Solving the shadow IT conundrum

Adopting a multi-sourced operating model can boost innovation

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Introduction

Just five years ago, fewer than two in 10 organizations had workloads running on cloud infrastructure.[1] Fast forward to today, where a recent Rightscale survey showed that 93 percent of organizations were using a mix of private and public cloud capabilities.[2] Public cloud capabilities, whether software-as-a-service (SaaS) or infrastructure-as-a-service (IaaS), are widely available, on demand, and they don't require capital expenditures because the company does not have to buy the hardware. They can be procured by staff or business units who need workplace collaboration tools or shared storage to launch a new application or scale an existing service. Public cloud can deliver new levels of agility and simplicity that underlie much of the business innovation we see today.

Many traditional IT organizations struggle to provide capabilities with the same level of agility and flexibility. Even if they've made the shift to cloud infrastructure, it's hard to match the simplicity and agility of public cloud experience because legacy workflows, manual intervention, and business procurement requirements often reduce velocity. These challenges increasingly drive business users to procure IT capabilities without involving the IT professionals at their organizations. The industry calls this Shadow IT. Users and developers use a Shadow IT model because of its on demand availability that can accelerate innovation and improve time-to-market for new capabilities.

However, easy access to Shadow IT comes with risk, and many traditional IT organizations are under pressure to address the issues. Simply put, many IT organizations don't know what cloud services their staff uses because users aren't keeping IT abreast of their cloud activities. IT doesn't know where data resides, whether data sets are safe-guarded, whether data and applications are backed up, whether the capabilities will scale in line with long-term business requirements, and what the costs are.

It's becoming apparent that IT organizations have to address Shadow IT by offering a compelling alternative. Public cloud gives users so much flexibility that IT can no longer afford to ignore the need for an equivalent, on-demand service. In effect, IT organizations have to offer Shadow IT capabilities and benefits without the risks. If IT organizations can't deliver operational optimization – an automated, robust, highly flexible approach to procuring and delivering cloud capabilities without agility and velocity restrictions – users will continue to purchase cloud without IT oversight. The overall goal is to come up with a way to embrace Shadow IT, not to suppress it.

This paper will explore how IBM cloudMatrix offers three ways for IT operations to begin to integrate Shadow IT activities and improve experience and speed to help shift organizational behaviors. With IBM cloudMatrix, organizations can devise an approach to discover existing resources, provide visibility to new resources, and offer an equivalent alternative to Shadow IT. Organizations can start small and then extend capabilities and functionality as desired.

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Exploring the questions

Over the years, IT departments built structures and processes to manage entire corporate technological infrastructures. As structures and processes increase, agility declines, with the consequence of becoming slower to respond to the current needs of the business users. IT wants to help, but the processes that protect the company can get in the way.

Those limitations can't be allowed to persist. Simply put, users won't sit around for hours or days waiting for a container image or virtual machine. They need compute, storage, and bandwidth on the fly without delay or complexity. If IT can't provide it, users will likely go elsewhere.

To support the organization efficiently, IT operations needs to address these three questions:

1. How do we provide an automated, sanctioned process for users to purchase public cloud? It's clear that users do purchase public cloud and will continue to do so. How can IT integrate and standardize public cloud consumption so that users can continue to use the value in a way that doesn't result in cost challenges or business risks?

2. How do we address the security and data risks associated with Shadow IT? Imagine workload proliferation across dozens of clouds. How can IT manage the sprawl? How can we monitor, manage, maintain, and protect hundreds of workloads without visibility?

3. How do we control access and utilization of public cloud without sacrificing the speed and agility necessary for innovation? Our business is counting on us to enable operational success, not impede it. How can we streamline procurement, cost controls, governance and management?

Addressing these questions isn't easy, but there is a way.

The way forward: IBM cloudMatrix

IBM cloudMatrix helps organizations with a solution for delivering public cloud-like agility in three steps.

Step 1) Discover and sync existing resources

It starts with knowing what resources are currently in the cloud. IBM cloudMatrix helps enable IT organizations to discover and sync existing assets from major cloud providers. Bringing these once hidden resources into a centralized location provides IT with a detailed view of existing resources that can be tagged and utilized in future application architectures.

IT is battling to understand what resources are bought and used outside the standard IT procurement process. This capability allows IT and users to more easily discover resources under existing provider accounts and sync those resources so they display in IBM cloudMatrix. By centralizing resources into a single place, IBM cloudMatrix helps IT to extensively review security procedures. IT can learn more about how the users are using public cloud, to facilitate cost controls and future planning.

Step 2) Track new public cloud deployments

IBM cloudMatrix enables organizations to offer public cloud offerings through a centralized store, giving IT a new way to track assets and monitor spend as users consume public cloud capacity. Organizations may not yet have the processes in place to offer a fully governed solution. But, with IBM cloudMatrix, they can at least have greater visibility and insight while starting to direct users toward using IT's catalog, reducing Shadow IT demand and utilization.

IBM cloudMatrix helps organizations get started with a prepopulated catalog with the major providers, using standard list prices or applying contact pricing. IT admins can even customize what appears in the catalog.

Step 3) Create incentive to use approved resources

Use IBM cloudMatrix to build a robust marketplace that includes prepackaged and vetted solutions from a variety of public, private, and virtual deployment options and provide automated deployment across on and off-premises resources to speed delivery.

IBM cloudMatrix makes it easier to build solution blueprints, incorporate governance policies and, automate approval processes. IT can offer equivalent options and a process that embeds governance and thus significantly reduces the impact on speed and agility.

Offer greater choice, tools to select the best option for your organization and non-intrusive governance, providing users with the speed and agility they require with the visibility and control IT needs.

