Marketing Automation

Cloud Migration

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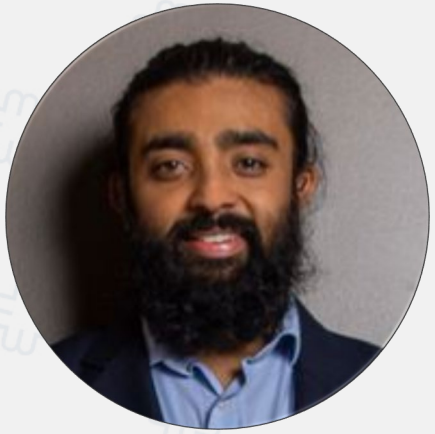
Today’s Speakers



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Digital transformation starts with Munvo, a certified partner of Adobe®, Salesforce®, SAS®, and HCL® (Unica).

We maximize your MarTech investment.

Our Practices:

- Adobe
- Unica
- Salesforce
- SAS

Our Products:

- **SMS Gateway** (Data Decision & Delivery)
- **CampaignQA** (Data Quality)
- **Rewind for Adobe Campaign** (Config Migration)
- **Munvo AI** (Data Processing)

100+
Consultants and Developers

120+
Enterprise Customers

300+
Marketing Solutions Projects

15+
Years of Experience

The Breakdown

- Going to the Cloud
- Cloud vs. SaaS
- Key Considerations
- Best Practices
- Shared Benefits
- Planning for Migration
- Project Size & Length
- Implementation Variation
- Lessons Learned

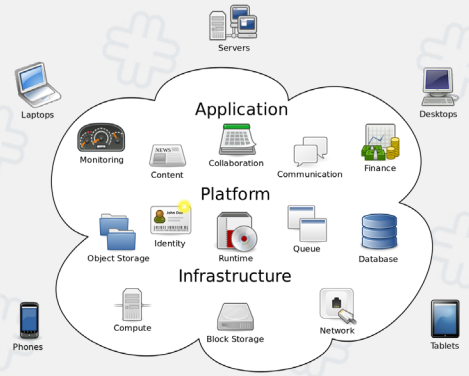
Going to the Cloud

Cloud Computing:

the on-demand availability of computer system resources, where the underlying hardware is abstracted.

In other words,

it allows the software running on the “cloud computer” to execute without awareness of the hardware (much like Java byte code software running on a Java Virtual Machine)

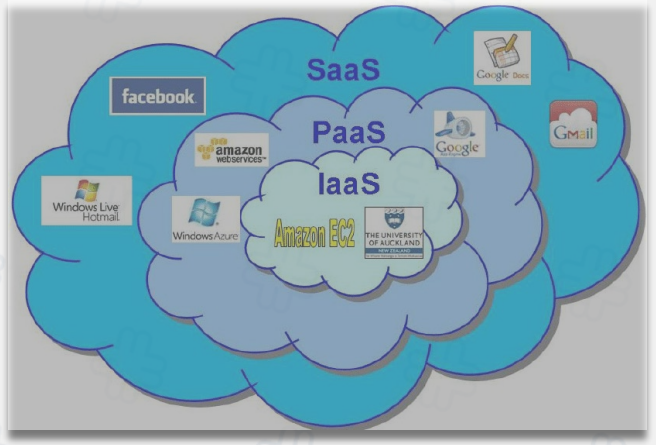


Cloud computing

Benefits:

- Executes without an overt awareness of the hardware
- Elastic / scalable services (mutable parameters)
- Common general services and operational processes can be established

Cloud vs. SaaS



Cloud Defined:

Cloud computing is the on-demand availability of computer system resources; a computer where the underlying hardware is abstracted.

SaaS Defined:

The term "**software as a service**" (SaaS) is a software licensing and delivery model where software is licensed on a subscription basis and is centrally hosted.

