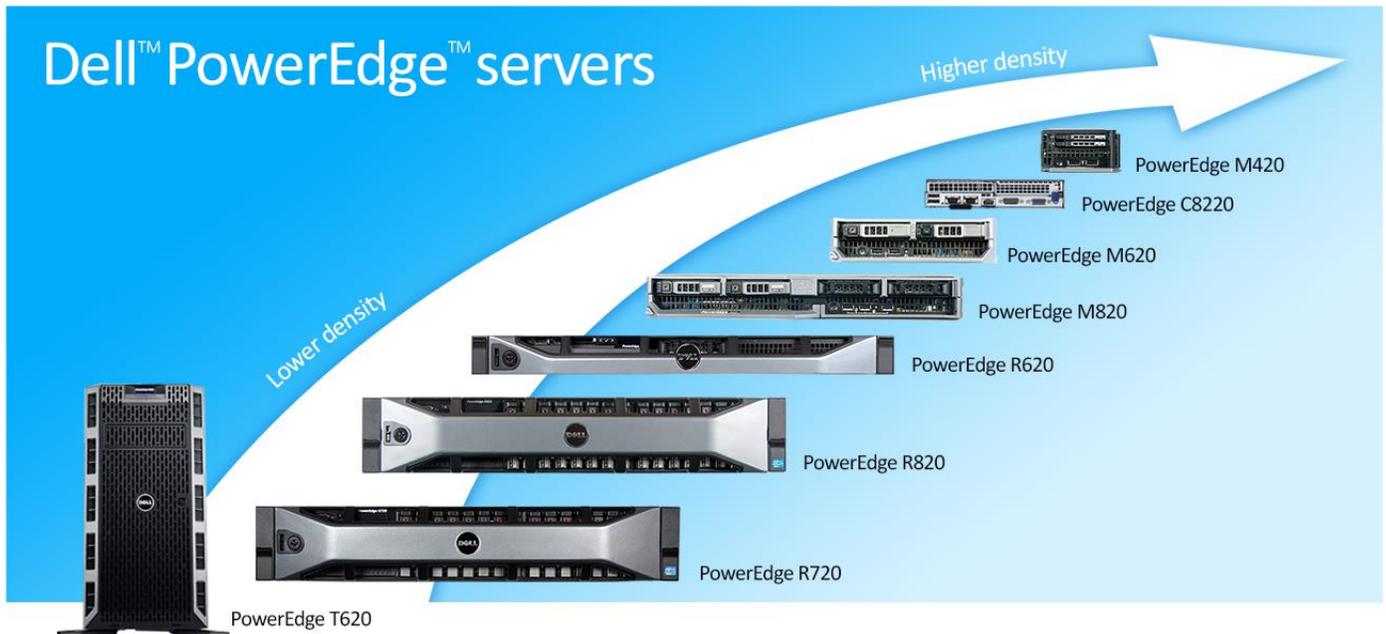


# HOW INCREASING SERVER DENSITY CAN BENEFIT YOUR BUSINESS



Thriving businesses do more with less, and their datacenters reflect that. How can your business increase usage density without expanding physical datacenter space? Moving to a denser computing infrastructure—providing the processing power you need in the smallest possible space—can help you achieve this goal. Using two approaches, both physical compaction of the datacenter and a logical compression via virtualization, you can maximize the usage of the space your business already has while improving your bottom line.

Whether you are moving from a small, tower-based server environment to a single blade chassis or from a legacy rack-server farm to a high-density compute cluster, you can potentially reduce costs related to time, maintenance, and power by maximizing the density of your applications and datacenter.

## WHAT BENEFITS DOES INCREASING DENSITY PROVIDE?

Increasing density has the potential to:

- Reduce management overhead with fewer physical servers to manage
- Lower the amount of power and cooling, saving on operating costs
- Save physical space and the costs related to renting space or building new locations to house servers
- Enable portability of dense computing solutions for remote locations
- Reduce infrastructure costs with fewer servers to house and cable
- Reduce datacenter software licensing costs



## Common myths about high density

As technology evolves, certain barriers to technology adoption become less relevant. Common myths about high density computing include:

### Myth # 1 - Greater logical density increases risk of downtime

Virtualization advances and high-density hardware redundancy can actually provide greater uptime.

### Myth #2 - Greater logical density makes environments more difficult to manage

Many systems management functions are now directly integrated into the virtualization platform.

### Myth #3 - Greater physical density significantly impedes compute efficiency

The newest servers increase density while also achieving the highest-ever scores in performance per watt.

### Myth #4 - Greater physical density is expensive

High-density datacenters are more power-efficient than low-density datacenters, providing significant cost savings.

## WHAT DELL HAS TO OFFER

Dell current-generation PowerEdge R series and PowerEdge M series servers incorporate systems management features such as the Dell Lifecycle Controller, implement industry-leading power efficiency standards, and are designed to optimize performance while maintaining low power consumption. Use the overview of Dell PowerEdge servers below to start the conversation about moving up the density spectrum and maximizing efficiency in your datacenter.

|  |  |  |  |  |  |  |
|--|--|--|--|--|---|---|
| M420   | C8220  | M620   | M820   | R620   | R820  | R720  |
| Quarter-height blade   | Shared infrastructure  | Half-height blade  | Full-height blade  | 1U rack  | 2U rack   | 2U rack   |
| 2-socket   | 2-socket   | 2-socket   | 4-socket   | 2-socket   | 4-socket  | 2-socket  |
| Intel® Xeon® processor E5-2400 v2  | Intel Xeon processor E5-2600 v2  | Intel Xeon processor E5-2600 v2  | Intel Xeon processor E5-4600 v2  | Intel Xeon processor E5-2600 v2  | Intel Xeon processor E5-4600 v2   | Intel Xeon processor E5-2600 v2   |
| 192 GB RAM   | 512 GB RAM   | 1.5 TB RAM   | 3.0 TB RAM   | 1.5 TB RAM   | 3.0 TB RAM  | 1.5 TB RAM  |

## FIND OUT MORE

All sizes of organizations can benefit from consolidating the workloads of legacy servers onto more powerful systems and climbing the density ladder as their requirements and resources allow. No matter where your business is on the density spectrum, Dell has a number of options through the rack and blade space, as well as highly dense compute nodes that can help move your infrastructure up the density ladder. For a more complete look at the benefits of increasing server density and the offerings that Dell provides to help meet your specific goals, see the full report, “Dell and the Value of Density,” at [www.principledtechnologies.com/Dell/Value\\_of\\_density\\_0113.pdf](http://www.principledtechnologies.com/Dell/Value_of_density_0113.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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