

veeam

#1 Hybrid Cloud Backup Guide

The ultimate guide to seamlessly protecting mixed environments



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Hybrid and Multi-Cloud Realities

Hybrid and multi-cloud implementations are not just here and now, but undoubtedly here to stay. Whether you're a small-to-medium-sized business (SMB), an enterprise, in the public sector, or anything in between, you likely fall in the 92% of businesses that are already hybrid. This may be a result of a strategic choice or organically developed over the past months and years as needs and priorities evolve.

89%

of organizations have a multi-cloud strategy*

78%

of customers retain data in the cloud for more than six months**

* Flexera, State of the Cloud Report, 2024

** Veeam, Cloud Protection Trends Report, 2023

The hybrid cloud can be more than merely a mixture of on-premises storage and a public cloud provider like Amazon Web Services (AWS), Microsoft Azure, or Google Cloud. It's often a multi-cloud environment, with different platforms that are used to serve different business purposes like production, dev/test, disaster recovery (DR) and more. And why not? Public cloud platforms offer so much in the way of:

Flexibility

Hundreds of services to choose from a variety of cloud providers

Speed

Near-instant provisioning of the services you need right then and there

Elasticity

Easy scaling up and down for performance and capacity when needed

Cost

Transform large CAPEX transactions to more manageable, pay-as-you-go OPEX

Resilience

Up to 99.99% availability across dozens of global locations

Hybrid Cloud Backup Challenges

While the benefits of the public cloud are difficult to ignore, it often comes with less obvious challenges — especially those relating to managing data, including protection and security of that data. With the growing adoption of cloud platforms and Software as a Service (SaaS), as well as cloud-native application architectures like Kubernetes, many organizations are struggling with their data protection strategy. Legacy backup can't succeed with modern applications, successfully stretch across the cloud or effectively defend against cyberthreats. The goals and focus of those aging platforms are now becoming a costly risk to many enterprises. Organizations need a modern data protection platform to match their evolving data protection needs and ensure resilience of all data.

Not All Backup is Created Equal

One size doesn't fit all when it comes to protecting heterogeneous environments. Backing up physical machines, virtual machines (VMs), cloud-hosted, and cloud-native infrastructure and platforms all benefit from purpose-built protection that's native to that environment. Utilization of legacy backup tooling for modern workloads nullifies the benefits that come with modernization.

Siloed Management is a Nightmare

Native backup tooling that serves each component of heterogeneous environments exist from both first-party and third-party vendors. However, this always translates to multiple toolsets, often coming from multiple vendors, resulting in fragmented management and gaps that drive efficiencies lower and costs higher.

Lock-In Strips You of Control

When one-trick pony products are used (typically from first-party vendors), data becomes locked into that platform. This lack of control inhibits the flexibility required by the organization as needs evolve over time. This often results in compromises being on performance, capacity, and/or cost, instead of adopting new platforms that better serve the current needs of the organization.

Modern Environments Call for Modern Solutions

Hybrid cloud is certainly the way forward for most organizations thanks to its tried, tested, and true benefits. However, does that mean you'll be stuck with the headaches that come with the hybrid cloud from a data protection, management, and security perspective? Let's look at what a solution would look like in an ideal world to help smooth out these sticking points.

Broad, Native Support

Native backup and recovery that's purpose-built for the environment that needs protection, whether its cloud, virtual, physical, SaaS, Kubernetes, and more.

Centralized Management

A single view and management for all environments, eliminating multiple toolsets that fragment management, driving efficiencies lower and costs higher.

Total Control

Total control over your data to eliminate platform lock-in, so your data can easily move across any infrastructure at any time, as the organization's needs and requirements evolve.

Modular Flexibility

Utilize only the component(s) of a platform you need without bulky overhead or troublesome license management.

