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Data Centre and Virtualization

Can AIOps plug the storage skills gap?

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Biography

Eric Herzog is the Chief Marketing Officer at Infinidat (https://www.infinidat.com). Prior to joining Infinidat, Herzog was Chief Marketing Office and Vice President of Global Storage Channels at IBM Storage Solutions.

His executive leadership experience also includes: CMO and Senior VP 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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Abstract

Regardless of economic uncertainty, businesses everywhere are pushing forwards with plans for Industry 4.0 and key technology investments. Yet, the potential to deliver on promises of advanced connectivity, AI, automation, machine learning and real-time data availability, is at risk because of the ongoing shortage of IT professionals, and it's a common feature to every sector warns the author of this article.

Introduction

The IT skills gaps pose a 'high or medium risk to their team's ability to meet key objectives' cites 80% of 80% of IT leaders according to the Skillsoft 2022 IT Skills & Salary Report[1]. Where the requisite skills are available, workers are commanding premium rates and salary inflation is running at an all-time high. Some companies admit paying up to 40% more for the right candidates.

Against this macro backdrop IT budgets are being squeezed due to inflation, the threat of cyber-attacks and international compliance requirements. This makes infrastructure provision, like enterprise storage, ever more challenging to resource. Now a possible solution exists, thanks to ready availability of advanced Artificial Intelligence for IT operations (AIOps) capabilities at the storage layer in sectors


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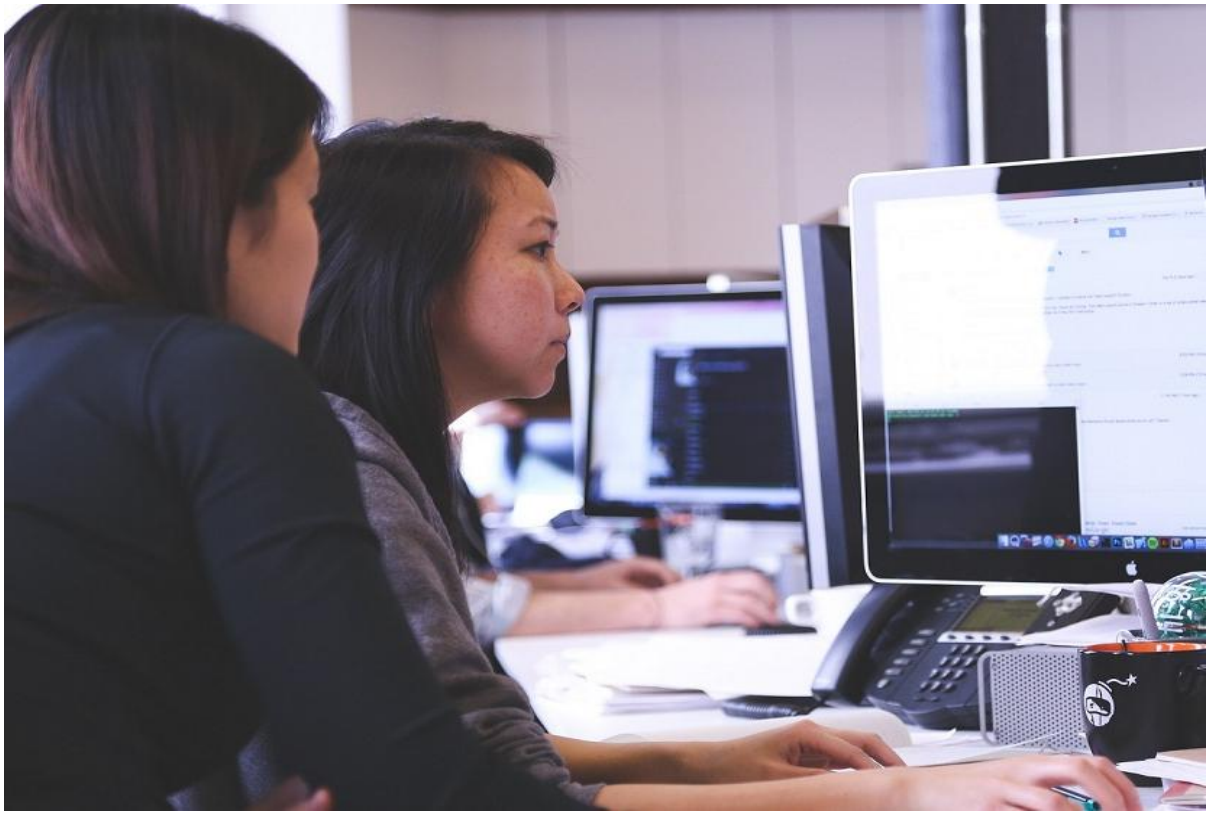
where the right skills cannot easily be found, AI provides a route to 'getting things done' and solving the problem of talent scarcity, without compromises. Rather than removing jobs, AIOps technology brings continuity for enterprises who cannot recruit into key roles. It's a win-win, delivering many other advantages to enterprises and the start of a new 'set-it-and-forget-it' era for enterprise storage. Given all the economic uncertainty, its timing couldn't be better.



