



Delivery Excellence in Cloud Experience



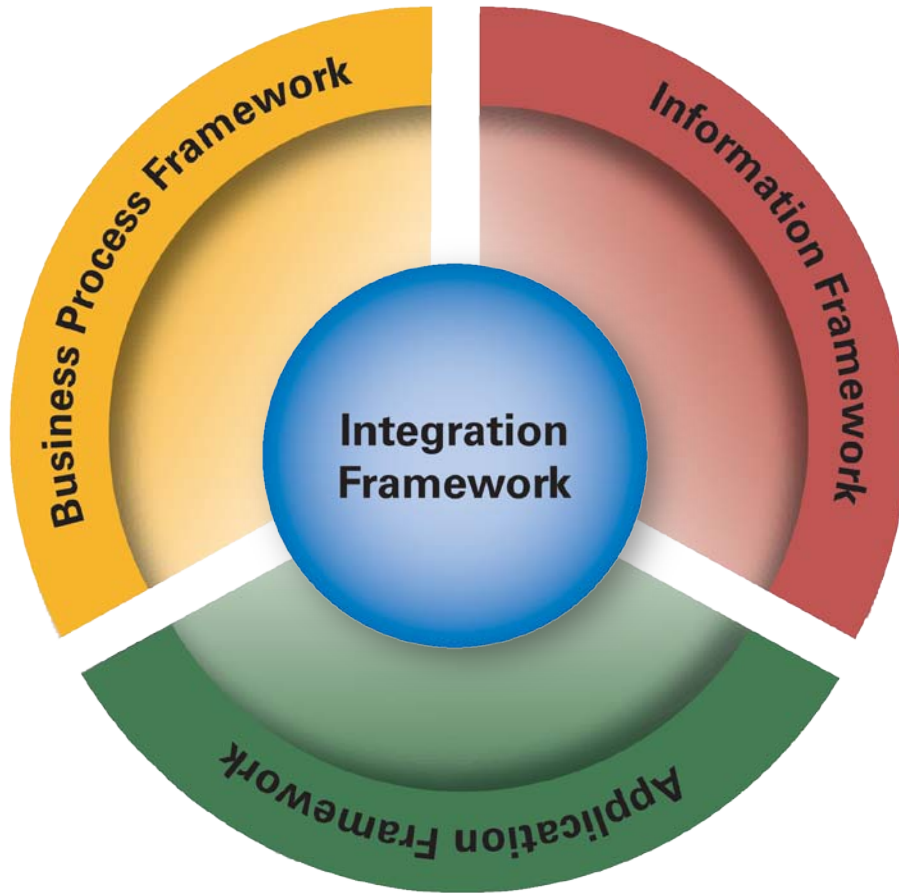
Jenny Huang

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Cloud Interoperability – TM Forum Charter

