IBM
Technical Whitepaper

Hybrid IT through Cloud brokerage

Your path to enhanced business outcomes

Contents:

Business leaders are vigilant in assessing the implications of opportunities and threats as they emerge, and today, the cloud is catching their eyes. Cloud offers greater potential to be transformative and disruptive at the same time and that fascinates – as well as worries – many executives. There's obvious potential, but also obvious risk.

On the bright side, cloud represents a new way to re-architect IT, a new path to performance, to risk mitigation, and to cost control. However, cloud adoption also comes with challenges. Cloud requires a new perspective, a new way of thinking about IT, and new skills. Reactive companies looking for quick fixes can find them in the cloud – but quick fixes usually impede long-term success.

CEOs are asking CIOs to step up and make cloud part of the Enterprise IT and lead digital transformation initiatives toward adding value instead of keeping the lights on. But that shift just isn't easy. In response, many organizations take a limited, ad hoc approach to cloud, solving tactical problems instead of pursuing transformational opportunities.

But that's hardly the path to enhanced business outcomes – in fact, over the long term, ad hoc cloud implementations are destined to cause technological complications, limit benefits, and come with additional complexity. Ad hoc implementations rarely measure up to expectations for revenue growth, cost reductions, and risk mitigation. CIOs can't rely on just an ad hoc approach for success.

Cloud becomes a force for real, lasting business success when organizations think and act more systematically. Leading organizations demonstrate the value of a robust strategy and path to adoption – one that provides visibility and control while enabling agile and incremental advancements in the near-term.

But there's a fundamental challenge that needs to be addressed. Many organizations find that cloud alone isn't enough to flip the IT budget equation from cost center to value chain. In IBM's view, organizations need to explore another approach that encompasses cloud, but goes beyond it. Gartner calls it bi-modal, or Hybrid IT.[1]

Hybrid IT is a strategic approach that unifies the operations of a solution, independent of how it is sourced. Hybrid IT allows an organization to standardize delivery of a multi-sourced solution.

Beyond hybrid Cloud: Hybrid IT for leading enterprises

Many vendors and analysts would tell you that the combination of private cloud, aka hybrid cloud, is the leading edge solution that overcomes obstacles. And there's not necessarily anything wrong with hybrid cloud – other than the fact that it's incomplete.

Today's IT consists of two ecosystems or datacenter infrastructures that, in many organizations, work independently. There's the current model, with a traditionally organized internal IT group and IT Outsourcing (ITO) partners managing dedicated data centers, custom/packaged apps, and operations – which may be virtualized or cloudy to some extent, but almost never completely. There's also the emerging approach, relying on off-premises cloud IT infrastructure, which exists to augment, extend, and accelerate the current Enterprise IT setup.

For many organizations, hybrid cloud looks like the end of the road – the best possible outcome. But it isn't. Hybrid cloud is limited because it treats off-premises cloud computing as just another datacenter – something that's bought once and used for years.

Gartner proposes another approach – Hybrid IT.[2] Unlike hybrid cloud, which utilizes one or two off-premises cloud suppliers, Hybrid IT offers compelling benefits because it is designed to seamlessly integrate many cloud vendors – chosen for location, performance, capability, and cost – to align with workload requirements and granular business objectives. Hybrid IT relies on new technologies to connect clouds. It requires sophisticated approaches to data classification and application relevance, copes well with multi-location, multi-cloud governance, and provides a service-oriented architecture. It's a mindshift and an organizational shift as much as it is a technology shift.

Devising and delivering a successful Hybrid IT implementation comes down to evaluating and managing both traditional and cloud IT, balancing various on-premises and off-premises suppliers, and making dynamic choices about technology on the fly as business requires new capabilities. All of these tasks must be done simultaneously and in tandem to achieve three fundamental aims for success:
• Providing users and customers with the right service levels for each application and user
• Optimizing application delivery, streamlining, simplifying, and automating IT operations
• Enabling service-centric IT that accelerates business responsiveness now and on-going

But these aims require new approaches. Solutions are no longer wholly contained in house, on premises. Technology becomes an ecosystem of providers, resources, and tools. Interactions between old and new IT have to be devised, modelled, tested, implemented, and improved. Many sources of technology have to be managed, integrated, and directed on-demand toward business agility. This extended scope requires IT to connect the company with a variety of suppliers and customers – all of which must be juggled effectively to avoid risks or organizational impact.