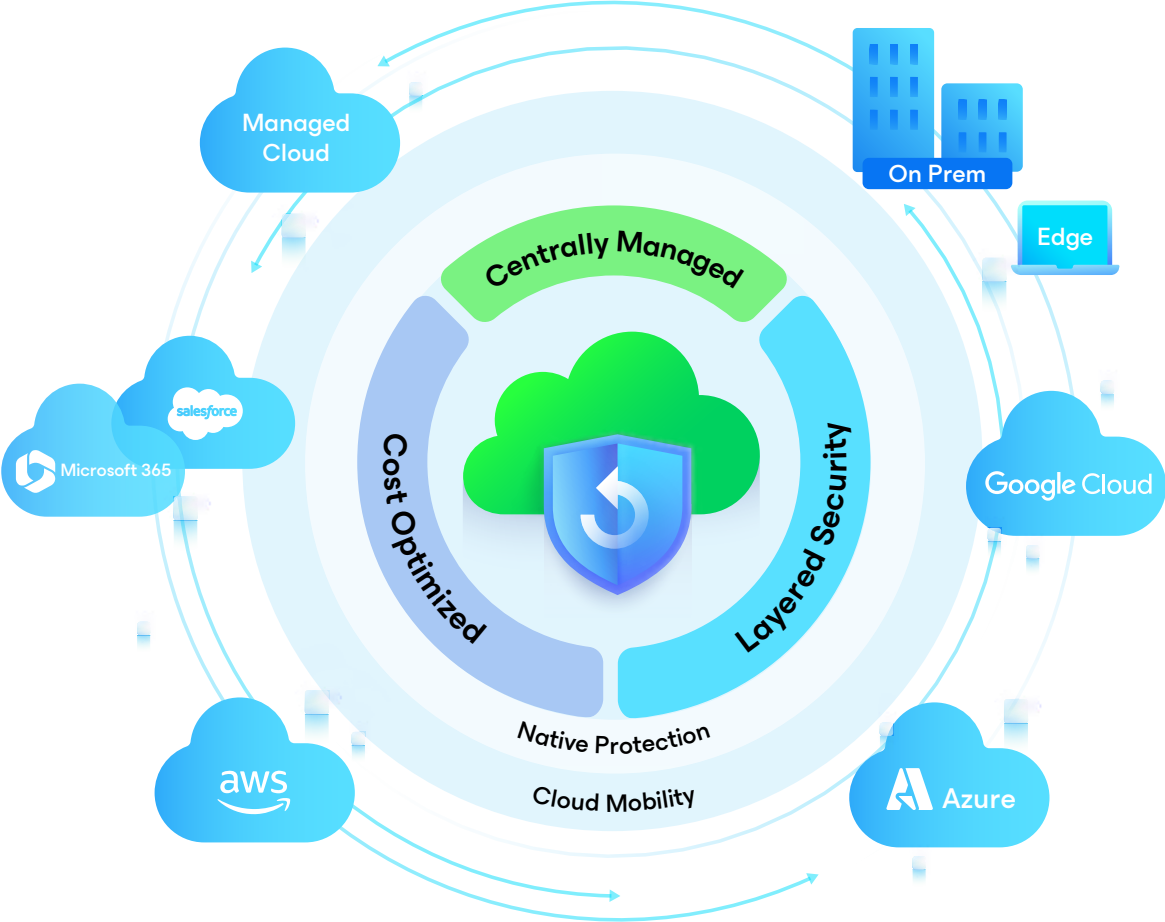
Unify Hybrid Cloud Resilience

Seamlessly protect mixed environments with a single industry-leading platform.

Veeam Data Platform is the #1 Hybrid Cloud Backup solution for hybrid and multi-cloud organizations. With one platform, you can protect, manage,

and control your data across any infrastructure — cloud, virtual, physical, SaaS, and Kubernetes.

With native backup that’s purpose-built for the environment you want to protect, a single console for centralized management and universal licensing, Veeam is the only solution to help your business own its data in and across any cloud.



Other Platforms

Linux	Microsoft	NUTANIX	Red Hat	vmware
IBM	ORACLE	SAP HANA	Windows	kubernetes

AWS-Native Backup, Recovery, and DR

AWS provides a cloud platform for you to create and deploy applications. However, as mentioned in the AWS Shared Responsibility Model, you are still responsible for protecting and securing your data. **Veeam delivers AWS-native, policy-based protection** for reliable recovery from ransomware, human error, and more. Built with security and scalability in mind, Veeam provides resilient protection that is cost-optimized, freeing up time and resources for more strategic IT priorities.

Cloud-Native

Agentless backup and DR that's purpose-built for Amazon EC2, EBS, RDS, Aurora, DynamoDB, EFS, FSx, RedShift and VPCs.