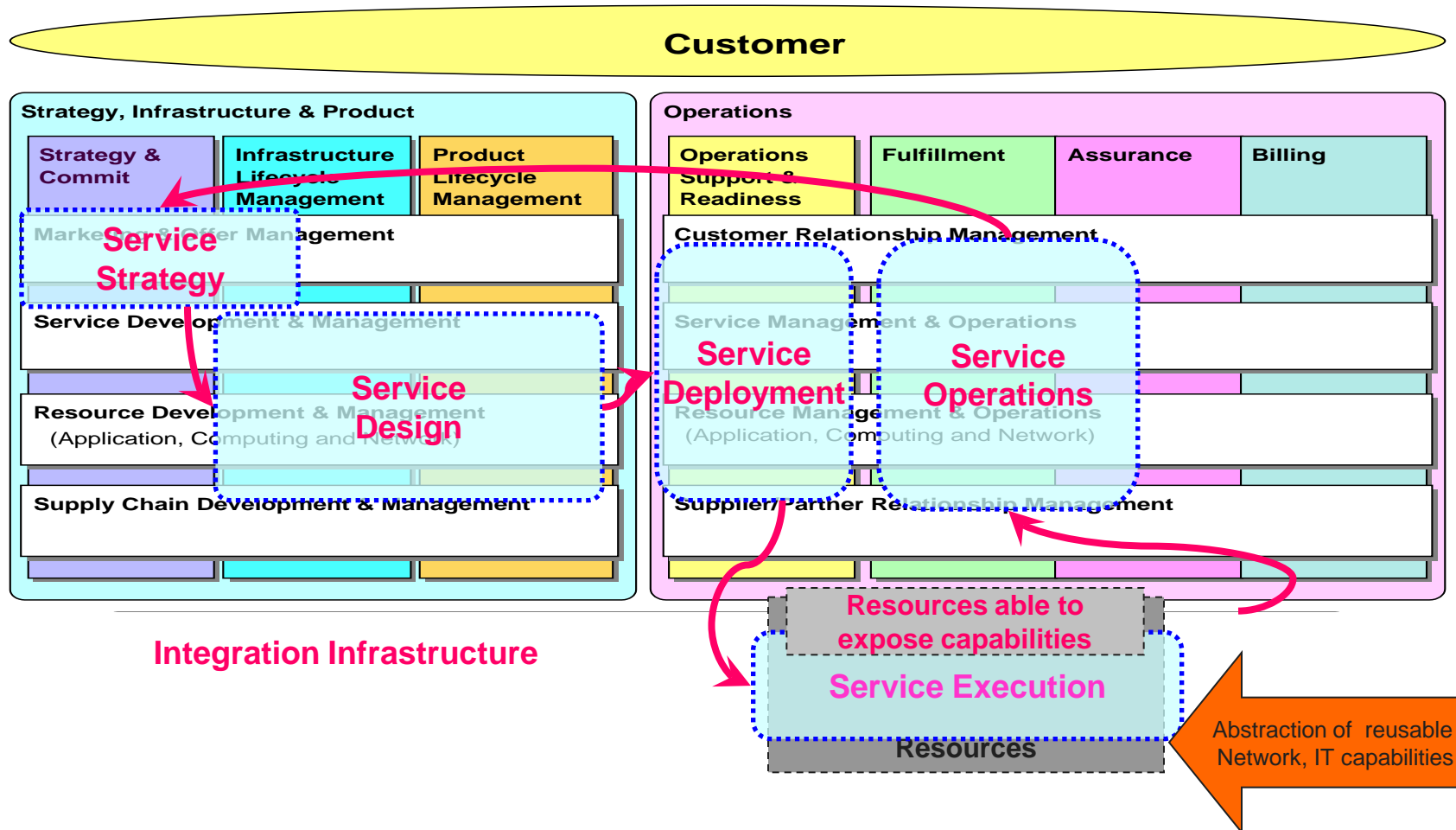
- **Challenges we are facing in Cloud development and adoption is in real operations ...** *United States Chief Information Officer, Vivek Kundra @ Nov. 2010 NIST Cloud Computing Workshop*
- Established in 1988, with more than 760 member companies in 195 countries, TM Forum is the world's leading industry association providing business-critical industry standards and expertise to support the cost-efficient creation, delivery, management and monetization of digital services for the Service Providers

