access to the console screen, primarily using a crash cart. For a subset of these tasks, ITDMs using OpenManage Mobile in the datacenter can open a console screen directly from the mobile device. Dell EMC recommends a large mobile device, such as an Android tablet or iPad, for a better experience. As mentioned previously, some complex tasks might be better suited for traditional crash carts.



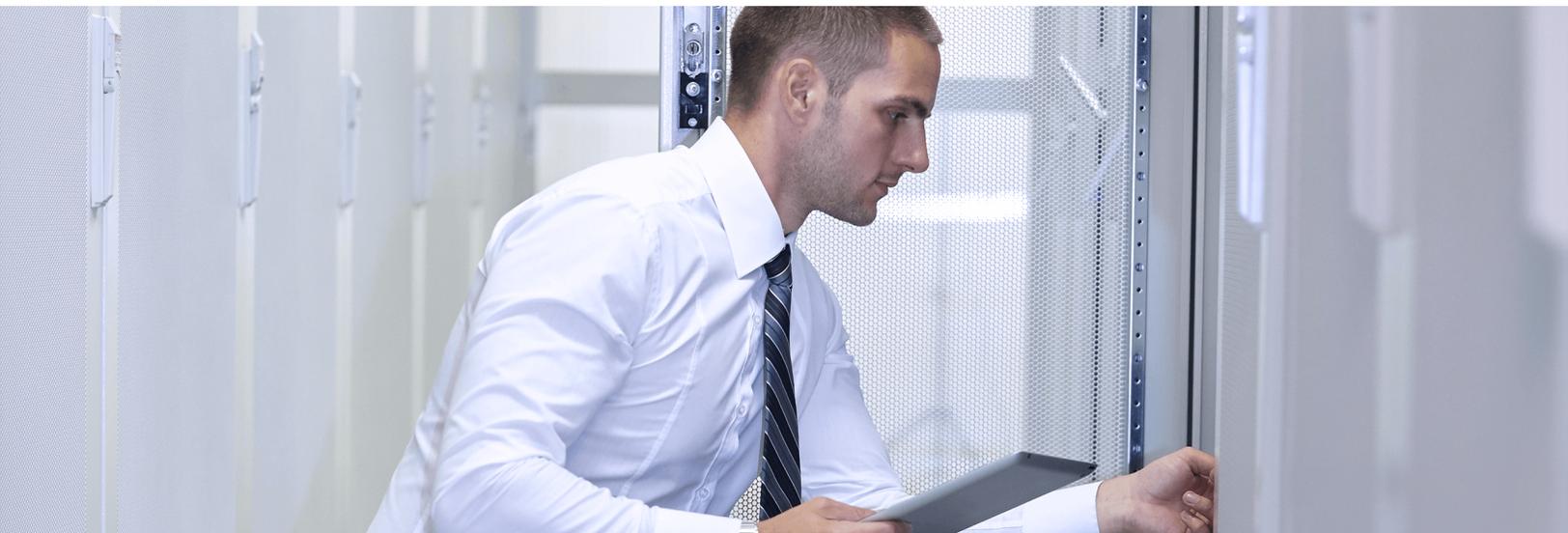
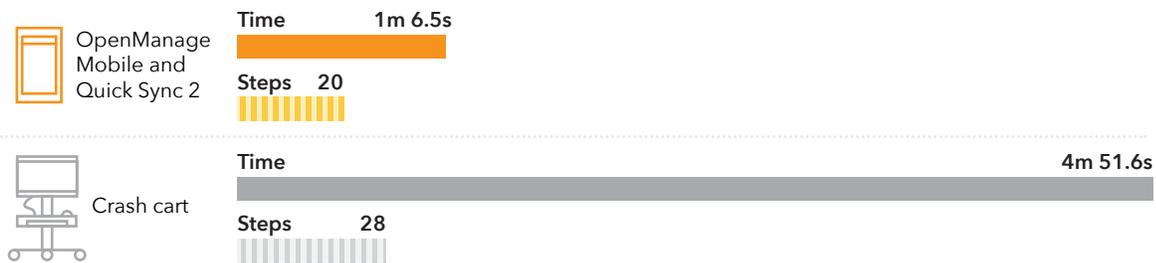
## Wait less when viewing server inventory

Server inventory allows ITDMs and others to quickly view vital server details. OpenManage Mobile makes it easy to find and view that information in an easy-to-read UI.



