How to succeed with data centre migration
Cloudreach - who are we?

From nowhere to everywhere
Cloudreach was founded in 2009

Our people are OUR people

Our line-of-business systems are in the cloud

Extensive global reach

Walking the talk of cloud computing

On the shoulders of giants

Huge depth of experience

Born in the cloud

Carefully hired and trained with full access to our global teams

We operate across 7 countries, and communicate in 30+ languages

We partner with the leading Cloud Providers such as AWS

Medium & large businesses / All sectors / Multiple countries
The Figures

We have 200+ customers
Each one with unique needs

Explosive growth in an explosive market
Predicted turnover FY16: $100M

170+ AWS Certifications
Including a dedicated 24/7 Ops team which is ISO 27001 certified
Our Experiences and Successes

Just a few clients out of a long list of large scale AWS cloud adoptions and migrations

- Liverpool Football Club
- Randstad
- Time Inc.
- Delaware North
- Kempinski
- BELRON

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Drivers to Migrate DC to AWS

“Get back into the driver seat”
Once DC’s had been prestigious…
Executives were proud and used the data center to show that they are leading edge
...today the image has changed
Data Centers are seen as costly, necessary toy of IT with limited business value and support

Drivers to Migrate DC

➔ Business model under jeopardy
➔ Focus on profit not innovation and service
➔ Consolidation customer portfolio
➔ Try to take advantage of cloud success

Business Requirements
➔ Variability of costs
➔ Demanding, unpredictable digital and analytical innovations
➔ Invest into change and innovate business instead of RtB
➔ Speed to market

Hosting Providers

Software Providers
➔ Move from licensing to subscription model
➔ SaaS and cloud only
➔ On-premise implementation not supported anymore
Not if. When

Migrating your data centers is inevitable!

Don’t get stuck!
Challenges

“Nothing worth having comes easy”
Cloud is different

#1: Enables Continuous Deployment

#2: Pay as you Go

#3: Disposable Infrastructure

#4: Agility & Speed

#5: Repeatability

#6: Self Service
Cloud is different

#1: Requires new approach

#2: New ways of accounting and financially operating IT

#3: Repeatable deployments as a process

#4: Requires (new) coding and testing skills

#5: Automation, orchestration knowledge

#6: New tools to deliver and secure self service
It’s a transformation - not only a migration.
Enterprise Migration Challenges

- Knowledge and Training
- Migration Inexperienced
- Priority
- Attempting too much at once
- Fear of the unknown

How to succeed with DC migration
Lessons learned

“10 Things to make your migration a success”
1. Identify “real” drivers early

- Affects design decisions
- Can have significant impact on effort required

Cost?, Availability?, Scalability?
2. Know your estate

- Conduct application assessments
  - Inventory CMDB
  - Collect technical stats & utilisation (CPU, RAM,..)
  - Discover hidden dependencies
- Use automated tooling to validate
  - Inventory CMDB
  - Collect technical stats & utilisation (CPU, RAM,..)
  - Discover hidden dependencies

- Collect Business KPI’s
  - Performance
  - User satisfaction (NPS)
  - Time to deploy, provision
### 3. Define Success Criteria

<table>
<thead>
<tr>
<th>Lessons learned</th>
<th>How to succeed with DC migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>? $x$ year TCO cost reduction</td>
<td>? % of applications running in cloud</td>
</tr>
<tr>
<td>? Measured increase in service availability</td>
<td>? % of servers running in cloud</td>
</tr>
<tr>
<td>? % reduction in “administrative” IT staff</td>
<td>? % of services running on legacy operating systems or hardware</td>
</tr>
<tr>
<td>? Enable global expansion of customer base</td>
<td>? Shorter time to provision infrastructure</td>
</tr>
<tr>
<td>? Enable corporate restructuring / divestiture</td>
<td>? Increased application release frequency</td>
</tr>
<tr>
<td>? % of staff in core business vs. IT</td>
<td>? Application simplification using PaaS</td>
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4. Select Approach techniques

6R’s
1. Rehost
2. Replatform
3. Repurchase
4. Refactor
5. Retire
6. Retain
5. Prioritize Migration candidates

● Criteria:
  ○ Criticality
  ○ Risk
  ○ Dependencies
  ○ Value
  ○ Footprint
  ○ Complexity

● Start easy - “low hanging fruits” go first
6. Plan Ahead

Lessons learned

How to succeed with DC migration

- Self Service
- Customised Services, Architecture
- Service Catalog, Standards & Templates
- Orchestration

