Cloud Modernization: Lessons, Risks & Benefits

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Delivering Mission Impact

PRESENTED BY:

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Welcome!

2021 Project Management Learning Series Introduction

The series provides the nutrient rich fertilizer needed to grow your PM management skillsets and knowledge to deliver successful and high-quality IT solutions on time, within budget, and while navigating complex barriers and political sensitivities.

Each session is designed to grow upon the next. Leading the discussions will be seasoned PM professionals and technology leaders with a combined 40+ years in IT solution delivery in the federal government.

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Speaker Introduction

ANKIT BATTAWAR

Ankit is a Cloud Solution Architect leading REI's Cloud Competency across multiple accounts. He is a seasoned professional with cross-industry experience advising CIO and CTO organizations on business transformation using cloud and digital solutions.

SANDEEP KUMAR

Sandeep is a Sr. Technical Architect with 15+ years of comprehensive experience in software architecture, design, development, testing, and deployment of complex large-scale web applications, and modernization of legacy systems for the U.S. Government and Financial business applications. He is also a certified Professional level AWS Solutions Architect and a cloud enthusiast!

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Agenda

→ Meet the Team

→ State of Cloud in Federal Government

→ Cloud Adoption – End to End Lifecyle

→ 6 *R* of Cloud Migration

→ Benefits of Using the Cloud

→ Cloud Risks / Challenges

→ What to Avoid

→ 2022 Cloud Trends

→ Summary

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State of Cloud in Federal Government

→ Federal spending on cloud computing grew by ~ 38% from 2019 to 2021

→ Analysts anticipate federal cloud spend to grow to $11.4B by FY 2022

→ Faced with aging information technology infrastructure that is increasingly unsecure, federal agencies are turning to commercial cloud solutions as the best method of modernizing their environments.

→ Defense spending on cloud is rising faster than spending in the civilian sector

→ Cloud adoption uneven from agency to agency

→ IaaS growth slows while SaaS and PaaS investment accelerates

→ More recent "Cloud Smart" policy is gaining traction and encourages migrations of targeted applications

→ Cloud remains "a priority" for federal agencies

Cloud Adoption – End to End Lifecycle

Cloud Strategy

Readiness Assessments, TCO/ROI Analysis, Cloud Governance, Cloud Enablement, Cloud Architecture and Design, Migration Planning

Partner with Cloud Advisory Services

Cloud Implementation

Application Rationalization, Cloud Foundation, Cloud Migration and Modernization, Cloud Native Application Development, DR and Backup

Partner with Cloud Engineering Services

Cloud Testing and Security

Cloud Infrastructure Validation and Testing, Scale and Performance Testing, DR Testing, Security Tool Setup, Cloud Vulnerability Assessment, Cloud Compliance Services

Partner with Cloud Testing Services

Cloud Management

Cloud Administration (Account Management, Cost Management, User Management), Cloud Resource Monitoring, Cloud Helpdesk, Site Reliability Engineering, Management Tool Setup, AIOps/MLOps, DevOps Pipeline Integration and Management, Problem / Incident Management, ITSM Integrations

Partner with Cloud Management (O&M) Services

Adopting cloud technologies and navigating the cloud landscape involves working through multiple phases and projects to extract the full business value of cloud.

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6 *R* of Cloud Migration

1 **Rehosting—Otherwise known as "lift-and-shift.**	**2** **Replatforming— Sometimes called "lift-tinker-and-shift."**	**3** **Repurchasing—Moving to a different product.**
4 **Refactoring / Re-architecting— Re-imagining how the application is architected and developed, typically using cloud-native features.**	**5** **Retire—Get rid of.**	**6** **Retain—Usually this means "revisit" or do nothing (for now).**

Time, Cost to Migrate, Cost to Operate, Agility, and Complexity are metrics to compare various cloud migration strategies

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Benefits of Using the Cloud

Cost (CAPEX to OPEX and Economies of Scale)	Speed	Global Scale
Boosts Productivity	Improved Performance	Increased Agility, Flexibility, and Reliability
Security and Compliance	Ability to Innovate Faster	Simplify IT (Shift to Everything-as-a-Service)

To realize the full benefit of cloud technology, agencies must cultivate an organizational mindset of constant improvement and learning.

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Cloud Risks / Challenges

→ Lack of clear strategy

→ Lack of skills or training

→ "Shadow" or "rogue" IT

→ Security

→ Setting up the cloud network

→ Application rationalization

→ Data protection

→ Lack of cloud migration tools and processes

→ Complexity of migrating

→ Compliance concerns

→ Resistance from internal stakeholders/users

→ Cloud management

Adopting cloud computing is complex and needs a clear strategy. Successful adoption requires a strong leader to guide the organization through the necessary transformation.