Policy-Based Automation

Fully customizable policies that automate snapshots, backup, and data lifecycle management.

Amazon VPC Backup

Backup and recover all VPC settings for troubleshooting, DR, and dev/test.

Application Consistency

Capture all running application data for zero-data-loss backup and recovery.

Recover in Seconds

Recover entire instances, volumes, databases, file systems, and individual files quickly.



Backup Cost Calculation

Industry-first backup cost calculation to help you forecast spending and avoid unexpected charges.

Backup to Amazon S3

Automatically back up data to Amazon S3 and avoid costly snapshot retention.

Archive to S3 Glacier.

Lifecycle data to Amazon S3 Glacier and S3 Glacier Deep Archive for retention and compliance.

Cross-Account/Cross-Region Backup

Isolate backups from production to secure them against ransomware and cyberthreats.

Immutable and Encrypted

Secure backup data from internal and external threats with AWS KMS and WORM state.

Unify Management

A single platform that can manage AWS backup with other cloud, virtual, physical, SaaS, and Kubernetes environments.

Data Portability

Easily move data across any supported environment for DR, lift and shift, dev/test, and more, with no charge from Veeam.

Azure-Native Backup and Recovery

Microsoft Azure provides a cloud computing platform for agile and scalable building, testing, and deployment of modern applications. Although Microsoft is responsible for the infrastructure, the Shared Responsibility Model shows that it is still your responsibility to protect your data. Veeam's API-first approach, immutable backups, and full- and file-level restores not only protects data in Azure but is cost-optimized, allowing for organizations to save big.

Azure-Native

Native snapshotting and backup for Azure VMs, SQL, File, Cosmos DB and virtual networks.

Fully Automated

Fully customizable policies automate snapshots, backup, and data lifecycle management with ease.

Azure PaaS Protection

Easily recover and backup Azure SQL databases and Azure Files shares with flexible, policy-based automation.

Rapid Recovery

Quickly overcome any data loss with flexible instance-, volume-, and file-level recovery options.

Backup Cost Calculation

Avoid cloud overspending while achieving your service level objectives (SLOs) with industry-first cost calculation.



Backup to Azure Blob

Automatically back up data to Azure Blob storage and avoid costly snapshot retention.

Azure Archive Storage

Lifecycle data to Azure Archive Storage for cost-effective, long-term retention and compliance.

Multi-Subscription Support

Easily scale and manage the protection of all workloads across your Azure subscriptions.

Cross-Subscription/Cross-Region Backup

Isolate backups from production to secure against ransomware and cyberthreats.

Encrypted and Immutable Storage

Leverage Immutable Storage and encrypt backups with Azure Key Vault to safeguard your data from threats.

Unify Management

A single platform to manage Azure backup with other cloud, virtual, physical, SaaS, and Kubernetes environments.

Data Portability

Easily move data across any supported environment for DR, lift and shift, dev/test, and more, with no charges from Veeam.

Google-Native Backup, Recovery, and DR

Google Cloud provides a platform that allows you to easily create, deploy, and run cutting-edge applications. However, as mentioned in the Google Shared Responsibility Matrix, you are still responsible for protecting and securing your data. **Veeam Backup for Google Cloud** delivers Google-native, fully automated backup and recovery, so you can easily protect and manage all your Google Cloud data. With native snapshots, backup to object storage classes and flexible recovery options, you can eliminate the risk of data loss — even at-scale — for all your data, all while saving on your monthly bill.

Google-Native

Native snapshotting and backup for Compute Engine VMs, Cloud SQL and Spanner.

Fully Automated

Protect all data with policy-based automation and labels to eliminate manual processes.

Rapid Recovery

Overcome data loss with flexible instance-, volume-, and file-level recovery options.

Backup Cost Calculation

Avoid cloud overspending and meet your SLOs with industry-first cost calculations that forecast spend.

Recover in Seconds

Recover quickly from entire instances, volumes, databases, and file systems to individual files.



Back Up Data to Object Storage

Automatically back up data to Google Cloud Object Storage to avoid costly retention of snapshots.

Automated Archival

Lifecycle data to archive storage for low-cost and long-term retention and compliance.

