

# The challenges of managing and securing multicloud environments

## Contents

The challenges of a multicloud environment	1
A unified approach to multicloud migration	1
Multicloud migration the right way	2

Cloud adoption continues to grow exponentially in businesses of all sizes. An ever-increasing number of organizations now find it easier and more cost effective to deploy cloud services than to maintain hardware infrastructure on premises.

These days it's not uncommon to find a company using several cloud platforms. In fact, in a recent Gartner study, 81% of the public cloud users surveyed said they work with multiple providers (Gartner.com, May 7, 2019). A large percentage of these organizations use as many as 20 cloud platforms.

Moving away from a "one-cloud-fits-all" approach gives organizations the flexibility to avoid vendor lock-in, take advantage of best-of-breed solutions, structure different workloads into separate environments to optimize performance and improve uptime (and maybe even save money).

## The challenges of a multicloud environment

The ability to rely on multiple cloud resources has its advantages, to be sure, but it also presents some challenges, particularly in the areas of data management and security.

From password complexities to authentication requirements, every cloud vendor deployment has its own unique portals and processes to deal with. And while cloud providers today have implemented appropriate protocols and tools to ensure their environments are safe, the organization that owns the data is responsible for securing it.

The IT team must have full visibility and control over the company's information and be sure that the same level of security exists across all the cloud platforms used by the company—or else the entire environment will be exposed to the weakest link in the system. This is particularly important in highly regulated industries, like financial services and healthcare, that handle large quantities of sensitive personal data and have strict compliance requirements.

## A unified approach to multicloud migration

Enterprises that are planning to transition to a multicloud approach need to take care to connect and secure all applications, whether they're hosted on- or off-premises, or across many different clouds. The ultimate goal is to be able to manage all applications in a multicloud environment as simply and safely as if they were on one cloud.

# The challenges of managing and securing multicloud environments

Juniper Networks, a well-established leader in networking named by Gartner as a leader in the Magic Quadrant for data center networking in 2019, has developed a comprehensive set of tools to facilitate the multicloud migration process.

Juniper has created a **five-step migration framework** that gives organizations the tools they need to plan and execute a seamless migration path that encompasses all parts of the network: data center, cloud, campus, branch and WAN.

Leveraging **Juniper Connected Security** solutions and services, companies can get deep visibility into who and what's on their networks and automated tools to help eliminate threats faster. They can enforce consistent policies at all connection points across the network, including private and public clouds.

- To fully realize the advantages of multicloud, companies need the agility to run any workload on any cloud and deployment so they can manage their multivendor resources as a single, cohesive infrastructure. Juniper's Contrail Enterprise Multicloud addresses this need and more. In a single platform, it handles:
  - All overlay and underlay management
  - Heterogenous compute environments, including bare metal servers, virtual machines, containers and networking devices
  - Private and public clouds
  - Networking and security orchestration policies, including microsegmentation and advanced analytics



Contrail Enterprise Multicloud provides control and management for:

- **Overlay:** The software-defined networking (SDN) capability, based on the [Tungsten Fabric](#) open-source network virtualization project, allows organizations to deploy workloads in any environment. It offers continuous overlay connectivity to any workload running on any compute technology, from networking devices to bare metal servers, virtual machines and containers.

- **Underlay:** Contrail Enterprise Multicloud automates the setup and lifecycle management of fabrics, such as EVPN-VXLAN. Unified policies can be applied and controlled across physical and virtual multivendor environments.
- **Cloud:** With Contrail's extensibility and portability capabilities, users can orchestrate their workloads running in public and private clouds—implementing consistent, end-to-end network and security policy management wherever the workloads launch.
- **Security:** Policies can be defined, applied and managed from a central location to automatically distribute them uniformly across all deployments. An integrated virtual router (vRouter) acts as a distributed element on every host where applications reside, enforcing security, redirecting suspicious traffic and monitoring traffic flows. The same level of security can be enforced in containerized workloads by pairing Contrail Enterprise Multicloud with Juniper's cSRX, a cloud-native firewall. This firewall provides the microsegmentation and security at Layers 4-7 that are required in cloud-native environments.
- **Analytics:** Contrail Enterprise Multicloud offers visibility and analytics across physical and virtual environments. It enables real-time infrastructure performance monitoring (IPM) of networking devices, cloud infrastructure and application monitoring. Through monitoring and intent-based analytics, it predicts, alerts and remediates issues in real time.
- Effective network protection not only requires advanced security products and automation, but also deep network visibility and multiple enforcement points throughout the network. **Juniper Connected Security** extends a company's security posture beyond the firewall, bringing it as close to the endpoints as possible.

## Multicloud migration the right way

Companies that are considering a transition to multicloud should take a closer look at the solutions Juniper has to offer—a comprehensive approach that ensures organizations can enjoy the benefits of a multiplatform approach without the security risks or management challenges.

To learn more, contact your Juniper team at Ingram Micro at [juniper.assist@ingrammicro.com](mailto:juniper.assist@ingrammicro.com).