CLOUD MIGRATION CAPABILITY
AGENDA

- PACTERA’S PoV ON WHY MIGRATE ..?
- WHY MIGRATE FROM ON-PREMISE TO CLOUD
- MIGRATION IS A KEY PRIORITY FOR CIO’S
- CUSTOMER EXPECTATION
- KEY DRIVERS CUSTOMER TALK TO US FOR MIGRATION
- TYPES OF CLOUD MIGRATION
- WHY MIGRATE NOW?
- BENEFITS WITH CLOUD
- PACT.CLOUD SUPPORTS ALL CLOUD MIGRATIONS
- PACT.CLOUD METHODOLOGY FOR MIGRATION
- ON-PREMISE TO CLOUD AND CLOUD TO CLOUD MIGRATION
- ON-PREMISE DB TO CLOUD AND CLOUD TO CLOUD MIGRATION
- ON-PREMISE APPLICATION TO CLOUD AND CLOUD TO CLOUD MIGRATION
- CLOUD MIGRATION SUCCESS STORIES
- APPENDIX
In recent years, global business has witnessed significant cloud adoption, which provides considerable value over traditional datacentres—achieving greater scalability, cost efficiency, and improved performance.

**BENEFITS**

The benefits of the cloud are universal—reduction in running costs, faster modernization capabilities, and increased security. But there's usually a specific catalyst for starting the migration discussion.

- Many organizations now want to quickly take advantage of cloud adoption by migrating their existing applications and workloads.
- Cloud migration requires careful planning and strategy. Need to determine how to Create the initial technical plans and business justification.
- Perform the migration with limited impact to the business.

"By 2021, over 75% of midsize and large organizations will have adopted a Multicloud and/or hybrid IT strategy."

Gartner Predicts
WHY MIGRATE FROM ON-PREMISE TO CLOUD

- Public cloud is exploding - $500B by 2020¹
- Most apps are on premise, but 42% will move to public cloud in 2 years²
- Modernization is the key driver - CTO/IT, EOL technologies, LOB Users/Shadow IT
- Cost reduction, On-demand capacity and IT as a strategic asset - motivators²
- Private/Hybrid cloud will be relevant

- 46% of customers prefer Cloud over any other public cloud
- Cloud is Secure, Hybrid, Scalable
- Application footprint is heterogeneous – Cloud has native support for Windows and Linux
- Great ecosystem of ISVs for tooling
- Managed services with CSP

- Migration – entry point for Cloud MSPs
- > 50% of customers will look to 3rd parties for help³
- Plan, Design, Build, Manage - immediate opportunities²
- Security and roadmap offers are critical
- Automation is key and a source of increased revenue

- Monitoring, security and compliance are top of mind
- Most start with IaaS ‘Lift & Shift’, IaaS optimization
- IaaS to PaaS, App modernization through architecting/re-platforming
- Customer size does not equal to migration complexity

¹ Public cloud is exploding - $500B by 2020
² Most apps are on premise, but 42% will move to public cloud in 2 years
³ Most start with IaaS ‘Lift & Shift’, IaaS optimization
**MIGRATION IS A KEY PRIORITY FOR CIO’S**

<table>
<thead>
<tr>
<th>Top Cloud Initiatives</th>
<th>Optimizing existing cloud use (cost savings)</th>
<th>Moving more workloads to cloud</th>
<th>Expanding public clouds we use</th>
<th>Implementing a cloud first strategy</th>
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<tbody>
<tr>
<td></td>
<td>53%</td>
<td>52%</td>
<td>42%</td>
<td>40%</td>
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<tr>
<td>Implementing CI/CD in</td>
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<td>38%</td>
<td>38%</td>
<td>30%</td>
<td>24%</td>
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<td>Expanding use of</td>
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<td>containers</td>
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53% of cloud users cite cost savings as top focus for 2019
CUSTOMER EXPECTATION

- BUSINESS HEALTH AND MANAGED SERVICE FOCUS
- CLOUD TECHNICAL EXPERTISE, IAAS, PAAS, AND SAAS EXPERIENCE
- CLOUD LIFECYCLE TOOLING
- ASSESSMENT AND DESIGN BUILD AND MIGRATION
- CLOUD OPERATIONS AND SERVICE MANAGEMENT SECURITY AND GOVERNANCE
- CLOUD SLAS, CUSTOMER SATISFACTION, AND COST OPTIMIZATION
- CONTINUAL IMPROVEMENT AND PROCESS OPTIMIZATION, TELEMETRY USAGE AND ADHERENCE
# KEY DRIVERS CUSTOMER TALK TO US FOR MIGRATION

## Software end of support
- Outdated software increases vulnerability to cybersecurity threats
- May not meet regulatory & requirements

## Contracts, licenses up for renewal
- Renewing current outsourcing contracts or on-premises licenses, reduces the ability to modernize
- Vendor locking

## Datacenter consolidation
- CAPEX to OPEX
- Enables modernization
- Allows for re-deploying skills to building modern apps (vs. Infra management)

## Protect critical business assets
- Address modern threats
- Built-in security and continuous for infra and applications infrastructure