Cross-Project/Cross-Region Backup

Isolate backups from production to secure against ransomware and cyberthreats.

Encryption

Encrypt backups and easily control access with Google Cloud KMS to secure backup data from internal and external threats.

Unify Management

A single platform to manage Google Cloud backup with other cloud, virtual, physical, SaaS, and Kubernetes environments.

Data Portability

Easily move data across any supported environment for DR, lift and shift, dev/test, and more with no Veeam charge.

Cloud Mobility

Cloud mobility isn't merely a product of Veeam; it's in our DNA, and it spans the entirety of Veeam's platform. With Veeam's cloud mobility, you have the freedom to make all your data portable to the platform or platforms of your choice at any time. This unparalleled flexibility gives control and ownership of data back to you without any additional charge from Veeam.

To the Cloud

Recover, migrate, and back up any Veeam-protected workload to leading hyperscale platforms like AWS, Azure, and Google Cloud.

Cloud-to-Cloud

Mobilize your AWS, Azure, and Google Cloud data across platforms, including backup, recovery, and migration from one cloud provider to another.

From the Cloud

Recover, migrate, and back up your development and production workloads in the cloud to on-premises infrastructure.

Eliminate Lock-In

Take back control of your data and move it to any supported platform of your choice — cloud or on-premises — whenever you want.

Universal Licensing

No more redundant licenses or license management cases due to portable licensing that moves across Veeam Data Platform along with your data.

Self-Describing Format

A portable backup file format that can move across any infrastructure and always be accessed for free, even if you're no longer a Veeam user.

Microsoft 365 Backup and Recovery

Microsoft provides a wide array of powerful services within Microsoft 365, but a comprehensive backup of your Microsoft 365 data is not one of them. With Microsoft 365, it's your data — you control it — and it is your responsibility to protect it.

Veeam Backup for Microsoft 365 eliminates the risk of losing access and control over your Microsoft 365 data, including Exchange Online, SharePoint Online, OneDrive for Business, and Microsoft Teams, so that your data is always protected and accessible. In addition to backup software for Microsoft 365 data protection, Veeam also provides a backup services option with Veeam Data Cloud for Microsoft 365, as well as a managed services option offered by Veeam Cloud & Service Provider (VCSP) partners.

50 Microsoft 365 Recovery Options

Whether it's granular recovery of individual items or bulk recovery of multiple users at once, meet ANY recovery need in just three clicks.

Bring Your Own Storage

Connect any storage, whether on-premises or cloud object, including Amazon S3, Azure blob, IBM Cloud, or S3-compatible storage.

Infrastructure Freedom

Get the flexibility to change your backup storage at any time, avoiding penalties and vendor lock-in.



Immutable Backup Copy

Create a secondary backup copy that can be physically separate from your primary backup with immutability enabled, meeting the 3-2-1-1-0 rule.

Scalability Built to Protect the Enterprise

Veeam Backup for Microsoft 365 architecture can support deployments for the largest enterprises in the market.

Lowest RPO for Microsoft 365 Data

Achieve the lowest RPOs in the industry (less than five minutes) and create different RPOs for different objects.

Built-In Security Features

Leverage backup copies with immutability, multi-factor authentication, and encryption for Microsoft 365 data that's at-rest in object storage.

Advanced Monitoring and Reporting

Monitor Microsoft 365 backup and storage resources, receive alerts to address issues, and leverage reports to ensure you can meet your RPOs.

Hybrid Support for Microsoft 365 Backups

Streamline data protection with support for your hybrid Microsoft 365 and on-premises Exchange and SharePoint environments.

Salesforce Backup and Recovery

Many organizations don't believe that Salesforce needs to be protected; they believe that their data and metadata are safe in a cloud somewhere. We disagree — and so does Salesforce.

Veeam Backup for Salesforce eliminates the risk of losing your data and metadata due to human error, integration issues, or other Salesforce data loss scenarios. We provide a comprehensive, purpose-built Salesforce backup solution, giving you the ability to recover from data loss with speed and confidence.

Salesforce-Native

Purpose-built to restore and backup Salesforce data and metadata.

Salesforce Business Applications

Extending support of the Salesforce platform, including Salesforce Government and Education Clouds, Field Service, CPQ, Person Accounts, and managed packages.