Hybrid IT is a strategic approach that unifies the operations of a solution, independent of how it is sourced. Hybrid IT allows an organization to standardize delivery of a multi-sourced solution by:
• Utilizing existing tools and resources without disruption
• Offering additional choices for users that need speed and agility
• Addressing architecture holistically, with the optimal balance of technology investments, on-premises or off-premises, hosted, private or public

Today, IT must operate more like a business and manage the vendor selection, packaging, pricing, delivery, and billing in a multi-sourced model. To successfully make this transition IT must invest in:
• Self-service and transparency – a new Business-IT relationship that is defined by quick access and ordering of cloud services and solutions
• Business operations – a new emphasis on sourcing, packaging, cost management, and cloud
• Vendor/supply chain management – a new service fulfillment and continuous delivery model across internal and external providers

A hybrid cloud model provides more choices, but doesn't adequately address the strategic selection of the best technology or business requirement. In addition, the majority of hybrid cloud solutions focus primarily on public cloud, ignoring a balanced approach, failing to utilize and integrate existing on-premises IT investments. Hybrid IT unites planning, consumption, delivery, and management across public, private, virtual, hosted, on-premises or off-premises, resources. IT cannot deliver a unified user or delivery experience with hybrid cloud. That can generally, only be delivered via a Hybrid IT model that ends up being a significant inflection point that can be challenging, and intimidating.

Many organizations worry about a transition to Hybrid IT because in many respects, it's an unknown situation that seems fraught with risk. But it's necessary. The alternative is ad hoc IT procurement by workgroups, departments, and divisions. That's a recipe for risk, cost, and revenue shortfalls that IT organizations cannot accept.

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From IT builder to hybrid IT brokerage

However, many organizations need help to deliver Hybrid IT. That's because Hybrid IT relies on best-value cloud capabilities from various vendors, but comes with the downside of managing cloud vendors who have distinct strengths and weaknesses, different cost structures, and different APIs for integrating off-premises cloud capability. This complexity impedes the agility many organizations seek. In response, many organizations consider a third-party cloud brokerage to cope with and manage the complexity of Hybrid IT.

The three primary roles of a cloud services broker are aggregation, integration, and customization. With aggregation, a broker packages services from multiple cloud providers to help ensure interoperability and security of enterprise data passing between systems. Cloud brokerage makes sure the risk of multiple cloud suppliers is mitigated while costs and benefits are optimized.

A cloud brokerage focused on integration can help an organization coordinate multiple cloud services. They'll devise and manage the grand orchestration scheme that helps ensure external cloud services (of whatever flavor) play well with legacy infrastructure and applications. Good cloud brokerages focus on customization, to help IT find and tailor cloud services to meet their distinct business and technical requirements. Cloud brokerages can also fulfill other important functions, such as helping the enterprise define and implement cloud governance policies and analyzing whether to migrate premises-based applications to the cloud.

But often cloud brokerage providers don't do a good job of putting the IT organization back into a "command and control" role. The IT organization needs to manage IT, and to do that, they need to be in control of the entire IT service delivery model. IT organizations must be empowered to broker a set of IT services, some of which are on-premises, some of which are off-premises. Organizations build Hybrid IT to offer internal and external customers the price, capacity, and speed of provisioning of the external cloud while maintaining the security and governance the company requires, while reducing IT service costs.

To achieve Hybrid IT, organizations are shifting from an old organizational model to one that's aligned with basic business functions – including front office, back office, and a new idea, the middle office. To put it concisely, organizations are re-architecting their IT organizations to better reflect how service delivery, cloud integration, cost management, and governance has to be managed in a world where on demand IT is the desired end goal. The IBM whitepaper, entitled, *"Exploring the Middle Office,"* "discusses in detail, how IT organizations are evolving structurally to achieve the many benefits of Hybrid IT.[3]

In short, IT organizations need to become service brokers in order to gain the full benefits of Hybrid IT.

Why choose IBM cloudMatrix? Automated, self-service, streamlined

Earlier in this paper, it was mentioned that a successful Hybrid IT infrastructure can't be achieved unless IT operates more like a business – managing vendor selection, packaging, pricing, delivery, and billing in a multi-sourced model. Cloud brokerages help with these tasks, but often utilizing a manual approach, built on consultancy, that can take time and ongoing engagement to deliver results.

IBM is different

IBM is one of the first companies to provide an integrated cloud brokerage solution. IBM helps organizations to unify planning, consumption, delivery, and management in order to support a multi-sourced environment. IBM cloudMatrix can grow with you to support your journey to deliver Hybrid IT by helping your organization to:

- Evolve from a manual IT builder to an IT organization that uses automated brokerage to optimize business impact
- Deliver agility and speed on day one by using "best fit" off-premises cloud for your specific requirements
- Provide an adaptable and responsible architecture that aligns to business criteria and objectives, both short and long term

Here's how it works

IBM cloudMatrix provides an automated, self-service view of many cloud providers. It has distinctive technology that reviews and audits each cloud provider. It assesses strengths and weaknesses. It clarifies cost structures and contractual complexities to give your organization a clear understanding of upside, downside, and long-term value. IBM cloudMatrix even gives you a framework for rapidly integrating your existing contractual relationships with cloud vendors.

