

Best Practices for Moving AIX Apps to the Cloud

IBM Cloud for Skytap Solutions



Highlights

- IBM Cloud for Skytap Solutions is the only public cloud supporting AIX workloads alongside applications running on x86 architectures.
 - Native Support for AIX applications moving to the cloud.
 - Reduce costs and improve agility to advance application development and deployment.
 - Simple and straightforward steps to move to cloud in minutes in most cases.
 - Enables rapid modernization of traditional AIX applications.
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The adoption of cloud has become so prevalent today, it is an assumed part of enterprise IT strategy. What's not usually clear is how enterprises will apply cloud computing and infrastructure models to existing applications that are responsible for core business functionality.

The majority of Fortune 500 companies, along with many other enterprises, currently run business critical applications on AIX on IBM Power Systems. For these businesses, incorporating AIX workloads into an enterprise cloud strategy can present significant challenges, most notably the lack of support for these workloads from typical cloud infrastructure providers.

IBM Cloud for Skytap Solutions is the only public cloud that offers support for AIX workloads alongside applications running on x86 architectures. This guide details the considerations involved and best practices for migrating your AIX workloads to IBM Cloud for Skytap Solutions.

Cloud Myth 1 - We Can't Move AIX to the Cloud

IBM Cloud for Skytap Solutions is the first and only public cloud offering support for AIX workloads. Most cloud providers only support new applications or cloud-native development, and hosting providers only provide limited, single instances of AIX. IBM Cloud for Skytap Solutions is different: it's designed to support your enterprise's traditional applications, including those running on x86 architectures, without refactoring or rearchitecting them.



Migration goals- what’s driving your move?

Your migration strategy, including your destination cloud, should support your organizational objectives. At IBM we find that enterprise initiatives fall into four general groups:



Cloud-First Initiative:

For organizations whose primary goal is to go all-in in the cloud, performing an accurate assessment of the enterprise application portfolio is critical to the organization’s success. Traditional applications, like those running on AIX, are often overlooked because they are not supported by typical public clouds. IBM Cloud for Skytap Solutions natively supports AIX applications, enabling their inclusion in an overall cloudfirst strategy.



Datacenter Consolidation or Cost Reduction:

Lengthy rewrites can quickly eat up the expected cost savings of datacenter consolidations. IBM Cloud for Skytap Solutions makes it possible to migrate AIX applications without refactoring or rewriting them, accelerating the migration journey and decreasing migration costs and resources. IBM Cloud for Skytap Solutions also provides IT teams with increased visibility and control over resource utilization and costs including role-based access and granular quota management.



Improvements to Business Agility:

Lack of access to production-ready development and test resources is the one of the top barriers to adopting agile development. IBM Cloud for Skytap Solution’s unique, environments-first approach to infrastructure provides teams with instant, self-service access to complete application environments that are maintained and governed by IT.



Modernization or Digital Transformation:

Many enterprises view cloud migration as the first step in a broader modernization journey. IBM Cloud for Skytap Solutions enables enterprises to introduce cloud-native functionality incrementally, so organizations maximize the ROI on existing investments and modernize at their own pace.

Assessing your AIX workloads

The first step in your migration is to evaluate your existing AIX workloads and identify their requirements. Your organization will need to perform its own assessment that is inclusive of any business-specific considerations, however the list below provides a good basis for beginning your evaluation:

Consideration Category:	On-Demand Capacity
Consideration Type	IBM Cloud for Skytap Solutions Support
Always-On	Industry standard SLA and simple, predictable monthly billing
Bursting	Enterprises who need the capacity to scale quickly to meet seasonal or irregular demand benefit from the ability to burst usage without incurring exorbitant penalties
Variable	Payment options are provided for teams who need to smooth out the costs associated with erratic or unpredictable workloads
Consideration Category:	Cloud Deployment and Workload Requirements
Multi-tenant or single tenant	Choose between public or private global datacenter regions
Datacenter regions	Ten global datacenter regions with the ability to spin up regions on-demand
Scale	Scale up to 12 CPUs and 256 GB of memory or scale out by adding multiple VMs/LPARs to the same IBM Cloud for Skytap Solutions environment
Networking	Unique support for complex layer 2 and layer 3 networking
External Dependencies	High-speed VPN connections to on-premises datacenters or other clouds
Hardware Configurations	IBM Cloud for Skytap Solutions operates IBM POWER8 hardware in its datacenter regions
OS Configurations	IBM Cloud for Skytap Solutions currently supports AIX 6.1, 7.1, and 7.2.
Consideration Category:	Workload Sizing and Capacity
Sizing	IBM Cloud for Skytap Solutions will work with you to collect the CPU, memory, and storage requirements for each LPAR
Capacity	When sizing your workloads, IBM Cloud for Skytap Solutions will work with you to translate your existing requirements to capacity requirements in IBM Cloud for Skytap Solutions. Enterprises normally experience a material reduction in concurrently running LPARs using IBM Cloud for Skytap Solutions infrastructure compared to existing infrastructure, eliminating idle resources and over-provisioning.

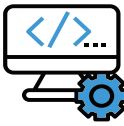
Evaluating migration methods

Many enterprises create unnecessary migration roadblocks by starting with the wrong migration method. In this section, we'll discuss the migration methodologies available to enterprises and provide a recommendation for the best choice for AIX workloads.



Rehost: Casually known as “lifting and shifting”, this option enables enterprises to migrate AIX applications to new infrastructure without fundamentally changing architecture or code.