Fast and Flexible Recovery

Recover Salesforce records, hierarchies, fields, files and metadata.

Sandbox Seeding

Restore to your sandbox with data from production or from another sandbox.

Secure Your Data

Own your data and run your backup environment anywhere: on-premises, in AWS, Azure, Google Cloud and more.



Salesforce SSO and MFA

Enable role-based access for backup and restore operators via Salesforce to simplify and improve the security of your operations.

Custom Scheduling

Set granular backup schedules and retention settings at the object level.

Simplified Management

Manage backup policies for several Salesforce organizations from one console.

Incremental Changes

With incremental sync and flexible scheduling, you can back up your Salesforce data almost continuously.

Simple and Easy-to-Use UI

Click, click, click, and done. Run backup policies and restore jobs in minutes.

Restore Hierarchy

Granularly restore linked child objects to any record. Parent records can also be restored.

See and Compare

See versions of records and metadata and quickly compare them with production.

Kubernetes Backup

As Kubernetes adoption accelerates in the cloud-native era, organizations need to address the critical need for protecting their Kubernetes applications. To keep business running, robust protection and recovery of the entire application — along with its data services — must be addressed to overcome misconfiguration, outage, and security threats that compromise availability.

Trusted by the world's largest organizations, **Veeam Kasten** delivers secure, Kubernetes-native data protection and application mobility, at scale, across a wide range of distributions and platforms. Proven to recover entire applications quickly and reliably, coupled with its core tenet simplicity, Kasten gives operations and app teams confidence to withstand the unexpected.

Application-Centric

Captures the entire application stack with a consistent application-to-infrastructure view.

Polyglot Persistence

Supports cloud-native applications that simultaneously use multiple data services.

State-of-the-Art Deduplication

Source-side deduplication that's tailored for cloud-native application data access.

Ransomware Protection

Immutability and policy-based automation to help you protect against malicious or accidental backup corruption.

Role-Based Access Control

Ensures appropriate permission levels for types of users (e.g., admin vs. user).



Encryption

End-to-end encryption of application and configuration data, plus associated metadata artifacts both in flight and at rest.

Extensibility

Uses blueprints from open-source Kanister framework to add support for new or custom applications.

Simple Installation and Automatic Application Discovery

Install applications through a single Helm command or through cloud market provider marketplaces.

Advanced Management Interface

Integrates monitoring, management, and alerts for all Kasten management actions.

Data Services

Supports all leading applications and data sources (e.g., Cassandra, MongoDB, Kafka, etc.).

Distributions

Provides broad Kubernetes distribution support (e.g., OpenShift, Rancher, etc.) and cloud vendors (AWS, Azure, Google, etc.).

Storage

Supports Cloud Storage (e.g., AWS, Azure, Google) and on-premises storage (e.g., EMC, NetApp, etc.).

Cloud Backup and Archival

Many organizations look to cloud-based storage as a destination for backups and longer-term storage. With no need to procure, manage, and maintain on-premises infrastructures, coupled with near-instant readiness and almost infinite scale, highly available cloud storage makes a great target for data protection. Veeam Data Platform seamlessly integrates with cloud storage from leading hyperscalers and has the ability to target and automatically tier backups across multiple object storage classes. This enables organizations to effectively leverage cloud storage that can be tuned to their needs for everything — from higher performance for faster recoveries to cost-effective, long-term retention archive storage.

Multiple Providers

Utilize leading hyperscale platforms like AWS, Azure, and Google Cloud, as well as S3-compatible and regional cloud service providers.

Cloud Scale

Easily leverage the seemingly infinite capacity, scale and cost-effectiveness of elastic, cloud-based object storage.

Intelligent and Automated

Policy-based automation tiers protect data on-premises, plus to and across cloud-based object storage classes.

Long-Term Retention

Cost-effective, long-term data retention on archive-class object storage that costs just fractions of a cent, per-GB, per-month.

Compliance

Easily meet and prove adherence to compliance requirements that surround retention, deletion, and data sovereignty.

Disaster Recovery (DR), Migration, and Modernization

With disasters on the rise and coming in all shapes and sizes, a comprehensive DR strategy is essential to ensuring the availability and resilience of your organization. However, procuring, managing, and maintaining secondary sites and infrastructure is complex and costly. Veeam Data Platform allows you to leverage the performance, scale, and cost-effectiveness of the cloud for not just DR, but also migration and modernization of on-premises workloads, dev/test, and more.