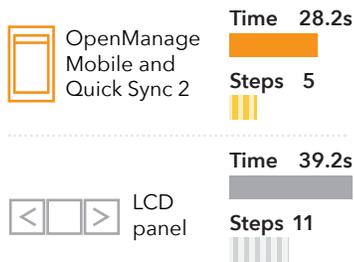
We viewed the iDRAC management network information and all network interface controller MAC addresses of a Dell EMC PowerEdge R640 server. OpenManage Mobile connected via Quick Sync 2 reduced the time to complete this process by 62 percent compared to using the LCD display, saving 1 minute and 5 seconds. Using the app required 29 fewer steps.

To compare using the crash cart to using the app, we verified hardware inventory and viewed firmware versions and network settings of a PowerEdge R640 server. Using OpenManage Mobile reduced the time to complete the tasks by 77 percent, saving 3 minutes and 45 seconds. What's more, using the app required 8 fewer steps.



## Expend less effort when viewing server logs in the datacenter

The causes of vehicle breakdowns aren't always immediately apparent. Mechanics often need to open a car's hood and look around before starting any repairs. Like cars and mechanics, successful fixes to server issues start when ITDMs can quickly identify the problem. ITDMs need fast access to system events and Lifecycle Controller logs to begin that fix.



Compared to the manual process using the LCD front panel display, using OpenManage Mobile with Quick Sync 2 reduced the time to complete the task by 28 percent, saving 11 seconds. In addition, using the app required 6 fewer steps to complete the task.

It's important to note here that if logs pile up, ITDMs using the LCD display would have to spend additional time manually scrolling through each log. Your ITDMs using this approach could view only one log at a time. In contrast, OpenManage Mobile shows you all the logs at once. This bird's-eye view of multiple server logs at once can help your ITDMs pinpoint the cause of a problem easily.



## Conclusion: IT datacenter administrators can save time by using Quick Sync 2 and OpenManage Mobile to manage new 14th generation Dell EMC PowerEdge servers powered by the Intel Xeon Processor Scalable family

Mobile device technology will continue to improve lives by making complex processes faster and easier. At Principled Technologies, we found that performing a subset of common server management tasks on a new 14th generation Dell EMC PowerEdge R640 server by using Quick Sync 2 and the OpenManage Mobile app saved time and required less effort than completing the tasks using the LCD front display screen or a crash cart. Using OpenManage Mobile can reduce time spent waiting by your busy ITDMs and allow them to apply their valuable skills to other datacenter initiatives and projects for your company. As Dell EMC has a portfolio of servers that support Quick Sync 2, your company and your ITDMs could see similar time and effort savings with other servers, in addition to the benefits from those savings.



On June 1, 2017, 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. We concluded hands-on testing on June 19, 2017.

## Appendix A: System configuration information

Server configuration information	Dell EMC PowerEdge R640
BIOS name and version	Dell EMC 0.4.6
Non-default BIOS settings	Performance mode
Operating system name and version/build number	N/A
Date of last OS updates/patches applied	N/A
Power management policy	Balanced
<b>Processor</b>	
Number of processors	2
Vendor and model	Intel® Xeon® Gold 6130
Core count (per processor)	16
Core frequency (GHz)	2.10
Stepping	H0
<b>Memory module(s)</b>	
Total memory in system (GB)	384
Number of memory modules	24
Vendor and model	Hynix HMA82GR7AFR8N-VK
Size (GB)	16
Type	PC4-21300
Speed (MHz)	2,666
Speed running in the server (MHz)	2,666
<b>Storage controller</b>	
Vendor and model	Dell EMC PERC H730p Mini
Cache size (GB)	2
Firmware version	25.5.0.0018
Driver version	N/A
<b>Local storage</b>	
Number of drives	3
Drive vendor and model	Dell P/N 0MFC6G (MZILS400HEGR0D3)
Drive size (GB)	400
Drive information (speed, interface, type)	SAS SSD



