Cloud Customer Architecture for
Big Data & Analytics v2.0

http://www.cloud-council.org/deliverables/cloud-customer-architecture-for-big-data-and-analytics.htm

Webinar August 8, 2017
## Speakers

<table>
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<tr>
<th>Name</th>
<th>Position and Details</th>
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| Tracie Berardi | Program Manager  
Cloud Standards Customer Council  
tracie@omg.org  @Cloud_Council                                                                |
| Heather Kreger | CTO International Standards  
IBM US SC38 mirror committee ANSI (Editor SC38 SOA RA)                                                                                          |
| Christine Ouyang | Distinguished Engineer  
IBM Hybrid Cloud                                                                                                                                          |
The Cloud Standards Customer Council

THE Customer’s Voice for Cloud Standards!

- Provide customer-led guidance to multiple cloud standards-defining bodies
- Establishing criteria for open standards based cloud computing

2017 Deliverables
- BDA Ref. Architecture, V2
- Hybrid Cloud Considerations for BDA
- Hybrid Integration Ref. Architecture
- API Management Ref. Architecture
- Security for Cloud Services Ref. Architecture
- Data Residency discussion paper
- Blockchain Ref. Architecture
- And more!

2015 Deliverables
- Web App Hosting Ref. Architecture
- Mobile Ref. Architecture
- Big Data & Analytics Ref. Architecture
- Security for Cloud Computing, V2
- Practical Guide to Cloud SLAs, V2
- Practical Guide to PaaS

2013/2014 Deliverables
- Convergence of Social, Mobile, Cloud
- Analysis of Public Cloud SLAs
- Cloud Security Standards
- Migrating Apps to Public Cloud Services
- Social Business in the Cloud
- Deploying Big Data in the Cloud
- Practical Guide to Cloud Computing, V2
- Migrating Apps: Performance Rqmnnts
- Cloud Interoperability/Portability

675+ Organizations participating

http://cloud-council.org
This talk introduces v2 of Cloud Customer Architecture for Big Data and Analytics

- What are Cloud Solution Architectures?
- Latest trends in Big Data Analytics Cloud Architecture
- Big Data Analytics Cloud Architecture
- CSCC’s Cloud Reference Architecture series is growing!
Cloud Customer Reference Architectures are...
• straightforward description of elements needed to implement particular application solutions using cloud infrastructure, cloud platforms, cloud software, and cloud services
• deployment neutral (public, private, hybrid) & implementable via IaaS, PaaS, SaaS
• general purpose reusable architectures as well as industry specific architectures
• vendor neutral & open

Important because they...
• enable cloud customers to understand unique features & advantages of using cloud computing
• bridge gap between understanding cloud customer needs and cloud provider offerings
• provide practical guidance on how common business applications can be realized from a cloud customer role perspective
• are stable anchors in a rapidly innovating cloud landscape
• save time, effort & money: be more productive

Useful when...
• those planning to build cloud based applications
• talking with cloud providers about their offerings
• understanding of the common elements and relationships in relevant solutions

Target audience
• those planning on building/purchasing cloud based applications
• developers, architects, managers

Consistent with ISO/IEC 17789 International Standard Cloud Computing Reference Architecture
Analytics is the discovery, interpretation, and communication of meaningful patterns in data.

Especially valuable in areas rich with recorded information, analytics relies on the simultaneous application of statistics, data science, and operations research to gain insights.
Four IT Domains – SOR, SOE, SOA and SOI

Systems of Insight infuses analytics everywhere, driving insight to outcome

Systems of Engagement
(Human interactions)

Systems of Insight
Drive every decision
Fuel every interaction
Power every process

Systems of Record
(Business transactions)

Systems of Automation
(Machine interactions)
System of Insight for Big Data and Analytics

Analytics environment from data to outcome

New Mix of Data

Traditional
- Internal data warehouse, Transactions, descriptive
- Distributed datamarts, spreadsheets

Emerging
- Unstructured notes, logs
- Social Media pulse, emerging issues
- Survey Research attitudes, opinions
- Sense-making
- Temporal / Spatial
- Sensors/Devices weather, machines

Traditional
- Volume - velocity - variety - veracity

Volume - velocity - variety - veracity

Descriptive
- What is happening?
- Why did it happen?

Diagnostic
- What could happen?

Predictive
- What action could I take?