Direct Restore

Two-step, wizard-driven recovery of any Veeam backups of cloud, virtual, or physical workloads to AWS, Azure, and Google Cloud.

VMcloud

Backup, restore, and replication for VMware Cloud on AWS, Azure VMware Solution, and Google Cloud VMware Engine.

Migrate and Modernize

Easily migrate existing on-premises applications and data to cloud-hosted Infrastructure as a Service (IaaS) on AWS, Azure, and Google Cloud.

Dev/Test

Unleash the value of production-fresh data stored in backups by temporarily instantiating them in the cloud for dev/test, troubleshooting, and more.

DRaaS

Affordable and efficient replication delivers image-based DR for ALL applications through Disaster Recovery as a Service (DRaaS) providers worldwide.

Ransomware Protection

In the past year, 85% of organizations had at least one ransomware attack. It's no longer a question of if, but when you'll be affected by ransomware. Once you protect your business with Veeam, you will achieve radical resilience that will keep your business running in spite of cyberattacks, human error, and other data loss scenarios. At Veeam, we believe a secure backup is your last line of defense against ransomware. Our software is relentlessly secure by design and can easily leverage the security of the cloud, because having a reliable backup can be the difference between downtime, data loss, and paying a costly ransom.

Immutable Backups

Immutable WORM functionalities that exist both on-premises and in the cloud.

Staged and Secure Data Restore

Ensure that recovered VMs don't contain any personal or sensitive data to meet compliance standards

Ransomware Workload Testing

Restore data in an isolated virtual sandbox and scan for malware without impacting production systems.

Confident Recovery Orchestration

Dynamically update and automate recovery plan testing and quickly recover any data without the need for manual intervention.



Data Integration API

Avoid impacting the performance of your production environments with third-party integrations.

Instant VM Recovery and Database Recovery

Restore VMs and databases to your production environments by running them from compressed and deduplicated backup files.

Item-Level Recovery

Perform item-level recovery from application-aware backups with Veeam Explorers for Microsoft applications.

PII Protection

Tag your infrastructure sources that contain PII and monitor them with dashboards and audits.

Workload Discovery

Automatically discover new workloads and applications to determine the best process for a successful backup.

Real-Time Monitoring and Alerts

Maintain visibility and mitigate issues with 340+ pre-set alarms and 150+ pre-built reports and heatmaps.

Storage Flexibility

Choose from over 80 qualified storage options, including over 30 object storage, 15 of which are immutable, making the 3-2-1-1-0 rule easy.

Summary

Veeam delivers the industry’s leading solution that empowers your organization with the resilience you need across the hybrid and multi cloud. Protect your infrastructure as it exists today, migrate and modernize to what’s next with no limits, while driving cost and operational efficiencies throughout.

Even better, Veeam provides three options for hybrid and multi-cloud resilience, including:

About Veeam Software

Veeam®, the #1 global market leader in data protection and ransomware recovery, is on a mission to help every organization not just bounce back from a data outage or loss but bounce forward. With Veeam, organizations achieve radical resilience through data security, data recovery, and data freedom for their hybrid cloud. The Veeam Data Platform delivers a single solution for cloud, virtual, physical, SaaS, and Kubernetes environments that gives IT and security leaders peace of mind that their apps and data are protected and always available. Headquartered in Seattle with offices in more than 30 countries, Veeam protects over 450,000 customers worldwide, including 74% of the Global 2000, who trust Veeam to keep their businesses running. Radical Resilience starts with Veeam. Learn more at www.veeam.com or follow Veeam on LinkedIn [@veeam-software](https://www.linkedin.com/company/veeam) and X [@veeam](https://twitter.com/veeam).

Backup Software

Veeam Data Platform

Execute complete control over the architecture and deployment of your backup strategy.

Backup Services

Veeam Data Platform

Leverage the power of best-in-class software, delivered with the convenience and best practices of an as-a-Service model.

