Trends and Innovation
with Service Reuse, Cloud and Big Data

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Trends with Services, Cloud, Big Data

• SOA, Cloud, Big Data estimated at over $100 billion
• Evolution of Integrated platforms for Big Data, Cloud and Shared Services
• Focus on enhanced Business Analytics and Data discovery
• Development of Data aggregation mechanisms from disparate data sources
Trends with Services, Cloud, Big Data

• Enhanced focus on data integration and processing to integrate with partners and across agencies

• Optimization of Processes, Services and Data

• Enhanced Analytics to make effective business decisions

• Innovation through “Cross Agency and Partner Information Architecture”
Cloud Trends

- Greater adoption and integration in areas such as Big Data, Mobility, Social Networks, Business Intelligence, Analytics
- Greater number of Hybrid cloud services and solutions
- Interoperability between Clouds to reduce Cloud application interface sprawl
- More applications deployed on the Cloud
- Flexible and Open Cloud services
- Process automation and reuse in utility computing

Cloud facilitates Agile and Rapid development and innovation, new ideas can be deployed and tested quickly.
Big Data

- Big Data is like drinking from a fire hose!
- There has been an increase in data and data sets are larger, more complex and unstructured, traditional database systems have challenges processing such data
- Social networks, internet documents, mobile devices are collecting massive amounts of data
- Data Context, velocity, patterns need to be addressed and processed
- Data optimization and workload analysis needs to be performed

Big Data processing and analysis drives enhanced Decision making such as in the areas of complex, real time analytics
Big Data Trends

• Sophisticated Analytics and Business Intelligence
• Focus on Data aggregation, discovery, analysis and integration
• Data as a Service and Real time integration
• Framework support for distributed processing of large data sets such as Hadoop
• Connector support for Big Data and Cloud management
• In memory computing to reduce data aggregation and maintenance time
Big Data and Multiple Channels

- Business Decisions
- Multiple Access Channels
- Analysis, Visualization and Reporting
- Services and Aggregation
- Database (in Memory)
- Data Services and Transaction Processing
Cloud and SOA Trends

- Cloud services integration with Big Data and Shared services
- Development and integration of services across agencies and partners
- Further aggregation and encapsulation of interoperable data and business services
- Further adoption of Hybrid, Community services
- Development of interfaces and services for Mobility and Big Data
- Open source will be explored further

**SOA and Cloud are evolving to build higher levels of integrated systems accessed through multiple channels**
Cloud and SOA

- Plug and play doesn’t always work
- Build an integrated framework or layers that support Cloud, Big data services and on premise applications, services, databases
- Enhanced Integration through Cloud and Big data connectors
- Business process, data workflow integration through Business process management tools
- Hybrid functional separation of core functions as internal and non core functions as external for reporting and business intelligence
Mobile Cloud with Big Data

Cloud is like traveling to the Moon, Mobile Cloud with Big Data is like traveling to Mars – Ajay Budhraja

- Cloud enabled applications for mobile access with 4G services
- Application programming interfaces (APIs) for mobile applications
- Greater number of Software as a service applications for mobile devices, Mobile Enterprise Application Platforms
- Development of portable and interoperable applications with Mobile cloud functions built in
- Development of Enterprise Architecture to handle and process Big Data and Content management for Mobility
Cloud, Big Data and Services

Service Management
Performance, Availability, Capacity Management
Configuration Management, Billing, Metering
Security Management
Application Virtualization
Services, Service Orchestration, Big Data
Infrastructure Virtualization
Tools and related Support
Cloud and Big Data Management

Cloud Service management addresses SLA Management, Capacity Planning, Reporting, Billing, Metering, Provisioning, Monitoring

- Cloud Services Deployment – Automatic Provisioning
- Cloud Services Discovery – Location Discovery
- Cloud Services Management – Metering, Monitoring, Planning, Reporting
- Big Data Management – Processing and Analytics
Federal Digital Government

- Federal Digital Government, Cloud, Shared Services strategy
- Focus on open data that can be delivered across multiple channels
- Leverage innovative technologies to realize cost savings and enhance customer experience
- Deliver secure digital services with a focus on standards and quality
AJ’s Five Point Plan

AJ’s Five Point Plan recommendations

• **BLUEPRINT FIRST** - Create a Technology blueprint with the strategy and vision, and then incorporate supporting technologies since one shoe size doesn’t fit all

• Focus on innovation, agility and effectively manage technology areas such as Cloud, Virtualization, shared services, Big data and Mobility. Develop Cross agency Enterprise platforms that focus on integrated life-cycle management and expeditious deployment mechanisms
AJ’s Five Point Plan

• Realize cost savings through prioritization, reuse and technology reviews

• Ensure technology alignment with federal directives and agency goals, also conduct continuous monitoring of results

• Focus on Enterprise-wide integrated and standardized solutions with effective governance and change management. Focus on Governance and Enterprise Technology aspects including Architecture and Security
Trends and Innovation with Service Reuse, Cloud and Big Data

Ajay Budhraja has over 23 years in Information Technology with experience in areas such as executive leadership, management, project management, enterprise architecture, system architecture, software engineering, training, methodologies, networks, databases etc. He has a Masters in Engineering (Computer Science) and also a Masters in Management. He is a Project Management Professional certified by the PMI and is also CICM, CSM, ECM (AIIM) Master, SOA, RUP, ITIL-F, CMMI and Security+ certified. Ajay has led large scale projects for big organizations and has extensive IT experience related to telecom, business, manufacturing, airlines, finance, government. Ajay has provided Senior Executive leadership for nationwide and global programs and has implemented integrated Enterprise Information Technology solutions. He has delivered internet based technology solutions and strategies for e-business platforms, portals, mobile e-business, collaboration and content management. He has worked extensively in the areas of application development, infrastructure development, networks, security and has contributed significantly in the areas of Business transformation, Strategic Planning, Change Management, Technology innovation, Performance management, Agile management and development, SOA, Cloud. As Adjunct Faculty, he has taught courses for several universities. He has received many awards, authored articles and presented papers at worldwide conferences.

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