



# Implementing an Effective Cloud Migration Strategy

*How X-Act Platform Helps Organizations Execute Cloud Transformation Programs*



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# OVERVIEW

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Cloud-based services open new opportunities for customers and companies to adopt reliable, easy-to-use capabilities. By moving to the cloud, businesses can expand their reach or develop into new marketplaces. The innovative underlying technology enables global organizations to exploit economies of scale and provide new flexible cloud-based services to their customers, especially where security, trust and regulatory control are critical.

With the right strategy, cloud-based services represent a huge opportunity for organizations as they provide the potential of:

- Optimizing delivery to traditional, private cloud, public cloud
- Developing more responsive—IT aligned business service
- Improving the visibility in billing /chargeback to LOBs
- Lowering the cost of delivery for the right workloads
- Developing new services—utilizing ‘core investment’ to sell services through the development of public cloud-based services that can be sold to another organization (for example, a shared settlement service).

While it is clear that cloud-based technologies represent a disruptive innovation in the way services and workloads are currently delivered to a customer base, cloud migration mistakes can be costly. To truly capitalize on the cloud, companies must commit to complete the due diligence and groundwork necessary to develop an integrated strategy that satisfies both the goals of business and IT. Not all workloads are created equal. Organizations must be able to identify and detangle the interconnecting business and technical parts of a workload before it can be made cloud-ready.

The modeling and predictive capabilities of X-Act® platform help COOs and CIOs build an integrated strategy that clearly determines how cloud-based services can best be utilized. With clear intelligence of the optimal service commitments for quality, quantity and continuity balanced against cost for each critical business and IT workload, X-Act users are able to execute a migration strategy that consistently achieves the desired result.



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# (1) CHOOSING THE RIGHT

## Cloud Strategy

Numerous cloud environments can be implemented through a combination of private or public cloud models. As such, the first step in developing a cloud strategy is to outline the business goals that are driving cloud adoption.

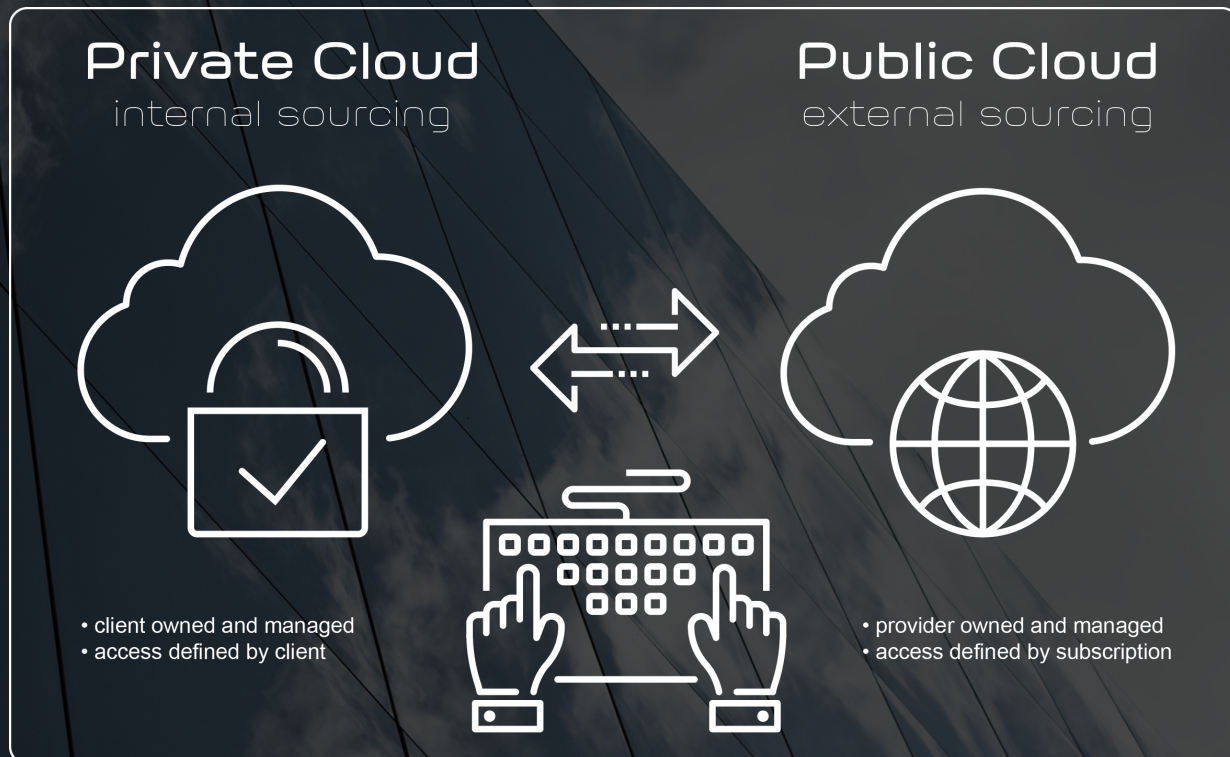
Does your organization want to:

