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DIGITAL TRANSFORMATION:

Three Areas of Focus to Enhance Business Value

This white paper sponsored by

Mindtree

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The word "transformation" may very well be the most common term in business today. But what exactly does it mean? Ask ten business and IT operations professionals to define the term transformation, and you will likely get ten different answers. For most enterprises, the conversation about transformation is about increasing responsiveness by delivering scalable services that meet consumer demand, aligning solutions with business objectives and reducing management complexity.

Although true digital transformation requires a multi-pronged approach that leverages a host of new technologies, one of the key components is cloud computing. Organizations that can tap into unlimited resources via cloud services can facilitate the customer experience and rapid business change today's market demands. Underneath questions about how to make a business more consumer-oriented are questions about how to migrate legacy services to the cloud, how to secure data in the cloud and how to manage multiple cloud service providers and agreements.

One aspect most transformation initiatives have in common is the fact that they are often seen as challenging. Successful projects require careful planning, communication and management of a wide range of products, services and stakeholders. While many believe the key to transformation is either in modernizing their applications, re-architecting their infrastructure or optimizing their operations to keep up with the pace of today's business, it's actually a combination of all three areas. The complexity with transformation is that each of these can have distinct objectives, priorities, challenges and opportunities, and – when successful – varying benefits to the business.

This ISG white paper – commissioned by Mindtree – outlines the optimal approach to transformation with a focus on efforts that modernize infrastructure, applications and operations to help achieve business goals.

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THE TRANSFORMATION IMPERATIVE

Until now, enterprises have often run and built their IT portfolios and services themselves – gathering the nuts and bolts and screwing everything together – building their own data centers and managing their own software and delivery. In the digital era, companies no longer need to assemble the nuts and bolts themselves; they can operate on a consumption model, using what they need from cloud-based services. The challenge for many enterprises today is creating an approach that leverages these services and brings them all together to deliver business benefits.

The technical architect's job, for example, is no longer to simply assemble the components possible to support the organization, it is to build an agile, flexible and scalable solution that can facilitate a new relationship with consumers. Examples of enterprises that are embracing the cloud to deliver new services to their customers abound in the market. JetBlue is rolling out in-air mobile payments to improve the passenger experience and is investing in machine learning and analytics to innovate customer service. Domino's Pizza has developed its "AnyWare" offering that allows customers to place orders through any device, including their cars, smartwatches and smart TVs. Wal-Mart has focused on developing a new ecommerce platform to better leverage hybrid-cloud models and compete with digital-native retailers. And, in the pharmaceutical retail space, competitors CVS and Walgreens have both launched applications that integrate with Apple Watch to allow consumers to more easily manage medications and payments.

These transformational initiatives all depend heavily on leveraging cloud capabilities – and require a new way of thinking. As illustrated in the diagram below, the process of transforming to an "as-a-service model" begins by consolidating applications and systems, abstracting those systems to a higher level, automating where possible and leveraging a cloud-based utility model.

Transforming to an "As-a-Service" Model
Technology trends are driven by the business and focus on service mentalities instead of component and system-level approaches
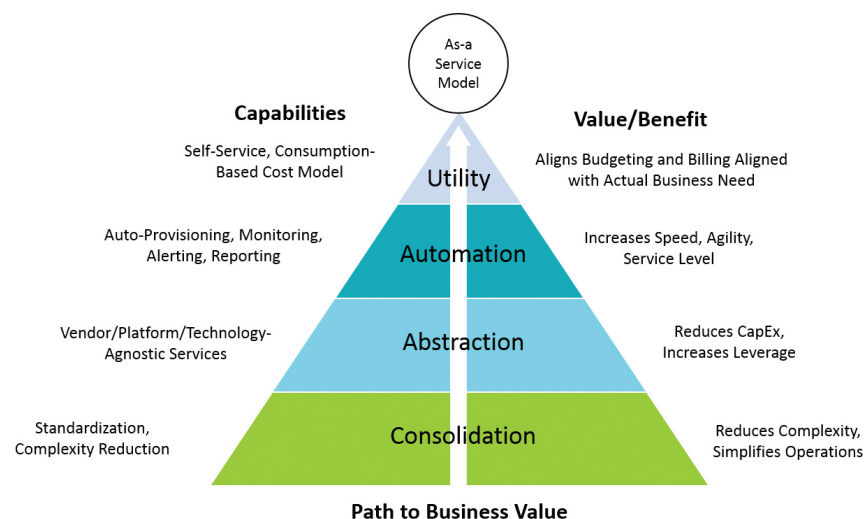

Figure 1 Cloud Migration Leads to Transformation

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Cloud migration isn't a simple proposition, and lack of preparation can lead to problems that can beleaguer a company and its digitization efforts. An effective cloud strategy includes a solid business case that aligns with the pricing and contractual characteristics of the cloud and clearly defines return on investment. Before migrating any workloads to the cloud, a company should ensure its environment can support cloud-based delivery and identify the touch points between legacy and cloud capabilities.

