Cloudy with a chance of meatballs
Driving Digital Transformation
Who I am

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Agenda

Part 1

1 The New Normal
2 Enabling Digital Transformation
3 IT Organisation of the Future

Part 2

4 Cloud Adoption
5 Migration – The Factory Approach
6 Getting Started
What is Cloud Computing?

**Delivery Models**

Four main models for delivery of IT services: IaaS, PaaS, SaaS and BPaaS. They differ in how much control and maintenance burden you want.

**Deployment Models**

Three main deployment models: Public, Private and Hybrid. They differ in whom you trust.
Cloud is not really about “the cloud.”

It's about turning the status quo of today into market-leading business innovations for tomorrow.

Application hosting and infrastructure
Driving cheaper and faster delivery and ops

Product development and capabilities
Building market relevant products quickly

Innovative services and accelerators
Leveraging differentiated capabilities

New business services and models
Altogether new revenue and business models

Eco-system plays and force multipliers
Shared economy, utilities and alliances
CLOUD JOURNEY IN INVESTMENT MANAGEMENT

Cloud is not about “the Cloud”; moving to the cloud is the first step to amplifying business value and solidifying market leadership

5 KEY GOALS

1. End User Enablement – Improved self-service
2. Security - Enhanced security posture through continuous testing
3. Elasticity - Scale with demand and in response to resiliency needs
4. Speed to Market – Build technical & business capabilities more rapidly
5. Variable Cost – Enable pricing based on consumption

COMPUTE UTILITY PLATFORM

Establish a foundation and create the elastic cloud utility (e.g. IaaS, PaaS, SaaS)

DATA PLATFORM

Utilize the movement to Cloud to centralize data assets for the business to leverage

ANALYTICS PLATFORM

Empower the business to turn data into a competitive advantage through advanced and predictive data analytics

DIGITAL BUSINESS PLATFORM

Transform the Enterprise by building new business models around data and analytics capabilities and platform for innovation

DERIVING CLOUD VALUE

Monetize the cloud and transform the industry by enabling ecosystem of participants, partners, and customers to leverage each client’s individual platform to find new ways to win in the market

Business Experimentation – Jointly drive cloud exploration through iterative 2-3 month sprints that capture short-term benefits and lessons-learned
Using cloud to go beyond an infrastructure platform

Enterprises are becoming increasingly focussed on developing and packaging analytics, AI, AR and VR solutions; its not just about providing a platform

- Analyse data real-time
- Build custom machine learning models
- Build mobile apps
- Manage & analyse IoT Devices
- Access blockchain
- Build & Run AR & VR Applications
- Analyse an Image
- Comprehend Text
- Transcribe Audio….and more!
EMERGING USE CASES

Cloud is influencing key trends leading to emerging use-cases that solve for unique business challenges.
BUILDING BLOCKS OF CLOUD
The successful building blocks of a successful cloud journey

**ARCHITECTURE**
- Service Definition, Operations, & Delivery
- Cloud Platform Engineering
- Innovation
- Cloud Native Architecture
- Network Connectivity
- Cyber Security
- ITSM

**OPERATING MODEL**
- Organizational Rewiring
- Cloud Capabilities & Services
- Cloud Policies & Processes
- Governance Model
- Business Risk
- Data Sovereignty
- Business Interactions
- Location Strategy

**TALENT**
- ‘Future of Work’ / Talent Model
- Change Management
- Training & Enablement
- Leadership Development
- Culture
- Skill & Capability Requirements
- Hiring & Retention Strategy
- Cloud Role Definitions

**PARTNER / ECOSYSTEM MODEL**
- Cloud Service Providers
- Managed Service Providers
- Tools & Software Providers
- Vendor Governance
- Strategic Sourcing & Procurement
- Ecosystems & Alliances

**MIGRATION**
- Application Portfolio Alignment
- Workload Suitability & Placement
- Migration Planning
- Application Modernization & Readiness
- Execution
- Verification & Stability

**VALUE MANAGEMENT**
- Strategic Alignment
- Business Case / TCO Model
- Growth / Usage Projections
- Investment Forecasting & Tracking
- Benefits Tracking (Quantitative & Qualitative)
- Market Benchmarking
- Technology Fueled Business Opportunities
IT Operating Model Defined

An operating model defines, what IT provides, how IT provides it, from whom services are provided, and how IT is governed and measured.

**SERVICES**

The new and existing services IT sources and provides to the organization to enable business outcomes to be met.

Example:
- Billing and metering is a new service in the future state that will track billing and measure usage.

**CAPABILITIES**

The ability of an organization to deliver services to the business through streamlined capabilities.

Example:
- IT Service Charging is a new shared capability required to deliver billing and metering services.

**TECHNOLOGY**

The technologies and tools that are implemented to deliver more effective services to an organization.