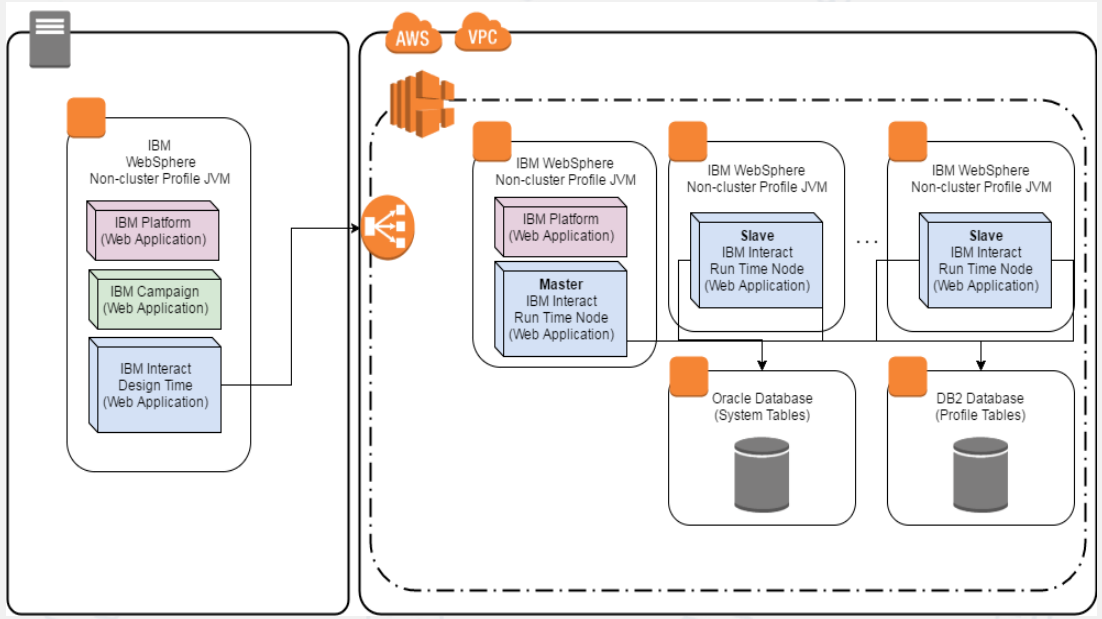
- SaaS software is typically hosted on the cloud (software running on a cloud server)

Key Considerations: Why Move to the Cloud?

- **The cost of ownership** managing on-premise servers is too high
  - Managing on-premise servers includes hardware and software maintenance costs
  - As resource demand increases, future hardware upgrades will be expensive fixed costs with variable deployment and operational costs
- **Redundant applications and services** performing similar operations
  - Many applications require an audit logging service, monitoring service, and message delivery service, whereas cloud services consolidate shared services
- **Native integration** with cutting-edge ML libraries
  - Cloud technology, such as AWS and Azure, have integration already built with powerful, open source ML libraries, such as TensorFlow.

Common Architecture Considerations

- **Adobe, HCL (formerly IBM Unica), SAS, Salesforce**
  - Share common design patterns which are matching existing mature business problems:
    - Marketing Operations
      Maturity: Medium
    - Campaign Management
      Maturity: High
    - Contact Management
      Maturity: Low/Medium
    - Contact Optimization
      Maturity: Low
    - Contact Delivery (Batch)
      Maturity: Low/Medium
    - Contact Delivery (Real-time)
      Maturity: Low
    - Contact QA
      Maturity: Low (channel-dependent)



Remember these Best Practices

1. **Design system for failure**
   - Assume systems will fail; always design implement and deploy for automated recovery from failure

2. **Decouple system components**
   - The more loosely coupled the components of the system, the bigger and better it will scale

3. **Implement elasticity**
   - Implementing elasticity can facilitate different demands, i.e. Proactive Cyclic Scaling, Proactive Event-based Scaling, Demand-based Auto-scaling