DevOps
Provisioning & Orchestration

CorOps
Break / fix & Patching

Financial Governance

Incident, Problem, Change, Capacity and Event management
Proactive monitoring and management
Maintenance Operations
Service Quality Reviews
Extended Support

FinOps
Optimisation & Operation

SecOps
Governance & Compliance

Governance & Compliance

DevOps
Provisioning & Orchestration

FinOps
Optimisation & Operation

SecOps
Governance & Compliance

CorOps
Break / fix & Patching

Breaking / fixing and patching

CorOps
Incident, Problem, Change, Capacity and Event management
Proactive monitoring and management
Maintenance Operations
Service Quality Reviews
Extended Support

Financial Governance
Cross-group Consolidated Billing Analysis
Optimisation Analysis
Optimisation Implementation

Self Service
Customised Services, Architecture
Service Catalog, Standards & Templates
Orchestration
7. Define Roles & Responsibilities

- Application assessment
- Overall architecture
- High level design documentation
- Low level design documentation
- Orchestration (if applicable)
- Infrastructure build
- WAN, Cloud networking
- Infrastructure testing
- Project and program management
- Policies and governance
- Monitoring and management onboarding
- Support processes and enablement
- Application install and testing
- Data migration
- Handover documentation
- Service transition: Go live
8. Empower and engage staff

- Promote AWS Awareness within the business - not only IT
- Ensure team availability and consistency throughout the project
- Up-skill your team as part of the journey
  - Map skills and trainings to Job roles
  - Establish AWS nucleus
  - Reward with AWS trainings and certificate
9. Keep the End-Game in Mind

- **Focus is key during a migration**
  - Visualise progress and report often
  - Keep up Velocity - Consider using Agile Approach

- **Migrate first, optimise later**
  - Lift’n’Shift - Don’t do it all in the first step
10. Choose experienced Partner

- Shorten learning curve
- AWS Best practices
- Reduce risk
- Save cost

Source: AWS/Slideshare
Our Approach
Data Center Migration - Experiences & Methodology
AWS Migration Methodology
AWS’s proven methodology = great starting point

- **Strategy**
  - Initiate
  - Discover
  - Design
  - Migrate
  - Integrate
  - Validate
- **Plan**
  - Design
  - Migrate
  - Integrate
- **Build (Move)**
  - Migrate
  - Integrate
- **Run**
  - Operate
  - Optimize

**Activities**
- Business Vision & Strategy Review
- Cloud TCO Assessment
- Cloud COE Establishment
- AWS Education & Awareness
- Security, Risk, Compliance Awareness
- App Discovery & Portfolio Assessment
- App Cloud Fit Assessment
- App Analysis & Prioritization Model
- TCO Detail Review
- Evaluate Security & Data Classification
- Architect Future State Infrastructure
- AWS Well Architected Review
- Determine App Patterns & Migration Tooling
- Build Migration Execution Plan
- Conduct Migration Pilot – Test Run
- Deploy core infra services in Target Env
- Prep On-Prem Infra Migration Readiness
- Move Apps/ Servers/ Data
- Infrastructure Integration
- Application Integration
- Operational Integration
- Conduct Functional Validation
- Evaluate Performance Baseline
- Business Acceptance
- Support Transition
- Service Management
- Plan Cut over & Legacy Decommission
- Security & Governance Review
- Post-Migration Evaluation
- AWS Trusted Advisor
- DevOps Assessment
- Architect Continuous Integration and Continuous Deployment

**Work Packages**
- Cloud Program Management
- App Portfolio Assessment
- Valuee Analysis/ TCO Assessment
- Cloud Migration Execution Plan
- Architecture Jumpstart
- Security Playbook

**AWS Service Offerings**
- Migration Implementation
- Application Portfolio Optimization
- Infrastructure Portfolio Optimization
Cloudreach Project Structure
Adopted & modified AWS framework
Migration Execution

“Industrializing” the migration process is key to achieve quality and efficiency
Velocity = Preparation + Agility
Maintain momentum, reduce risk
Case Study: Delaware North

High Velocity Migration

Migrated 90+ Apps in 4 Months

- Waterfall+Agile approach
- CloudEndure to replicate P2C
- Cloudreach teams in US & EU

- Finished in time and 10% under budget

Real-time replication
From ANY infrastructure
To any supported Private/Public Cloud
Summary

“A journey of 10,000 miles starts with a first step”
Summary

- Moving to AWS is a transformation, not only a migration.
- AWS needs different skills, a fresh approach and cloud ready tools.
- Take all perspectives into account - People, Process, Technology,..
- Reduce your time in the bubble - Benefit from experienced partners to make your project a success

When will you take your first step?
Questions & Answers

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Thank You