Example:
- Cloud Center is a new tool that will be implemented to monitor billing and metering.

**FUNCTIONS & ORG STRUCTURE**

The functions required to effectively deliver the services, including the optimal mix of sourcing and locations.

Example:
- A new Cloud Engineering sub-function has been defined and will be responsible for deploying Cloud Center.

**TALENT**

The skills and management of staff needed to deliver services to the organization.

Example:
- Cloud billing & metering knowledge will be required to integrate and deploy Cloud Center.

**GOVERNANCE / METRICS**

The governing bodies and controls needed to architect, build and deliver the services to meet business needs.

Example:
- A defined Cloud Governance Board will oversee billing and metering KPIs & make key cloud-related decisions.

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<tr>
<th>Question</th>
<th>Answer</th>
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<tbody>
<tr>
<td>What services will be provided after the transition?</td>
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<td>Which capabilities need to be added or transformed?</td>
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<td>Which new tools need to be implemented?</td>
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<tr>
<td>What are the functions &amp; roles and how does the organization need to be structured to deliver new services?</td>
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<tr>
<td>Which new skills are required and how will they be obtained?</td>
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<td>How are decision rights impacted and how is success measured?</td>
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When you define and implement your new Operating Model, consider an agile approach.
Part 2 Cloud Adoption
Your Cloud Adoption Journey

Every business will have their own journey to the cloud, starting at different points and working at their own speed.

Most businesses start with project driven initiatives
- Utilising capabilities only available from cloud
- All new projects delivered with cloud

Laying the foundations
- Building out a public cloud CoE
- Delivering hybrid cloud

Migration
- Mass migration of on-prem systems to public cloud
- Refactoring, remediation and optimisation of systems to leverage more cloud native solutions

Reinvention
- Redefining the way in which you think about IT
- Leveraging latest cloud technologies, e.g. serverless

VALUE

time

REINVENTION

REINVENTION

VALUE

PROJECT

FOUNDATION

MIGRATION

CLOUD-NATIVE

RETIRE TECH DEBT

VALUE

TIME

MIGRATION

PROJECT

FOUNDATION

REINVENTION

CLOUD-NATIVE

RETIRE TECH DEBT
Executing a cloud migration is a lot like building a car online

Just like with car shopping, companies will each have their own reasons for considering a cloud migration...

- Speed to execute quickly and agility to execute adaptively
- Reduce financial and technical risk by decommission legacy data centers
- Financial savings year over year
- Ability to leverage AI, ML, Analytics and Automation Services
Avoiding Roadblocks

The journey to the cloud is not always easy, and there are challenges, both business and technical, that can be encountered:

- Lack of a cohesive strategy
- Trial and error migrations
- Misalignment of skills
- Lack of business participation
- Antiquated process and tools
- Inadequate security, compliance and regulatory oversight
- Traditional architecture standards
- Cost overruns
- Manual, painful discovery
Migration Lessons from the Trenches

Acknowledging the causes of failure has helped shape our approach – Lessons from the trenches

1: Un-realistic effort estimates; especially on application side, and to transform to cloud

2: Poor business case, not tying back to the operational gains of transformation

3: Insufficient business or app team stakeholder engagement

4: Lack of an industrialized approach to design and migrate, supported by automation tools where possible

5: Attempts to capture too much data up front, resulting in stale / partial information

6: Inability to break up complex environments into simple, constituent parts

60% of the total cost of a new data centers or platform can be attributed to migration of the applications onto the platform
The Need for a Migration Factory
The adoption of a highly efficient and scalable application migration process is needed to enable organizations move workloads and data to the cloud

Key Reasons for Adopting a Large Scale Migration Approach

Well Defined Operating Model
Outlining a framework to implement a robust operating model that supports mass migration of applications to cloud

Enhanced Efficiency
Set of common practices, identified tools and resources to help in the efficient migration of applications

Tool Based Automation
Identification of appropriate tools relevant to each migration path which helps enable timely execution of all migration related tasks

Cost Transparency and Alignment
Analyzing resource requirements of application groups, develop resource plan, forecast migration costs and monitor the benefits obtained from migration

Uniformity and Standardization
Applications with similar personas should be migrated using standardized approaches helping to reduce cost and complexity of execution

Team Structure & Skillset Management
Formulating the ideal organization and migration team structure to conduct large scale migrations and also list out key skills needed to enable the same
Financing Your Cloud Migration

A migration factory can help you significantly lower the breakeven ROI timeframe

**Discovery and Planning**
- Highly manual processes and inaccuracies in data collection and subjective reporting
- Unknown interdependencies between applications and assets before migration
- Ghost Assets: 28% of servers and VMs are unknown within any given data center

