Making cloud more sustainable:

How hybrid cloud propels your sustainability ambitions

As the world grapples with climate change, businesses are merging modern infrastructure demands with environmental responsibility.

Today's IT landscape is marked by the twin challenges of modernization and sustainability. Organizations are seeking ways to modernize their infrastructures to stay competitive, all while minimizing their carbon footprint.

At the same time, the role of IT leaders has undergone a dramatic transformation. No longer confined to operational tasks, these leaders are now strategic partners, steering organizations toward success. Amid this shift, the pressing concerns of sustainability have come to the forefront.

90%
of CIOs believe their roles have changed and are now asked to make business decisions that go far beyond technology.[1]

One of the key strategies CIOs are using to help accelerate business growth is modernizing their infrastructure by adopting a hybrid cloud strategy. And, with the right partner, they can also achieve sustainability objectives.

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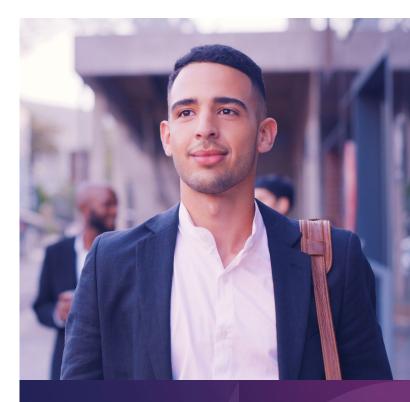
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Hybrid cloud:
Good for business

Moving to the hybrid cloud has numerous advantages for organizations seeking to optimize their IT operations.

- **Unparalleled flexibility and scalability** — seamlessly combining the strengths of private and public clouds.

- **Streamlined data migration** — enables companies to strike a balance between the governance of sensitive data and harnessing the power of cloud computing for non-sensitive operations.

- **Optimized IT expenses** — with the flexibility to migrate to the most cost-effective platform.

Lenovo Hybrid Cloud:
Drive more efficiencies:

As the focus on environmental responsibility intensifies, the hybrid cloud has also emerged as a pivotal enabler of more sustainable IT practices, aligning technological innovation with the goal of reducing environmental impact and helping companies reach their sustainability and environmental, social, and governance (ESG) commitments.

- **Reduced consumption** — Hybrid cloud lowers material and energy consumption as a byproduct of its flexibility and scale. This means IT leaders can plan more efficiently and procure less, knowing adding scale is simplified.

- **Energy efficiency** — Lenovo TruScale for Hybrid Cloud accelerates future-proofed modernization with planned lifecycles while incorporating energy-saving innovations.

- **Responsible recovery** — The inherent full lifecycle extends sustainability to asset recovery with environment consciuos recycling front of mind.

- **Carbon offsets** — Offset estimated emissions across the average lifecycle of your devices and help support verified climate action projects around the world.

62%

of CIOs report they find it challenging to reach their sustainability goals.[1]

Lenovo has committed to net-zero emissions by **2050**.[2]

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Here are the five key areas organizations can focus on to both accelerate business growth and sustainability initiatives.

1. Optimize consumption.

TruScale for Hybrid Cloud not only delivers modern infrastructure that adapts to changing needs, but also accelerates the adoption of the latest technologies with fewer materials and packaging. Often it incorporates preconfiguration and rack assembly to reduce packaging and shipping costs while also accelerating deployment.

2. Improve energy efficiency.

A hyperconverged infrastructure (HCI) utilizing the newest processors takes advantage of energy-efficient technology and also provides cohesive orchestration tools to easily monitor workloads, manage resources, and smoothly provision workloads across the entire business tech stack. This tightly integrated architecture optimizes energy use from overprovisioned resources by turning off underutilized nodes in the network.

3. Embrace the circular economy.

With a planned lifecycle, IT leaders ensure the platform continually utilizes the latest technology while embracing the circular economy. With embedded asset recovery services, IT teams don't need to recover and dispose of older units and can reduce waste with reuse, repair, and recycling of aged equipment to minimize future consumption.

4. Manage their carbon footprint.

On top of the modernization benefits, hybrid cloud solutions that help mange your IT carbon footprint. These offsets support independently verified climate action projects by United Nations, Gold Standard, and Climate Action Reserve. While minimizing and reducing emissions should always be the goal, offsets can help drive additional impact.

5. Select the right sustainability partner.

Working with a single hybrid cloud partner like Lenovo has multiple advantages — from simplified procurement, to streamlined management, to unparalleled global support when you need it. Lenovo partners closely with Intel to deliver leading hybrid cloud technology that's architected to maximize performance and sustainability.

89%
of organizations recycle less than 10% of their IT hardware.[3]

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Achieve your sustainability goals with Lenovo and Intel

Lenovo TruScale for Hybrid Cloud, powered by ThinkAgile HCI and Intel® Xeon® Scalable processors, provides the agility and scalability of the cloud in a predictable and manageable pay-as-you-go model — all with built-in sustainability practices and initiatives IT leaders can stand behind.

Smarter infrastructure

- Lenovo's ThinkSystem® V3 portfolio performance allows you to consolidate servers at up to a 5-1 ratio, depending on the platform and workload, which can lower energy costs and floor space requirements, simplify management and deployment, and lower software licensing costs.[4]

5-1 Consolidate servers at up to a 5-1 ratio with Lenovo's ThinkSystem® V3 portfolio.

