IBM Cloud Satellite

Policy-Driven App Deployment, Management, and Security Across Clouds, Data Centers, and Edge Locations

What It Does

IBM Cloud Satellite enables DevOps teams to deploy, run, and manage the same code on hardware in their corporate data center, in co-location facilities, and at edge locations. Cloud Satellite lets developers continue to use the cloud-native APIs they are used to, while at the same time providing IT operators with a unified dashboard to centrally create and apply policies for optimal application placement, management, and security.

Business Benefits

Unlock "the Other Half" of Developer Time

Developers typically spend 30-50% of their time on non-development-related tasks that are often focused on debugging infrastructure dependencies in their code, writing cloud-specific code, and researching how to accomplish a certain task on one hyperscale cloud versus achieving the exact same thing on the infrastructure of another hyperscaler. Therefore, by definition, IBM Cloud Satellite has the potential of unlocking the other 50% of currently wasted developer time.

Lower IT Operations Cost

Enterprises often need to hire IT operations staff specialized for one specific public cloud. In addition to these redundant hires, having multiple teams implementing complex processes related to CI/CD, security, data protection, and overall policy compliance typically leads to an increase in operational risk. This is simply due to the fact that different teams interpret the same requirements in a slightly different manner; they use different automation, orchestration, and management tools; and they have a different understanding of the inner workings and the business impact of an individual application. IBM Cloud Satellite aims to enable one unified IT operations team with one place to manage applications through their existing set of tools and without hiring cloud-specific staff.

