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# CloudSphere Offers IT Visibility to Accelerate Modernization

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**Abstract:** Enterprise IT application environments often suffer from technical debt accumulated over decades, creating a complex web of legacy systems that resist modernization. Many organizations struggle with siloed applications and data, making it difficult to achieve the integrated view necessary for digital transformation. Security concerns and compliance requirements frequently derail modernization initiatives, forcing IT leaders to prioritize risk management over innovation. The lack of specialized talent familiar with both legacy systems and modern technologies creates a critical skills gap that hampers even well-funded transformation projects.

The dependencies between custom and commercial off-the-shelf applications do not show business service maps, but CloudSphere's Knowledge Graph can, thereby enabling migration and modernization planning that focuses on business-centric needs and de-risking modernization.

## Introduction

Cloud-based application modernization can bring transformational value. Businesses gain multiple benefits, including improved innovation, increased agility, and faster time to value. But the current distributed nature of application environments adds complexity to modernization efforts. Specifically, a high number of interdependencies makes the process more complex. That, in turn, adds risk and time, ultimately leading to stalled modernization and migrations.

Additionally, recent shifts in the hypervisor market are having an impact. Increases in license and support costs associated with existing virtual machine environments have many organizations accelerating their container-based modernization projects.

Those businesses need to leverage the right tools and the right partners to help accelerate modernization deployments and add visibility to ongoing operations. Solutions from CloudSphere, an independent software vendor, could be of great help to these organizations. CloudSphere offers IT visibility tools that provide discovery, assessment, migration, and modernization insights for on-premises, multi-cloud, and hybrid cloud application environments.

### Addressing the Triggers of Stalled Migrations

According to research by Enterprise Strategy Group:

- 83% of organizations are allocating significant planning efforts to ensure that new applications are deployed in the optimal location.[1]
- 73% of IT decision-makers reported that their organization's application deployment planning is being hindered by a lack of visibility into specifics on spending for public cloud services.

[1] Source: Enterprise Strategy Group Research Report, *Cloud Application Deployment and Migration Decision-making*, August 2024. All Enterprise Strategy Group research references in this Showcase are from this report unless otherwise noted.

