SOLUTION BRIEF

Modern Data Protection for Hybrid Cloud

Hybrid Cloud Solution Series

Hybrid cloud is an IT architecture that combines at least one private cloud, also known as an on-premises data center, with one or more public cloud services. These "hybrid environments" can create siloed data or complexity for IT managers, and many companies look to enable sharing and management of data and applications between both. As we will discuss in a bit, that can be accomplished through software, or SaaS (Software as a Service). As a result, organizations benefit from the scale and availability of the public cloud for certain workloads, while keeping others on-premises for faster access or even regulatory compliance.

Approximately 78% of companies are using a Hybrid IT approach today.[1] The hybrid cloud construct allows application operation to optimize IT operations as part of a digital transformation and business modernization effort. Companies have many different paths to adopting hybrid cloud, dictated by both their business and technical objectives.

Oftentimes, a smart and efficient hybrid cloud strategy can achieve these objectives more effectively than a traditional cloud, either public or private, can alone — but only if the right approach is taken when protecting, recovering and securing the data in hybrid environments. It's imperative for companies to learn about how and why to deploy or use hybrid environments, as well as understand key considerations for successfully protecting and securing those environments.

Why? Because companies need purpose-built protection to address the shifting nature of threats that go along with cloud modernization.

Simply put, ensuring data integrity requires a different approach in the cloud. It is critical that production data workloads are isolated from the production domain and backup fills that role. And further, if you are using an on-premises option, you'll also need to consider hardware failure as well as fire, flood, and other scenarios.

This holistic approach allows organizations to transform operations that are focused on producing business value by combining the best cloud environment for each workload. In addition, hybrid cloud is not an interim state, but a long-term reality for many companies. According to recent research, companies are predicting an even split in workloads between cloud and on-premises/private cloud.[2]

HYBRID CLOUD OPERATION

A hybrid cloud environment that includes private and public clouds represents a significant departure from the traditional on-premises IT environment. At first, hybrid cloud environments focused on transforming parts of the on-premises IT infrastructure into private cloud infrastructure, and then connecting that to a public cloud. This was often done using a variety of enterprise middleware to integrate cloud computing resources across both environments for a unified management experience from a centralized console. However, today's hybrid cloud architectures are not just about connectivity, but also the portability of workloads across all cloud environments.

Every hybrid cloud journey is unique, and allows enterprises to move workloads between private and public clouds to meet changing business needs. Workloads can be deployed in the optimal environment, whether on-premises, in cloud-based VMs, or containers running on Kubernetes clusters.

To build a hybrid cloud architecture, an organization with an on-premises infrastructure acquires a cloud service from a service provider, such as Microsoft Azure, Oracle Cloud Infrastructure (OCI), or Amazon Web Services (AWS). Using services from public cloud providers like Microsoft with solutions like Office 365 for productivity can enable today's remote workforce to get more done outside of the local office. When companies leverage these SaaS solutions, they give employees flexibility while freeing on-premises resources for other tasks.

1. Flexera 2021. "State of the Cloud Report".
2. Flexera 2021. "State of the Cloud Report".

To maximize hybrid cloud efficiencies, companies integrate hybrid cloud resources used for monitoring, allocating and managing resources. With a hybrid cloud, workloads and data can be moved between environments for best outcomes and accessed by authorized users securely and efficiently. For example, if a company maintains a private cloud and then adds a public cloud footprint, IT could move workloads between the two locations to provide the most optimal service to customers and employees.

It's important to note that hybrid cloud environments have specific requirements when it comes to data protection with business data stored in multiple locations. Solutions to protect this data need three foundational elements:

- Breadth of application coverage
- Flexibility of storage
- Single management interface

When choosing a cloud-delivered data protection solution, or DPaaS (Data Protection as a Service), selecting a solution that supports these complex environments is crucial.

MEETING THE CHALLENGES OF A CHANGING WORLD

The hybrid cloud is the clear winner when it comes to business adoption of cloud environments. Users rightfully expect to have the data they need accessible and available around the clock. The global hybrid cloud market was valued at $50.1B in 2020 and is projected to grow at an annual CAGR of 17.8% through 2028.[3] Let's review a few of the current concerns that the hybrid cloud is uniquely suited to address:

Remote workforce. One of the new work trends that is here to stay is remote work. About 36.2 million Americans will be working from home in 2025, a tremendous increase of 87% from pre-pandemic levels.[4] Remote and mobile workers require reliable, secure and responsive apps that are always available from anywhere.

