HPE GreenLake

10

reasons HPE Compute helps accelerate your IT modernization

A quick guide to competitive features that address key modern IT challenges

Get started >

Introduction

Today's IT leaders are under pressure to operate at a speed and scale much greater than before. As the business demands support for more complex workloads, using larger volumes of more diverse data, often spread across a vast range of systems and applications, IT must modernize to keep up.

An essential element of every IT modernization initiative is the hybrid cloud, which is itself complex to set up and manage. Although it combines the benefits of cloud and on-premises IT, it still retains the challenges of both. Many companies wrestle with costly over-provisioning, operational inefficiencies, talent shortages, and unpredictable costs.

With so many solutions and approaches to choose from, IT leaders have a lot to consider as they attempt to create a hybrid cloud strategy that will meet changing and expanding IT needs. This guide outlines unique features of HPE's solution portfolio—much of which can be delivered on-premises or as a service—that make it the ideal choice to support intelligent hybrid cloud deployments, across three key challenge areas.
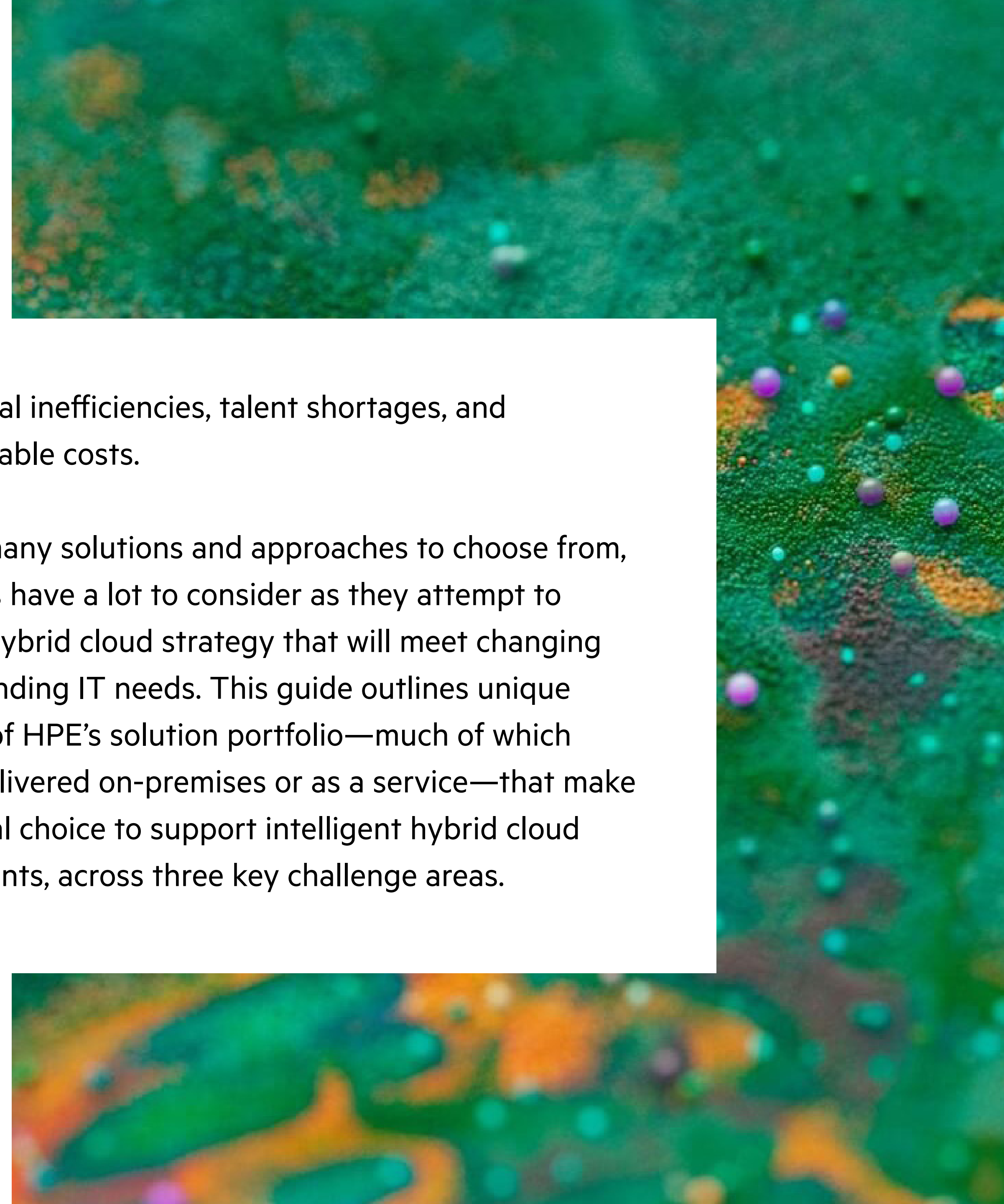
10 reasons

