



# Take a Holistic Approach to the Green Data Center

Prowess Consulting evaluated ways integrated solutions such as those from Dell Technologies and Microsoft can help enterprises manage their overall TIS.

In the ever-expanding landscape of IT, sustainability has emerged as a paramount concern for leaders in organizations worldwide. The exponential growth of data, and the need to process it, has increased energy consumption in data centers, accounting for 1 percent of global electricity use.<sup>3</sup> With the rise of demanding workloads, energy efficiency in IT infrastructure is crucial to meet performance needs and sustainability goals. As a result, businesses are increasingly considering the total impact on sustainability (TIS) of their IT decision-making process.

## Why Total Impact on Sustainability (TIS) Is Key

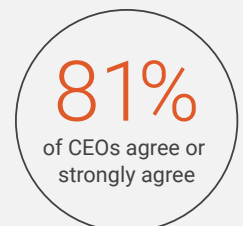
Enterprises should evaluate IT infrastructure systems holistically, considering both hardware and software acquisitions for sustainability benefits. Much like how overall total cost of ownership (TCO) is a key metric for IT infrastructure purchases, TIS, with corollary capital and operating impacts (similar to capital expenditures [CapEx] and operating expenses [OpEx]), can be a strategic pathway for IT decisions.

Major global companies are now integrating environmental sustainability parameters into KPIs and requiring vendors to demonstrate progress on sustainability initiatives. The increased adoption of hyperconverged infrastructure (HCI) indicates its role in minimizing TIS and costs while maintaining performance and agility.

In the technical research study, "[Grow and Innovate on an Energy-Efficient, Sustainable IT Infrastructure](#)," Prowess Consulting explores how TIS is integrated in solutions by industry leaders Dell Technologies and Microsoft. We look at their co-engineered solutions, such as Dell™ PowerEdge™ servers and Microsoft Azure® Stack HCI, that can deliver an improved TIS using three key sustainability principles:

- **Reducing energy consumption** via modernized IT infrastructure.
- **Minimizing carbon emissions** through data center space consolidation, workload monitoring and analysis tools, enhanced hardware utilization, and cloud adoption.
- **Implementing best practices in materials management** such as recycling and eco-friendly packaging.

### Highlights:



that digital investments are going to drive their ability to meet ESG goals.<sup>1</sup>



of the largest global companies will soon have environmental sustainability parameters firmly embedded in their businesses' key performance indicators (KPIs).<sup>2</sup>

## Optimize Sustainability at Both Capital and Operating Levels

The foundational element for sustainable IT is the server hardware infrastructure. Developments in hardware power management, Smart Cooling, and design improvements from Dell Technologies have increased the energy efficiency of Dell™ servers wherever they are located. These contribute to the capital element of TIS.

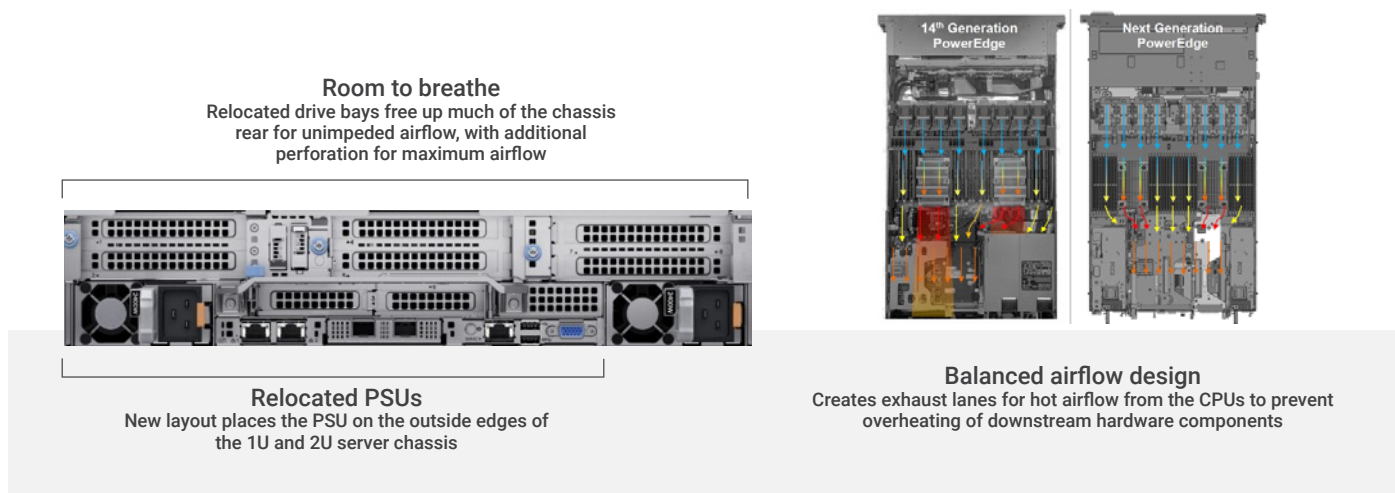


Figure 1 | One way that enterprises can lower their overall TIS: choosing servers with design improvements for better airflow and overall enhanced cooling

And many enterprises are adopting a hybrid-cloud approach to IT infrastructure that can support their operational sustainability. With Microsoft Azure hybrid-cloud solutions, which include the Azure cloud and Azure Arc-enabled infrastructure, organizations can bring the sustainability and business benefits of the cloud to workloads and data that cannot be moved to the cloud.

Together, Microsoft Azure hybrid-cloud solutions on validated Dell servers can help enterprises streamline management and improve energy efficiency at all levels of IT infrastructure—increasing overall TIS.

## Learn how companies can optimize their overall sustainability

by reading the Prowess Consulting technical research study

**“Grow and Innovate on an Energy-Efficient, Sustainable IT Infrastructure.”**

<sup>1</sup> IDC. "Driving ESG from IT: Key Takeaways from IDC's Global CIO Advisory Board — May 2022 Edition." Doc #US49423022. July 2022. [www.idc.com/getdoc.jsp?containerId=US49423022](http://www.idc.com/getdoc.jsp?containerId=US49423022).

<sup>2</sup> IDC. "IDC FutureScape: Worldwide Sustainability 2022 Predictions." Doc #US48300021. October 2021. [www.idc.com/getdoc.jsp?containerId=US48300021](http://www.idc.com/getdoc.jsp?containerId=US48300021).

<sup>3</sup> IEA. "Data Centres and Data Transmission Networks." September 2022. [www.iea.org/reports/data-centres-and-data-transmission-networks](http://www.iea.org/reports/data-centres-and-data-transmission-networks). License: CC BY 4.0.