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What to Avoid

→ Wrong emphasis
  - Too much "lift and shift"
  - Too little "adapt to cloud"
→ Poor landing zone design
  - Hard to manage and secure
  - Higher operating costs
→ Dependency bottlenecks
  - Failing to account for system interdependencies
  - Incorrect grouping and cascading delays
→ Mistimed work effort
  - Costs aren't incurred when expected
  - Budget realignment delays

→ Rushed application assessments
  - Missed interdependencies
  - Wrong migration sequencing
→ Wrong team
  - Untrained staff
  - Inexperienced partner
→ Hidden indirect costs
  - Organization transformation
  - Residual costs

Proper Planning and Oversight is necessary for avoiding cost overruns, delayed timelines, and secure adoption of cloud technologies.

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2022 Cloud Trends

→ Platform / Shared Services Implementations and Cloud Enablement

→ Zero Trust Architecture

→ Identity Protection and Privileged Identity Management

→ AIOps / MLOps for Cloud Management (Improved Observability)

→ Rise of Serverless

→ Cost Management and Optimization

→ Changed to Cyber Insurance Policies

→ Hybrid Cloud / Multi-Cloud Implementations

Cloud will continue its rapid adoption and growth in 2022.

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Summary

☑ **Do Cloud Modernization right, using a Phased Approach**

Understand the technology, know the risks, and prepare accordingly. Partner where possible.

☑ **Strategy and Roadmapping**

Develop your cloud strategy and business objectives in alignment with Federal Mandates and your Organization Cloud Policies

☑ **Select the Right Migration Approach**

Different migration alternatives have different cost and effort profiles

☑ **Continuous Innovation**

Cloud modernization should be a continuous, iterative process that involves a systematic, step-by-step plan of action. This guarantees less disruption and grants end-users more time to get comfortable with the modernized application.
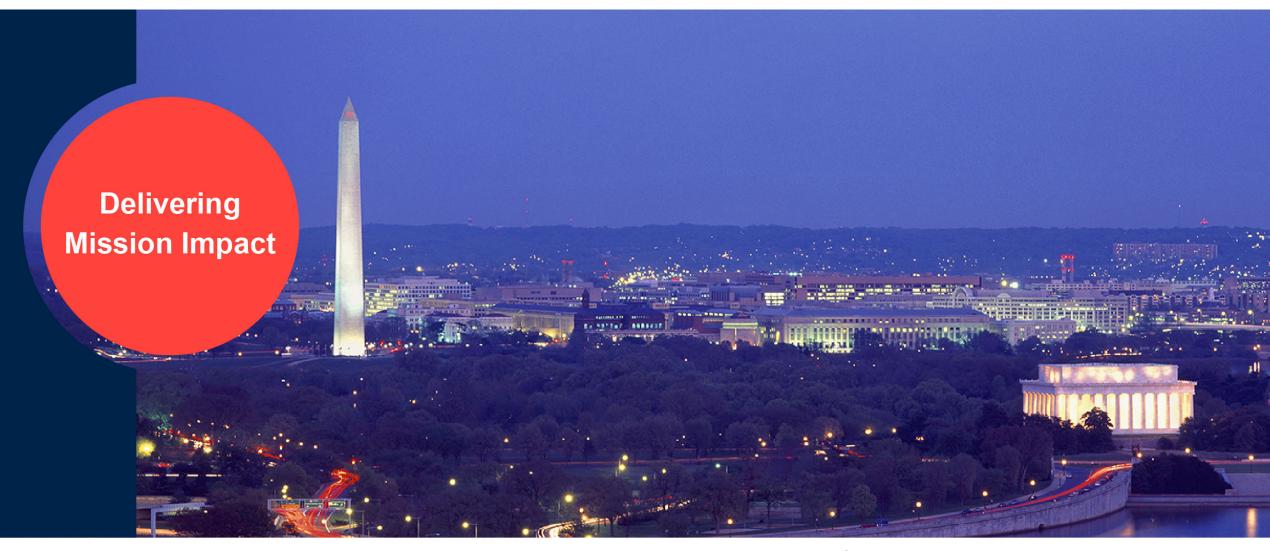
☑ **Modernize to Maximize**

Maximizing long-term value in the cloud depends on modernizing applications, infrastructure and data architecture.

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Open Forum

We want to hear your thoughts

Thank you!

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