New Relic

Migrating to the cloud:

Declare victory by making your migration decisions with confidence.

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The Politics of Migration

High Expectations

Blame Game Intensity Rises

The problem must be the cloud's fault

Pressure to declare victory in the migration

Promised Performance gains?

Cost controls?

Optimize costs?

Why is it taking so long?

Show me my applications!

Success in Migration Takes…

Visibility into your applications and infrastructure

- Instrument your application early in the process
- Find problems as quickly as possible
- Give yourself a clear understanding of what is going on

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Doing migrations right…

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Why Measurement Matters

The earlier you instrument, the faster you go

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Doing Migrations Right…

Plan

Understand your migration strategy upfront

Migrate

Methodical execution with validation and data

Run

Understand impact of the cloud on your app performance

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Plan

Application Baseline

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Baseline

What metrics are important?

Develop KPI model.

Gather metrics & document current state (baseline).

Compare to baseline during migration.

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KPI – Key Performance Indicators

Technical

- Give understanding on how your services function internally
- Understand infrastructure needs for your application

User Experiential

- Are your users seeing valid/reasonable content?
- Is their performance acceptable?
- Are they getting errors or encountering problems?

Business

- Are you converting customers?
- What's your conversion rate?
- Is your revenue inline with your costs?
- Are you accomplishing what you want to accomplish?

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Plan

Dependencies and Inventory

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Instrument All Parts of the Application and Infrastructure

Help you understand:

- How app components work together
- What depends on what?
- What are performance expectations of each component?

Did you miss something?

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Component prioritization and migration order

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Prioritize Migration Order

Two Tasks:

1. What components are in scope?
2. What is the order of migration for these components?

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What Should You Migrate First? Next?

Corporate Adoption

Mandate

Committed

Allow Value-Added

Allow SaaS

Allow Servers

Secure

Experiment

Critical Services

Step #3

Service Re-Writes

Step #4

New Services

Step #1

Non-Critical/ Internal Tools

Step #2

First Steps

Experiment

Servers

Managed Components

Unique Components

Committed

Application Adoption

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Issues and Roadblocks

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Identify Issues & Roadblocks

Early instrumentation allows you to uncover issues & roadblocks easier and quicker.

Is Your App Functioning?

Is your application running as expected on the new infrastructure?

Is It Running Efficiently?

Is it using the resources you expect it to use?

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Validate Cloud Improvements

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Validate Cloud Improvements

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Acceptance Testing

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Acceptance Testing

Prove success or…

- Baseline again
- Compare against on-premise

- Repeat until done…

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Plan Migrate Run

Post Migration – Ongoing Monitoring is Essential

You’ve migrated. Now what?

Infrastructure is now out of your control

Monitor front end, applications, instances, & cloud services

Understand application impact

Dynamic technologies
Serverless
Distributed architecture

Some cloud specific characteristics

Multi-region redundancy
Cloud spend optimization
Routing and Security

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Doing Migrations Right…

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Monitor your application and infrastructure

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Visibility helps you innovate

- Speed to Innovate
- Flexibility to Innovate

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Visibility gives you confidence

- Confidence to migrate
- Confidence to scale

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Visibility Gives You Confidence in the Cloud

Previous

Instrumented Cloud World

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Visibility Gives Innovation the Speed You Require

The earlier you instrument, the faster you go

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New Relic can help wherever you are in your cloud journey

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New Relic: Customer Use Cases

Marcus Voss / Product Owner My Porsche Cloud & Tools, Porsche AG

Christian Buggedei / SVP Product / TVSmiles GmbH

Garrett Vargas / CTO / CarRentals

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Let’s get started!

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TVSMILES

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in numbers

900+

Campaigns in 2018

1,000+

Happy B2B Clients

1,000,000+

App Downloads

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what does the product team do all day?

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create new stuff

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write efficient code

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~~write efficient code~~

create more new stuff

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New Relic.

but, no problem

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Autoscaler & Monitoring keep service up

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growth + stable costs =
everything fine

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right?

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right…

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wait, what?

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zoom in

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room for improvement (lots of it)

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response time more than halved

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Latency down by factor 10

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CPU load down >60%

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happy end users

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AWS costs down by 70%

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What did we use most?

New Relic APM Key Transactions

New Relic APM Response Times

New Relic Browser for 3rd Party debugging

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Conclusion

Three things to do:

- **Analyze**
- **Refactor**
- **Optimize**

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New Relic: Customer Use Cases

Marcus Voss, Product Owner My Porsche Cloud & Tools, Porsche AG

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Customer Use Case - CarRentals

Monolithic Application → Microservice Architecture

18
AWS Microservices

20%
Conversion Lift in Germany

900 ms
U.S. Search improvement

How We Used New Relic to Succeed

First to Know

- APM Coverage
- Synthetics
- Timeseries trends

Quick To Fix

- Advanced Error Reporting
- Deployment tracking for dependent services

Always Improving

- Insights
- Utilization to manage spend
- Scales with YoY growth

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The Earlier You Instrument, the Faster You Go

Move faster with confidence

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New Relic

Thank you

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