IBM cloudMatrix was designed to enable Hybrid IT while addressing the challenges cloud brings to the IT value chain. By addressing the multiple steps in the process with the support of a dynamic marketplace, IBM cloudMatrix can:

- Support accurate and timely access to service providers and delivery environments you choose
- Facilitate delivery of a multi-sourced solution using existing service management tools through open APIs
- Provide a single system of record that tracks an order from design through billing, enables centralized governance and cost management by application, virtual datacenter, and business unit

The real benefit of IBM cloudMatrix is that it helps organizations abstract away from cloud complexity toward cloud value. Rather than getting bogged down in vendor RFPs and technology comparisons, IBM cloudMatrix offers quick choices based on short-term and long-term objectives. IBM cloudMatrix lets your organization and your users make informed choices in minutes instead of weeks. You're no longer vetting suppliers and managing technology integrations – instead IBM cloudMatrix streamlines that complexity for you, per your requirements and objectives.

But there's another advantage to IBM cloudMatrix. It also gives organizations room to deal with urgent requirements while freeing up resources and energy for strategic decision making. Hybrid IT becomes a force for real, lasting business success when organizations think and act systematically. Inevitably, without IT leading a coherent, business-wide adoption strategy, unforeseen outcomes and unintended consequences can emerge and cause difficulty. Should leadership teams get mired in assessing cloud technologies, spinning up random, ad hoc endeavors, opportunities to produce outsize returns can remain frustratingly out of reach.

Ask the following questions to evaluate IBM cloudMatrix capabilities:

- Can IBM cloudMatrix provide a self-service framework that enables your users to utilize IT-as-a-service?
- Can IBM cloudMatrix provide multi-sourcing of IT that is dynamic and consumption driven?
- Can IBM cloudMatrix quickly drive a shift from mainly CapEx to CapEx + OpEx?
- Can IBM cloudMatrix automate order fulfillment by coordinating internal and external providers?
- Can IBM cloudMatrix help your IT organization transition toward Hybrid IT, not just hybrid cloud?

Shifting toward cloud technologies is probably the leading opportunity organizations have to drive change. But jumping over to cloud as a technology, not as a support to strategic business objectives, isn't necessarily the right approach. Instead of evaluating a cloud on the basis of performance and efficiency, organizations have to be asking measured questions about business relevance, about long-term vision, and near-term moves in the marketplace. Successful organizations use clouds to speed innovation, support differentiation, open up new markets, strengthen customer relationships, and increase responsiveness.

With IBM cloudMatrix you have an excellent opportunity to transform IT and become the driver of innovation, revenue, and business success. You can work with IBM to become a more agile forward looking organization that can adapt to the changing market environment.

That's why Wayne Pauley, Senior Analyst, Enterprise Strategy Group, Cloud Services Brief - Supply Cloud Management said,

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"The Gravitant product cloudMatrix should be seriously considered by companies already down the path of implementing some cloud services or contemplating it. Cloud computing holds a tremendous amount of promise for IT and ESG research shows just how significant the shift is. Gravitant implemented a large-scale system for one of the largest states in the country that started out as a failed implementation of a large services firm. Gravitant's solution was able to allow the state to realize reduction of infrastructure costs of 30 percent – 40 percent as well as reduce provisioning time from more than a week to almost real-time."[4]

About the author
Mohammed Farooq is an IBM Distinguished Engineer. He has been in the IT industry for more than 18 years, with experience as both a customer and a successful entrepreneur providing enterprise software. He spent seven years as CTO for the Texas Health and Human Services agency, a $4 billion IT organization where he successfully transformed their CRM system supporting 3+ million Texas Citizens while reducing operating costs.

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1 "Gartner Says Hybrid IT is Transforming the Role of IT;" Gartner; 3/5/2012; http://www.gartner.com/newsroom/id/1940715

2 Ibid, 2012.

3 "Exploring the Middle Office", Gravitant, an IBM Company, 2015, http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&htmlfid=ASW12363USEN&attachment=ASW12363USEN.PDF

4 Pauley, W., Cloud Services Brief, Supply Cloud Management (SCM); Enterprise Strategy Group, Inc.; February, 2013; http://resources.gravitant.com/3rd-party-reports/cloud-services-brief-supply-cloud-management/

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