Why IBM cloudMatrix matters

IBM cloudMatrix helps organizations to support users in a new way by providing an approved consumption path for public cloud, with no barriers. At the same time, it provides a new level of access and visibility to cloud resources. IT is in an even better position to manage security risks and monitor spend as users self-administer public cloud capacity for their projects.

Looking from one perspective, IBM cloudMatrix is a highly automated, more easily tunable, multi-environment orchestration and management engine. It lets IT operations orchestrate simple or complex, new or existing applications, across various environments, infrastructures, and providers. IBM cloudMatrix manages the implementation of infrastructure resources as well as the deployment and configuration of the bottom-to-top application stack and security settings.

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From another perspective, it's a tool that exists to turn IT operations into an innovation engine. It helps IT operations shift from a manual, pain-filled existence toward an automated, self-service model of IT procurement, with standardized blueprints and frameworks that users can rely on for faster provisioning.

Let's explore a scenario to illustrate how this works.
A user is utilizing AWS without IT engagement or visibility, resulting in hidden costs to the organization. Once IBM cloudMatrix has been implemented, the user can then go to the IBM cloudMatrix marketplace for AWS capacity. The user accesses a consolidated storefront for public cloud procurement, pre-packaged solutions, and internal resources. In other words, both on and off-premises resources are available from the same internal portal.

When purchasing public cloud resources through the marketplace, tags are added about the virtual data center and business unit, allowing for quick identification. It's easier to tie utilization to user.

IT can easily set spend alerts, review security settings, and track usage. As use patterns highlight problems, IT has the ability to proactively fix deficiencies to provide a high level of service for the user.

IBM cloudMatrix automatically synchronizes the bills of major providers. It will compare actuals with the estimated bill of IT. If the spend is out of range, IBM cloudMatrix will trigger an alert and work with the user to resolve the issue. When situations happen, organizations can limit their exposure by monitoring spend and identifying anomalies.

With IBM cloudMatrix, auditing expenditures and assessing risks is as simple as one, two, three:

- Discover and sync at the virtual data center (VDC) level to determine if there have been additional resources added that could account for the spend
- Use the security audit in IBM cloudMatrix to quickly view if there are risks that need to be mitigated
- Take the resource off-line if the security threat warrants

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IT can address problems quickly, working with users to design IT approved configurations, create a blueprint to facilitate consistent utilization, and provision the new resource directly in the service marketplace. The user has a new kind of support from IT that expedites access to necessary resources in a safeguarded way for the organization.

IBM cloudMatrix benefits

IBM cloudMatrix offers a way for organizations to embrace Shadow IT by giving users a "carrot" without the "stick." With an IT approved marketplace for purchasing public cloud, users no longer have a reason to go around IT. At the same time, IT has the visibility and traceability needed to help manage security and costs.

For users – IBM cloudMatrix boosts productivity and decreases time-to-market because it offers a robust user experience, across many clouds, from a single storefront. Apples-to-apples comparisons enable informed choice for even better results. It gives developers the capacity to self-service provision virtually anything from raw capacity to fully configured application stacks in the "right fit" environment – independent of whether that's on-premises, off-premises, or a mix of the two. Users no longer have to choose between speed and policy. With IBM cloudMatrix, users can enjoy consistent, repeatable environments from development all the way through to production.

For IT comptrollers – IBM cloudMatrix suppresses cost overruns. It compares expected and actual spend and generates alerts when they are not aligned. Even if a user does something unexpected, like provisioning twice as many AWS instances as expected, IT has quick visibility to the changing situation. It's able to track back cost overruns quickly and helps empower the comptroller to engage with users. In addition, IBM cloudMatrix rationalizes spend across many cloud providers, assisting users to find a more cost-effective option.

For IT operations – IBM cloudMatrix makes operations more efficient. Its single platform helps ensure consistency across the various stages of development and production. IBM cloudMatrix helps build new connections between IT and users, highlighting shared objectives while reducing conflict. By attracting users away from unsecured Shadow IT while improving visibility and control, it also helps reduce risks and challenges to the organization. IT doesn't have to spend as much time in a firefighting mode – instead, they're in a much better position to support innovation. They are no longer reacting to low-priority requests or fighting needs to make non-compliant solutions "production ready." Instead, IT gets to build a system that helps stop problems from happening. Time spent can then be reduced, costs are better controlled, and risks are mitigated.

For IT executives – IBM cloudMatrix accelerates the efficiency, satisfaction, and business benefit by allowing a shift from ad hoc, Shadow IT to full-fledged Hybrid IT. Users aren't impeded and IT isn't overtaxed. IT executives also shift from worrying about the risks of unprotected applications and data toward higher levels of comfort. IBM cloudMatrix also gives IT executives a stronger place in the "innovation conversation" for improved thinking about new opportunities, competitive advantage, and differentiation.

Conclusion

Shadow IT isn't going away because it helps solve business problems, but in doing so, it often creates unacceptable risks. Some organizations fear it – but organizations need the agility of Shadow IT with the governance of traditional approaches. IBM cloudMatrix offers a highly efficient, automated, self-service solution for users to use public cloud capacity in minutes across multiple environments, providers, or technologies. It offers a flexible, agile alternative to Shadow IT with the control and governance needed to enable business innovation, not stand in the way.

IBM cloudMatrix helps enable enterprises to adopt Hybrid IT with a multi-sourced operating model. Enterprises can personalize IT service consumption and unify delivery through the IBM cloudMatrix self-service store, dynamic marketplace, and continuous delivery engine. IBM cloudMatrix helps enable enterprise IT organizations to deliver breakthrough results by:

- Improving time to delivery from days to minutes
- Reducing infrastructure and operation costs
- Providing agility with an automated, self-service, design-to-order model

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