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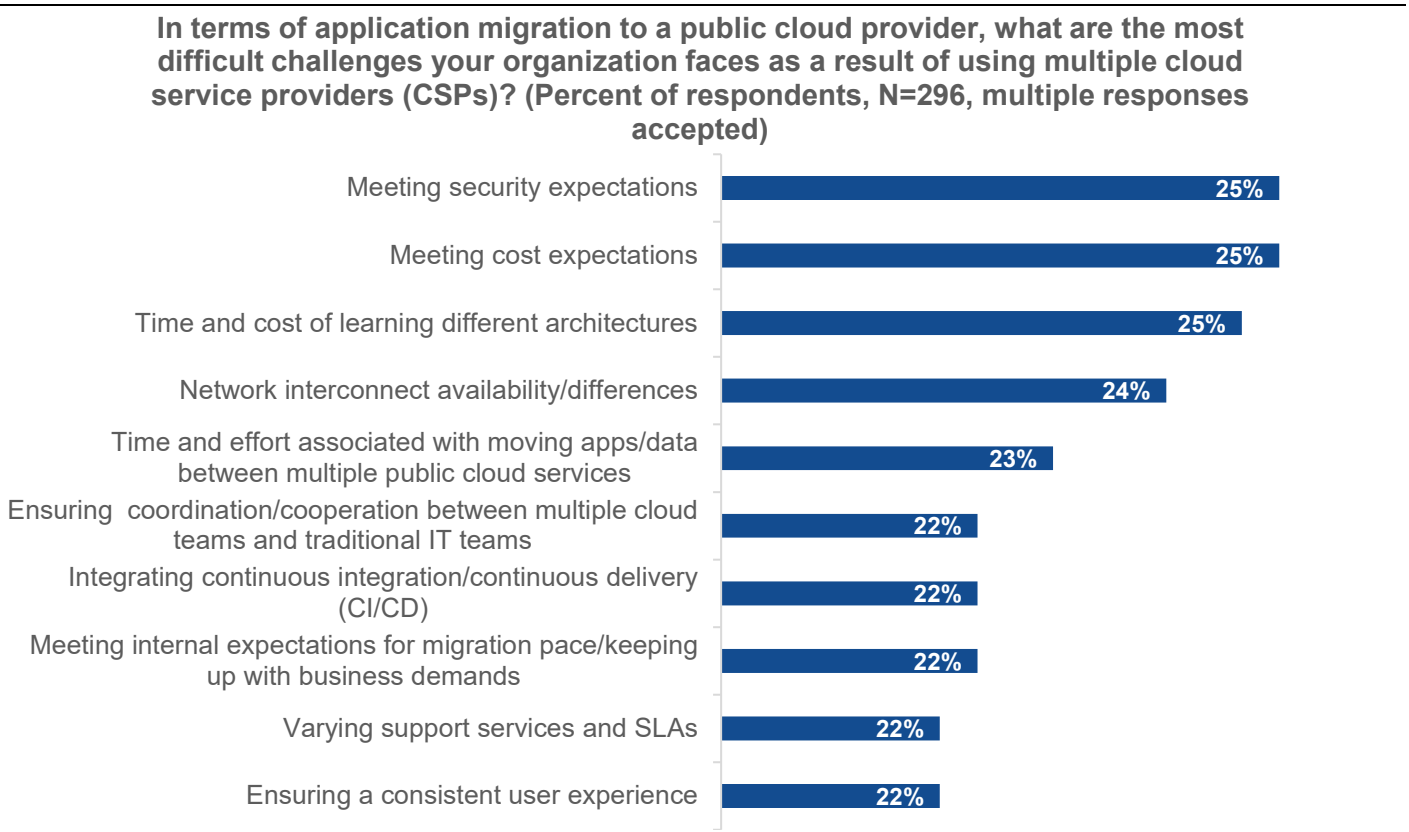
Organizations truly do need that visibility. Today's migration operations can become quite complex given the increasingly distributed application landscape. Looking at the ten most commonly identified challenges with cloud-based application migration, the widespread nature of the respondents' answers highlights how varied these challenges have become.

Topping the list are security and cost concerns, along with worries about the effort associated with learning new and different application environments (see Figure 1).[2] In regard to security, most companies have operating systems and applications that are end of life and out of support, which means they are no longer receiving security patches. Other challenges—related to network interconnections, internal coordination, meeting internal expectations, and ensuring a consistent experience—can also delay or derail application migration and modernization efforts.

**Figure 1.** Top Ten Challenges With Cloud Migrations




*Source: Enterprise Strategy Group, now part of Omdia*

Businesses should proceed in a way that best ensures their application migration efforts unfold as planned—namely, by minimizing risks and optimizing for cost, security, and a positive user experience once the application is deployed in the new location. Importantly, to ensure an optimal deployment and easier ongoing management, organizations need to leverage a good partner that has the right tools.

Specifically, they should be looking to leverage tools that give them better insights into the environment. Without those insights, cloud migration and modernization can lead to unnecessary costs resulting from overprovisioning, poor user experience from underprovisioning, and increased security or availability risks because the workload is not properly secured and protected. Consider that 75% of surveyed organizations reported that they have incurred significant costs and operational impacts due to applications deployed at a suboptimal location.

[2] Source: Enterprise Strategy Group Complete Survey Results, *Distributed Cloud Series: The State of Infrastructure Modernization Across the Distributed Cloud*, August 2023.