- Lenovo uses an AI-driven process to generate an Intelligent Excessive Pre-alert systemically, making reconfiguring or replacing packaging more efficient and environmentally friendly.[5]
- Lenovo's innovative server packaging reinforces our sustainable quest using foam, bags, plastic, and boxes made from recycled material.[6]
- Lenovo's Rack and Stack services reduce deployment time while reducing packaging materials consumption.[7]

Smarter efficiency

- Lenovo Neptune's 5th-generation cooling captures up to 100% of the system heat* using up to 45°C water temperatures — reducing data center energy costs as much as 40%.[8]

40% Reduce data center energy costs as much as 40% with Lenovo Neptune's 5th-generation cooling.

- The latest Intel® Accelerator Engines and software optimizations help improve power efficiency — you can achieve a 2.9x average performance-per-watt efficiency improvement for targeted workloads utilizing built-in accelerators compared to the previous generation.[9]

2.9x Achieve a 2.9x average performance-per-watt efficiency improvement with the latest Intel® Accelerator Engines.

Smarter lifecycle

- Lenovo TruScale for Hybrid Cloud delivers an end-to-end product lifecycle model with Asset Recovery Services. This future-proofs your hybrid cloud technology while ensuring aged equipment maximizes repair, reuse, and recycling or is disposed of in an environmentally sound process.

Smarter footprint

- Lenovo TruScale for Hybrid Cloud provides CO_2 offset services to to offset estimated emissions across the average lifecycle from manufacturing, to shipping, use, and end-of-life while supporting organizational sustainability goals.

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Prepare for a smarter hybrid cloud

If moving to a hybrid cloud is a key part of your sustainability initiatives, here's a useful checklist to reference when deciding on the right vendor for your business.

☐ **Environmental impact assessment.**
Evaluate the potential environmental impact of the legacy system and proposed hybrid cloud solution. Consider factors such as energy consumption, carbon emissions, and resource utilization both in the short and long term. Lenovo has committed to reducing scope 1 and 2 direct emissions by 50% by 2030.[10]

☐ **Energy efficiency.**
Ensure that the hybrid cloud solution is designed to optimize energy consumption. Look for features like dynamic workload management, resource scaling, and efficient cooling mechanisms to minimize energy waste.

☐ **Renewable energy integration.**
Inquire about the provider's use of renewable energy sources for data centers and cloud infrastructure. Prioritize vendors that commit to a high percentage of renewable energy to power their operations. By FY 2025/26, 90% of Lenovo's global operations' electricity will be obtained from renewable sources.[10]

☐ **Sustainable packaging.**
Vendors with a robust commitment to reducing waste through minimizing packaging should be close to the top of your list.

☐ **Lifecycle management.**
Consider the entire lifecycle of the hybrid cloud solution from procurement and deployment to decommissioning. Opt for solutions that emphasize recycling, repurposing, or proper disposal of hardware to minimize electronic waste.

☐ **Optimized workloads.**
Examine how the hybrid cloud solution supports workload placement to take advantage of the most appropriate environment (private or public cloud) based on performance and energy efficiency considerations.

☐ **Carbon offsetting and reporting.**
Inquire about the vendor's carbon offset programs and reporting tools and documentation. Transparency of offsets and regular reporting demonstrate dedication to sustainability.

As an IT leader, carefully addressing these points will help you make more informed decisions for your organization's sustainability goals while also harnessing the benefits of hybrid cloud technology.

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Lenovo TruScale for Hybrid Cloud accelerates modernization utilizing innovative ThinkAgile HCI technology built on Intel® Xeon® Scalable processors and offers the most choice and flexibility, no matter the deployment path — on-premises, hybrid cloud, network, or edge. With global coverage and a commitment to sustainability, Lenovo and Intel secure hybrid cloud and sustainability success.

Contact your Lenovo representative or Lenovo authorized reseller of choice today to find out how your organization can realize its sustainability ambitions through the hybrid cloud. Learn more about our award-winning digital workplace solutions and our flexible hybrid cloud solutions at **www.lenovo.com/Hybrid-Cloud-Solutions.**

That's smarter.

Sources
1   Lenovo, SSG Global Study of CIOs, 2023
2   Lenovo, "Lenovo Commits to Net-Zero Emissions by 2050, Validated by Science Based Targets initiative," StoryHub, January 2023
3   Capgemini Research Institute, "Sustainable IT," January 2023
4   Lenovo, "Lenovo ThinkSystem Servers Continue to Lead the Industry in Performance and Customer Value," press release, August 2023
5   Lenovo, "Lenovo's Service Supply Chain Wins Award for AI-Driven System to Increase Efficiency, Sustainability in Packaging," StoryHub, January 2023
6   Lenovo, "Reimagining Sustainability: Circular Economy," September 2022
7   Lenovo, "Lenovo introduces our most environmentally sustainable portfolio enhancements yet," August 2023
8   Lenovo, Lenovo ThinkSystem® SD650 V3 Neptune DWC Server Product Guide, August 2023
9   Intel, 4th Generation Intel® Xeon® Scalable Processors Performance Index
10   Lenovo, Sustainability Report, March 2023

* Depending on the specific environment.

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