A hybrid cloud delivers such capabilities with cloud-based apps and self-service SaaS solutions. The new work environments need flexible access and continuous availability, which can be satisfied by adopting a hybrid cloud strategy.

Malicious attacks. Companies need to plan for the worst-case scenario, a successful malicious cyber-attack. Data theft and backup deletions by cybercriminals increased by 400% since the start of the pandemic.[5] 67% of SMBs have suffered a ransomware attack, 60% of the Fortune 100 have experienced the same, and a single hour of downtime costs the average business more than $100,000 USD.[6]

A hybrid cloud deployment with the proper DPaaS saves your organization the pain of data loss and quickly gets your business back online. And with cloud storage solutions from Metallic you also get an air-gapped copy of your data regardless of the hybrid cloud workload — to enable speedy recovery in the face of attack.

Unintended disruption. It is almost inevitable that a business would experience some data loss or an application failure due to scheduled and unscheduled disruptions. Almost 63% of successful cyberattacks are caused by or triggered by internal users.[7] With a hybrid cloud and a reliable DPaaS strategy, many businesses would avoid loss of vital data and extended disruptions and disaster recovery times. Adopting a hybrid cloud data protection solution, such as Metallic on Microsoft Azure or OCI ensures fast recovery and a return to normal operations.

3. Quince Market Insight March 2021. "Hybrid Cloud Market."
4. MSNBC Pro Dec 2020. "1 in 4 Americans will be working from home in 2021, Upwork survey reveals."
5. Entrepreneur April 2020. "FBI Sees Cybercrime Reports Increase Fourfold During COVID-19 Outbreak."
6. https://www.the20.com/blog/the-cost-of-it-downtime
7. https://purplesec.us/resources/cyber-security-statistics

BENEFITS READY WHEN YOU ARE

The main benefit of a hybrid cloud is the ability to pivot quickly and migrate workloads of today's digital businesses. Enterprises that want to combine public clouds, private clouds, and on-premises resources to gain the agility they need can be a competitive advantage. Consider the following:

53% of IT Pros reported data sources both in cloud and on premises.[8]

44% of IT and Dev Ops report hybrid cloud management as a top challenge for container backup.[9]

Accordingly, adopting a hybrid cloud strategy can deliver many valuable benefits to enterprises, including:

Better infrastructure efficiency. Adopting a smart hybrid cloud strategy can reduce technical debt and free financial resources for more beneficial business investments. With better visibility and central management, IT teams can optimize spend across the entire company IT footprint and potentially realize significant cost reductions.

Data protection and compliance. Companies can take advantage of the hybrid cloud-integrated resources to implement and enforce security and compliance policies consistently. Additional benefits are available for regulatory compliance by leveraging the capabilities of cloud solutions for managing hybrid cloud data, including HIPAA, GDPR, SOC2, and ISO 27001.

Ultimate flexibility. Hybrid cloud deployments give enterprises unmatched flexibility to deploy workloads and services. The cloud's elastic scalability offers space for an on-premises application to utilize during a surge in usage. Companies also gain the ability to deploy the application to the right type of resource using VMs, containers running in Kubernetes, or physical servers running on-premises.

Business acceleration. Business operations are enabled by hybrid cloud with shortened product development cycles and faster time to market with new apps. IT and development teams also become more agile with rapid responses to customer needs. A good example of emerging efficiencies is the delivery of services closer to where customers consume them, at the edge.

Unlimited instant power. The cloud is scalable and offers a seemingly limitless amount of computing, storage and networking capacity available on-demand and can scale up or down depending on your needs. With data growth doubling every two years, DPaaS allows enterprises to benefit from the cloud's elastic flexibility.[10]

8. Backup & Recovery Challenges & Trends, Hanover Research, prepared for Metallic, 2019.
9. ESG Container Data Protection Survey, Nov 2020
10. Call for Code October 2020. "The amount of data in the world doubles every two years."