HPE Compute helps accelerate your IT modernization

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Workload optimization

Optimized workload performance, placement, and efficiency accelerate positive business outcomes and time to value. Yet many businesses still rely on internal knowledge or a trial-and-error process to optimize their IT. In a hybrid cloud infrastructure this approach is no longer good enough. HPE offers a range of tools that help ensure every workload runs in the right place at the right time to optimize performance.
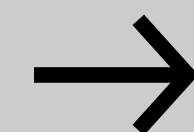
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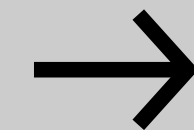
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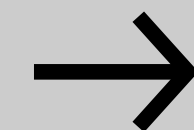
03 Know where to host and migrate workloads across hybrid cloud environments →

Reason 1: Configure and optimize workloads at the click of a button

Enabled by: HPE Workload Matching

Customers can quickly and efficiently choose from a selection of preconfigured workload profiles. Our highly talented and experienced performance engineers here at HPE have spent countless hours testing, benchmarking, and analyzing various workloads to create these presets and make BIOS tuning easier. Workload Matching offers over ten (10) preconfigured workload profiles for you to choose from. With a click of a button, these profiles allow you to match the characteristics of your workload to a subset of BIOS tuning options that we've determined are best suited to maximize performance.

Why HPE?

While competitors offer the ability to have a limited and/or manual approach to configuring a server for a workload, no other competitor offers as broad a portfolio of optimized workload profiles for a simple, template-driven method to easily configure and optimize a server to save customers hours of time-consuming work to tune their servers to specific workloads.

Reason 2: Monitor and optimize workload performance in real-time

Enabled by: HPE Workload Performance Advisor
Workload Performance Advisor monitors key server performance metrics and provides users with real-time tuning advice for select BIOS settings. Tuning advice is based on actual server resources that are being used while running your workload. This functionality builds off of the Workload Matching feature and allows users to customize settings ever further. The main foundation for Workload Performance Advisor is the ability in HPE iLO 5 to monitor key system performance metrics and analyze the results over an extended period of time. Whether it be minutes, hours, or an entire day, Workload Performance Advisor can determine whether or not certain BIOS settings are optimally set, based on observed system behavior.

Why HPE?

Workload Performance Advisor is a unique offering from HPE. HPE's ability to tune the server through hundreds of possible BIOS configurations, regardless of the operating system and other hypervisors and applications in use, reduces a challenging and time-consuming process, giving customers the unparalleled ability to have their servers perform real-time workload optimization.

Reason 3: Know where to host and migrate workloads across hybrid cloud environments

Enabled by: HPE Right Mix Advisor

Right Mix Advisor is an industry-first offering that helps businesses develop their hybrid cloud strategies with confidence. Right Mix Advisor recommends which workloads and applications are ideal to move to public clouds or keep in private clouds. It also advises how to migrate those workloads to achieve the right mix of hybrid cloud according to each business's specific need.

Why HPE?

HPE Right Mix Advisor is a service unique to HPE, and a comparable advisor is not offered by other x86 vendors.
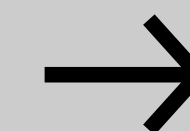
360 degree security

Maintaining a secure environment is a significant challenge for any IT team. The threat of cyberassault is increasing exponentially, and hackers are getting more sophisticated with every wave of attack. Protecting software and networks is only part of the picture. HPE builds in features that enable tight hardware security across the whole server lifecycle.
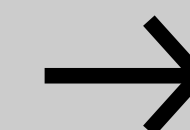
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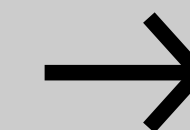
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06 Fastest path to bring a compromised server back online →

07 Simple, secure data removal at end of life →

Reason 4: Secure systems, even when on the move

Enabled by: HPE Server Configuration Lock
Server Configuration Lock protects systems in transit and when deployed in insecure locations such as retail stores, outdoor access points, IoT platforms and more, by ensuring the system has not been tampered with, and does not get deployed in a compromised state. This ensures that customers' systems shipped from one location to another are not vulnerable to attack in the supply chain.