**Migration and Operations**
- Manually migrating a server can cost up to 10x the cost of an automated software solution
- Clients struggle maintaining business continuity during migrations. The cost of downtime can quickly add up
- Outside of Cloud, servers are under-utilized by 43%

A recent Deloitte client business case found that capabilities enabled by the cloud drive significant growth and innovation for our client’s business (NPV: 5yr, 10%):

- **$175K**
  - 6.7 Year Payback
  - $90K Recurring Savings

- **$8.7M**
  - 1.6 Year Payback
  - $4.1M Recurring Savings

**Cloud Compute Costs**
- **$346M**
  - Business Value
    - (e.g. Automation, Analytics, Acceleration to Market)
  - IT Value
    - (e.g. DevOps, API Integration, Self-Service options)

35 months to see a break-even ROI after a manual migration

10.5 months
Average migration time to achieve ROI using the tool plus onetime migration costs

80% OF COMPANIES FAIL THEIR MIGRATION JOURNEYS WHEN THEY DON’T HAVE A MIGRATION PARTNER

DID YOU KNOW?
- Deloitte works with all major cloud providers to gain financial incentives on behalf of our clients (e.g. the Migration Acceleration Program – MAP)
- The costs calculated can help **revise the landing zone decision** – if the application is more suitable for private cloud but provides higher savings on public cloud, the latter can be chosen
- Until cutover, the organization will have to incur the costs of both on-premise and cloud environments – once the cutover is complete the on-premise environments will be decommissioned and expected benefits will be realized
- Initial years might see a **spike in total expenditure** due to the additional effort involved in build out and migration activities
Expected Engagement Deliverables
Through automated discovery and migration a number of key business benefits are derived

**Complete IT blueprint**
Base decision on hard facts

**Dependency mapping**
Visualize application stacks and ensure nothing is left behind

**Server utilisation**
Enables automated right-sizing of cloud instances to reduce cost

**Cost projections**
Compare costs of current state and recommended state IT and understand impact of customisations

**API integration**
Reduce migration delivery timelines through automated provisioning

**Live migrations**
Maintain normal operations with minimal downtime and save money
Acquisition of ATADATA’s market-leading cloud management platform business extends Deloitte’s ability to help clients rapidly embrace cloud
Success Stories

Scalable

124,000 + servers migrated
143,000 + servers discovered
4.1 PB Data Migrated
70,000 + Applications Migrated
240 Migration Projects Delivered

Client Ecosystem

125+ Clients Served Across The Globe
10+ Countries with available Migration Services
How to Measure Success?

Key metrics have to be identified and measured during and after individual migration sprints to ensure that the expected benefits are attained throughout the migration.

Illustrative Metrics for Cloud Migration

<table>
<thead>
<tr>
<th>FINANCIAL METRICS</th>
<th>PERFORMANCE METRICS</th>
<th>RELIABILITY METRICS</th>
<th>SECURITY METRICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total TCO Savings of 25%</td>
<td>CPU utilization is above 70%, indicating resource optimization</td>
<td>Solution has an overall SLA of 99.95%</td>
<td>100% instances have automated monitoring</td>
</tr>
<tr>
<td>Infra Savings of around 50%</td>
<td>Unused storage footprint reduced to 5%</td>
<td>DR Failover time reduced to 2 hours</td>
<td>Data retention policy increased to 7 years</td>
</tr>
<tr>
<td>Payback to be realized in 2 years</td>
<td>Response time improved 3 times over on-premise</td>
<td>Outage duration reduced by &gt;50%</td>
<td>Security incidents reduced by 30%</td>
</tr>
<tr>
<td>Reduction of staff hours by 20%</td>
<td>Instance provisioning time reduced to minutes from days</td>
<td>Mean time between failures increased by 40%</td>
<td>All workloads run on hardened golden images</td>
</tr>
</tbody>
</table>

1. Illustrative metrics are provided for demonstration purposes only and may not reflect actual results.
How to Get Started…

Building a Cloud Adoption Framework will help to identify the areas from which you can get the biggest return, fastest payback or deliver on your business goals

It starts and ends with your outcomes

Outcomes are unique for each enterprise, but they are always directional

Improve…
Increase…

Decrease…
Reduce…
Each enterprise journey is unique

DIFFERENT LEGACIES

DIFFERENT GOALS

DIFFERENT RISKS

DIFFERENT WORKLOADS

DIFFERENT COMPLIANCE AND SECURITY NEEDS

DIFFERENT PERFORMANCE AND RESILIENCE NEEDS
The Cloud Adoption Framework helps organizations understand how cloud adoption transforms the way they work.

It leverages our experiences assisting organizations from every segment and every geography with their cloud adoption journey.
The Cloud Adoption Framework focuses on minimalizing the barriers so you can rapidly transform your business with cloud.

It helps you create and Action Plan tailored to your organization’s needs.
Questions?

Thank you!