## Business need for new capabilities
- Shadow IT – Combat vs. Enable
- Increase relevancy of IT to business units by delivering new capabilities and enabling agility
- Provide flexibility, scale, and security

### TYPES OF CLOUD MIGRATION

#### IaaS Cloud Migration
- Testing and development
- Website Hosting
- Storage, Backup, and Recovery
- Web Apps
- High-performance Computing
- Big Data Analysis

#### PaaS Cloud Migration
- Primary purpose is to make the process easier for all users

#### SaaS Cloud Migration
- Once the developers make sure that everything is working correctly, the addons and supporting components are moved on to the SaaS server.
At first glance, migration might seem like a technical decision, but its core is business related. Ultimately, it raises two fundamental questions: What’s driving business to migrate to the cloud, and why now?

### Operational efficiencies and reduced operating expenses
- Reduced hardware support
- Increased manageability
- More efficient processes
- Save an average of 20 to 30 percent on VM resource

### Decreased time to market/release
- Faster deployment of Infrastructure (IaaS) and (PaaS) platforms
- Enables business to release faster and more often.
- Focus more time and effort on rapid software

### Support for cost-effective scalability requirements.
- Enable Scalability
- High Availability

### Renewal of datacentre or hardware leasing
- Eliminating the need for costly leasing

### Renewal of licensing
- Pay-as-you-go offering to reduce cost.

### Software end of support

### Application development and modernization
- Adoption of modern services
- Integrate platform for modern development
BENEFITS WITH CLOUD

1. Cloud Hosting Benefit
- Fast and efficient deployment
- Less or no capital investment
- Reliability, scalability, sustainability & resource pooling
- Pay as you go, with no monthly commitment
- Highly automated with utility-based system
- On-demand service
- Connecting to digital China Gateway

2. Migration Scenarios
- On premise (IDC) to Multi Cloud
- Traditional virtualization platform to Multi Cloud
- Public cloud to Public Cloud
- One region of Cloud to another region of Cloud

3. Migration Benefit
- Cost savings.
- Reduction in vendor or technical complexity.
- Optimization of internal operations.
- Increasing business agility.
- Preparing for new technical capabilities.
- Scaling to meet market demands.
- Scaling to meet geographic demands.

4. Cloud Migration Tool
- Azure Migrate
- Azure site recovery
- AWS- Cloud Adoption readiness tool
- AWS server Migration services
- GCP-Migrate Compute engine
- ACMT- Alibaba cloud
- DMA/DMS/DTS/Schema conversion tool for Database
- Transfer application-GCP
PACT.CLOUD SUPPORTS ALL CLOUD MIGRATIONS

Successful, Systematic and Stable Migration Based on Methodology and Best Practices Through Years of Experience. We do have a best certified Architect and Consultant in all cloud platform.

<table>
<thead>
<tr>
<th>Description</th>
<th>Drivers</th>
<th>Technologies</th>
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<tbody>
<tr>
<td>Rehost</td>
<td>Redeploy as-is to cloud</td>
<td>IaaS</td>
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<td>Containers</td>
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<td>PaaS</td>
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<td>Serverless Microservices</td>
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<tr>
<td>Refactor</td>
<td>Faster, shorter, updates</td>
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<tr>
<td></td>
<td>Code portability</td>
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<tr>
<td></td>
<td>Greater cloud efficiency (resources, speed, cost)</td>
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<tr>
<td>Rearchitect</td>
<td>Materially alter/decompose application to services</td>
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<td></td>
<td>App scale and agility</td>
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<td></td>
<td>Easier adoption of new cloud capabilities</td>
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<tr>
<td></td>
<td>Mix technology stacks</td>
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<tr>
<td>Rebuild</td>
<td>New code written with cloud native approach</td>
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<td></td>
<td>Accelerate innovation</td>
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<td></td>
<td>Build apps faster</td>
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<td></td>
<td>Reduce operational cost</td>
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PACT.CLOUD METHODOLOGY FOR MIGRATION

Pre-Migration

Prepare business environment
- Build a business justification for cloud migration
- Build a plan for digital estate
- Organizational readiness

Plan migration strategy
- Applications and infrastructure migration and modernization
- Data estate migration and modernization

Prepare technical environment
- Cloud Fundamentals
- Configure the network for virtual machines
- Architect great solutions in Cloud
- Designing Migrations for Cloud

During Migration

Understanding Clouds capabilities
- Introduction to virtual/EC2/Compute Engine and ECS machines
- Create a Windows/Linux virtual machine
- Work with relational data in Multicloud

Understanding migration
- Assessing and Planning for Migration
- Rehosting Workloads to Multicloud
- Migrating Physical and Virtual Servers to Multicloud
- Migrate on-premises machines to Cloud
- Import and Export Data to any cloud

Post Migration

- Design for security in Cloud
- Apply and monitor infrastructure standards with selected Cloud Policy
- Predict costs and optimise spending for cloud
- Monitoring
- Backing up Virtual Machines and DR
ON-PREMISE TO CLOUD AND CLOUD TO CLOUD MIGRATION