COMMON USE CASES

Hybrid cloud deployment gives businesses new flexibility in meeting their needs and expanding the potential for business growth. These use cases are some reasons why businesses are developing their strategies:

Dynamic workloads. Use an easily scalable public cloud for your dynamic workloads, while leaving more sensitive financial or customer workloads in a private cloud or on-premises environment.

Moving to the cloud at your own pace. Put some of your workloads on a public cloud or on a small-scale private cloud. See what works for your enterprise and continue expanding your cloud presence either in public clouds or private clouds.

Temporary capacity needs. A hybrid cloud lets businesses allocate resources for short-term projects in the public cloud, at a lower cost than if they are deployed on-premises. Keep costs down by not investing in equipment that is only needed temporarily.

Business continuity. With a hybrid cloud architecture, businesses can protect all their data by maintaining an air-gapped copy in the cloud and use it to restore business operations in the aftermath of a disruptive event.

Datacenter extension. A hybrid cloud could serve as an expansion space for on-premises workloads during a surge in demand or handling regulated data. As an example, the healthcare industry runs many sensitive workloads on-premises and can burst into the cloud when necessary.

Development and testing ground. The dev/test use case is a popular one as dev/test teams need new resources quickly to run their work without high costs. Hybrid cloud is also convenient for these teams to build and destroy their test environments without the delays of traditional on-premises deployments.

Regulatory compliance. Companies can use cloud backup copies protected in air-gapped locations to support audits and demonstrate compliance with data regulations through proper documentation and reporting. Many cloud providers provide broad support for regulatory compliance standards, including HIPAA, PCI-DSS, and SSAE/SOC 2 Type 1.

STORAGE CONSIDERATIONS

There are several aspects to keep in mind with respect to storage of your data when hybrid cloud workloads are in effect. The first is that ownership of the end-to-end platform and processes for data protection do not solely rest with just your vendor. This is commonly known as **shared responsibility**, where the ownership of specific tasks and obligations are shared between the cloud service provider and its users.

Outlining the division of duties is essential in ensuring transparency. As a cloud-delivered DPaaS offering, Metallic is responsible for maintaining the infrastructure, availability, and performance of the service, while the customer takes responsibility for provisioning, configuring, and conducting routine backup and restore operations. Figure 1 explains how this allocation of responsibility is delineated:

