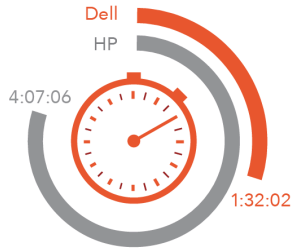


# SUMMARY: THE BENEFITS OF DELL POWEREDGE FX ARCHITECTURE

## DELL™ POWEREDGE™ FX2 SOLUTION SAVED ON TIME, LABOR, AND NETWORKING COSTS

**62.8%  
LESS  
TIME**

and 133 fewer steps  
to deploy 42 servers

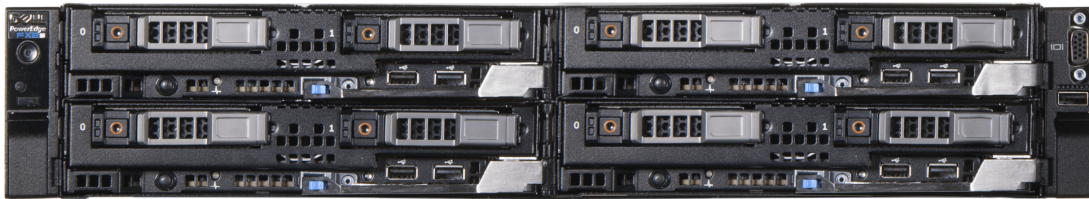


**UP TO 28.5%  
SAVINGS**

on networking hardware costs



The Dell PowerEdge FX2 enclosure with FC630 servers reduced labor and hardware costs thanks to advanced architecture and time-saving management features.



**POWERED BY  
THE INTEL® XEON®  
PROCESSOR E5-2600  
V3 PRODUCT FAMILY**

\*compared to HP ProLiant DL360 Gen9 rack servers

Data center space comes at a premium, so every inch counts when it comes to your hardware solutions. Increasing density can deliver savings in space, power, cooling, build-out, and port costs, but investing in a full-size blade enclosure can be a daunting expense. That's where the shared infrastructure design of the Dell PowerEdge FX2 solution comes into play. Powered by Intel Xeon E5-2600 v3 Series processors, PowerEdge FX converged architecture combines the best of rack and blade servers and fits right-sized building blocks of server and storage options to meet your specific needs into a 2U rack enclosure.

In the Principled Technologies labs, we looked at two ways PowerEdge FX architecture can be an asset to data centers. First, we found that the Dell PowerEdge FX2 solution increased density while simplifying setup, taking up to 62.8 percent less time to set up compared to a rack of HP servers. Then, we calculated the networking hardware costs that the Dell FX2 solution could save over an HP solution—an impressive 28.5 percent in savings.

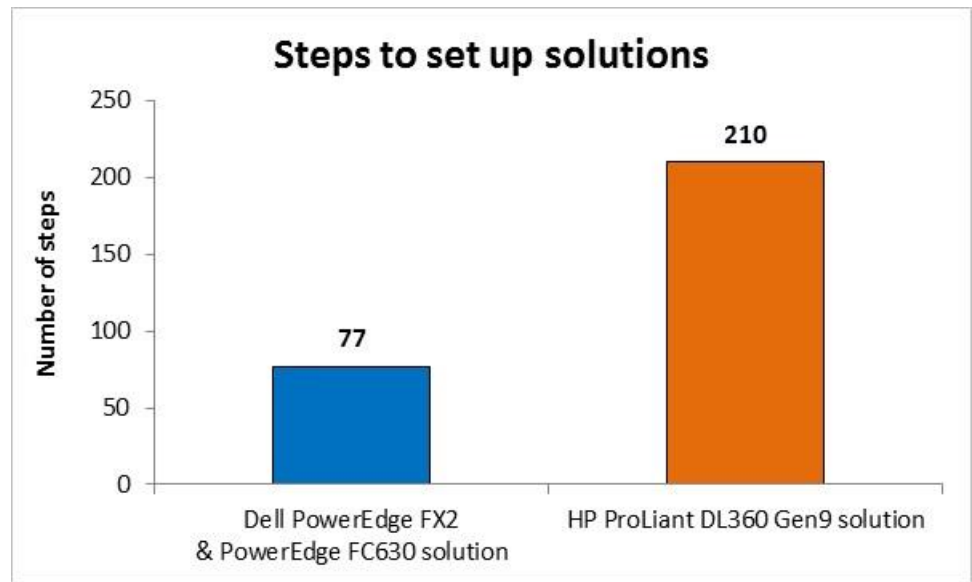


## SIMPLIFY SETUP AS YOU INCREASE DENSITY

The increased density of the Dell PowerEdge FX2 solution means that it would take only 22 U of rack space (11 FX2 enclosures) to match the number of servers in a full 42U rack of 1U HP ProLiant DL360 Gen9 servers, with a space savings of nearly 50 percent.