Managed Services

Service Providers

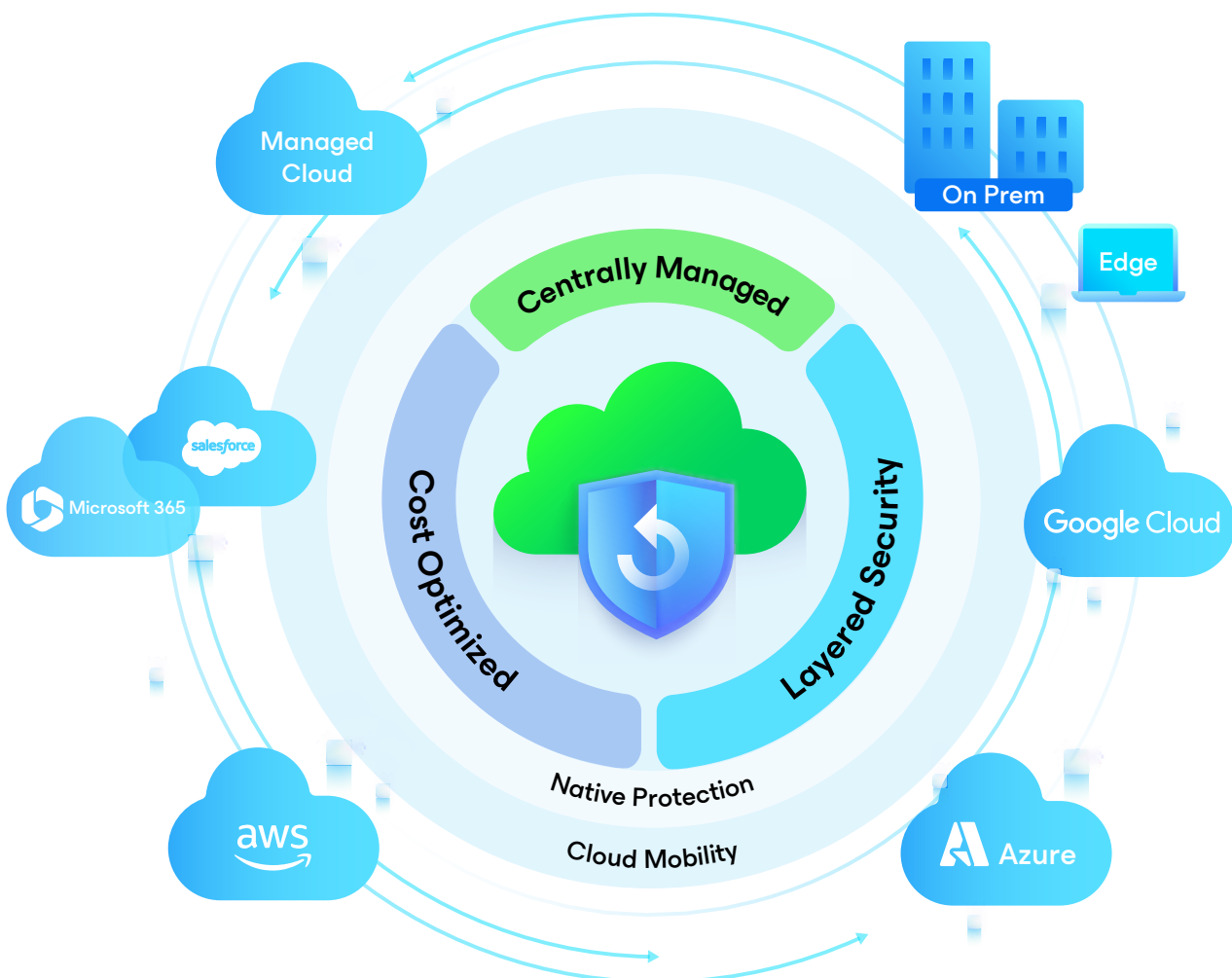
Accelerate time to value for your mission-critical workloads by offloading backup services to Veeam partner experts.



Unify Hybrid Cloud Resilience

Seamlessly protect mixed environments with one industry-leading platform so you can:

- ✔ Optimize cloud spend
- ✔ Stay hybrid and multi-cloud ready
- ✔ Maintain backup integrity and security



- ➔ Watch a [Veeam Data Platform hybrid cloud demo](#)
- ➔ Learn more about [Veeam hybrid cloud solutions](#)