



Data Silos During Digital Transformation

How to Prevent and Overcome Them

Customer Intelligence

Existing Product Suite 2005 - Current

1. Database Marketing
2. Inbound & Outbound Channels
3. Multi-campaign optimization
4. Release Cycle: 1-2 years
5. On-premise deployment model
6. Single tenancy model

Digital SaaS Offering 2014 - Current

1. Digital Marketing
2. Online Channels
3. A/B & Segment Optimization
4. Release Cycle: 1 month
5. Cloud deployment model
6. Multiple tenancy model

SAS Institute

Background

- Founded: July 1, 1976
- Headquarters: Cary, NC
- Employs: 14,000+
- Revenue: \$3.2B+
- Focus Areas:
 - Advanced Analytics
 - Data Management
 - Business Intelligence



Key Topics

Automation

Performance & Monitoring

Collaboration



Automation Transformation

November 2014 – February 2018

Automation Evolution

Date	Status	Deployment Environments
November 2014	No Automation	2 Development
June 2015	Provisioning & Deployment	3 Development, 1 Production
February 2016	Layered Provisioning	30 Development, 4 Production
February 2017	Microservices	45 Development, 12 Production
February 2018	Version Upgrade Orchestration	110 Development, 54 Production

Automation

Key Lessons

- Minimize “Pillars of Permanence”
- Technology Responsibilities
- Universal Versus Custom Configuration



Performance Monitoring

Performance Versus Monitoring

What they provide

Performance

- Deep understanding
- Unit and case analysis
- Thresholds & boundaries

Monitoring

- Measuring to specified metrics
- Alarms for significant events
- Historical and current status

What We Have Done

Performance

- Custom agent activation routine
- Dedicated environment

Monitoring

- Implement monitoring elasticity
- Automated alert definitions

Problems Encountered

1. RCA Determination, first failure data capture
2. Unrelated event impact, problem recreation
3. Evolving system profiles
4. Agent activations

Where We Are Going

Performance

- Continuous performance measurement in pipeline
- Automatic deployment of agents

Monitoring

- Identify targeted scenarios
- Automate reactions via rules
- Anomaly detection drives alerts



Collaboration Transformation

Collaboration



Collaboration

Wins & Futures

Easy Wins

- Shared AWS Console Access
- Slack for Environmental Support
- Dynatrace for easy problem triage
- Reporting & tracking key metrics

In-Process

- Streamlined ticket via ServiceNow
- Status page for transparency
- Dynatrace covering entire pipeline
- Unified dashboarding



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