- Supply cloud services
- Consume cloud services from a third-party
- Develop a hybrid model—where critical services stay in-house, while commodity services are provided by a third-party

Current customer and business services should be compared against future plans. Then categorized from a business perspective to determine if services are seen as:

- Critical to the business operations and/or regulated (for example, customer information/data)
- Able to be supplied to a wider customer base
- Able to be outsourced to a cloud supplier, so that the business becomes a direct consumer of the cloud service

### Cloud Portfolio Spans Private and Public Domains





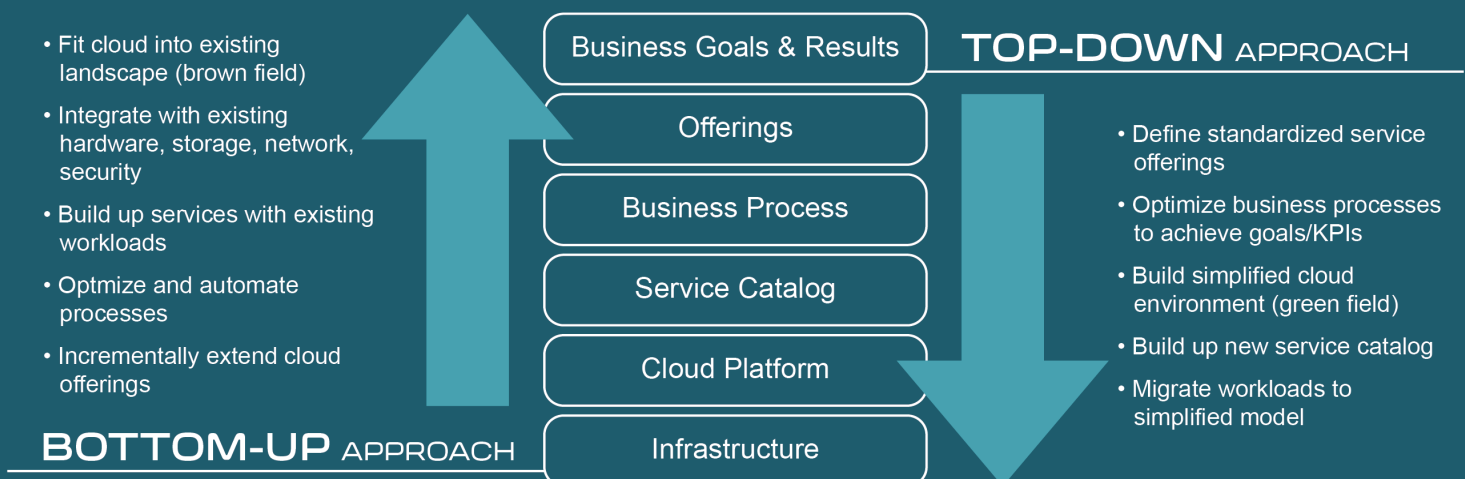


## BUSINESS + IT MUST AGREE ON A CLOUD APPROACH

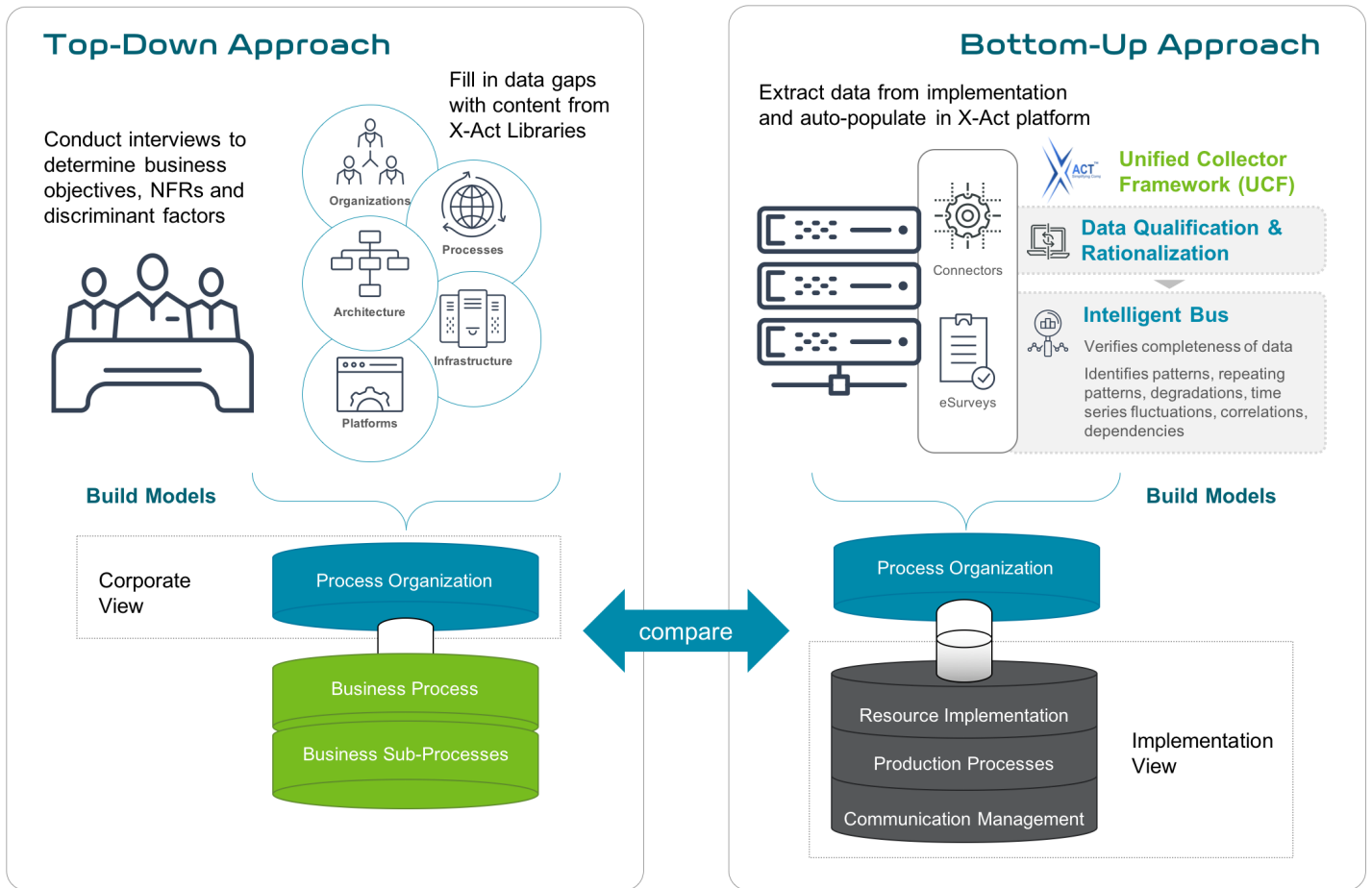
Both the business and IT—through the COO and CIO—must participate and agree upon the best approach to the cloud implementation. This decision can be supported through the development of a cloud services target-operating model that includes variations and a breakdown of approaches by business line and service. Then a more detailed investigation of the workload should be completed to determine:

- The current service quality, quantity, continuity and cost for a business service/workload
- The service quality, quantity, continuity and cost metrics that can be provided by a proposed cloud service
- Which parts of the service delivery can be outsourced for a given workload to the cloud-based service operations, development and maintenance
- The enterprise architecture reference model, a component-based model that details the 'in scope' workloads and their supporting technical environments (application, middleware/database and infrastructure)
- The actions required to engineer the business service/workload, so that it can be migrated into a cloud-based service

## Which Approach is Right for Your Business?







## (2) VALIDATING DECISIONS WITH BUSINESS MODELING

To support the decision process, the target operating model and enterprise architecture reference model should be built alongside the X-Act® model using URM GROUP's Model Based Architecture (MBA)™ method. The X-Act model accurately represents the full stack—business services/workload, systems and applications, as well as the underlying server and network infrastructure for all components within the end-to-end service.