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INFRASTRUCTURE TRANSFORMATION

Today's CIOs face the challenge of supporting the enterprise's digital transformation objectives by creating a strong IT infrastructure that can deliver both the mission-critical capabilities of the traditional datacenter and the new digital business processes, plus a continually growing number of applications, devices and users. While many enterprises are migrating their datacenter workloads to the cloud, many others still will be operating hybrid IT environments comprised of a mix of traditional data center, outsourced, public and private cloud deployment environments for a number of years to come.

During a transformational initiative, a hybrid-cloud environment can offer the following benefits:

- Single architecture and feature set with cross-cloud management
- Ease of use and migration across service models, as required
- Ability to leverage managed services investments across platforms
- Customized private clouds with integration channels to an external public cloud

Adequately preparing for a successful transformation in terms of infrastructure begins by creating a detailed understanding of utilization, which can be based not only on the usage of servers and storage, but also on the usage of a raised floor or data center. Getting a handle on utilization reveals cases in which multiple applications that perform similar functions are deployed in a single environment, highlighting opportunities for consolidation. These opportunities can be found in both infrastructure and facilities and are an important first step of the transformation process.

By fully assessing the current state of its infrastructure, an enterprise can create a baseline inventory of its environment, rationalize tools and services and scrutinize the service level and pricing specifics of its contracts. This process also identifies workloads that are cloud-ready and quick wins that will help optimize the environment. By pinpointing immediate cloud opportunities, IT leaders can create a prioritized list that defines budgeting implications and simplifies decision-making.

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To keep from becoming overwhelmed and to avoid disrupting all systems at once, an enterprise needs to create and follow a cloud migration roadmap that lays out a structured approach to transformation that meets business objectives. The following graphic illustrates how a large enterprise might plan for its cloud migration over the course of three years, including the primary stages of managing organizational change and the later stages of migrating larger enterprise-wide and customer-facing applications.

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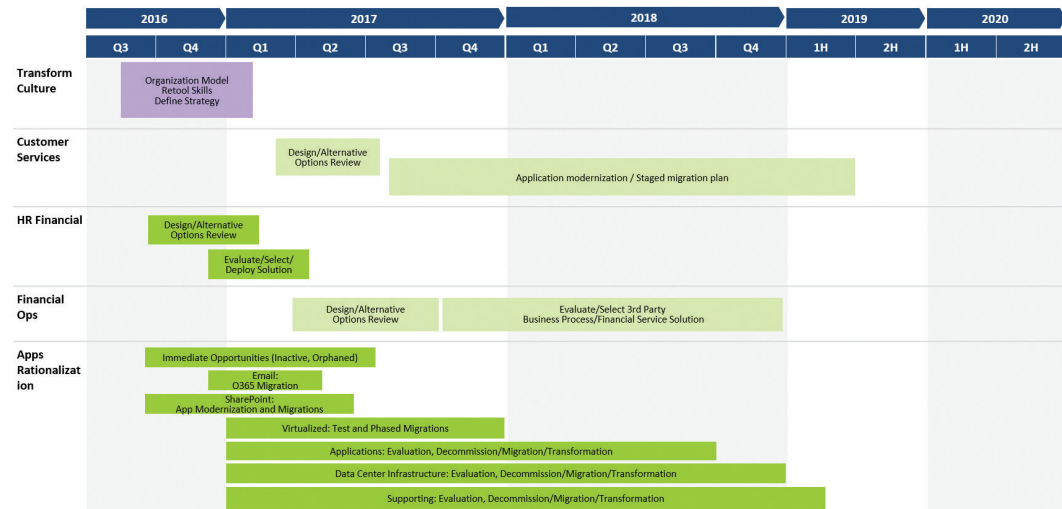
Transformation Roadmap

Figure 2 Transformation Roadmap

APPLICATION TRANSFORMATION

Application transformation begins by understanding the individual business services the applications deliver. The focus of transformation often is on optimizing the business services that meet both internal and external consumers' objectives and expectations. First assess the efficacy of the services and the interdependencies involved in delivering them. Creating and validating an architectural overview of all the application-related components and collecting relevant data about application usage and growth – for both in-house and outsourced application services – will be vital to a successful cloud migration.

The second step is to assess applications for their cloud readiness and any modernization efforts required prior to migration. The graphic below depicts a way to assess an applications' cloud-readiness and the related adoption rate of your applications and enterprise systems. Most applications can be defined as falling into one of the six categories outlined below.