AIOps at the storage layer simplifies management

Modern data centre environments are now highly complex, featuring multiple architectures and technology stacks, often with siloed applications. The storage layer lies at the heart of addressing many of the challenges created by this complexity. By using an artificially intelligent solution at the storage layer, organizations can exploit built-in infrastructure intelligence, facilitate easier service level delivery, and improve the efficiency of data centre operations, without worrying about how the technology itself operates.

Used at the storage layer, artificial intelligence (AI) can also optimize performance by optimizing the cache, creating a better understanding of workloads and behaviours, and delivering memory-speed access to data. Deep machine learning capabilities deliver enhanced cache utilization, with the ability to accurately predict which workloads will be required so that they can be brought into the cache more quickly.

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These performance improvements are possible because the algorithms learn to prefetch any data likely to be required based on previous transactions and then retain it in memory on request. This machine-based learning also means the speeds of reading and writing, sequentialization of inputs and outputs (I/Os) based on behaviour and understanding block sizes in relation to each other and to applications, are all enhanced.

In addition to higher performance, using AIOps at the storage layer also supports greater consolidation of applications based on data utilization, with multiple nodes that deliver enhanced redundancy. The system effectively keeps on learning and its capabilities continuously improve as the algorithm continues to be used.

AIOps benefits extend beyond storage layer

AI offers many benefits outside of the main storage layer too, through cloud-based applications to deliver a multi-system, detailed and granular view of and across workloads, platforms and data centres. This is particularly useful where resourcing challenges make it difficult to recruit the right calibre storage professionals. AI based support means management workloads are halved because a singular, consolidated dashboard can be created to cover the entire storage architecture. Other benefits include early issue detection and prevention, alerting and system management.

Delivered through an open, cloud-based architecture, these solutions can be customized to fit various workflows, while predictive analytics can deliver trend analysis and reporting, anomaly detection and enhanced resource planning. This enables automated, actionable insights on areas such as performance and capacity, which can ultimately lead to better business decisions through integration with ServiceNow, VMware vCenter Ops and other pan-data centre/cloud AIOps packages.

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Combining storage insights with DevOps capabilities

An intelligent storage solution delivers a lot more than high performance, improved storage utilization and actionable insights to an enterprise. It is also possible to integrate development operations capabilities and at the same time, ensure that storage layers are in tune with the needs of system administrators. This gives direct access to broad and deep capabilities through proven solutions including cyber resilience, seamless migration, automatic file system extension, infrastructure as code and Storage-as-a-Service (STaaS) automation. In turn, solution deployment can be expedited while eliminating solution development risks, as well as improving integration capability with other third-party functionality, such as Ansible and other pan-data centre/cloud DevOps packages.

Intelligent storage underpins performance transformation

At a time when storage resources are so challenged – both in terms of talent availability and high salary costs, implementing an intelligent storage architecture can help organizations minimize the consequences, without compromising performance. Integrating AIOps into the storage layer means the infrastructure can become self-managing and self-optimized, with 100% uptime. Direct access to DevOps capabilities ensures that functionality can be extended with simplified solution implementation, expedited solution delivery and reduced solution risk.

'Set-it-and-forget-it' era for enterprise storage

Ultimately, AI is facilitating a new, 'set-it-and-forget-it' era for enterprise storage management, reducing complexity, standardizing processes across applications and service levels and reducing the burden of resourcing with skills that are in very short supply. Instead, with an AI powered storage infrastructure, less time and fewer people are needed to manage an increasingly advanced and powerful architecture, one that supports consolidation, breaks down siloes, supports diverse workloads and delivers an all-round improved return on assets employed.

By bringing all these advantages together with AI powered storage, organizations can finally shift the focus away from overcoming short term resourcing challenges and emphasize really enhancing long term business value.

Reference

[1] Skillsoft (2022), IT Skills & Salary Report 17th Edition 2022. Skillsoft. Available at: https://www.skillsoft.com/it-skills-and-salary-report