This is the fastest and most cost-effective migration option and is our recommended migration approach for your existing AIX workloads. However, rehosting is only possible if the destination cloud can support the application as is. IBM Cloud for Skytap Solutions mirrors your on-premises datacenter environments, making it possible to rehost AIX applications unchanged.



Replatform: Organizations that have a goal of replatforming AIX applications to Linux-based operating systems or infrastructure will encounter increases in time, resource

requirements, and expense. This guide addresses organizations looking to migrate their AIX applications without changing operating systems or major application functions.



Refactor, Rearchitect, or Rewrite: Each of these three steps requires organizations to make wholesale changes to the application architecture and codebase.

For traditional applications, like those running on AIX, the cost of a such a project - in terms of time, expense, and resources-often outweighs the impact of moving that application to the cloud. These options are not recommended for your AIX cloud migration.

Cloud Myth #2

My Migration Will Be Long, Difficult, and Costly

IBM Cloud for Skytap Solutions makes it possible to rehost your AIX applications on public cloud infrastructure, eliminating the need for dedicated resources to spend months trying to figure out how to change your applications so they'll run in the cloud.

Other Considerations

There are other business factors organizations will want to consider when planning for any cloud migration, and especially one involving AIX applications. In the section below, we'll cover some of the primary considerations when evaluating migration time and expense for your organization.

Licensing

Ensuring license compliance is critical to governing your organization's cloud computing costs. IBM Cloud for Skytap Solutions includes AIX licensing in the cost of its Power Compute resources. IBM Cloud for Skytap Solutions provides customers running Oracle DB on AIX a license-compliant offering with the tools necessary to track and report on Oracle usage.

Data Migration

IBM Cloud for Skytap Solutions offers different solutions for customer needs depending on the data volumes that need to be moved, including transfer via secure FTP, database replication, and encrypted physical hard drives.

Making the Move

When planned for effectively, your physical migration to IBM Cloud for Skytap Solutions will be simple and straightforward. Here's how it works:

- 1. Export Your AIX LPARs:** IBM Cloud for Skytap Solutions will provide you with a customized script enabling you to export your AIX LPARs from your existing environment.
- 2. Import Your AIX LPARs:** From there, your LPARs will be imported into IBM Cloud for Skytap Solutions using secure FTP or other secure transfer options.
- 3. Create AIX Environments:** Use public templates or create your own environments to start sharing AIX resources in IBM Cloud for Skytap Solutions.

After the Migration

After your migration is complete, IBM Cloud for Skytap Solution's unique approach to infrastructure enables your organization to accelerate application innovation and delivery while providing robust control and governance over resource utilization and costs.

Enabling Agile Development

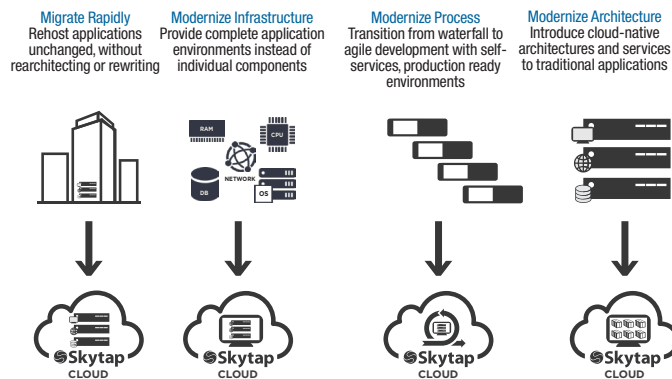
IBM Cloud for Skytap Solutions supports DevOps and agile initiatives by enabling self-service access to production-ready environments. A IBM Cloud for Skytap Solutions environment encapsulates compute, networking, storage, and software into a single unit of work that can be saved as a template, cloned, and shared in seconds. Teams can encapsulate their entire application in a IBM Cloud for Skytap Solutions environment, including x86 VMs, AIX VMs, and even docker containers.

This on-demand access eliminates resource constraints, bottlenecks, and configuration drift. As a result, enterprises are able to accelerate release cycles, include more functionality per release, and release higher quality software.

Cloud-Driven Modernization

Once in our cloud, enterprises are able to extend the life of their traditional applications by using IBM Cloud for Skytap Solutions environments to improve agility and accelerate modernization. The most natural way we see organizations doing this is in a phased approach to modernization, using IBM Cloud for Skytap Solution's environments-first infrastructure to facilitate modern development processes that, in turn, enable more rapid modernization of application architectures and services.

MODERNIZING TRADITIONAL APPLICATIONS WITH IBM SKYTAP CLOUD



Maintaining Visibility and Control

This environments-first approach to cloud infrastructure enables IT teams to provide the self-service resources needed for agile development while maintaining control over costs and resources. Environments are managed by IT teams and need only be created and configured once before being saved as templates. From there, IT can set access controls and quotas by users, department, or region to ensure usage is authorized and audited. End users can self-provision their environments and delete them when no longer needed, eliminating idle infrastructure.

Conclusion

IBM Cloud for Skytap Solutions offers the first Infrastructure as a Service offering for enterprises looking to easily move AIX applications from on-premises datacenters to public cloud infrastructure. To learn more about IBM Cloud for Skytap Solutions support for AIX, visit our website and register for a demo.

For more information

Learn More at http://ibm.biz/IBM_Cloud_Skytap

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