Hewlett Packard Enterprise

How to build an intelligent data strategy

Contents

About this guide

This buyer's guide has a simple and straightforward purpose—to introduce you to the value of an intelligence-driven data management platform and tell you how to get there. By reading this guide, you'll discover:

- Why intelligence is essential for infrastructure management—taming hybrid complexity, managing data, and extracting value from data explosion
- What questions you should ask when building a smarter platform
- What you should expect from your vendor
- What an intelligent data platform can do for your business

The dawn of the intelligence era

In IT infrastructure management, the great news is that we've finally reached the era where intelligence plays a leading role. This is a huge paradigm shift. Intelligence changes everything. When applied correctly, it gives you the ability to not only manage and access all your data more efficiently, but also extract value and insights from what you have.

Gone are the days when data was simply stored and accessed when needed. The flash storage era was disruptive from a performance standpoint—from 10 milliseconds to sub-millisecond. But no "game changer" remains in the flash era, and we are seeing just incremental technical improvements.

With the cloud era came a big change in agility and scalability. The emergence of cloud gave us the ability to keep certain data and workloads on-premises while offloading others to unlimited storage in the cloud. This has grown to the point where everyone now expects an "as a service" experience, with flexible options that meet specific, ever-changing business needs.

Today, with the dawn of the intelligence era, we see a true game changer with intelligence-driven operations and artificial intelligence (AI) to extract insights from data. Intelligent data management is always on, always available, and always agile to respond to different challenges and needs over time. But most of all the intelligent enterprise is built for innovation—innovation that can unleash new services, revenue streams, and business models.

What challenges does the intelligent era address?

Every enterprise today—like your own—faces challenges with infrastructure overhead and how to manage data throughout its lifecycle. Most also have a mandate to embrace the cloud and struggle to decide where important data and workloads should reside across their hybrid cloud environment. Costs are not predictable or transparent, often resulting in over-provisioning that further inhibits the cloud strategy.

Your business needs IT to start behaving more like a service provider, and less as a reactive administrator of infrastructure. You may be operating in silos and not have the right skills in house to fuel your digital transformation. And finally, not only do you have to store and protect data, but you need to have a platform that will unlock insights into that data in order to move your business forward.

The most successful businesses will be ones who address these challenges by embracing an **intelligent data strategy** that accelerates all applications, transforms data management, harnesses the agility and innovation of all clouds, and empowers their innovators by unlocking hidden insights within their data in real time.

Dawn of the intelligence era

Figure 1. Evolution from flash, to cloud, to intelligence

Why is intelligence so critical?

Intelligence is critical to managing your data infrastructure for four key reasons. It enables you to:

1. **Create smarter infrastructure management:** Build a more-efficient, fully integrated, automated, and cost-effective platform
2. **Tame hybrid complexity:** Understand and control the complexity of a hybrid cloud infrastructure
3. **Handle exploding data volume:** Manage and control massive amounts of data
4. **Derive value and insights:** Extract value and actionable insights from all your data

10 questions any IT buyer needs to ask today

1. As we move to a hybrid environment, how do I decide what workloads should reside on-premises versus in the cloud?
2. How do I manage storage costs while scaling to meet the constant growth of data and workloads?
3. Can I find a way to run any application workload from anywhere, whether apps and data reside in the cloud or on-premises?
4. How can I get IT costs to be more predictable and eliminate needless spending and over-provisioning of resources?
5. How do I build a hybrid infrastructure that can be centrally managed and controlled, with self-managing capabilities?
6. How can my business unlock valuable insights from data to help drive competitive advantage?
7. Can I automate certain aspects of data management to give my IT team more time for innovation and strategic priorities?
8. How important is it that any new solutions fully integrate with my existing infrastructure?
9. How do I retire legacy data efficiently and still have access to information we need?
10. Can I build an intelligent platform that automatically manages risk and ensures compliance?