The X-Act model emulates the workload in its current state and determines how the core characteristics of the service quality, quantity, continuity and cost for a business service/workload adjust as they are migrated into the cloud-based service. The primary approach proposed by URM GROUP is the top down approach. This is a business driven process through which standardized workloads are developed, then used to build the service catalog based on business goals and KPI's:

- Standards and portability of workload
- Security, trust, privacy and compliance
- Management system and governance
- Data ownership recovery—service level





# Service Consumers



services



services



services

Service Integration



Service Integration



Service Integration



## Traditional Enterprise IT

- Mission Critical
- Packaged Apps
- High Compliancy



## Private Cloud

- Test Systems
- Storage Cloud
- Developer Systems



## Public Cloud

- Common Business Services
- Software as a Service
- IT as a Service

## FINDING THE BEST APPROACH

In cases driven by the current installed IT, organizations may choose the bottom-up approach. However, as a best practice, any business-IT strategy should be a mix of both approaches. Regardless of the approach, parallel analysis is necessary to determine the target service integration layer throughout the workload analysis.

A strategy that bridges the business and IT is necessary to address the challenges of cloud-based services. This strategy must consider which services/workload need to be kept in house, which can be provided by a third party and which services can be supplied to customers and users by the organization itself.

The strategy and the transformation program should be built on workload analysis to determine how the quality, quantity, continuity and cost for a business service/workload adjusts, and should be changed if it is moved to a cloud-based service.

URM GROUP's MBA method is used to construct the X-Act model alongside and feeding into the target operating model and enterprise architecture reference model.



The service integration layer should be contiguous across all provisioned services to deliver the service in accordance with key characteristics of the cloud:

- Simplified and standard
- Rapidly elastic scalability
- Secure/private
- On-demand self-service
- Pay per use
- Geographically independent, available anywhere, network access
- Contiguous service





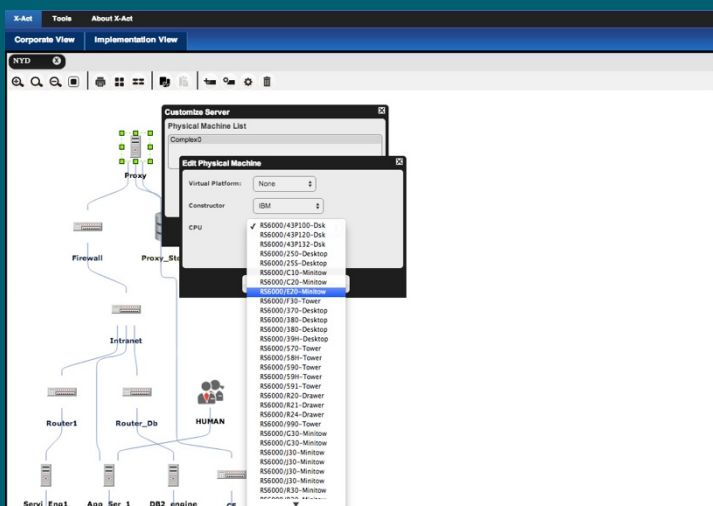
## WHY USE MODEL-BASED ARCHITECTURE?

MBA is a goal oriented methodology that follows the principles of computer-aided design (CAD). Companies use MBA to design future-proof architecture and validate that a proposed strategy will continuously meet business cost, scalability and performance requirements.

By repeatedly emulating partial constructs of a system using X-Act platform until it is fully defined, MBA ensures that critical information is provided to system stakeholders in a timely manner—this includes intelligence relating to potential risks as well as remedial recommendations. Armed with this knowledge, project teams can resolve any risks before moving to the next step of system definition or implementation.

Using MBA, clients in many highly critical industries have been able to achieve 5 to 10 times the volume of traditional architecture for the same or less resources with a much higher quality of service. To maintain these advantages, architecture produced through X-Act must be maintained using the same emulator. This allows users to anticipate and reduce any risks due to adaptation, technology upgrades or redundancies.

## Advantages of Using MBA to Support Cloud Migration



- Select the right technology to satisfy business requirements—including non-functional and discriminant factors
- Determine the optimal path towards an efficient, lean and cost-effective implementation
- Validate transformation plans will meet business goals before committing significant resources
- Reduce the impact of dynamic complexity by mitigating interdependencies and moving interactions to the technology level

### (3) IMPROVE CLOUD MIGRATION PLANS

## USING X-ACT PLATFORM

Many cloud initiatives fail to meet expectations due to inadequate risk identification and mitigation early in the project's lifecycle. Due to the complexity of modern business, it is no longer possible to intuitively assess both the benefits and risks posed by moving services to the cloud.

