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Enterprise and Cloud Storage

Debunking Myths: How Sustainable Storage Solutions Drive Business Value

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Biography

Richard Connolly is the Regional Director for the UKI and the DACH (Germany, Austria and Switzerland) regions at Infinidat (https://www.infinidat.com) and is responsible for driving sales growth in the UKI and DACH regions. He has extensive experience selling enterprise storage, cyber security software, hybrid cloud storage, data centre solutions, and professional services to enterprise customers and service providers.

Previously, Global Sales Director at Hitachi Vantara, Richard's executive leadership experience also includes: Chief Marketing Officer and Senior Vice President of Alliances for all-flash storage provider Violin Memory, and Senior Vice President of Product Management and Product Marketing for EMC's Enterprise & Mid-range Systems Division.

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Keywords Enterprise Storage, Data, Data storage, Green technology, Sustainability, Net zero targets, Environment
Paper type Reference

Abstract

Today's enterprises are data driven and with so much data being mission critical the need to store it is ever increasing. As well as being large users of water, data centres consume an estimated 240-340 TWh of electricity each year, or around 1-1.3% of global final electricity demand. For companies proactive working towards net zero targets handling their enterprise data storage requirements can represent half of their total carbon footprint. In this article the author discusses the role of environmentally sustainable enterprise storage solutions, and what companies can do when faced with the myths surround green IT.

Introduction

Globally, data centres are consuming an estimated 240-340 TWh of electricity annually or around 1-1.3% of global final electricity demand, based on studies[1] conducted in 2022. This equates to approximately 1% of global energy-related greenhouse gas emissions, amounting to around 330 Mt CO^2 equivalent in 2020. It's a lot of CO^2 but that's not all. Data centres are also heavy consumers of water, which further contributes to their negative environmental impact.

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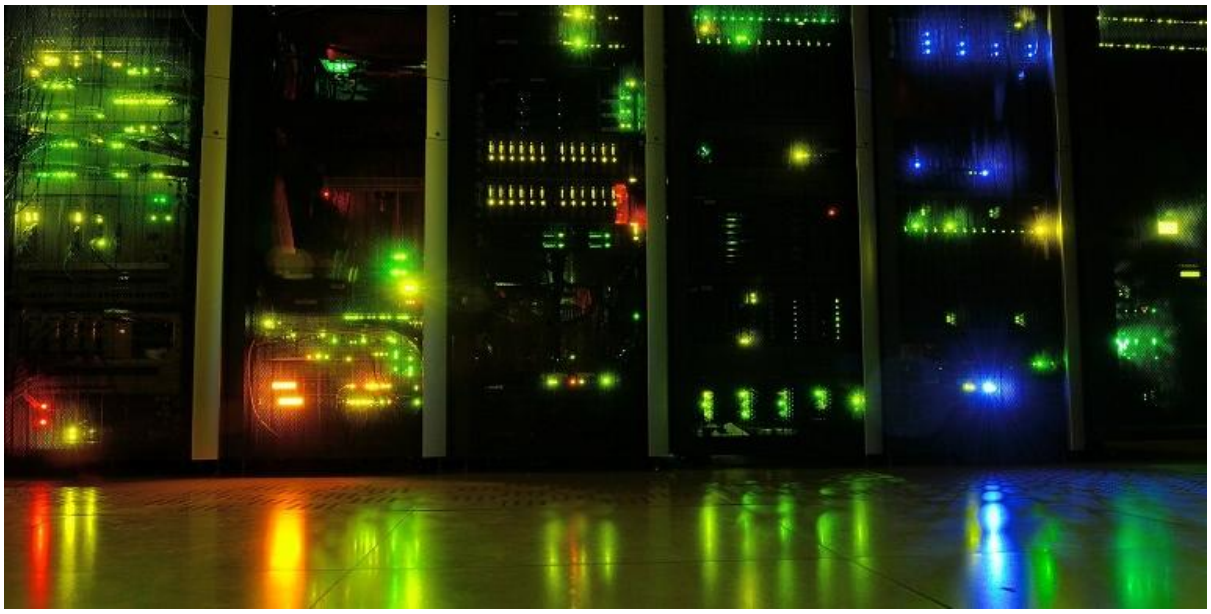
These statistics create a significant problem for the services sector and especially among information-intensive industries like financial services and healthcare. These enterprises justifiably want to improve their environmental credentials and are proactively working towards Net Zero targets. As McKinsey has reported[2], among these enterprises, enterprise data storage requirements can represent half of the total carbon footprint.

The thing is all this data is being stored for a good reason. Today's enterprises are data driven. Data is mission critical. Clearly though, something needs to change. If all the data being stored is vital for business performance but enterprises also need to reduce their carbon footprints, then the data storage technology they rely on needs to become more efficient.

Thankfully, forward thinking enterprise storage vendors have developed the required technology already. It not only exists today but is readily available. However, some stubborn myths about Green IT have persisted that are halting progress. These myths are hampering efforts to make the data infrastructures of enterprises "greener" and for enterprises with ambitious Net Zero goals, these myths are a significant issue.