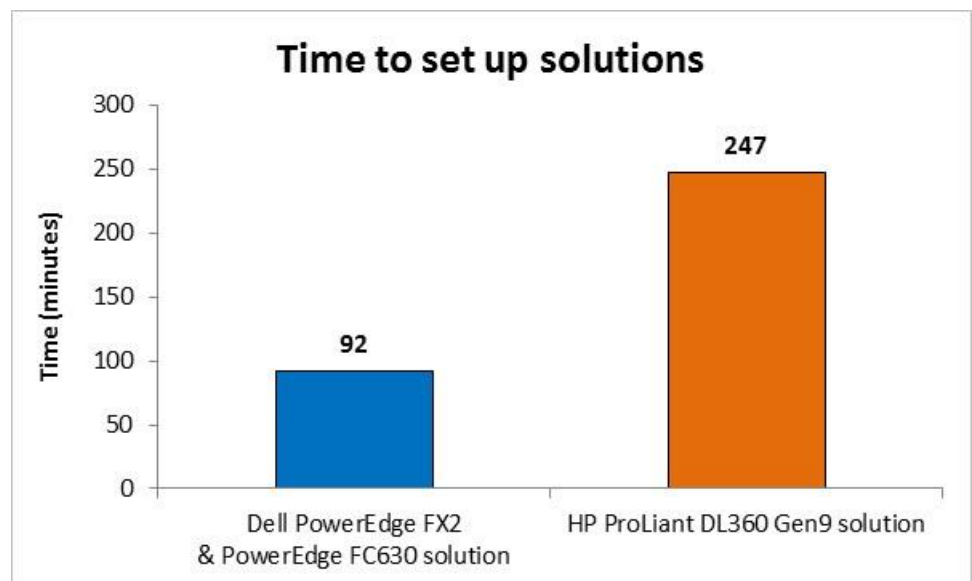
Because the shared infrastructure design of the FX2 solution is more compact, it saves on cabling complexities to simplify setup. We found that it would take 77 steps to set up 11 Dell PowerEdge FX2 enclosures with 42 PowerEdge FC630 servers and 210 steps to set up the same number of HP ProLiant DL360 Gen9 servers (see Figure 2).

Figure 1: The Dell PowerEdge FX2 solution would take 133 fewer steps to set up than a 1U-based HP full-rack solution. Lower numbers are better.



This translates into time savings as well. As Figure 2 shows, it would take 62.8 percent less time to set up the FX2 solution vs. the competing HP solution.

Figure 2: The Dell PowerEdge FX2 enclosure would take 62.8 percent less time to set up than a 1U-based HP full-rack solution.



## LOWER HARDWARE AND NETWORKING COSTS

Adding redundant FN IO Aggregators to a Dell PowerEdge FX2 configuration with four PowerEdge FC630 servers can consolidate and save on 10GbE network and 1GbE management cabling and port costs. We counted and compared the costs for these network components for a full rack of traditional 1U rack servers (42 servers), to the counts and costs for those components using the same number of FC630 servers in 11 Dell PowerEdge FX2 chassis, each with redundant FN IO Aggregators. We found that the FN IO Aggregators on the PowerEdge FX2 with FC630 servers delivered:

- A savings of more than \$24,000 in network and port costs
- A reduction in 10GbE cabling by up to 50 percent, as demonstrated in our scenario by decreasing the number of cables from 84 for the 42 traditional rack servers to 42 for the same number of FC630 servers in the Dell FX2 infrastructure.
- Decreased upstream top-of-rack (ToR) 10GbE ports by that same amount.
- Reduced LAN/SAN adapters by up to 47.3 percent, as demonstrated in our scenario by decreasing the amount of adapters from one on each of the 42 rack servers to one on each of 22 IO aggregators on the 11 chassis, which would be shared by the daughter cards on the server nodes.
- Reduced management cabling and upstream 1GbE ports by up to 73.8 percent, as demonstrated by decreasing the number of cables from 42 for the 42 rack servers to 11 for the 42 FC630 servers.

## IN CONCLUSION

Don't let the constraints of the over-crowded data center hold you back from getting the gear you need to support your business. As we found in our tests, the Dell PowerEdge FX2 rack enclosure with various PowerEdge server options operate in a shared infrastructure package that can simplify setup and reduce networking costs. For the full details on how we conducted our hands-on tests, see the full reports at [www.principledtechnologies.com/Dell/PowerEdge\\_FX2\\_deployment\\_0115.pdf](http://www.principledtechnologies.com/Dell/PowerEdge_FX2_deployment_0115.pdf) and [www.principledtechnologies.com/Dell/PowerEdge\\_FX2\\_networking\\_costs\\_0115.pdf](http://www.principledtechnologies.com/Dell/PowerEdge_FX2_networking_costs_0115.pdf).

## ABOUT PRINCIPLED TECHNOLOGIES



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Our founders, Mark L. Van Name and Bill Catchings, have worked together in technology assessment for over 20 years. As journalists, they published over a thousand articles on a wide array of technology subjects. They created and led the Ziff-Davis Benchmark Operation, which developed such industry-standard benchmarks as Ziff Davis Media's Winstone and WebBench. They founded and led eTesting Labs, and after the acquisition of that company by Lionbridge Technologies were the head and CTO of VeriTest.

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