The emulation and analytics capabilities of X-Act platform allow users to identify any system limits within cloud environments, diagnose the root cause and determine the best remedial actions by weighing the benefits, complexity and cost of proposed solutions.

By effectively identifying any potential risks that could impact the quality of service and verifying that all applications will behave correctly under any operational condition, cloud migration decisions can be made with confidence in the outcome. As such, X-Act provides an insurance mechanism to verify that the cloud environment will continuously meet the promises made during the early stages of project definition.

# 1

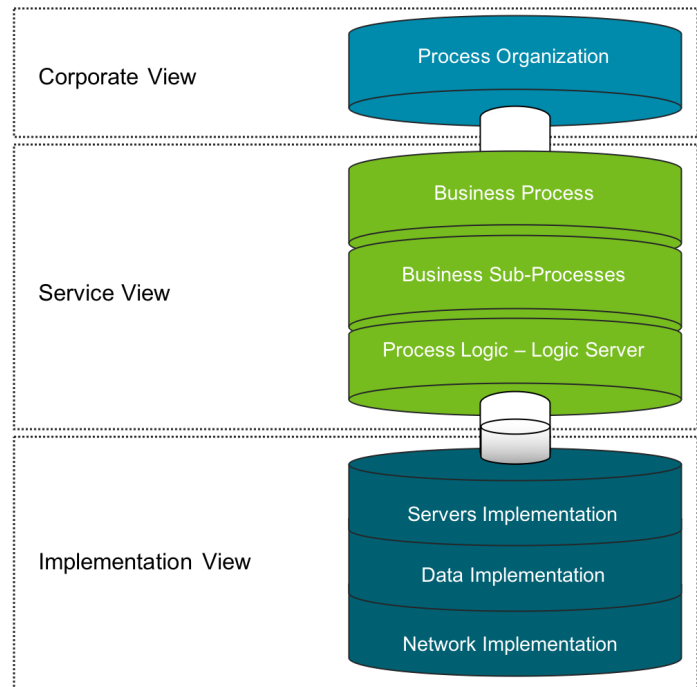
## X-Act Platform

### Build End-to-End Model of Business-IT Environments

X-Act platform is the only solution available today that allows organizations to quickly and cost effectively model both business and IT interdependencies with equal depth to prescriptively expose the business impacting risks that BI and other IT analytic investments often miss.

X-Act delivers a mathematical emulator that encapsulates all characteristics, dynamic behaviors and dependencies across business and IT system components to reproduce the exact behavior and follow all rules of the system being emulated.

This allows users to predictively examine the outcome of any private, public or hybrid cloud strategy versus the current IT deployment scenario.

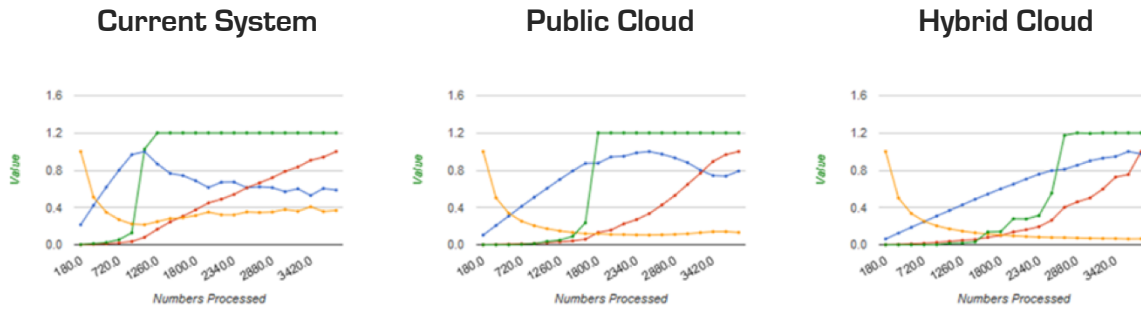




# 2

## X-Act Platform Explore Options with What-if Analysis

Using what-if analysis, X-Act provides the information decision makers need to fully understand the impact of any proposed changes (before resources are committed or actions are taken). By altering the initial conditions and dynamic constraints, X-Act predictively reveals how any changes will cause limits and bottlenecks within a proposed service and measures the impact on key business metrics—including throughput, service quality, cost and risk. This allows users to determine with confidence the best approach and any conditions that may cause unstable services or failures.