TM Forum Framework



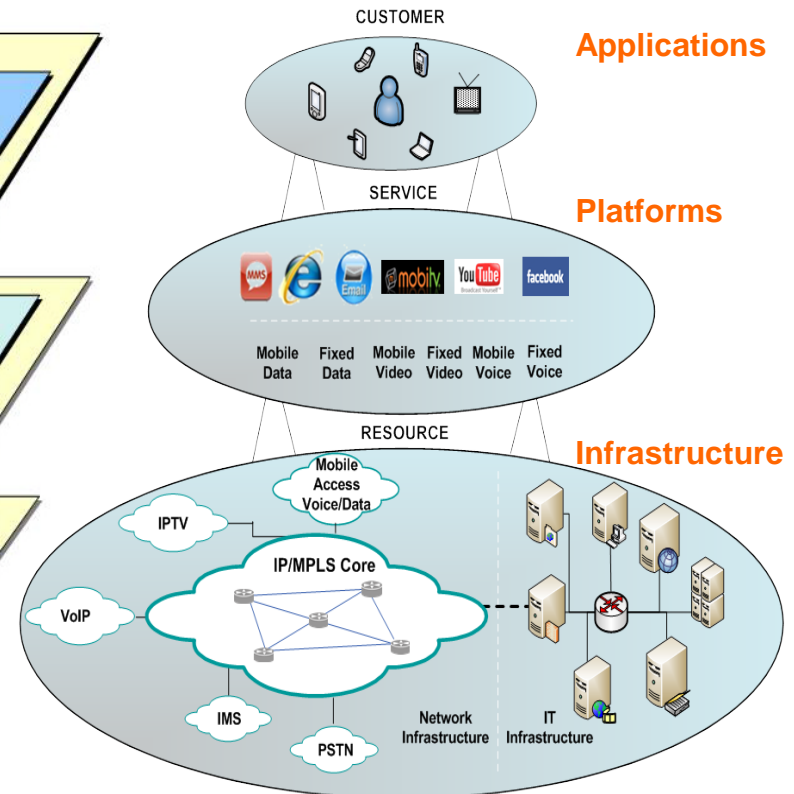
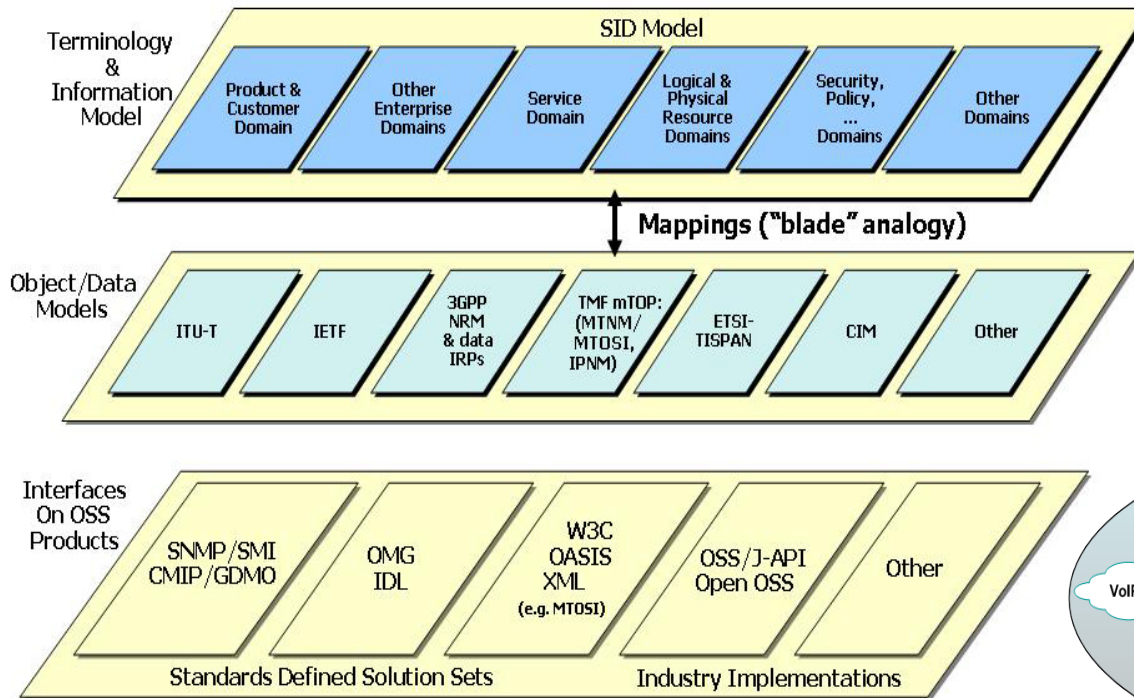
- Consists of extensible Process, Information and Application Frameworks that sustain enterprises' process, organization and technology changes.
- Provides industry best practices and design patterns for holistic and interoperable end-to-end value-chain operations.