Server configuration information		Dell EMC PowerEdge R640
Network adapter		
Vendor and model	Dell P/N 0G8RPD (BCM57800)	
Number and type of ports	2 x 1Gb + 2 x 10GbE	
Driver version	N/A	
Cooling fans		
Vendor and model	Delta Electronics® GFC0412DS-D	
Number of cooling fans	8	
Power Supplies		
Vendor and model	Dell D750E-S6	
Number of power supplies	2	
Wattage of each (W)	750	

Phone configuration information		Google Pixel G-2PW4100
Processor		
Vendor	Qualcomm®	
Model number	Snapdragon™ 821	
Core frequency	2.15GHz + 1.6GHz	
Number of cores	4	
Memory		
Amount (GB)	4	
Type	LPDDR4	
Graphics		
Vendor	Qualcomm	
Model number	Adreno™ 530	
Storage		
Amount (GB)	32	
Connectivity		
Wireless internet	802.11ac (802.11a/b/g/n compatible)	
Bluetooth®	4.2	
Display		
Size	5.0"	
Type	FHD AMOLED	
Resolution	1920 x 1080	



Phone configuration information	Google Pixel G-2PW4100
Cameras	
Front-facing	8MP fixed focus
Rear-facing	12.3MP phase detection autofocus + laser detection autofocus
Operating system	
Vendor	Android™
Name	Nougat
Build number or version	7.1.2
Dimensions	
Height (in.)	5.66
Width (in.)	2.73
Depth (in.)	0.30
Weight (lbs.)	0.31



# Appendix B: How we tested

## Setting up OpenManage Mobile

1. Install the application on your device.
2. Open the application.
3. To accept the End User License Agreement, tap Agree.
4. At Diagnostics and Usage, tap Not now.
5. At the Create password screen, tap Skip.
6. At the Warning screen, tap Yes.
7. At the Demo Mode screen, press Continue to OpenManage Mobile.

Note: The first time you use OpenManage Mobile to perform certain tasks, you may be prompted to complete the following actions:

- a. If prompted to allow OpenManage Mobile to access this device's location, tap Allow.
- b. If prompted to allow Open ManageMobile to take pictures and record video, tap Allow.

## Completing initial setup (vs. crash cart)

### Tasks for this scenario:

1. Setting iDRAC IP address
  - Assumptions: Class B IP address
    - ♦ IP address: 172.16.10.120
    - ♦ Subnet mask: 255.255.0.0
    - ♦ Gateway: 172.16.10.121
    - ♦ Primary DNS: 172.16.10.101
    - ♦ Secondary DNS: 172.16.10.102
2. Verifying/enabling three BIOS settings
  - Hyperthreading: Enabled
  - Virtualization: Enabled
  - Profile: Performance mode
3. Changing default iDRAC password

### Completing initial setup manually – Crash cart/iDRAC

1. Plug the crash cart power strip into a power outlet.
2. Remove the front server bezel.
3. Connect a monitor to the server front panel VGA connector.
4. Connect a keyboard/mouse to the server front panel USB.
5. Power on or reboot the server.
6. To enter System Setup, press F2.
7. Click iDRAC Settings.
8. Click Network.
9. Scroll down to IPV4 settings, and change Enable DHCP to Disabled.
10. Click the Static IP Address checkbox.
11. Enter the IP address.
12. Click the Static Gateway checkbox.
13. Enter the gateway address.
14. Click the Static Subnet Mask checkbox.
15. Enter the subnet mask.
16. Verify that Use DHCP to obtain DNS server addresses is set to Disabled.
17. Click the Static preferred DNS Server checkbox.
18. Enter the static preferred DNS.
19. Click the Alternate DNS server checkbox.
20. Enter the alternate DNS.
21. Click Back.
22. Click Finish.
23. At the Saving Changes warning pop-up, click Yes.