Common myths about Green IT

- **Myth #1:** "Going green is expensive and it won't create any economic value for the business."

- **Myth #2:** "Sustainable storage arrays do not offer the high performance and capacity needed for a data intensive infrastructure, and they won't deliver much of a difference in reducing carbon emissions or power consumption."

Both these statements are untrue.

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The truth about green enterprise storage

Advanced enterprise storage arrays use the latest in power-efficient technologies and techniques to make a measurable impact on "Green IT" goals. They are developed by carefully reviewing actual power consumption data based on powerful, in-built telemetry capabilities. Vendors that are developing these solutions strive to balance the capacity and performance needs of their enterprise customers with the need to minimise floor space, power/cooling costs, and carbon footprint. By taking a sustainable IT approach that makes enterprise storage more efficient, the business will save money – lowering Capital Expenditures (CAPEX) and Operating Expenses (OPEX) – whilst also making their data centres greener and more environmentally friendly – economic advantage coupled with environmental advantage.

Unlock business and environmental value

Added to these financial incentives are clear legal imperatives for enterprises doing business in the UK to reduce their carbon footprints and report on emissions improvements. At the cornerstone of the UK's regulations is the Climate Change Act 2008. This actively encourages enterprises to align their operating practices with a national emissions reduction goal to significantly cut carbon emissions by 2050. Now, with a new Labour government in place in the UK, it is possible that the Net Zero agenda will see renewed interest. Regardless of whether carbon reduction policies become more strongly legislated or not, companies that make voluntary commitments to reduce carbon emissions tend to be more highly regarded by consumers and investors for adopting sustainable business practices.

Environmental, social and governance (ESG) also continues to become more of a commercial procurement requirement in Request for Proposals (RFPs) and sourcing agreements. According to the analyst firm Enterprise Strategy Group, 93% of IT decision-makers expect technology suppliers' ESG programs to have a greater impact on their organizations' future purchase decisions[3].


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One of the best ways that an enterprise can unlock the environmental value within its enterprise storage infrastructure is to consolidate the number of arrays. An enterprise usually finds itself ready for storage consolidation when it is experiencing storage sprawl. This is an overloaded storage infrastructure caused by years of bringing in a different array for one or two workloads at a time, in a piecemeal fashion.

Independent IDC study into storage array consolidation

To illustrate what is achievable today, Infinidat commissioned the IDC Group to conduct its own independent study[4] into the environmental performance of its data storage technology and the impact of storage array consolidation. The data recorded by IDC about potential efficiency improvements speaks for itself. For example, an average upgrade to our flagship storage solution by an enterprise shows a 42% reduction in power per effective PB, which means less power usage and less use of coolant chemicals. The IDC study also revealed 72% more capacity in the same footprint. Overall, a 36% improvement in ROI/TCO connected the dots between environmental value and economic efficiency.

These solutions have been measured to use 50% less power (watts) per effective PB, reducing rack space, floor tiles, and the costs of power and cooling. At the same time, they can deliver 2x capacity with the same data centre footprint and up to 6.635PB effective capacity. IT storage management levels are reduced by 50% per PB, with a 174,262 watt energy saving.

This level of reduced energy consumption is the equivalent of eliminating the pollution of greenhouse gas from 316,589 miles driven by a fuel powered car and the equivalent of the electricity used by 24 homes in a year. IDC data shows that 123 tons of CO^2 emissions are avoided. These advanced storage solutions are also highly financially efficient. Annual savings of just the amount of electricity consumed was determined to be almost £21,000 − excluding other CAPEX and OPEX savings.

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A discussion about Green IT and adopting more environmentally sustainable enterprise storage cannot be concluded without considering the entire lifecycle of a storage solution, from manufacturing to disposal. By purchasing solutions that are durable and have a proven, long lifespan, an enterprise will reduce the need for frequent replacements. This cuts down on electronic waste and the carbon emissions associated with adopting new devices.

Symbiosis between energy and economic efficiency

Clearly, what is good for the environment is directly proportional to what is financially good for an enterprise. There is a measurable, symbiotic relationship between energetic and economic efficiency when applied to sustainable storage solutions for enterprise applications and data intensive processing workloads.

The myths surrounding Green IT and sustainable enterprise storage are just that – myths. Modern storage technologies are not only capable of meeting the high-performance demands of today's data-driven enterprises, but also offer significant economic and environmental benefits. By adopting advanced, power-efficient storage solutions, businesses can dramatically reduce their carbon footprints, lower operational costs and enhance their ESG credentials – all while ensuring their data remains secure and accessible. The push towards sustainability is not merely a regulatory compliance issue but a strategic move that can enhance a company's reputation, operational efficiency, and bottom line. In an era where environmental responsibility is increasingly intertwined with business success, investing in sustainable storage solutions is a win-win for both the planet and the enterprise.

Reference

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