HPE GreenLake

Unlock more value from your data

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Executive summary

Data is generated in every corner of the globe but that doesn't mean every business is equipped to unlock its value. Unleashing data as the lifeforce of your company helps to create rich experiences for your external stakeholders, accelerate decision velocity, enable operational improvement for your internal teams, and deliver continuous innovation to move your business forward, faster. This paper describes best practices, strategic services, and solutions that you can harness today to unlock the value of your data.

Speed down the path to unlocking your data's value

Data is the currency of digital transformation, and if you can unlock that data's value, you enable your business to harness the power of data, from edge to cloud. Data-first modernization is the key to accelerating as a data-first business—an approach from Hewlett Packard Enterprise that elevates data as the preeminent organizing principle for the business, with the entire organization—IT and beyond. It is focused on applying the right resources to cultivate, connect, manage, analyze, and act on data, wherever it lives.

Although each organization's digital transformation path is unique, there are three actions that any organization can take to unlock the value of data everywhere.

• It begins with thinking, acting, and becoming data-first, where a data-first approach informs every plan, action, and investment as you transform your environment.
• The second action is to empower your data users as they seek to drive innovation and operational improvement. That empowerment needs to span from edge to cloud.
• The third action is to modernize and accelerate your data foundation.

We consider each objective and actionable ways you can achieve them as you speed down the path to unlocking your data's value.

Think, act, and become data-first

The move to become data driven presents new technology choices and considerations. The choices you make must align with the right business strategy and organizational readiness that enables you to advance as a data-first business. As such, businesses are recognizing a new reality: the need to unify your data and your cloud experience and extend it to wherever your data and applications reside. Achieving that requires a modern data solution that addresses every facet of your data estate, from data ingestion, distribution, data processing, analytics, and data storage to data security, protection, and compliance.

The HPE experts can help you start your organization's data-first modernization journey through planning, building, and delivering a modern data platform. There are four main phases in the modernization journey and HPE expertise can help you with each of them:

1. Strategy alignment—Bring your business, IT, and data teams together, first to establish a common understanding of a modern data platform, including aspects such as analytic needs and data opportunities. This is also an opportunity to hear best practices and create a high-level program plan.
2. Capability assessment—Evaluate the attributes of your current data platform, the readiness of your organization, and the effort that will be required to achieve the modern data platform you need. Here you can gain a preliminary understanding of what to discard, save, modernize, consume, and adopt that is new. Establish who needs access to what, or how your platform can accommodate provisioning access on demand. This is when you can assess skill gaps and organizational readiness as well.
3. Plan and design for agility—Develop a clear plan for an integrated, service-oriented data and analytics approach, including security, infrastructure and operations integration, datastore protection, and compliance. It also includes a detailed solution design based on your target use cases and functional and non-functional requirements, including your integration and consumption needs.
4. Data migration—Identify and understand the potential challenges of an upcoming data migration project. Also, understand this in terms of data tie-off with your workloads. This includes preparing your organization for transformation and transitioning your legacy data environment to successfully migrate your data—all leveraging the HPE data-first modernization approach with best practices, migration tools, and methodologies.

HPE helps you connect your data users to your data seamlessly, with:

- **Cross-organizational collaboration** and data sharing from a single management view

- **A single management portal** that accelerates creation, configuration, and management of large data and analytic systems with a 360-degree data view

- **Consistent access to data** through global namespace that provides a single point of access for users, apps, and workloads to access existing and new analytic architectures such as data lakes, data warehouses, multiple clouds, and Hadoop solutions

- **Broad API support** to access multiple data types such as structured, unstructured, and Big Data without code modifications

- **Accelerated search and identification of key data sets** through a multimodal database that supports document and column-oriented data and metadata, enabling quick metadata queries or direct data access by data science teams

- **Edge-to-cloud processing and insight delivery** right where data was created, to reduce decision latency and bandwidth requirements and improve edge operations

Empower your data users

Within any enterprise, the number of roles that require data access for everyday tasks continues to increase. From the factory floor to C-level, access to data is critical to increasing yields; facilitating sales; transacting customer orders, supply chain, and operations systems; or making investment decisions.

As data has spread across multiple clouds, edge, and core environments, the challenge has been how to create unified access to data. Providing a single point of access to your data is not trivial. You must unify growing data volumes and data sources spanning multiple locations, residing in multiple generations of technology, often in proprietary formats. And you must do so without time-consuming, expensive, and manual processes that slow down time to insights.

You need a solution that provides direct access to multiple data types and formats residing across multiple siloed analytic architectures. One highly effective way of doing this is to create a data fabric. A data fabric is a solution that combines native, diverse data sources and formats (for example, S3 objects, files, streams, and databases) in a unified data platform that spans on-premises, cloud, and edge deployments. A data fabric delivers a global view to unify management, security, and data access. It enables you to meet even the most demanding data access needs of data engineers, data analysts, and data scientists.