24. At the Saving Changes success pop-up, click OK.
25. Click System BIOS.
26. Click Processor Settings.
27. Verify that Logical Processor and Virtualization Technology is enabled.
28. Click Back.
29. Click System Profile Settings.
30. From the pull-down menu, select Performance.
31. Click Back.
32. Click Finish.
33. When the warning pop-up asks if you would like to save changes, click Yes.
34. At the Success pop-up, click OK.
35. Click Finish.
36. At the Confirm Exit pop-up, click Yes.
37. Disconnect the keyboard/mouse from the server front panel USB.
38. Disconnect the monitor from the server front panel VGA connector.
39. Replace the front server bezel.
40. Unplug the crash cart power strip.
41. Log into a system connected to the management network.
42. Open a browser on the system.
43. Enter the IP address of the iDRAC (from step 11).
  - a. If a warning prompts you, click Proceed to IP address (unsafe).
44. Click the Username checkbox.
45. Type the username `root`.
46. Click the Password checkbox.
47. Enter the password (default password is located on a pull-out tag on the front of the server).
48. When the prompt tells you to configure a new password for the default username (`root`), click the New Password checkbox.
49. Enter the new password.
50. Click the Confirm Password checkbox.
51. Enter the password again.
52. Click Continue.

## Completing initial setup using Quick Sync 2 – Android smartphone

1. Unlock the smartphone.
2. Open the OpenManage Mobile application.
3. In the Servers section, tap the + symbol.
4. For connection method, select Quick Sync 2.
5. On the front of the server, press the iDRAC Quick Sync button.
6. Select the discovered server.
7. Tap OK to Accept Certificate.
8. At the Where is my QR code screen, tap Continue.
9. Pull out the black label on the server, and use the smartphone camera to scan the QR code.
10. When the system is added to inventory, tap the drop-down menu in the top left corner.
11. Tap Configure Servers.
12. Tap Select Servers.
13. Tap the newly-added server, and tap Next.
14. Tap Manual Configuration.
15. Tap IPV4 SETTINGS.
16. Tap Enable DHCP to disable it.
17. For the IP address, tap the top field.
18. Using the smartphone keyboard, enter the IP address.
19. For the Gateway address, tap the middle field.
20. Using the smartphone keyboard, enter the Gateway address.
21. For the Subnet Mask, tap the third field.
22. Using the smartphone keyboard, enter the subnet mask.
23. Tap the Use DHCP for DNS checkbox to ensure that it is not selected.
24. For the primary DNS address, tap the fifth field.



25. Using the smartphone keyboard, enter the primary DNS address.
26. For the secondary DNS address, tap the sixth field.
27. Using the smartphone keyboard, enter the secondary DNS address.
28. Tap ROOT CREDENTIALS.
29. Tap the first field, and enter the new password.
30. Tap the second field, and confirm the new password.
31. Tap BIOS CONFIGURATION.
32. Verify that Logical Processor and Virtualization Technology is enabled.
33. Under System Profile, tap the drop-down menu.
34. Tap Performance.
35. Tap Apply.
36. At the Configuration Task started prompt, tap Home.

## Completing initial setup (vs. LCD panel)

### Tasks for this scenario:

1. Setting iDRAC IP address
  - Assumptions: Class B IP address
    - ♦ IP address: 172.16.10.120
    - ♦ Subnet mask: 255.255.0.0
    - ♦ Gateway: 172.16.10.121
    - ♦ Primary DNS: 172.16.10.101
    - ♦ Secondary DNS: 172.16.10.102

### Completing initial setup manually: LCD panel

1. Press Select.
2. To highlight Setup, press the right arrow button.
3. Press Select.
4. While highlighting iDRAC, press Select.
5. To highlight Static IP, press the right arrow button.
6. Press Select.
7. To get to the first number you will change, the second digit in the IP address, press the right arrow.
8. Press Select.
9. Press the arrow buttons until you get to the correct number.
10. Press Select.
11. To navigate to the next number you will change, the fourth digit in the IP address, press the right arrow.
12. Press Select.
13. Press the arrow buttons until you get to the correct number.
14. Press Select.
15. To get to the next number, the fifth digit, press the arrow button.
16. Press Select.
17. Press the arrow buttons until you get to the correct number.
18. Press Select.
19. To get to the next number, the sixth digit, press the arrow button.
20. Press Select.
21. Press the arrow buttons until you get to the correct number.
22. Press Select.
23. To get to the next number, the eighth digit, press the arrow button.
24. Press Select.
25. Press the arrow buttons until you get to the correct number.
26. Press Select.
27. To get to the next number, the ninth digit, press the arrow button.
28. Press Select.
29. Press the arrow buttons until you get to the correct number.
30. Press Select.
31. To get to the next number, the tenth digit, press the arrow button.