Intelligent data platform

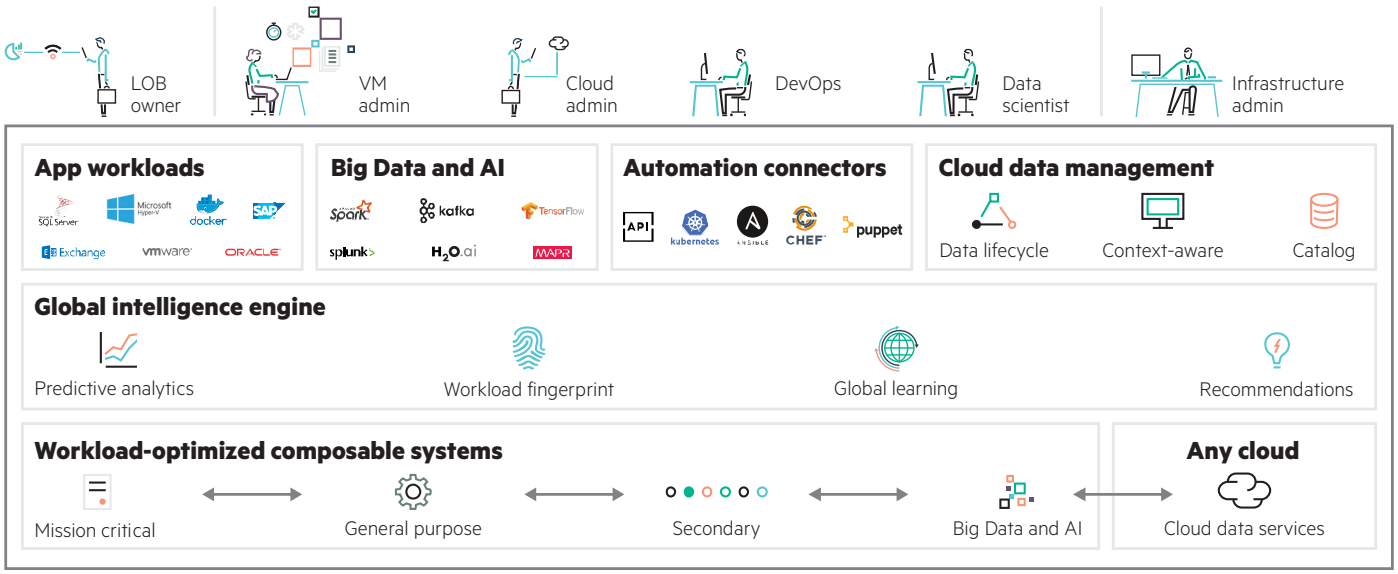

Figure 2. Layers of intelligent data platform

By 2020, consumption-based procurement in enterprise data centers will account for as much as 40% of IT spending.[1]

Smarter infrastructure management

Intelligence is key for infrastructure management. You can have reliable and fast storage, but that's solving only half the problem. Over 50% of issues arise from above the storage layer, and these issues can lead to disruption or performance variability for your application workloads.

In most enterprises today, there are hundreds of variables in complex infrastructure stacks that require hundreds of thousands or millions of simulations to correlate. This problem is far too complex for humans to solve.

That's why a **global intelligence engine** is a crucial layer for any intelligent data platform. It injects intelligence across all of your systems and can be used to predict and prevent issues from happening across the full infrastructure stack. Global learning results from the collection of trillions of data points across thousands of systems in the global installed base and can be used to proactively prevent issues that are seen in individual environments but at a global scale.

This intelligence extends beyond problem resolution to provide personalized recommendations as to how best to optimize your environment based on machine-based learning. Recommendations can help answer questions like "Where should I place this workload?" or "How should I best tune this workload for optimal performance?"

A global intelligence engine delivers intelligence to all your data management solutions, including cloud data management, Big Data management, data integration, data quality and governance, and security. It applies machine learning (ML) to technical, business, operational, and usage metadata across the entire enterprise. This enables data developers to analyze many tasks that are partially or fully automated and allows business users to easily locate and prepare the data they are looking for from anywhere in the enterprise. Meanwhile, data scientists gain a faster understanding of data and find it easier to visualize data relationships.

[1] idc.com/getdoc.jsp?containerId=US43152417

Taming hybrid cloud complexity

Today's reality is that hybrid cloud environments—though maturing—can still be pretty complex. Most enterprises recognize the need for a mix—both on-premises, private cloud, and public cloud for certain workloads and requirements.

A central issue for most enterprises today is what workloads belong on-premises versus in the public cloud. The decision is already complex enough, but it becomes even more complicated with multiple clouds and the public cloud. How do you decide what workload to put where? How do you know how a new workload A is going to interact with workloads B and C on any given infrastructure? Imagine this challenge at scale across hundreds of workloads and hundreds of systems. This challenge is far too complex for humans to solve.

Here's where intelligence comes in. Without intelligence, you compromise on the consolidation value, which impacts your costs or negatively affects performance.