- Azure Migrate: Assessment and Migration
- Azure site recovery
- Cloud Adoption Readiness Tool (CART)
- TSO Logic
- Cloud Endure Migration
- AWS Server Migration Service
- VMware Cloud on AWS
- AWS Migration Hub
- Asset Tracking
- Migrate Compute Engine
- Cloud Foundation Toolkit
- Migrate of Anthos
- Go2aliyun_client (Any2Virtual tool)
- OSS tool

Zero app data loss | Near-zero downtime | Test migration to minimize risk | Free usage during migration
ON-PREMISE DB TO CLOUD AND CLOUD TO CLOUD MIGRATION

Zero app data loss | Near-zero downtime | Test migration to minimize risk | Free usage during migration
## ON-PREMISE APPLICATION TO CLOUD AND CLOUD TO CLOUD MIGRATION

<table>
<thead>
<tr>
<th>ON-PREMISES</th>
<th>NATIVE APP MIGRATION TOOLS</th>
<th>CLOUD NAME</th>
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<tbody>
<tr>
<td>On-premises</td>
<td>Azure</td>
<td>Azure</td>
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<tr>
<td></td>
<td>• Web App Migration Assistant</td>
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<tr>
<td></td>
<td>Amazon Web Services™</td>
<td>Amazon</td>
</tr>
</tbody>
</table>
|             | • AWS Application Discovery Services
|             | • AWS Migration Hub
|             | • Cloud Endure Migration   |            |
|             | Google Cloud               | Google     |
|             | • Asset Tracking
|             | • Transfer Appliance       |            |
|             | Alibaba Cloud              | Alibaba    |
|             | • ACMT tool                |            |

Zero app data loss | Near-zero downtime | Test migration to minimize risk | Free usage during migration

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WHY CHOOSE PACT.CLOUD PLATFORM?

- **Freedom of choice**: Multi-cloud, multi-supplier, multi-technology options
- **Cost reduction**: Cost savings of up to 77% have been achieved through optimization
- **Innovation**: Use the hybrid cloud to accelerate innovation and time to market
- **Transparency**: Get real-time visibility on consumption – no surprises!
- **Fast reaction times**: Deploy at the click of a button and scale on demand
- **Simplification**: Single-pane-of-glass management & Governance
- **Flexibility**: Adopt new cloud capabilities and scale up on the fly

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CLOUD MIGRATION SUCCESS STORIES
KEY CUSTOMER BENEFITS

- Deployment was a big success with WeChat now available on Azure
- Reduced operational costs
- UPS is completely focusing on its core business without worrying about managing WeChat Infrastructure
- WeChat is now enabled by a robust Disaster Recovery System which is a core component of the Pactera proposed solution architecture
- The platform supports scalability to accommodate future business needs

LESSONS LEARNT

- To avoid application vulnerability issues post deployment, application vulnerability scan should be conducted much before the actual deployment, and issues found if any to be fixed.
- Post deployment there will be alerts in Azure security centre, these needed to fixed before Go-Live
- Planning the subnet range and managing the IP addresses accurately.
PAYTM - PAYTM FIRST GAMES MIGRATION TO ALIBABA CLOUD
Paytm is an Indian e-commerce payment system and financial technology company, based out of Noida, India. Paytm had its own online gaming platform called Paytm first games hosted on AWS. Paytm wanted to migrate its gaming platform to Alibaba Cloud and has partnered with Pactera on this significant initiative.

- The scope of the project included,
- Migration of Paytm First Games from AWS India environment to Alibaba Cloud India with scalable, reliable and equivalent architecture
- Paytm First Games has around 50 games, some are developed in house by Paytm and rest are from third party.
- Database Migration

- We started with a system survey to understand and document the existing architecture and resource list in AWS.
- Did a service mapping of AWS cloud resources with Alibaba Cloud Resources
- Pactera deployed the experienced migration engineers who had a strong knowledge of both AWS and Alibaba Cloud platforms
- Successfully executed the Migration using Lift and Shift Approach
- We followed a step by step approach for migrating data and application layers to ensure the same set-up is replicated in Alibaba Cloud
- Built VPC network in Alibaba to start resource creation
- Created Security groups in Alibaba
- Created Internet Gateway (Check the systems connectivity between Alibaba Cloud and AWS
- Migrated instances, data base, RADIUS using v2v tool
- Migrated users from AWS instance to Alibaba instance along with Jump host
- Migration and Validation of XEngage application
- Testing and Validation of the Paytm First Games post migration to Alibaba cloud
1. User are sending request for access the Paytm game app
2. Route 53 or Domain is validating request & pass to ELB
3. After the Migration SLB is load lancing the traffic
4. Created VPC tunnel peering to establish connection between both environment
5. Move the data from S3 bucket to OSS
POST MIGRATION CLOUD MANAGEMENT BENEFITS

- Provisioning, Automation And Orchestration
- Service Request Management
- Governance And Policy
- Monitoring And Metering
- Multicloud Brokering
- Cost Transparency And Optimization
- Capacity And Resource Optimization
- Cloud Migration And DR
- Service Level Management
- Security And Identity
- Continuous Configuration Automation

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