32. Press Select.
33. Press the arrow buttons until you get to the correct number.
34. Press Select.
35. To get to the next number, the eleventh digit, press the arrow button.
36. Press Select.
37. Press the arrow buttons until you get to the correct number.
38. Press Select.
39. To get to the next number, the twelfth digit, press the arrow button.
40. Press Select.
41. Press the arrow buttons until you get to the correct number.
42. Press Select.
43. Press the arrow button to get to the >> symbol.
44. Press Select.
45. To navigate to the first number you will change in the subnet, the seventh digit, press the arrow button.
46. Press Select.
47. Press the arrow buttons until you get to the correct number.
48. Press Select.
49. To get to the next number, the eighth digit, press the arrow button.
50. Press Select.
51. Press the arrow buttons until you get to the correct number.
52. Press Select.
53. To get to the next number, the ninth digit, press the arrow button.
54. Press Select.
55. Press the arrow buttons until you get to the correct number.
56. Press Select.
57. Press the arrow button to get to the >> symbol.
58. Press Select.
59. To navigate to the first number you will change in the gateway, the second digit, press the arrow button.
60. Press Select.
61. Press the arrow buttons until you get to the correct number.
62. Press Select.
63. To get to the next number, the fourth digit, press the arrow button.
64. Press Select.
65. Press the arrow buttons until you get to the correct number.
66. Press Select.
67. To get to the next number, the fifth digit, press the arrow button.
68. Press Select.
69. Press the arrow buttons until you get to the correct number.
70. Press Select.
71. To get to the next number, the sixth digit, press the arrow button.
72. Press Select.
73. Press the arrow buttons until you get to the correct number.
74. Press Select.
75. To get to the next number, the eighth digit, press the arrow button.
76. Press Select.
77. Press the arrow buttons until you get to the correct number.
78. Press Select.
79. To get to the next number, the ninth digit, press the arrow button.
80. Press Select.
81. Press the arrow buttons until you get to the correct number.
82. Press Select.
83. To get to the next number, the tenth digit, press the arrow button.
84. Press Select.
85. Press the arrow buttons until you get to the correct number.
86. Press Select.
87. To get to the next number, the eleventh digit, press the arrow button.



88. Press Select.
89. Press the arrow buttons until you get to the correct number.
90. Press Select.
91. To get to the next number, the twelfth digit, press the arrow button.
92. Press Select.
93. Press the arrow buttons until you get to the correct number.
94. Press Select.
95. Press the arrow button to get to the >> symbol.
96. Press Select.
97. While Yes is highlighted under Setup DNS, press Select.
98. To navigate to the first number you will change in the primary DNS, the second digit, press the right arrow.
99. Press Select.
100. Press the arrow buttons until you get to the correct number.
101. Press Select.
102. To get to the next number, the fourth digit, press the arrow button.
103. Press the Select.
104. Press the arrow buttons until you get to the correct number.
105. Press Select.
106. To get to the next number, the fifth digit, press the arrow button.
107. Press Select.
108. Press the arrow buttons until you get to the correct number.
109. Press Select.
110. To get to the next number, the sixth digit, press the arrow button.
111. Press Select.
112. Press the arrow buttons until you get to the correct number.
113. Press Select.
114. To get to the next number, the eighth digit, press the arrow button.
115. Press Select.
116. Press the arrow buttons until you get to the correct number.
117. Press Select.
118. To get to the next number, the ninth digit, press the arrow button.
119. Press Select.
120. Press the arrow buttons until you get to the correct number.
121. Press Select.
122. To get to the next number, the tenth digit, press the arrow button.
123. Press Select.
124. Press the arrow buttons until you get to the correct number.
125. Press Select.
126. To get to the next number, the eleventh digit, press the arrow button.
127. Press Select.
128. Press the arrow buttons until you get to the correct number.
129. Press Select.
130. To get to the next number, the twelfth digit, press the arrow button.
131. Press Select.
132. Press the arrow buttons until you get to the correct number.
133. Press Select.
134. Press the arrow button to get to the >> symbol.
135. Press Select.
136. To navigate to the first number you will change in the secondary DNS, the second digit, press the right arrow.
137. Press Select.
138. Press the arrow buttons until you get to the correct number.
139. Press Select.
140. To get to the next number, the fourth digit, press the arrow button.
141. Press Select.
142. Press the arrow buttons until you get to the correct number.
143. Press Select.