Any migration effort requires gathering the right insights upfront. Therefore, businesses should opt for a tool that can:

- Provide insights into their entire application estate, covering multiple architectures (e.g., virtual machines, containers, and bare metal) and locations on and off premises. Organizations typically have commercial off-the-shelf and custom applications in production and being able to discover both is important. Being able to map all application dependencies enables the organization to prioritize what to migrate/modernize first.
- Provide insight into each application's infrastructure requirements and current utilization levels to determine what cloud infrastructure would be needed to reduce cost.
- Measure and project costs, offering multiple total-cost-of-ownership (TCO) pricing plans (i.e., one-year, three-year, and all up front).
- Offer recommendations on how to proceed, such as identifying which applications are candidates for migration. Migration complexity scoring indicates what level of effort the lift will entail. Knowing that information helps organizations prioritize what can move now, and what will require more work to refactor.
- Map and catalog services and interdependencies to reduce risk.

That final bullet is particularly important. The tool should come with service maps that chart all application interdependencies and provide visualizations of the network grouped by business service. This type of comprehensive visibility helps an organization avoid stalled or abandoned migrations caused by previously unknown applications that are not discovered until the migration has started. Properly mapped dependencies help to untangle and illuminate services before migration begins, ensuring a successful migration.

## How CloudSphere's IT Visibility Optimizes Application Modernization

CloudSphere specializes in providing services and tools that offer organizations a higher level of IT visibility to facilitate IT transformation, especially during application migrations. A widely recognized cloud partner, it serves as an:

- AWS VMware Migration Program Partner.
- AWS Migration and Modernization Program Partner.
- AWS Optimized Licensing Assessment Program Partner.

In these roles, CloudSphere offers tools and professional services (delivered through its network of systems integrator partners) to assist with digital transformation, application migration, and modernization. Services include container-based modernization; migrations to public clouds such as AWS; and support tied to SaaS modernization, sustainability, cost optimization, and application or operating system end-of-life.

CloudSphere's services cover the full cloud journey, beginning with an assessment and proceeding through planning, migration, modernization, and monitoring. The CloudSphere platform technology:

- Creates a CloudSphere Knowledge Graph of the organization's application environment (including both proprietary and commercial applications), with maps of infrastructure assets across locations, including their interdependencies.
- Provides continuous monitoring to stay up to date as the application environment evolves.
- Offers recommendations to lower TCO.

The comprehensive visibility provided by CloudSphere's agentless scanning also identifies security gaps such as missing security agents, as well as implementations of shadow IT—particularly unmanaged deployments of AI applications.

Effective application discovery, including discovery of interdependencies, is paramount for successful cloud migration and modernization. Cloud migration is complex. Without a clear understanding of existing applications and their interdependencies, migration plans are prone to errors, delays, and costly rework. Discovery provides the necessary data to enable IT to make informed decisions about which applications to migrate, how to migrate them, and the optimal cloud environment for them.

There is a strong element of risk mitigation involved. Mapping dependencies helps identify potential disruptions that could occur during migration. This enables organizations to proactively address risks and ensure business continuity. Understanding dependencies also helps to avoid "ripple effects," where changes to one application negatively impact others.

In terms of cost optimization, discovery reveals underutilized resources, enabling organizations to optimize their cloud spending. It also helps to identify applications that can be modernized or retired, further reducing costs.

To keep a modernization effort efficient, discovery provides insights into existing applications targeting cloud managed services. That information is essential for determining the best modernization approach, such as refactoring, re-platforming, or re-architecting.

Discovery also helps identify data sources and regulatory compliance requirements associated with applications. This enables organizations to implement appropriate security measures and ensure compliance for data in the cloud.

Additionally, automated discovery tools can significantly speed up a migration process by providing a comprehensive view of the IT environment and application dependencies to inform migration sequence and move groups. This reduces the manual effort required and minimizes the risk of human error, especially across large IT estates.

In essence, application discovery and dependency mapping are the foundation for a successful cloud journey. They provide the visibility and control needed to navigate the complexities of cloud migration and modernization. The value of application discovery and dependencies for cloud migration and modernization is extremely high and should be considered a vital part of the planning process.