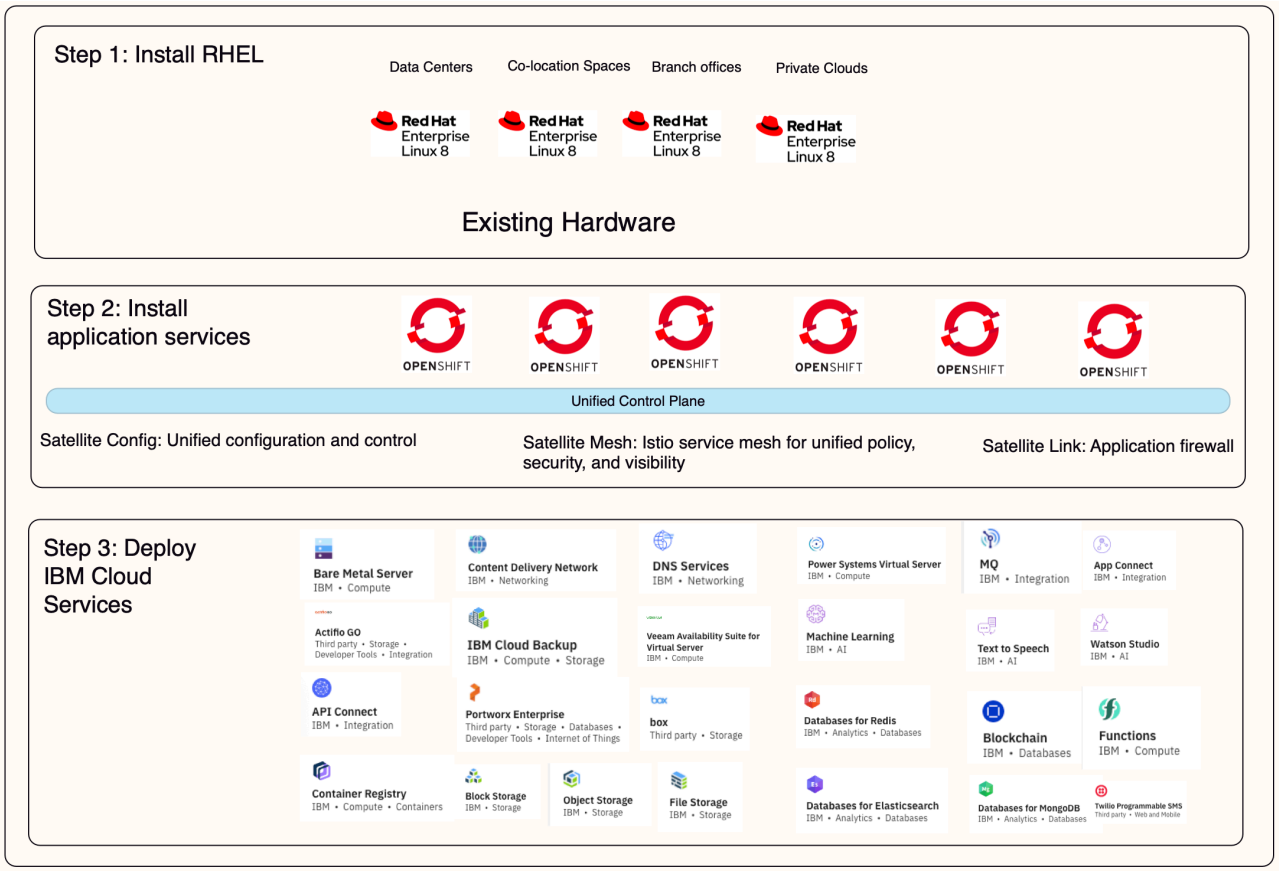
Decrease Operational Risk

EMA research shows that much of the operational risk of cloud-native applications (running on Kubernetes) is a result of different parts of the stack not playing together optimally. The interfacing points between Linux kernel and Kubernetes are especially complex and require a significant degree of care. For example, the simple creation of a new application container requires approximately 200 calls from Kubernetes to the Linux kernel. Therefore, it is a big deal for IBM to control the Linux layer (RHEL) and the Kubernetes layer (OpenShift). This is the true definition of "one throat to choke," and deploying this entire cloud-native stack on top of IBM Cloud Satellite should bring significant operational advantages.

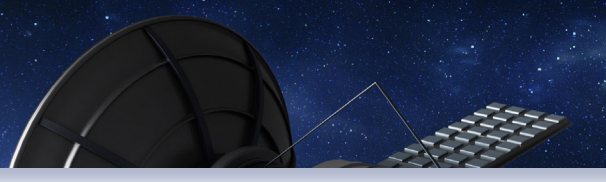
Eliminate Hypervisor Cost

The entire cloud-native stack can run on Red Hat virtualization and on VMware with OpenShift leveraging KVM, the built-in Linux hypervisor, to run virtual machines side by side with containers. IBM is planning to support bare metal deployments of IBM Cloud Satellite in the future.

How It Works: A Three-Step Process



IBM Cloud Satellite provides a unified and managed platform to run cloud-native applications on a fully consistent stack on top of existing hardware infrastructure in the corporate data center, at co-location facilities, and edge locations.



This works as follows:

Install the RHEL operating system: IBM Cloud Satellite runs directly on top of RHEL OS clusters. As a result, IBM Cloud Satellite can be deployed to whatever infrastructure is supported by RHEL.

Deploy the cloud-native runtime: The IBM Cloud Satellite installer deploys all of the runtime and management components required for the customer's cloud-native environments. OpenShift, an Istio Service Mesh, the Satellite Link application firewall, and the unified configuration layer (Satellite Config) are the integral parts of this solution. Cloud Satellite enables the fully centralized and therefore consistent configuration and management of all of these components.

Add IBM Cloud Services: Customers can now run the existing managed IBM Cloud Services on top of their unified platform. This allows organizations to consistently embed infrastructure services, such as backup, object storage, and DNS, and higher-level platform and application services.

EMA Perspective

IBM Cloud Satellite provides the foundation for IBM's grand vision of an integrated business platform that enables customers to run the same code anywhere. While any Kubernetes app should run on any upstream distribution of Kubernetes anyway, in reality, customers rely on a multitude of often cloud-specific infrastructure and management services. These services control secure data access, identity and access management, DNS management, load balancing, backup, monitoring, DevOps pipeline automation, data compliance, and numerous additional important parts of the overall application puzzle. IBM Cloud Satellite eliminates complexity by offering one integrated platform that simply travels anywhere the application code goes. The impact of this unified management approach for key customer pain points, such as "continuous compliance and security," are significant since the Cloud Satellite platform has the potential to tremendously increase overall observability and control, and should certainly be able to deliver a unified audit log for an application, independently of its deployment location.

In a nutshell, IBM Cloud Satellite enables the organization to quickly deploy new software capabilities in a cost-efficient, compliant, secure, and overall predictable manner. The integration with IBM Cloud Services allows any enterprise to "get its feet wet" in terms of trying out new technologies, such as ML-driven data discovery, without the cost and compliance headaches that are often attached to trying out new technologies. This provides IBM with the opportunity to get customers hooked on its entire portfolio of cloud services offerings, including cognitive services and data management capabilities by Watson.

About EMA

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