144. To get to the next number, the fifth digit, press the arrow button.
145. Press Select.
146. Press the arrow buttons until you get to the correct number.
147. Press Select.
148. To get to the next number, the sixth digit, press the arrow button.
149. Press Select.
150. Press the arrow buttons until you get to the correct number.
151. Press Select.
152. To get to the next number, the eighth digit, press the arrow button.
153. Press Select.
154. Press the arrow buttons until you get to the correct number.
155. Press Select.
156. To get to the next number, the ninth digit, press the arrow button.
157. Press Select.
158. Press the arrow buttons until you get to the correct number.
159. Press Select.
160. To get to the next number, the tenth digit, press the arrow button.
161. Press Select.
162. Press the arrow buttons until you get to the correct number.
163. Press Select.
164. To get to the next number, the eleventh digit, press the arrow button.
165. Press Select.
166. Press the arrow buttons until you get to the correct number.
167. Press the select button to set.
168. To get to the next number, the twelfth digit, press the arrow button.
169. Press Select.
170. Press the arrow buttons until you get to the correct number.
171. Press Select.
172. Press the arrow button to get to the >> symbol.
173. Press Select.
174. While Yes is highlighted under Save, press Select.

## Completing initial setup using Quick Sync 2 – Android smartphone

1. Unlock the smartphone.
2. Open the OpenManage Mobile application.
3. In the Servers section, tap the + symbol.
4. Select Quick Sync 2 as the connection method.
  - a. If a prompt asks you to allow OpenManage Mobile to access this device's location, tap Allow.
5. On the front of the server, tap the iDRAC Quick Sync button.
6. Select the discovered server.
7. Tap OK to Accept Certificate.
  - a. If a prompt asks you to Allow OpenManage Mobile to take pictures and record video, tap Allow.
8. At the Where is my QR code screen, tap Continue.
9. Pull out the black label on the server, and use the smartphone camera to scan the QR code.
10. When the system is added to inventory, tap the drop-down menu in the top-left corner.
11. Tap Configure Servers.
12. Tap Select Servers.
13. Tap the newly-added server, and tap Continue.
14. Tap Manual Configuration.
15. Tap IPV4 SETTINGS.
16. Tap Enable DHCP to disable it.
17. For the IP address, tap the top field.
18. Using the smartphone keyboard, enter the IP address.
19. For the Gateway address, tap the middle field.
20. Using the smartphone keyboard, enter the Gateway address.
21. For the Subnet Mask, tap the third field.



22. Using the smartphone keyboard, enter the Subnet Mask.
23. Tap the Use DHCP for DNS checkbox to ensure it is not selected.
24. For the primary DNS address, tap the fifth field.
25. Using the smartphone keyboard, enter the primary DNS address.
26. For the secondary DNS address, tap the sixth field.
27. Using the smartphone keyboard, enter the secondary DNS address.
28. Tap Apply.
29. At the Configuration Task started prompt, tap Home.

## Viewing server inventory (vs. crash cart)

### Tasks for this scenario

1. Verifying hardware inventory
  - View CPU model
  - View memory speed
2. Viewing firmware versions
  - BIOS
  - Lifecycle Controller
  - RAID controller
  - System CPLD
3. Viewing network settings
  - IP address
  - Default gateway
  - DNS address