Just as important as making data accessible is simplifying application and workload deployment. Your data users may have expertise in analytics, artificial intelligence (AI), and other applications they use to find value locked inside data. But they may not have similar expertise in calculating the precise storage and compute specifications required for machines that can efficiently run their applications. While your IT staff will have that expertise, provisioning workloads on demand takes time away from higher-value pursuits.

Your data users could be much more productive—and derive more trusted insights—if they had the flexibility to deploy workloads wherever they needed them, in configurations optimized for the performance of those workloads. Moreover, if your stakeholders could tap into that application and workload freedom without requiring IT's involvement, you would make it still easier for them to unlock the data's value.

With HPE, you can confidently bring the cloud experience to your data users. You can do this readily by adopting solutions that allow your data users to deploy workloads with the ease and speed of self-service. It reframes IT as a service provider rather than an IT operator and helps reduce mundane tasks that take up your team's time.

Modernize and accelerate your data foundation

For your organization to thrive in today's hybrid, digital-first world, you need the right compute and storage solutions to enable you to unlock data's value in specific ways.

One requirement is that processing data must be closer to where the data is created and lives. With business increasingly taking place at the edge—data creation and utilization happening there in real-time—centralized compute is no longer an effective architecture. Compute must be distributed, coexisting where data is created and stored, and powering the applications that rely on that data without delay or latency.

Another is that your organization's infrastructure must be simple to manage and operate. Distributed compute and storage cannot be managed with legacy tools and methods. It requires global visibility, virtualization, and automation—a cloud-based management approach that helps you work at the speed of business. This means creating a cloud operating experience everywhere.

Security and protection are must-haves, not an option. The complexity of multigenerational and hybrid environments, combined with an increasing volume of business-critical activity at multiple edges, has the potential to create significant risk exposure. Security and protection must be an integral part of a modern compute backbone, strengthening the entire environment and helping harden it against ever-increasing threats.

Crucially, workloads need to scale quickly and efficiently while operating at optimal performance levels. Application diversity requires an increasingly broad range of compute performance. General-purpose compute is giving way to a demand for task-specific performance such as the capability for advanced analytics, including compute that integrates GPU accelerators. And with the right storage, you can meet any SLA and lower risk with high availability, efficiency, and ultra-fast performance.

HPE provides efficient compute and storage solutions to help unlock your data's value and meet your business objectives. This includes the flexibility to purchase or consume as a service. For example, HPE solutions for infrastructure as a service on-premises can deliver strong business results and position you to propel your business ahead.

HPE recognizes that multigenerational IT environments are complex, not optimized for cost or speed, span various locations, and are often over-provisioned. As such, HPE has provided a cloud platform that offers an innovative compute and storage foundation capable of unifying and modernizing your data estate no matter where data lives in your enterprise, from edge to cloud. The HPE solution for a cloud operational experience enables you to accelerate data-first modernization initiatives with visibility and control over costs, security, and governance.

Unlocking the value of your data with compute

When the management of compute is simple, unified, and automated, your team will be able to focus more on unlocking your data's value and less on mundane tasks. The path to simplifying your control of compute from edge to cloud leads through a cloud-everywhere operating experience. For that experience, the HPE solutions provide global visibility and insight through a unified console, enabling you to transform business operations as you pivot your team from reactive to proactive. You'll have the ability to automate tasks for efficiency in deployment, instant scalability, and seamless, simplified support and lifecycle management. Your compute needs to be engineered with a cloud experience, whether you choose a purchase or consumption model.

Similarly, you can deploy workloads with confidence when you know your cybersecurity is fundamental and uncompromising. Compute security should span from silicon to software, from factory to cloud, and from generation to generation. For example, HPE server solutions are engineered with a fundamental security approach. They defend against increasingly complex threats through constant security advancements. HPE provides options that enable you to protect your infrastructure, workloads, and data from threats to hardware and risks from third-party software, with a trusted edge-to-cloud security posture. HPE compute cores are hardened through a proven zero trust approach to security.

Moreover, IT must remain efficient, accelerated, and open to ensure that you can continue to provide optimal performance for workloads as your business grows. HPE offers solutions for compute that deliver the performance your business demands—from the data center to the edge—and are engineered for your hybrid environment. The HPE solutions enable you to deploy seamlessly while achieving optimal performance for demanding applications that require the most advanced graphics and data acceleration. Address the new wave of data center needs with an open approach that delivers efficiencies for cloud-native workloads at scale. Beyond performance, your compute solution needs to achieve advantageous efficiencies spanning operational and performance economics to supercharge your apps and accelerate innovation everywhere your data lives.