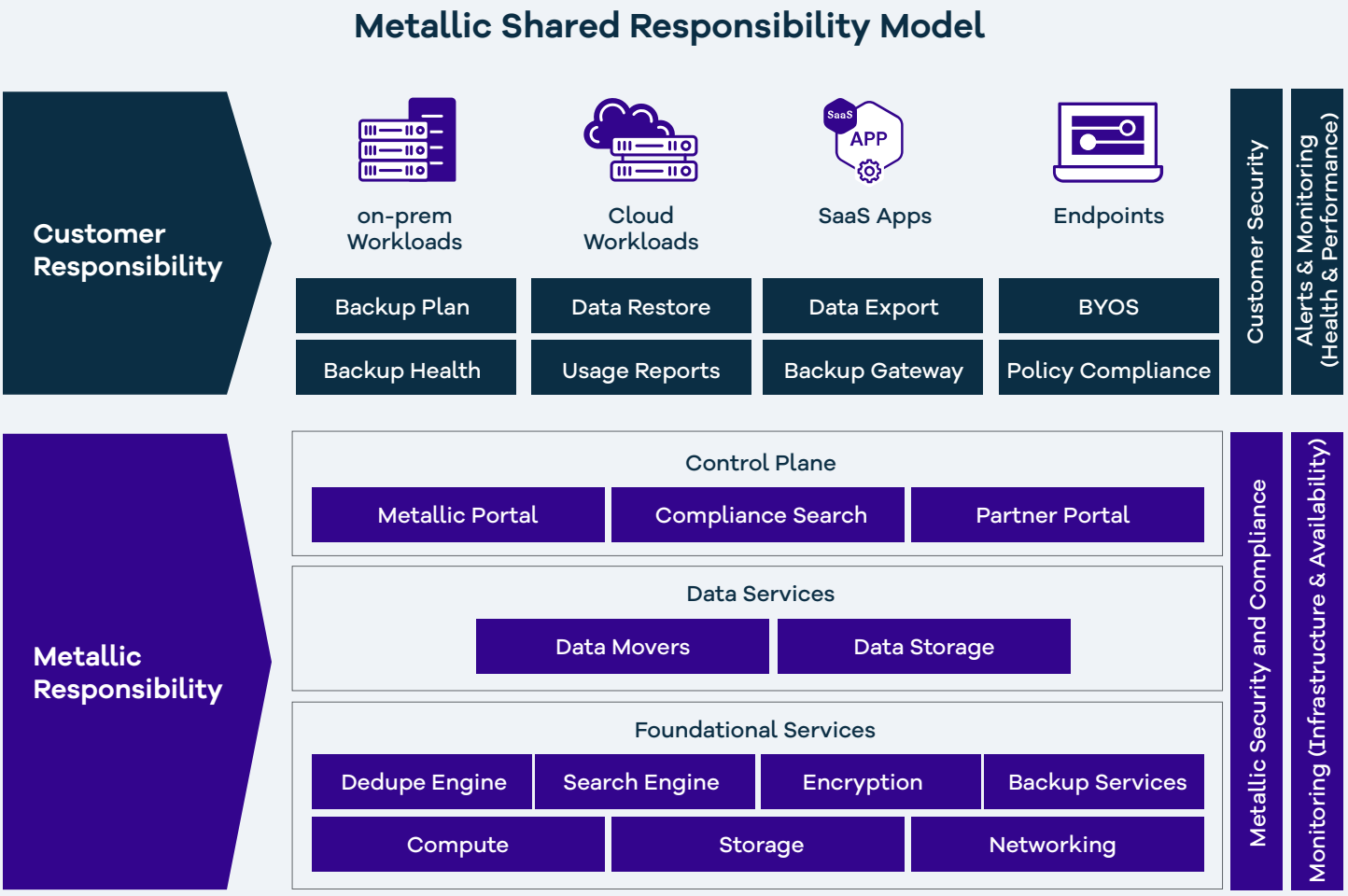

Figure 1

For the above reasons, it's a good idea to thoroughly evaluate your own infrastructure, processes, and resources alongside your vendor to ensure your needs will be met today and well into the future.

ADVANCED HYBRID CLOUD MEETS SAAS

Metallic® is solely dedicated to SaaS-delivered data protection — and built by Commvault®, a worldwide leader in the data protection space. It's the best of both worlds — enterprise-grade backup with the simplicity of SaaS. With a hardened, multi-layered security approach, Metallic SaaS Backup helps customers protect critical endpoints, SaaS applications, cloud, and on-premises workloads, both now and in the future as new workloads are introduced.

THE SAAS ADVANTAGE

Whenever disruption occurs, the longer your organization takes to react to it or adapt to it, the more growth and revenue you forgo. As data management trends tip toward as-a-service delivery, a SaaS-delivered solution can empower your company's digital transformation. The big question you should always be asking right now: Why wait?

The disruption of the past two years has accelerated massive corporate digital transformation. Many of those companies are now assessing changes to determine how they can optimize and better manage their hybrid cloud environment, including the growing need to safeguard data no matter where it lives.

As companies grapple with growing data management challenges, CIOs need smart and flexible solutions for managing data across hybrid environments. Simultaneously, SaaS-delivered data management options are expanding.

Companies are looking for agile solutions that are quick to implement, have minimal-to-no upfront costs, simple to manage, and able to reduce infrastructure footprint. However, to date, limited or inflexible options across vendors may have kept companies from adopting a SaaS solution to safeguard and manage their data. Companies who want to benefit from cloud-delivered solutions must demand the necessary breadth, flexibility, and security to meet their needs not only today, but as their business continues to evolve. If the past few years are any indication, the pace of change for IT organizations will only increase.

SMART PROTECTION FOR YOUR HYBRID CLOUD JOURNEY

By introducing Metallic DPaaS to their cloud environment, companies can now proactively protect and secure their data as they accelerate hybrid cloud adoption and modernize their business (Figure 2). It enables smart businesses to reduce risks from the threat of cyberattack, from constrained resources and budget, and from hybrid cloud data sprawl by managing data across an increasingly disparate IT environment. Only Metallic offers an end-to-end "smart solution" for the journey to the cloud:

Smart modernization

Peace of mind your data will be there when you need it, as you modernize your apps and accelerate your journey to the cloud. Metallic DPaaS is a dedicated solution to help your organization protect hybrid cloud data close to the source, for maximum performance. Leverage on-premises storage for on-premises data, send secondary copies to Metallic Recovery ReserveTM (MRR) for air-gapped ransomware protection, or protect workloads to your cloud vendor storage for cloud-to-cloud efficiency—all managed through one simple web-based interface.