Why HPE?

HPE Server Configuration Lock is a feature of HPE ProLiant servers. HPE Server Configuration Lock paired with the fact that HPE makes its own HPE iLO 5 silicon chip and firmware creates a level of tamper-proof security unmatched in the industry.

Reason 5: Unmatched BIOS and firmware validation, from the factory through boot-time and run-time

Enabled by: Silicon root of trust from HPE
Silicon root of trust from HPE provides rapid detection of a security-compromised server, even to the point of not allowing it to boot. Silicon root of trust anchors the BIOS and all other essential firmware of HPE ProLiant to an HPE-exclusive ASIC even before the server is built, creating an immutable fingerprint in the HPE iLO silicon that must be exactly matched before the server will boot. This ensures malicious code is contained and healthy servers are protected.

Why HPE?

HPE's immutable silicon root of trust makes HPE the only vendor in the industry with signatures for validation embedded in the HPE-developed iLO ASIC chip at the approved fabrication facilities, allowing for the unmatched ability for validation of the BIOS and all essential firmware at both boot-time and run-time.

HPE uniquely reduces security concerns and threats by developing the BIOS, management firmware, and HPE iLO 5 chip in-house.

Reason 6: Fastest path to bring a compromised server back online

Enabled by: HPE Server System Restore
Server System Restore provides automated recovery from a security event, including restoration of validated firmware, and facilitating recovery of operating system, application, and data connections. This provides a fast path to bring a server back online and into normal operations.

Why HPE?

The HPE iLO ecosystem provides unmatched automatic server recovery of the entire system to the customer's defined/last-known configuration, or factory configuration, in the event of a breach, fully validating all aspects of secure recovery. Other vendors provide a less robust recovery consisting mainly of the BIOS.
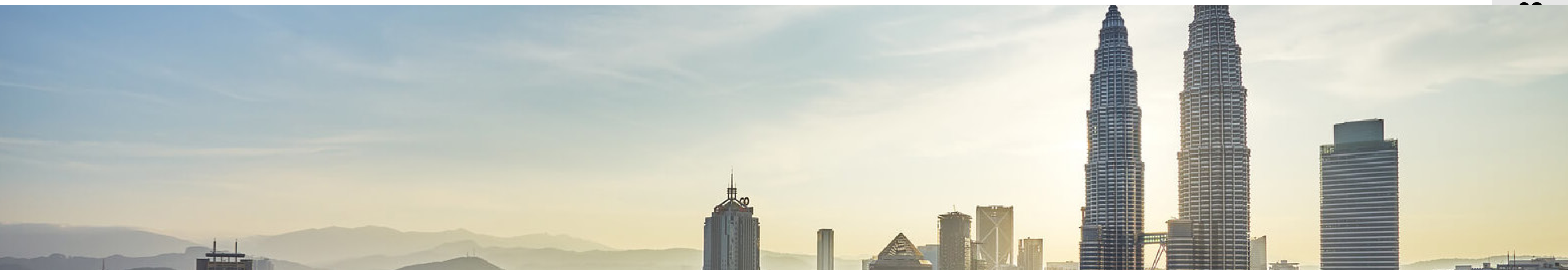
Reason 7: Simple, secure data removal at end of life

Enabled by: HPE One Button Secure Erase

One Button Secure Erase provides simple, safeguarded removal of passwords, configuration settings, and data from a server being repurposed or retired, preventing inadvertent access to previously secured information. By removing all user data on the server (attached storage and non-volatile RAM) as per NIST standards, One Button Secure Erase makes server retirement and redeployment simpler and safer.

Why HPE?

Unlike most vendors, HPE's One Button Secure Erase provides full NIST-compliant removal of data for all components within a server, including all of the embedded flash components on the server board. This capability gives even the most security-conscious customers a simple and secure method of removing all customer data from the server for easier retirement and redeployment.