Service Lifecycle Management and Process Framework (eTOM)



Federated Information Framework

Integrates with other domain specific data models to provide end-to-end views for superior customer experience



Inter-related Framework Models

Enable Enterprise Operational Efficiency

Enterprise Artefacts

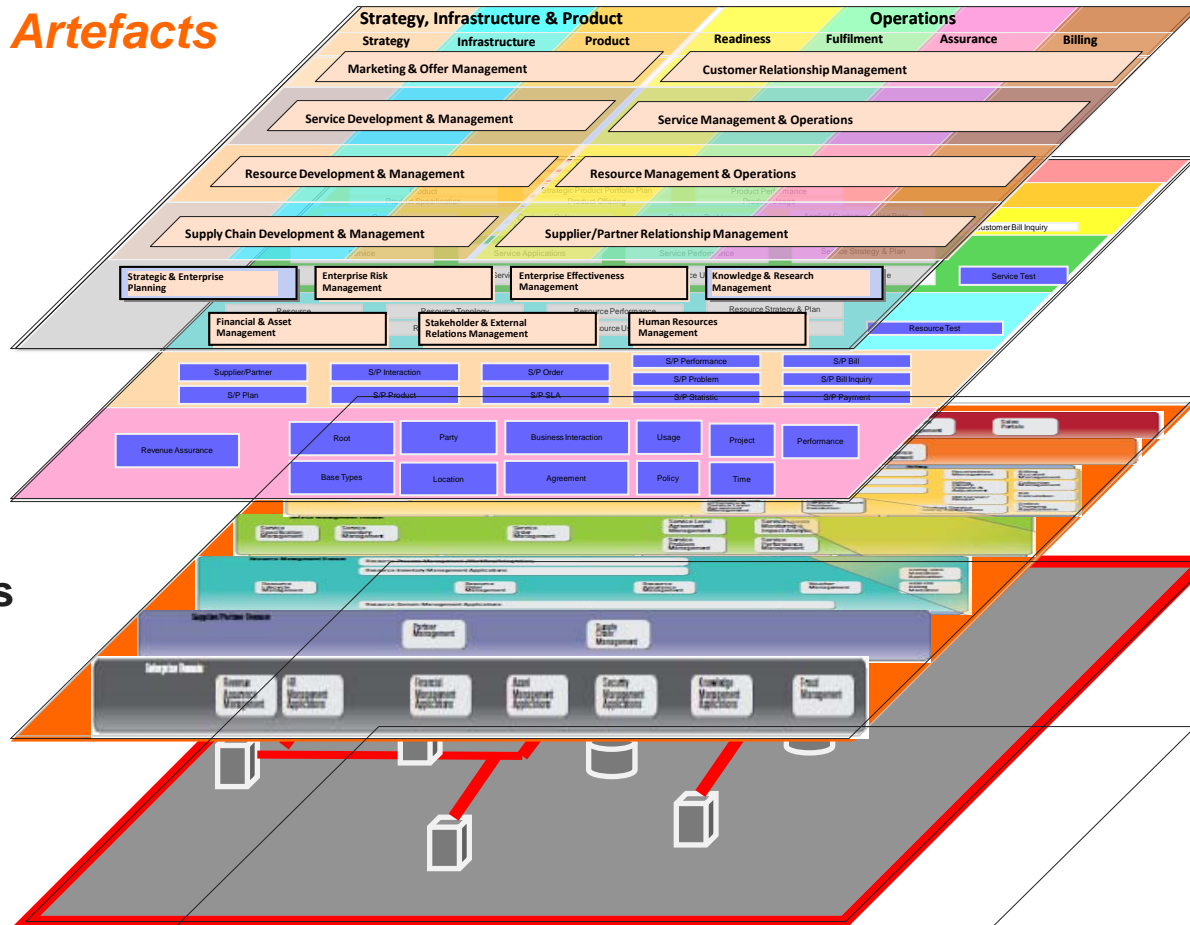
Business models and processes

Information

Applications

Technology

People



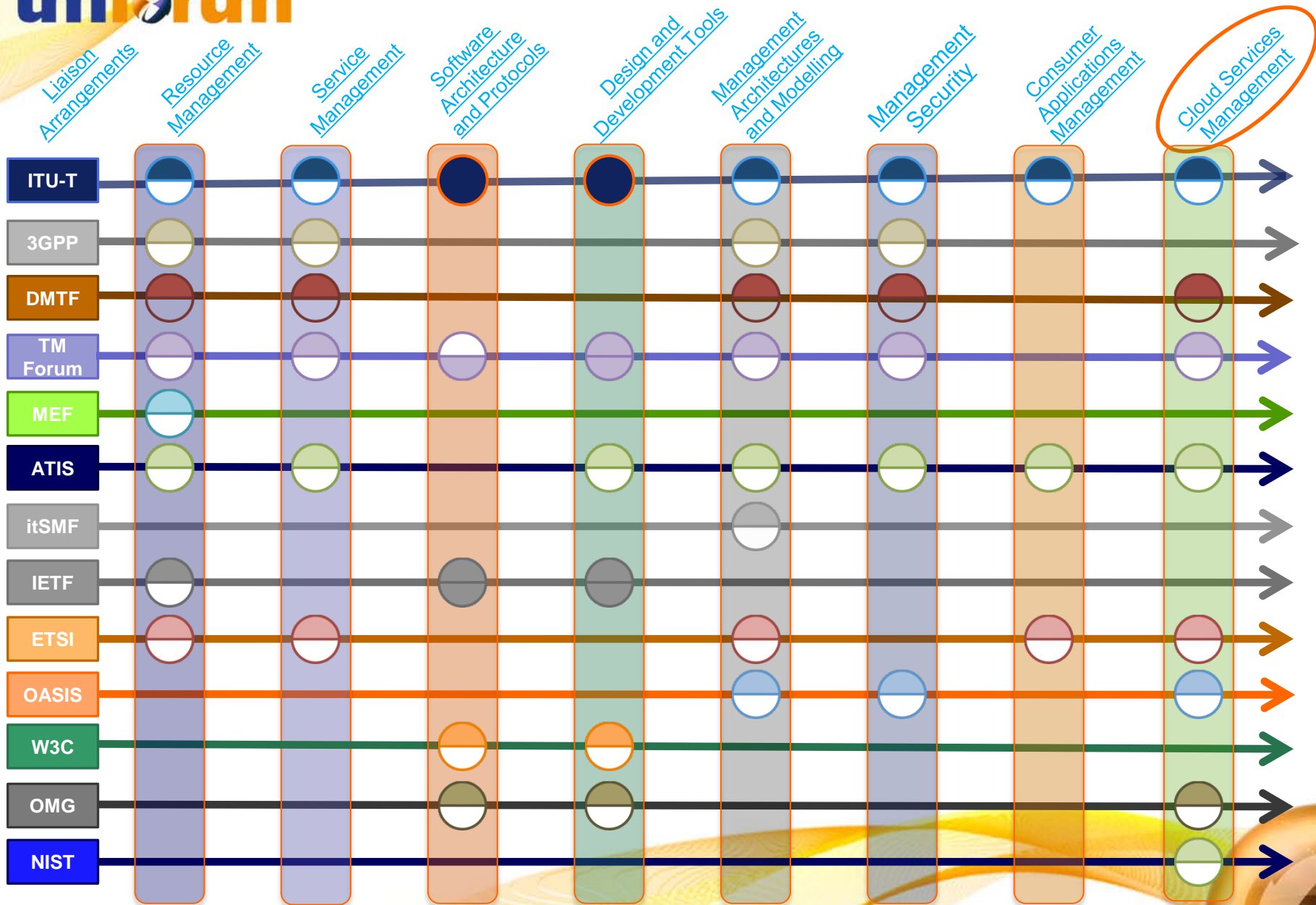
Frameworkx

Business Processes Framework

Information Framework