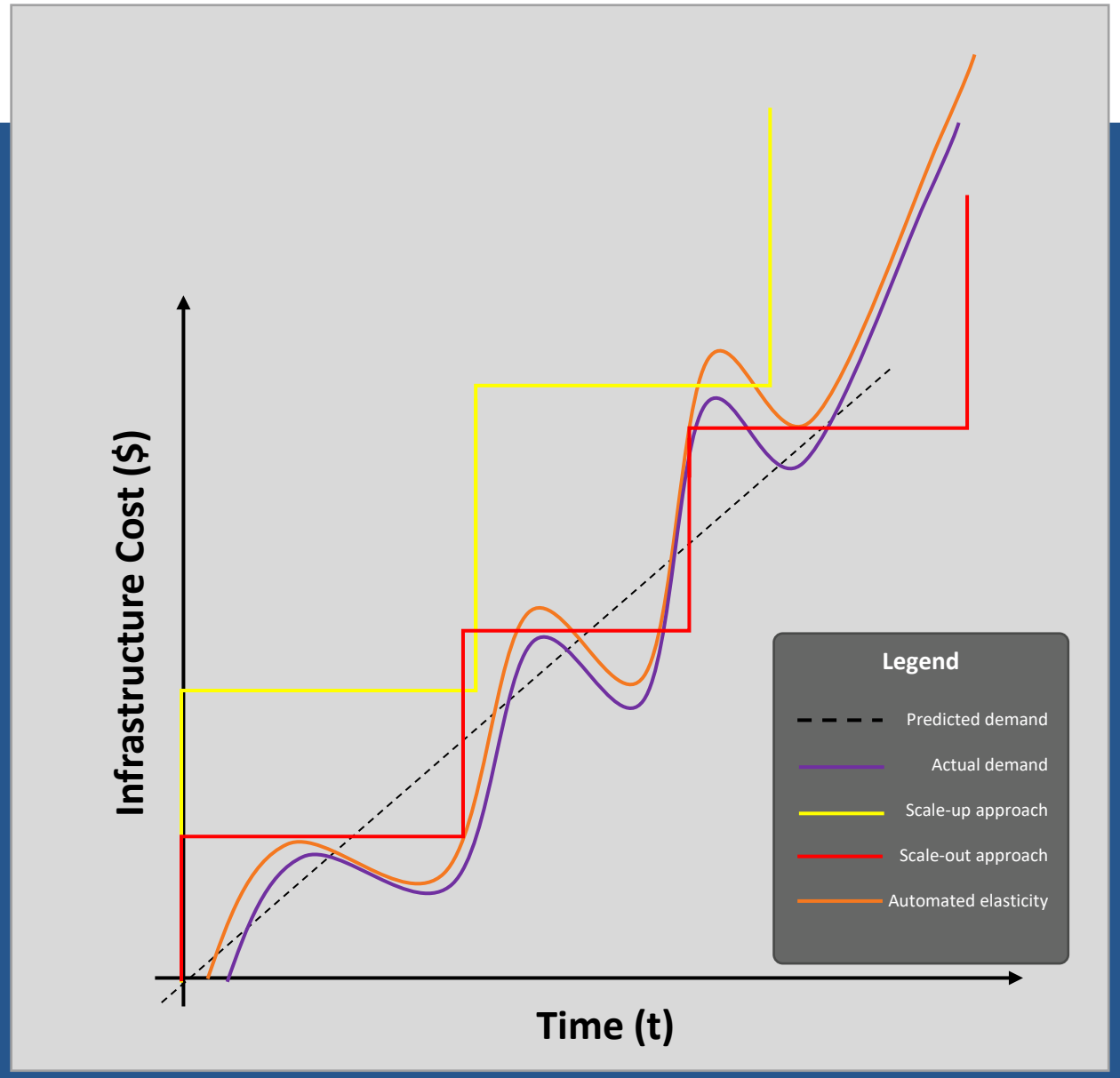
4. **Dynamic data vs. static data**
   - Keep dynamic data closer to compute elements reducing latency. Keep static data closer to the requester, i.e. using content delivery services with caching to provide faster access to popular objects.