Intelligence is key for taming hybrid complexity

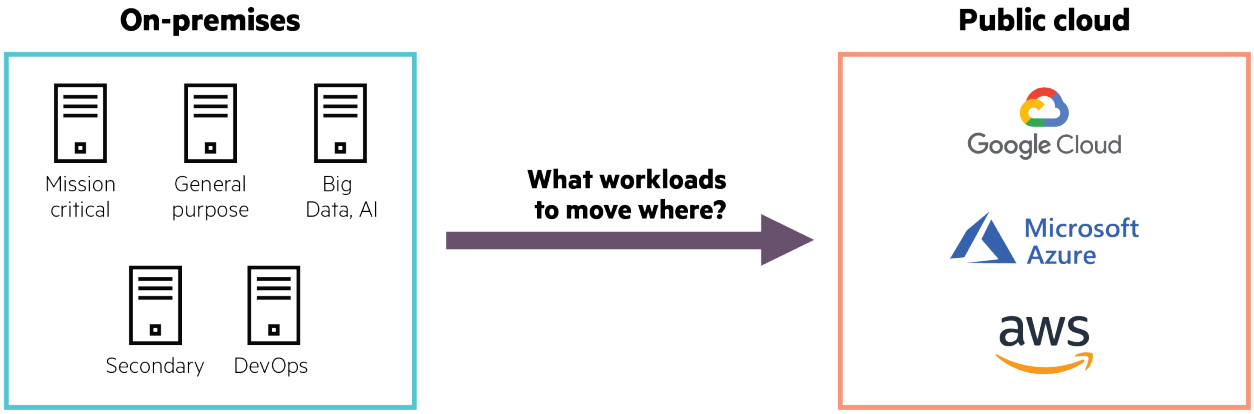

Figure 3. Intelligence is key for taming cloud complexity

68% of IT decision-makers say their IT environments are either more complex or significantly more complex than they were just two years ago, with 41% citing higher data volumes as a cause.

– ESG Master Survey Results, 2018 IT Spending Intentions Survey, December 2017

Managing massive data volumes

With data volumes already massive and continually growing, how do you know what to preserve, what to retire, and how to prioritize? Where should your data live at any given point in time in the application lifecycle? There should be a continuum where your infrastructure is intelligent enough to place your data where it needs to be throughout its lifecycle. Admittedly, this is no easy task.

Intelligent data management optimizes backup and recovery and provides regulatory compliance and retention management. It delivers a complete enterprise information archiving solution that provides discovery, classification, reporting, and data management with centralized access.

Extracting value and insights from data

Every enterprise today talks about deriving value from a wealth of data. But how do you create a data platform that is smart enough to unlock hidden insights that drive competitive advantage? What specific elements are needed?

By 2020, the world will have 40 ZB of data. Every business will become an Internet of Things (IoT) company, with literally millions of devices generating data. The challenge becomes not only how to store this data but how to gain intelligent insights from what you have.

Your enterprise will need to apply intelligence across the infrastructure so that your data is always on and always fast, automated, and available on-demand. The platform should be hybrid by design so data is accessible and usable across your cloud environments.

Ultimately, everything you do is underpinned by data, which is such a critical part of your application workloads. Your data platform should include a global intelligence layer that handles visibility and lifecycle management. Because data is all around us and growing exponentially, it makes sense to use intelligence to test data correlations, discover relationships, and get meaningful answers.

96% of enterprises are using some form of cloud computing. 81% of enterprises have adopted a multicloud strategy, with the average organization using nearly five cloud platforms.[2]

Five key things you should expect of your IT vendor

- Flexibility to build solutions that work your way, not their way
- Proven experience in hybrid cloud
- Superior customer experience with a single point of contact, always available
- Cost predictability with no wasted cloud spend and better overall IT cost control
- A focus on automated, intelligent data management

Wasted cloud spend averages up to 35% of total IT project spend, largely due to over-provisioning and poor planning.[3]

What can an intelligent data platform do for you?

An intelligent data platform relies on cloud-based data management with built-in context-aware intelligence. This helps drive data lifecycle management across all of your data, allowing you to make more intelligent decisions about where your data needs to be placed, and how it needs to be managed and protected.

By giving you self-managing infrastructure that gets smarter every minute, the platform enables you to develop applications once and run them anywhere—with a single cloud experience across your hybrid environment. An intelligent data platform removes barriers and puts powerful technology at the fingertips of your developers so you can unleash innovation.

This means that:

- Cloud administrators can manage large-scale virtual workloads and seamlessly embrace the public cloud.
- Developers can accelerate parallel builds, to drive faster application development and innovation.
- Data scientists are able to shorten the time to data insight from months down to hours or minutes.
- Infrastructure management becomes much easier and automated so that you can spend time innovating, not putting out fires.
- IT can manage risk out of your environment with over 99.9999% measured and guaranteed uptime, through the use of AI/ML that constantly gets smarter over time.
- Costs become more predictable—with the ability to save 30% or more by eliminating over-provisioning and aligning costs to business needs.

[2] h20195.www2.hpe.com/V2/getdocument.aspx?docname=a00065747enw
[3] infoworld.com/article/3344477/why-35-percent-of-cloud-spending-is-wasted.html

Put simply, the real value of an intelligent data platform is that it delivers an always-on, always-fast, automated, and on-demand environment that facilitates hybrid cloud and brings global intelligence.

Learn more at

hpe.com/us/en/resources/storage/intelligent-data-strategy.html

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