### Viewing server inventory manually – Crash cart

1. Plug the crash cart power strip into a power outlet.
2. Remove the front server bezel.
3. Connect a monitor to the server front panel VGA connector.
4. Connect a keyboard/mouse to the server front panel USB.
5. Power on or reboot the server.
6. To enter Lifecycle Controller, press F10.
7. Click Hardware Configuration.
8. Click Hardware Inventory.
9. Click View Current Inventory.
10. From the Filter by Hardware Component drop-down menu, select CPU 1.
11. View the CPU model, and verify that virtualization Technology and HyperThreading are both enabled.
12. Select DIMM A1, and verify that the speed is 2666MHz.
13. Click Back.
14. Click Back.
15. Click Firmware Update.
16. Click View Current Versions.
17. Verify that the BIOS, Lifecycle Controller, PERC H730P Mini, and System CPLD are all up to date (0.4.6; 3.00.00.00; 25.5.0.0018; 0.4.0).
18. To return to the main menu, click Back.
19. Select Settings.
20. Select Network Settings.
21. Check the IP Address, Default Gateway, and DNS Address.
22. To return to the main menu, click Back.
23. Click Exit.
24. To confirm exit and reboot, click Yes.
25. Disconnect the keyboard/mouse connection.
26. Disconnect the monitor connection.
27. Reinstall the front bezel.
28. Unplug the crash cart.



## Viewing server inventory using Quick Sync 2 – Android smartphone

1. Unlock the smartphone.
2. Open the OpenManage Mobile application.
3. On the front of the server, press the iDRAC Quick Sync button.
4. Under Servers in the OpenManage Mobile application, tap the appropriate server.
5. Tap Hardware Inventory.
6. Tap CPU Details.
7. View the CPU model, and scroll to verify that Virtualization Technology and HyperThreading are both enabled.
8. Tap the Back button.
9. Tap Memory Details.
10. View the first DIMM, and verify that the speed is 2666MHz.
11. Tap the Menu button.
12. Tap Home.
13. Under Servers, tap the appropriate server.
14. Tap Firmware Details.
15. Verify that the BIOS, Lifecycle Controller, PERC H730P Mini, and System CPLD are all up to date (0.4.6; 3.00.00.00; 25.5.0.0018; 0.4.0).
16. Tap the Menu button.
17. Tap Home.
18. Under Servers, tap the appropriate option.
19. Tap Network Details.
20. Verify the IP address, default gateway, and DNS Address.

## Viewing server inventory (network details only vs. LCD panel)

### Tasks for this scenario

1. Viewing network settings
  - IP address
  - Default gateway
  - DNS address
2. Viewing MAC addresses of all NICs
  - iDRAC
  - Net1 (1Gb)
  - Net2 (1Gb)
  - Net3 (10Gb)
  - Net4 (10Gb)

### Viewing server inventory manually: LCD panel

1. Press Select.
2. To navigate to View, press the right arrow button twice.
3. Press Select.
4. While iDRAC IP is highlighted, press Select.
5. While IPv4 is highlighted, press Select.
6. While IP is highlighted, press Select, and view the IP address.
7. Press Select.
8. To highlight Subnet, press the right arrow button.
9. To view the subnet mask, press Select.
10. Press Select.
11. To highlight Gateway, press the right arrow button twice.
12. To view the gateway IP address, press Select.
13. Press Select.
14. To highlight DNS, press the right arrow button three times.
15. Press Select.
16. While Primary is highlighted, press Select, and view the primary DNS address.
17. Press Select.
18. To highlight Secondary, press the right arrow button twice.



19. To view the secondary DNS address, press Select.
20. To exit to the View submenu, press Select four times.
21. To highlight MAC, press the right arrow button three times.
22. Press Select.
23. To view the iDRAC MAC address, press Select.
24. Press Select.
25. To highlight Net1, press the right arrow button six times.
26. To view the Net1 MAC address, press Select.
27. Press Select.
28. To highlight Net2, press the right arrow button seven times.
29. To view the Net2 MAC address, press Select.
30. Press Select.
31. To highlight Net3, press the right arrow button eight times.
32. To view the Net3 MAC address, press Select.
33. Press Select.
34. To highlight Net4, press the right arrow button nine times.
35. To view the Net4 MAC address, press Select.