More broadly, compute needs to be secure, efficient, optimized, sustainable, and engineered for hybrid environments. The HPE solutions support distributed approaches, moving compute beyond centralized data centers and deploying it as a backbone throughout your operations—across multiple clouds, multiple data centers, and at the edge. The solutions for compute are easy to operate, with location-agnostic, cloud-based compute management ensuring visibility and consistency despite increasingly diverse compute locations and workloads. This allows you to unify operations across the lifecycle and throughout the environment while empowering security and automation.

Using storage to unlock the value of your data

To unlock the value of your data everywhere, you need to identify immediate ways to eliminate data management and infrastructure complexity—all while delivering a self-service cloud experience everywhere. While the public cloud set the standard for agility, organizations now need to harness the benefits of the cloud operational experience wherever their workloads live—from edge locations to on-premises data centers to co-location facilities. This approach is now essential to successful transformation. In fact, according to analyst group ESG, 91% of IT leaders identify mature cloud operations on-premises as the single most important step to eliminating complexity.[1]

To eliminate this complexity and unlock data's value, organizations seek to accelerate transformation with solutions like storage as a service (STaaS) from HPE. True STaaS changes the storage management game entirely—by bringing cloud operational agility and simplicity to data infrastructure across the edge to cloud. Leveraging AIOps, true STaaS makes underlying data infrastructure invisible—eliminating silos, complexity, and the burden of day-to-day storage administration while shifting operations to be app-centric rather than infrastructure-centric. Even better, you can now provide the self-service agility that line-of-business owners and developers require to build and deploy new apps, services, and projects faster—which also frees your IT resources to work on strategic, higher-value initiatives.

[1] Why Being a Data-first Leader Matters, 2022. Data referenced was derived from ESG's Data Management Maturity Study of 750 IT Decision Makers, commissioned by HPE, November 2021, as summarized in this eBook.

And a flexible, as-a-service consumption model helps you avoid over- and under-provisioning concerns, CAPEX budget constraints, and complex procurement cycles. Capabilities include SLA-driven quoting and rapid ordering that enable you to scale on demand, with buffer capacity for unexpected workloads or usage demands, moving you from heavy up-front costs to a transparent, predictable monthly subscription.

As you confront the data management complexity that thwarts your advancement, it's important to consider the wide variation in service requirements for different workloads. Most on-premises and public cloud storage-as-a-service offerings—which typically commit to four-nines of data availability—are not suitable for mission-critical applications requiring six-nines or even 100% availability.

HPE offers unique STaaS solutions that can deliver guaranteed 100% data availability for mission-critical apps and 99.9999% uptime for all other workloads.[2, 3] This allows you to meet the SLA for any app, from traditional to modern, with the right performance, resiliency, and efficiency—enabling you to reduce risk by running any app without compromise.

Additionally, with HPE you can extend data protection across your environment with enterprise-grade, cloud-based data protection that enables instant restores, rapid recovery on-premises, and cost-effective long-term cloud retention for your enterprise.

With the HPE solutions that bring a self-service cloud operational model to on-premises workloads, your organization can accelerate down the path to unlocking your data's value.

Conclusion

Data-first organizations recognize the importance of unlocking the insights data can generate. They apply the right resources to capture, cultivate, manage, and analyze their data across edge to cloud as they transform and modernize their environment. Achieving data-first modernization ambitions requires wide-ranging strategies, tactics, plans, and technologies.

Since every business is at a different point in the journey, knowing your starting point and what success looks like is critical. If you are looking for adapting capabilities, investments might focus on areas such as enabling data-driven culture, data transparency, and governance. To adopt a data-first approach at the enterprise scale, investments might focus on functional data strategies such as adopting enhanced data visualization solutions or leveraging swarm learning. If you have already moved beyond enterprise functional capabilities, you should examine the return on deepening investments in modern data architectures and data fabric while considering data consumption.

Regardless of where you are on your journey, HPE can help you take meaningful actions to become a truly data-driven business and unlock your data's value. HPE advisors can help you map your potential options and identify the relevant considerations to form a complete picture of what data-first means for your business, and we can help you determine the modern foundation for all your data across edge to cloud.

Learn more at

Learn more about data fabric.
hpe.com/us/en/software/ezmeral-data-fabric.html

Explore your data foundation.
hpe.com/us/en/greenlake/compute.html

hpe.com/us/en/compute/compute-systems.html

[2] HPE Storage Substantiation, HPE, 2022

[3] 3 ways HPE GreenLake for Block Storage transforms on-prem STaaS, HPE, June 2022.

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