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High Adoption
Easy

Cloud-Native: Applications specifically architected to run in a cloud environment, using cloud transaction processing principles

SaaS (Software-as-a-Service): Designed to scale out and be resilient to infrastructure failure; these include internet-facing, web-based distributed applications

Development Environments: Workloads that are related to the development and testing of applications that do not require high availability or high performance

High Performance: Workloads that require high-performance computing like "big data" analytics or applications that require large amounts of capacity on demand

General Support: Traditional business application workloads that are not necessarily mission critical found in internal data centers

Enterprise: Mission-critical, complex, performance-sensitive applications that contain highly sensitive data and usually are not designed to scale out

Complex
Low Adoption

Figure 3 Assessing Application Cloud-Readiness

Since true transformation requires solving specific business challenges, most enterprises need an ecosystem with the right skills to help identify business problems and design the optimal solution.

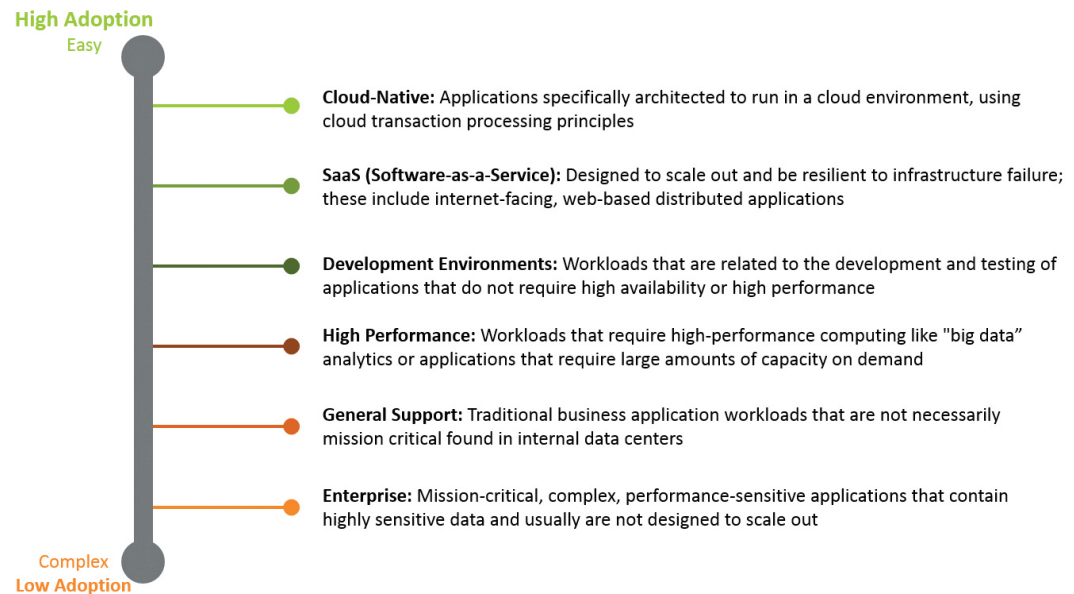In many cases, digital transformation cannot happen without an application modernization initiative aimed at applications that need refactoring or re-engineering. During the assessment, be sure to take into account the "spider web effect" of most applications, including interdependencies with other applications and/or services, network connectivity, utilization requirements, operational and service management integration. The modernization effort should integrate applications with operational systems for optimal monitoring and reporting. This creates a feedback loop that makes the effects of the transformation effort ongoing and sustainable.

Since true transformation requires solving specific business challenges, most enterprises need an ecosystem with the right skills to help identify business problems and design the optimal solution. When selecting partners to help transform the applications environment, an enterprise should analyze the costs associated with phased or all-in migration, recurring chargeback management, testing and re-testing of the new applications. A sound business case for a cloud-based model will include savings from cost avoidance and increased revenue due to speed to market.

OPERATIONAL ALIGNMENT

Trying to achieve digital transformation when an enterprise is not ready – when it is still bogged down in out-of-date processes or is slow to embrace consumer-oriented thinking – will result in simply plugging shiny new tools into flawed business operations. For transformation to be effective and lasting, leaders in an enterprise need to be prepared to change the way they think about the business. They must put consumers at the center of their objectives and consider technology an enabler of business growth.

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![ISG logo]

Infrastructure and application modernization efforts must be operationalized in a way that clearly aligns with business objectives. Performance gaps occur when there is misalignment between the business' needs and what IT offers as part of its technical service catalog. This negatively impacts both business and technical services. The business suffers from a lack of predictability in outcomes, service resilience and certainty about return on IT investments. IT suffers from skepticism from the business, longer resolution times, demand-scope creep and last-minute surprises. The challenge is especially difficult when an enterprise can generate reports only on certain components of their environment and not the whole picture.