Prescriptive
- Transform customer engagement
- Manage risk
- Increase operational efficiency
- Power digital-physical innovation

Real-time data processing & analytics

Landing, exploration & archive data

Making sense

Cognitive knowledge

Deep analytics data

Warehouse & data marts

On-premise, cloud, hybrid - integrated security

Information Integration & Governance

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Embracing the Chaos: “Multi-Speed IT”

Traditional: IT personas
- Requirements-Based
- Top-Down Design
- Integration and Reuse
- Competence Centers
- Better Decisions
- Enterprise Focus

Agile: Self-Service personas
- Opportunity-Oriented
- Experimentation / Validation
- Throwaway (“Fail Fast”) 1000/100/10
- Hackathons
- Business Innovation
- Functional Focus

Defined and Repeatable
Iterative and Exploratory
Five Personas

Citizen Analyst

Data Scientist

Chief Data Officer

Data Engineer

App Developer
Analytics Lifecycles (Development + Deployment)
Cloud Customer Architecture for Big Data & Analytics v2

PUBLIC CLOUD

CLOUD USER

CLOUD APPLICATIONS

DATA SOURCES

Provider

Domain Name Server
Content Delivery Networks (CDN)
Firewall
Load Balancers

EDGE SERVICES

EDGE USER

SAAS APPLICATIONS

STREAMING COMPUTING

COGNITIVE/DISCOVERY & EXPLORATION

DATA REPOSITORIES

COGNITIVE ACTIONABLE INSIGHTS

TRANSFORMATION & CONNECTIVITY

ENTERPRISE DATA

ENTERPRISE USER DIRECTORY

ENTERPRISE USER

ENTERPRISE APPLICATIONS

LEGEND

Application
Infrastructure
Data Store
Management
Security
Capabilities
User

SECURITY

INFORMATION GOVERNANCE

SYSTEM MANAGEMENT

Cognitive Assisted Data Integration
Cloud Customer Architecture for Big Data & Analytics v2

PUBLIC CLOUD

- CLOUD USER
- SAAS APPLICATIONS
- DATA SOURCES

PROVIDER CLOUD

- EDGE SERVICES
- API MANAGEMENT
- SAAS APPLICATIONS
- COGNITIVE/ANALYTICS DISCOVERY & EXPLORATION
- DATA REPOSITORIES
- COGNITIVE ACTIONABLE INSIGHTS

ENTERPRISE NETWORK

- ENTERPRISE USER
- ENTERPRISE APPLICATIONS
- ENTERPRISE DATA
- ENTERPRISE USER DIRECTORY

LEGEND
- Application
- Infrastructure
- Data Store
- Management
- Security
- Capabilities
- User
Cloud Customer Architecture for Big Data & Analytics v2
Users with five personas plus Administrative Users behind the firewall
Provides storage for and access to user security information.
Cloud Customer Architecture for Big Data & Analytics v2
Join us for the next BDA webinar!

Hybrid Cloud Considerations for Big Data and Analytics
Friday, August 11 from 11:00am – 12:00pm ET
Registration www.cloud-council.org/events
Call to Action

- **Join the CSCC Now!**
  - To have an impact on customer use case based standards requirements
  - To learn about all Cloud Standards within one organization
  - To help define the CSCC’s future roadmap
  - Membership is free & easy: [http://www.cloud-council.org/become-a-member](http://www.cloud-council.org/become-a-member)

- **Get Involved!**
  - Join one or more of the CSCC Working Groups
    [http://www.cloud-council.org/workinggroups](http://www.cloud-council.org/workinggroups)

- **Leverage CSCC Collateral**
  - Visit [http://www.cloud-council.org/resource-hub](http://www.cloud-council.org/resource-hub)
Additional Resources from the CSCC

- Hybrid Cloud Considerations for Big Data & Analytics

- Practical Guide to Hybrid Cloud Computing

- Cloud Customer Architecture for Hybrid Integration
  [http://www.cloud-council.org/deliverables/cloud-customer-architecture-for-hybrid-integration.htm](http://www.cloud-council.org/deliverables/cloud-customer-architecture-for-hybrid-integration.htm)

- Security for Cloud Computing: 10 Steps to Ensure Success

- Cloud Security Standards: What to Expect and What to Negotiate

- Practical Guide to Cloud Service Agreements

- Migrating Applications to Public Cloud Services: Roadmap for Success
Thank You!

Join the conversation

www.cloud-council.org