5. **Data security**
   - Protect data in transit with TLS /SSL and Amazon Virtual Private Cloud
   - Protect data at rest to take advantage of OS-level file encryption
   - Secure application using Amazon security groups to manage open protocols / ports on Amazon EC2 firewall

- **Impact on Infrastructure Cost Planning**
  - Scalability – how easily can we expand the system resources
  - Elasticity – how easily can we modify the size of the group (grow or shrink depending on demands)

  Key Points:

  - Huge capital expenditure – scale-up approach
  - Traditional scale-out approach does not adequately meet the predicted demand
  - Automated Elasticity attempts to follow demand requirements



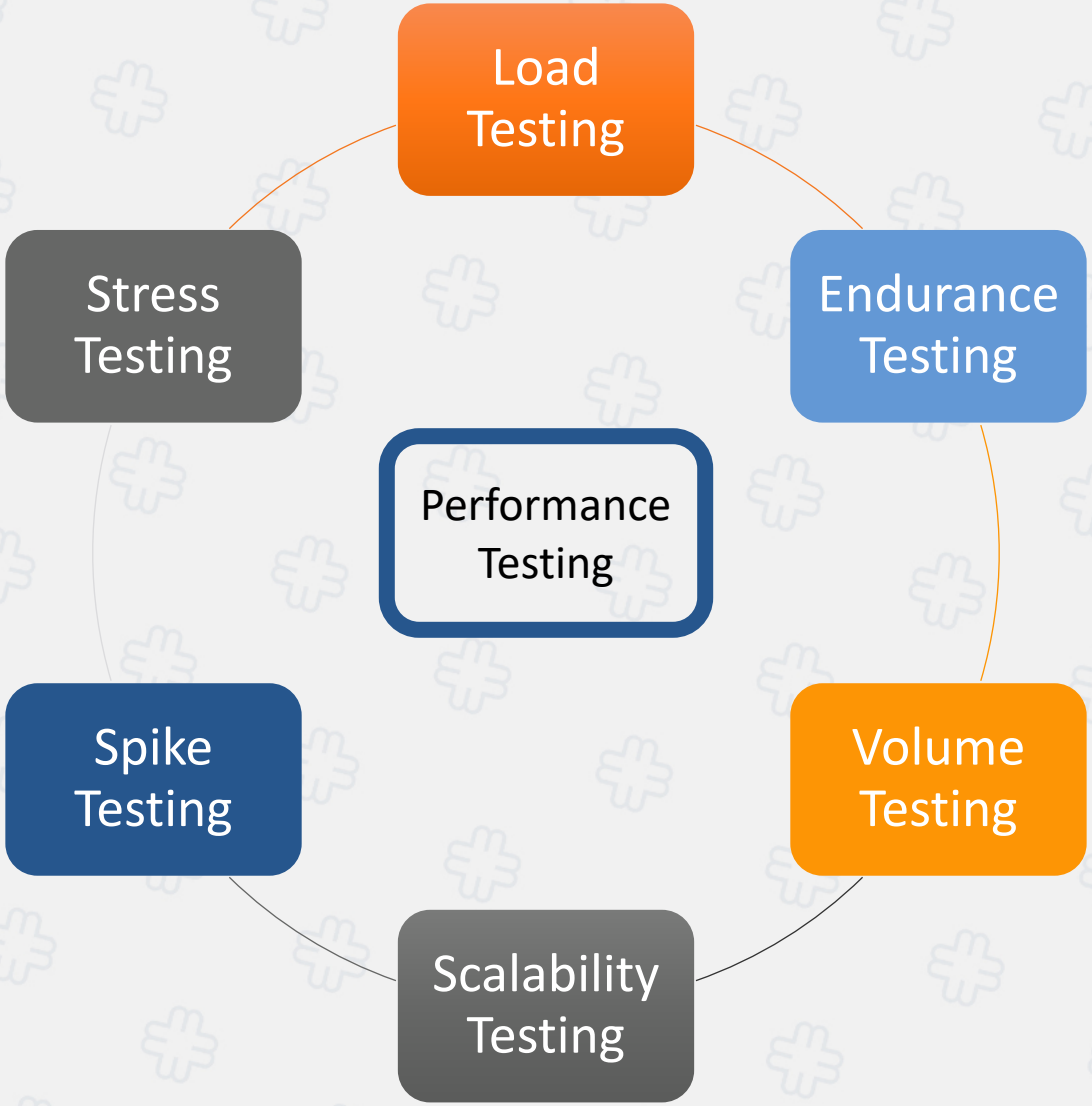
Remember these Best Practices

6. **E2E Integration Testing**
   - Testing each node for valid input and output within system network
   - Planning test capture methods with each service/system
   - Orchestrating execution of test plan requires frequent communication

7. **Security Vulnerability Testing**
   - Perform tests to validate the system cannot be compromised by Cross-site scripting, SQL Injection, Command Injection, Path Traversal and insecure server configuration

8. **Performance Load Testing**
   - Planned execution of test loads to establish system limits and failure points
   - Gain understanding of services reaching resource contention leading to possible deadlocks

9. **QA Testing**
   - Validating the correct message is being delivered to the appropriate customers
   - Validating all communication exclusion rules have been adequately applied to outgoing data


Load Testing
Endurance Testing
Volume Testing
Scalability Testing
Spike Testing
Stress Testing
Performance Testing

Product-agnostic Shared Benefits on Cloud

Enterprise MA Products can:

- **Leverage** cloud provider global infrastructure & bundled cloud services
- **Improve** system performance using abstracted cloud infrastructure
- **Generalize** cloud management services across multiple applications to **decrease** operational complexity
- Allow for dynamic management to **save** costs through configuration optimization
- **Reduce** overall deployment complexity

Migration Planning

Discovery Sessions can be planned around:

Campaign Management module
- Contact History
- Detailed Contact History
- Response History

Interaction (Real-time) module
- Design Time Server, Run Time Server(s)