Intelligent automation

With IT being stretched like never before, it must be proactive, anticipate demand, and be ready with the flexibility and capacity to meet business needs in moments, not days or weeks. Server monitoring and management must be simplified, and deployment and provisioning automated, so people are free to focus on strategic initiatives that create real value. HPE ensures this starts with a server intelligent enough to collect information on its own operations, then share it through a standards-based API to tools for higher-level management, optimization, and orchestration.
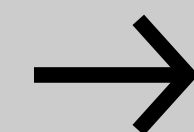
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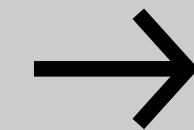
10 Comprehensive software defined infrastructure capabilities from a single tool →

Reason 8: Seamlessly monitor and manage servers anywhere, anytime

Enabled by: HPE iLO 5
HPE iLO 5 management provides detailed insights into server status and operations, allowing system administrators to monitor and manage servers remotely anywhere, anytime. Utilizing a wizard-based embedded server provisioning utility, HPE iLO 5 provides intelligent provisioning to make it easy to take your server from out-of-the-box into production.

Why HPE?

HPE iLO 5's management features are more comprehensive for the intelligent optimization of a server, and more robust for firmware management of updates and rollback. It also provides very robust fault detection through the continuous monitoring enabled by the Active Health System.

Reason 9: Use AI to maintain the ideal operating environment for every system

Enabled by: HPE InfoSight
HPE InfoSight for servers is a unique feature for HPE ProLiant servers and other HPE infrastructure that takes a comprehensive approach to data collection and analysis, collecting and analyzing millions of sensors per second. Using AI operations, HPE InfoSight continuously learns from the telemetry and develops an understanding of the ideal operating environment for every system, workload, and application. HPE InfoSight uses its predictive analytics and recommendations engine to analyze health, configuration, and performance data to predict and prevent problems and improve performance.

Why HPE?

While most other vendors offer support automation for failures detected in the customer's environment, HPE InfoSight employs artificial intelligence and machine learning to go beyond traditional support automation. It leverages global intelligence and deep product expertise to predict and prevent issues across all servers connected to HPE InfoSight.

HPE InfoSight provides in-depth coverage of your IT infrastructure, including older hardware spanning back several generations that have pre-built sensors for telemetry collection. This is in contrast with other solutions that necessitate upgrading to the latest and greatest hardware to take advantage of new-age capabilities.

All of this is made possible by the advanced capabilities of the industry's leading cloud-based AI-powered management solution, which delivers autonomous operations that ensure your environment is always-on, always-fast, and always-agile.

Reason 10: Comprehensive software defined infrastructure capabilities from a single tool

Enabled by: HPE OneView
HPE OneView is the foundation for software defined infrastructure for HPE ProLiant, as well as HPE Synergy and HPE Apollo servers, and is backed by the industry's largest ecosystem partners and a Unified API. HPE OneView simplifies the work of IT with extensive automation for infrastructure lifecycle operations and offers robust security with Commercial National Suites Algorithm (CNSA)-grade ciphers, Federal Information Processing Standards (FIPS) certification, multi-factor authentication and the most comprehensive single-sign-on feature.

Why HPE?

HPE OneView's template-based provisioning includes the entire ecosystem of servers, storage, and fabric, unlike other vendors which only manage servers. HPE OneView allows you to take advantage of enhanced security features such as two-factor authentication, FIPS 140-2 validation, and support for CNSA ciphers that provide users with the highest level of cryptography in the industry.
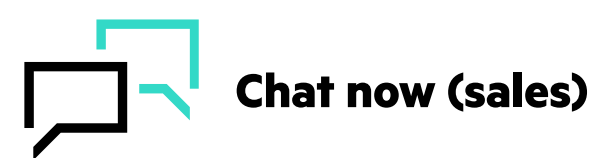
HPE ProLiant

The intelligent compute foundation for IT modernization and hybrid cloud

Hybrid cloud is fast becoming a core element of any IT strategy. As every organization works out its own best approach, HPE is committed to providing insight and support each step of the way—from initial investigation into what's possible, through to running and optimizing enterprise-scale hybrid cloud environments.

Learn more at

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