Some leading service providers are addressing this by tying KPIs more directly to business needs. IT services and consulting firm Mindtree, for example, offers an end-to-end output-based managed services framework called ATLAS. By helping enterprises address what they call the "watermelon effect" – a scenario defined by application service-level agreements (SLAs) and infrastructure SLAs that show up green while the overall business client satisfaction shows up red – it enables them to align infrastructure and application modernization efforts with business objectives. ATLAS helps a company create clear requirements, improve demand flow, increase predictability in outcomes and enhance traceability and transparency in operations. When IT leaders can more easily define total cost of ownership of infrastructure, applications and operations, they can better manage their cloud services and optimize the business value of a company's technology investments.

The diagram below shows how ATLAS can demonstrate how high availability in certain individual processes, applications and infrastructure – as shown on the left – can still lead to poor availability of business processes. The arrow on the right illustrates the cumulative effect of minor-to-severe issues across the IT environment on the overall performance of business processes.
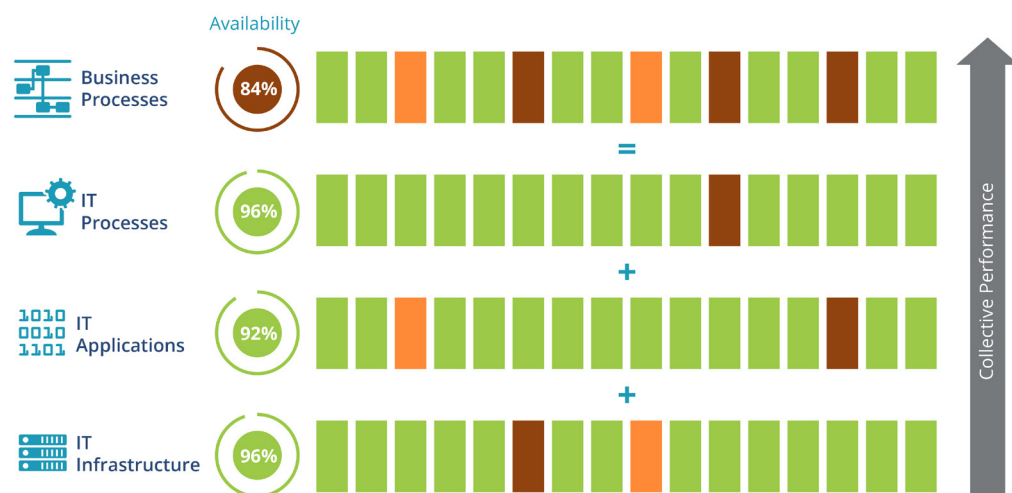
Aligning IT and the Business

Figure 4 Aligning IT and the Business with Mindtree's ATLAS Tool

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Operational success is also dependent on a sound service management assessment that evaluates business alignment and reviews prioritization, budgeting, funding and service delivery processes. Establishing a business service delivery baseline helps an enterprise analyze gaps in governance and organizational design so it can seek and maintain business and supplier relationships that support its new service strategy. A baseline assessment also steers the transformation planning on the organizational level, including the repositioning and enhancing of skills to ensure innovative solutions and services.

An increasingly important element in the transformation of operations is automation. New and advanced automation capabilities facilitate IT responsiveness and agility to meet demand, two of the key challenges organizations face today. Strategic partnerships between IT and the business also facilitate technology's move from the back office to the front office. When IT aligns with the business, service delivery methods need to be constantly evaluated for relevance to the new digitally focused operating model.

CONCLUSION

Whether a company is looking into Infrastructure-as-a-Service to virtualize and scale its computing resources, Platform-as-a-Service to run custom applications and services over the Internet, or Software-as-a-Service to leverage a centrally hosted licensing and delivery model, managing cloud-based services requires managing a multitude of providers to serve consumers in a unified manner. Being a subscriber of cloud services and solutions is starkly different than evaluating software and hardware components and requires a hands-on approach to contract and business relationship management.

Many enterprises look to different providers for their infrastructure and applications services, contracting each tower with the provider most well suited as a way to mitigate risks. An environment that splits applications and infrastructure – for example, outsourcing infrastructure services and insourcing or outsourcing applications services – can suffer from finger-pointing and a lack of agility when it comes to making a significant change. Without a well-configured team or service management structure, issues can get in the way of progress. Important to success is a structured and methodical approach to transforming all three areas – infrastructure, applications and operations – so that the organization can truly enable digital business. Addressing one without the others, moving too fast or "forklifting" workloads can have major negative impacts to the deployment of cloud-based services and its return on investment.

A successful cloud migration and transformation requires careful mapping of business services to applications and infrastructure while preparing operations and people for the wider change that will support the business goals and the ongoing management of the new environment. To fully realize the promise of digital transformation and drive a truly services-based business, an enterprise must secure the infrastructure essentials that support mission-critical programs, innovative applications that drive operational excellence and customer engagement and well-integrated operations with service providers that help them realize their business goals.

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