- Contact History & ETL
- Interaction Channel Integration
- Determining estimated SLAs

Common Important Migration Components
- File systems for Web application servers, web servers, proxy servers and RDBMS database servers
- System Tables, History Tables (Contact History, Response History)

Considerations
- Geographic location of data sources, type of data store and method of synchronization required to align data integrity of disparate data sources.
- In cases where cloud technology will not match existing system, data format testing must be planned for (i.e. cross-database migration)

Project Size & Length

Munvo has proactively taken on the role of:

- Technical Advisor
- Business Architect
- Implementation Solutions Consultant
- Project Manager
- Educator

in various enterprise projects related to migration

** Project duration can vary based on system complexity and resource availability.*

Implementation Variation

Can **Enterprise Marketing Automation** software be inherited into the system design?

- Some large companies own Adobe, HCL (formerly IBM), and SAS, meaning that ownership of marketing functions is **spread across products**.
- i.e. One product does scoring, a second product does segmentation, another product does contact-offer assignment & contact history logging, etc.
- System availability requirements can rapidly **increase system complexity** (such as high-availability node systems, or fail-over switches with required SLAs)

Lessons Learned

- E2E Integration Testing is generally **underestimated**
  - The iterations required for success depends on the ability of the team to discover issues fast enough
  - Add a contingency time buffer for E2E Integration
- Success relies on **teamwork** and **communication**
  - Migration to the cloud is more about educating people and inspiring teams with solutions around cloud technology.
- Demonstrate **incremental change**
  - Deploy features with use cases
  - Minimize "Big Bang" of new features that all integrate but aren't adequately tested
  - When introducing complex functionalities, break it down into simple steps over a longer duration (more valuable)
  - Complex problems are better to tackle with a divide-and-conquer approach

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Questions?

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Thank You!

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