### Viewing server inventory using Quick Sync 2 – Android smartphone

1. Unlock the smartphone.
2. Open the OpenManage Mobile application.
3. On the front of the server, press the iDRAC Quick Sync button.
4. Under Servers in the OpenManage Mobile application, tap the appropriate server.
5. Tap Network Details.
6. Scroll to verify the iDRAC IP address, default gateway, DNS Address, and MAC addresses of iDRAC and the four NIC ports.

### Viewing server logs (vs. LCD panel)

Note: To generate logs to be viewed, we unplugged power from one of the PSUs on the server.

#### Tasks for this scenario

1. Viewing server logs (system events/lifecycle logs)

#### Viewing server logs manually – LCD panel

1. Press Select.
2. To highlight Error, press the right arrow button.
3. Press Select.
4. To highlight 1, press the right arrow button.
5. To view the first log, press Select.
6. Press Select.
7. To highlight 2, press the right arrow button.
8. To view the second log, press Select.
9. Press Select.
10. To highlight 3, press the right arrow button.
11. To view the third log, press Select.

#### Viewing server logs using Quick Sync 2 – Android smartphone

1. Unlock the smartphone.
2. Open the OpenManage Mobile application.
3. On the front of the server, press the iDRAC Quick Sync button.
4. Under Servers in the OpenManage Mobile application, tap the appropriate server.
5. Tap System Event/Lifecycle Errors, and view the recent system events.



## Appendix C: Detailed test results

### OpenManage Mobile and Quick Sync 2 vs. using a crash cart: Time to complete tasks

Time	Initial setup	View server inventory
Crash cart		
Run 1	03:55.0	04:56.0
Run 2	04:03.7	04:51.6
Run 3	03:58.0	04:49.2
<b>Median run (mm:ss.s)</b>	<b>03:58.0</b>	<b>04:51.6</b>
OpenManage Mobile + Quick Sync 2		
Run 1	02:46.5	01:06.5
Run 2	02:41.1	01:09.0
Run 3	02:49.1	01:05.4
<b>Median run (mm:ss.s)</b>	<b>02:46.5</b>	<b>01:06.5</b>
<b>Time difference</b>	<b>01:11.6</b>	<b>03:45.1</b>
<b>Percentage win</b>	<b>30.06%</b>	<b>77.20%</b>

### OpenManage Mobile and Quick Sync 2 vs. using a crash cart: Steps to complete tasks

Steps	Initial setup	View server inventory
Crash cart		
Steps	52	28
OpenManage Mobile + Quick Sync 2		
Steps	36	20
<b>Steps difference</b>	<b>16</b>	<b>8</b>
<b>Percentage win</b>	<b>30.77%</b>	<b>28.57%</b>



## OpenManage Mobile and Quick Sync 2 vs. using the LCD panel: Time to complete tasks

Time	Initial network setup	View network details	View server logs
LCD panel			
Run 1	05:28.4	01:50.9	00:39.6
Run 2	05:37.3	01:43.5	00:37.9
Run 3	05:33.0	01:45.7	00:39.2
<b>Median run (mm:ss.s)</b>	<b>05:33.0</b>	<b>01:45.7</b>	<b>00:39.2</b>
OpenManage Mobile + Quick Sync 2			
Run 1	01:49.1	00:39.4	00:28.0
Run 2	01:52.6	00:40.9	00:28.2
Run 3	01:48.0	00:40.1	00:28.9
<b>Median run (mm:ss.s)</b>	<b>01:49.1</b>	<b>00:40.1</b>	<b>00:28.2</b>
<b>Time difference</b>	<b>03:43.9</b>	<b>01:05.6</b>	<b>00:11.0</b>
<b>Percentage win</b>	<b>67.24%</b>	<b>62.03%</b>	<b>28.09%</b>

## OpenManage Mobile and Quick Sync 2 vs. using the LCD panel: Steps to complete tasks

Steps	Initial network setup	View network details	View server logs
LCD panel			
Steps	174	35	11
OpenManage Mobile + Quick Sync 2			
Steps	29	6	5
<b>Steps difference</b>	<b>145</b>	<b>29</b>	<b>6</b>
<b>Percentage win</b>	<b>83.33%</b>	<b>82.86%</b>	<b>54.55%</b>

This project was commissioned by Dell Technologies.



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