As your technology landscape and data estate grows, safeguard your unstructured and structured data, VMs and containers, SaaS applications, endpoints, files, and databases with a futureproof enterprise solution.

Smart security

Next, you need to safeguard with unmatched security that's baked in to your DPaaS solution and not an afterthought. Built on leading Commvault technologies, and trusted by enterprise and government agencies alike, Metallic is developed to be secure right from the start. Employing a hardened, layered approach, Metallic delivers a zero-trust architecture with robust controls that both prevent threats and ensures data is highly available and recoverable from deletion or attack. Combined with integrated threat insights (Metallic® Security IQ) and early warning ransomware detection (Metallic® ThreatWise™), Metallic delivers next generation tools and capabilities to help improve customer security posture, anticipate risk, spot zero-day and unknown attacks sooner, and rapidly recover in the face of emerging threats.

Smart savings

Finally, organizations can reduce their overall TCO (Total Cost of Ownership) with fast time-to-value and simplified administration. With Metallic, your organization can lower overhead with simplified administration and management, and no hardware to manage and refresh. Leverage existing cloud storage from your provider or on-premises storage investments or use MRR to reduce management overhead.

For a comprehensive listing of all supported workloads, view the datasheet.

More information is also available on our coverage for databases, VMs/Kubernetes, and Files and Objects.

True SaaS-delivered flexibility means:

- Flexibility for cloud OR on-premises backup target
- Flexibility to leverage your existing storage investments - cloud or non-prem
- Flexibility to choose Commvault's integrated on-premises scale-out storage

Metallic®
VM & Kubernetes Backup

For VMware, Hyper-V, VMC, Azure VM, OCI VM, AWS, Kubernetes, & Amazon EC2

Metallic®
Database Backup

For Microsoft Azure, Microsoft SQL Server, SAP HANA, AWS, & Oracle

Metallic®
File & Object Backup

For Windows Server, Linux/UNIX, Azure Blob & Files, Amazon S3, & Oracle Object Storage

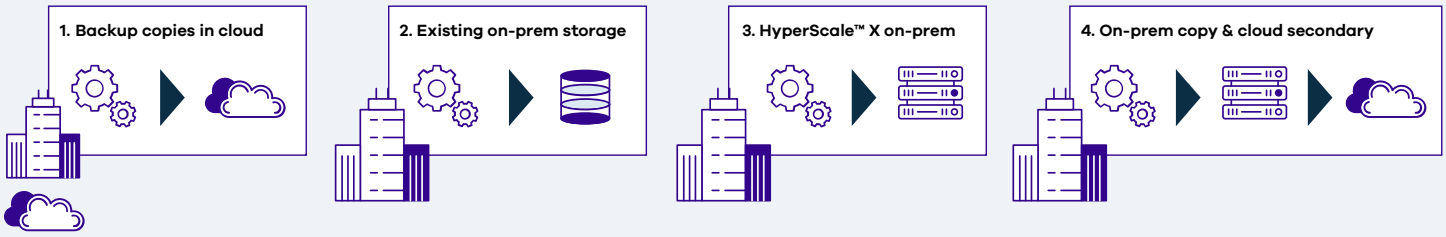

Figure 2

SUMMARY

As discussed, hybrid cloud is a complex topic, but it doesn't have to be with Metallic. We know you many have questions about how to get started on your hybrid cloud journey. And for those who are already on their way, you may be wondering what's next.

We encourage you to reach out to take advantage of the many options available on the Metallic.io Resource Center, or to contact us for a personal introduction and discussion to help your company become the best it can be, whether you are an SMB or enterprise. And if you are ready to test-drive Metallic today, we also offer a fully featured 30-day trial.

At Commvault, all we do is data. Welcome to the cloud — we're glad you're here!

To learn more, visit **commvault.com >**