CloudSphere's application and services visibility also supports the identification of an optimal location for running a digital infrastructure. There are situations in which a hybrid cloud architecture might offer the best balance between the control of on-premises infrastructure and the flexibility of the public cloud.

## Key Scenarios

Here are several scenarios in which the visibility provided by CloudSphere's automated discovery could really make a positive difference:

- **Existing infrastructure investment.** Organizations that have made significant investments in on-premises hardware want to maximize their ROI. A hybrid cloud enables them to continue using existing infrastructure while gradually transitioning to the cloud.
- **Hybrid workload flexibility.** Applications with fluctuating demands can benefit from a hybrid cloud. Organizations can use on-premises resources for steady workloads and "burst" into the public cloud during peak periods.
- **Cloud migration.** A hybrid cloud facilitates a phased migration, enabling organizations to move workloads to the cloud at their own pace. This minimizes disruption and enables thorough testing.
- **Accurate planning.** Cloud migration is complex. Without a clear understanding of existing applications and their interdependencies, migration plans are prone to errors, delays, and costly rework. Discovery provides the

necessary data to make informed decisions about which applications to migrate, how to migrate them, and the optimal cloud environment.

- **Risk mitigation.** Mapping dependencies helps identify potential disruptions that could occur during migration. This enables organizations to proactively address risks and ensure business continuity. Understanding dependencies also helps to avoid "ripple effects," where changes to one application negatively affect others.
- **Cost optimization.** Discovery reveals underutilized resources, enabling organizations to optimize cloud spending. It also helps to identify applications that can be modernized or retired, further reducing costs.
- **Efficient modernization.** For modernization efforts, discovery provides insights into existing applications targeting cloud-managed services. This information is essential for determining the best modernization approach, such as refactoring, re-platforming, or re-architecting.
- **Improved security and compliance.** Discovery helps identify data sources and compliance requirements associated with applications. This enables organizations to implement appropriate security measures and ensure compliance in the cloud.
- **Streamlined migration.** Automated discovery tools can significantly speed up the migration process by providing a comprehensive view of the IT environment and application dependencies to inform migration sequence and move groups. This reduces the manual effort required and minimizes the risk of human error, especially across large IT estates.

## CloudSphere in Use

Enterprise Strategy Group was provided with the opportunity to review a case study conducted by CloudSphere centered on the experiences of a global pharmaceutical manufacturer. The organization had a distributed application environment composed of 116 VMware virtual machines running 816 applications in seven data centers across three continents. It was looking to optimize costs because it was facing an expected increase in the license and support fees for its hypervisor environment.

By leveraging CloudSphere's tools and services, opting for a three-year reserved instance, and right-sizing its virtual machines in AWS, the pharmaceutical firm was able to achieve a 55% annual total cost of ownership reduction.

Additional examples of CloudSphere helping its customers to implement a better IT visibility strategy can be found here: https://cloudsphere.com/case-studies/.

## Conclusion

In today's IT landscape, cloud-based modernization is practically an imperative. Organizations are under increased pressure to accelerate modernization activities, particularly following the recent changes to VM licensing. They want to modernize, become more efficient, and save costs. The problem is that too many organizations are embarking on modernization and migration projects but are hitting a stalling point because they have insufficient visibility into their full data estate, and that makes the whole migration process too complex.

Notably, nearly half of organizations (47%) prioritize TCO reduction when adopting public cloud services.[3] However, meeting those expectations for lowered costs remains one of the top cloud migration challenges. The difference between seeking cost benefits and realizing them often boils down to how efficiently applications use the cloud resources. Overprovisioning adds unnecessary costs, and underprovisioning hinders the experience.

Right-sizing the environment, as the pharmaceutical manufacturer in CloudSphere's case study did, is essential to reducing costs while accessing other cloud benefits such as agility and flexibility. Right-sizing, however, is virtually impossible without visibility into the needs of the application environment. CloudSphere can provide that visibility.

[3] Ibid.

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