Color Key: ■ Production Efficiency ■ Cost to Deliver All ■ Dynamic Complexity ■ Cost Efficiency

# 3

## X-Act Platform Clearly Understand all Current and Future Impacts

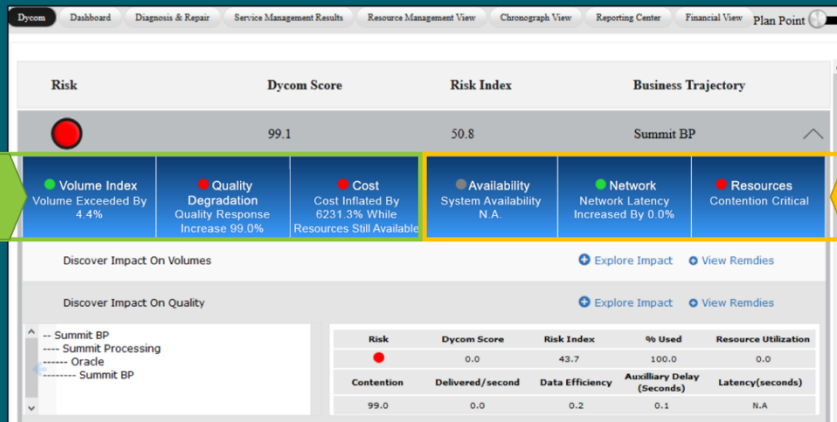
To develop the best strategy, X-Act delivers algorithmic intelligence that reliably validates the expected strategic and operational outcome of all decisions. This allows users to mathematically prove that the cloud transformation program will continuously deliver the desired benefits.



### Strategic Impact Measurements

Business users can understand how current risks or future changes can impact:

- ✓ Quantity
- ✓ Quality
- ✓ Cost



### Operational Impact Measurements

Operational users can understand how current risks or future changes can impact:

- ✓ Availability
- ✓ Latency
- ✓ Contentions



# 4

## X-Act Platform

### Manage Transformation Project Outcomes

X-Act helps to bridge the business-IT gap by providing IT teams with the communication, planning and monitoring capabilities they need to proactively ensure that cloud migration programs meet business requirements and optimize the use of systems and resources without any unintended impacts on the volume and quality of production.

X-Act can be used throughout a cloud migration program to quickly, cost-effectively and exhaustively test any system changes against business requirements, discover performance issues and develop the appropriate remedial strategy during any phase of the lifecycle.

Using X-Act OBC Platform throughout the transformation project allows system stakeholders to:

- Verify that the business goals will be met
- Ensure changes will not lead to a high level of dynamic complexity
- Keep volume, cost and quality constraints aligned



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# Conclusion

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In the rush to reap the promised rewards of cloud, many enterprise and midrange companies have adopted a cloud-first mentality. For some, this translates into an accelerated migration of workloads to the public cloud. And while successful migrations can support a whole host of strategic benefits, it should be noted that failures have been severe enough to destroy a business. A lack of defined objectives, outcomes and measurements for success often derail an organization's cloud migration efforts. To avoid failure, organizations must commit to completing the groundwork necessary to ensure a successful migration.

Since, not all workloads are created equal, companies must be able to assess both the technical and business needs of the workload. Then decide which underlying platform offers the best fit. But, as with any migration, getting the details right is of utmost importance. Some legacy applications have many dependencies and data flows. All of these interconnecting parts can be difficult to identify and detangle before the workload can be made cloud-ready. Even then, some may never get there without investing first in significant rearchitecture.

X-Act platform supports the level of due diligence and groundwork necessary to ensure a smooth transition to the cloud. By delivering clear and actionable intelligence, X-Act helps stakeholders identify and agree upon the best-fit solution before committing any time or resources to a cloud migration program. And during the execution phase, X-Act provides the foresights necessary to ensure an optimal outcome that weighs both short and long-term cost benefits in alignment with performance and scalability goals so that the business can consistently gain all the benefits the cloud has to offer.



[www.URMgrp.com](http://www.URMgrp.com)

URM GROUP is committed to helping organizations mature their risk management practices to more effectively and agilely respond to risks that are growing in frequency and severity due to the dynamic complexity of our modern world. Through our research and applied use of proven emulation technologies, we teach people how to proactively discover and control risks at the right time to avoid future surprises and unwanted outcomes. Our universal risk management methods arm business and government leaders with the foresights they need to confidently respond to changing dynamics and clearly understand which (and when) preventive and opportunistic actions should be taken to ensure the continuous efficiency and cost effectiveness of operations.