Applications Framework

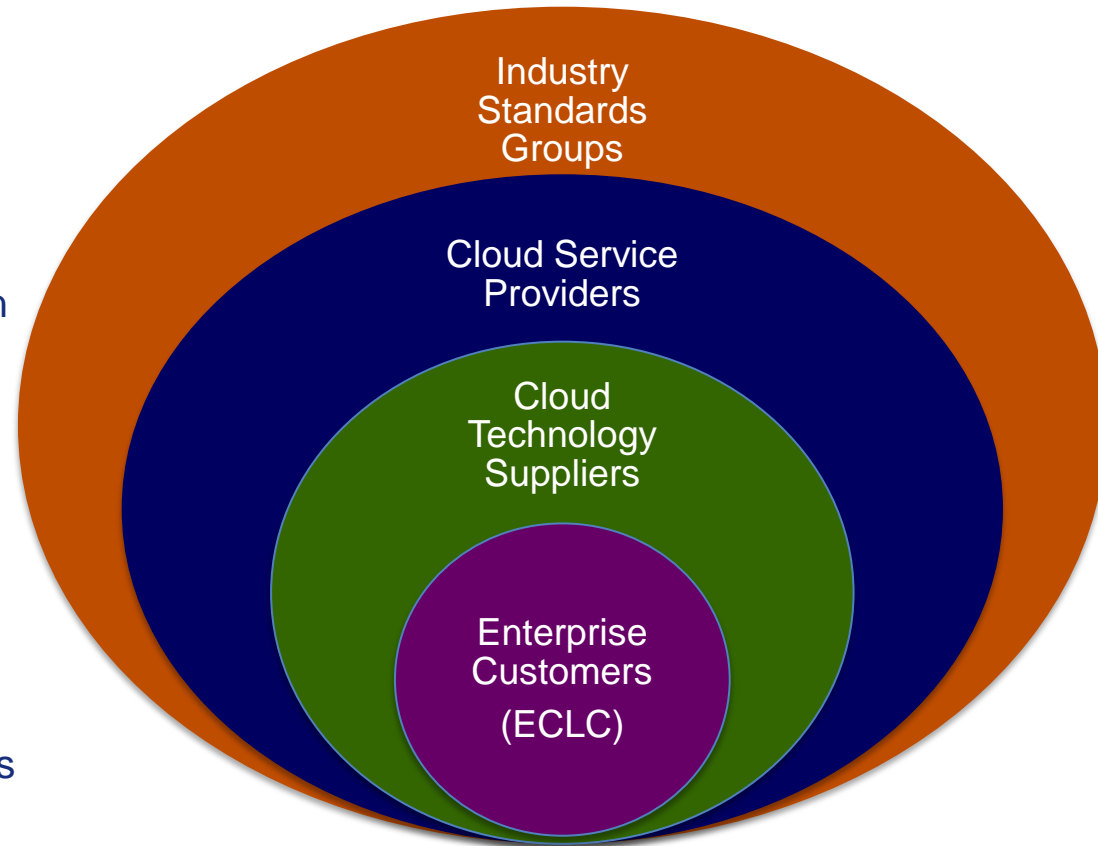
Integration Framework



TM Forum Cloud Services Initiative –

Bringing End Users, Suppliers and Technologists together

- ☐ **Enterprise Customers**
Defining enterprise IT needs to realizing greater efficiency and clarity in purchasing cloud services
- ☐ **Cloud Service Providers**
Identifying top supplier and integration priorities in product development and operational management
- ☐ **Cloud Technology Suppliers**
Advancing functionality and removing cost out of today's business and software solutions
- ☐ **Industry Standards Groups**
Working with other key industry bodies on the development and adoption of cloud technologies & standards



TM Forum CSI Projects

**Enterprise Cloud Leadership Council (ECLC) and
Service Providers Leadership Council (SPLC)
jointly provide business-facing requirements**

- Enterprise-grade External Compute IaaS (VPC)
- Database-as-a-Service
- Cloud Service Definitions
- Cloud Business Models
- Cloud Billing
- Cloud SLA Management
- Cloud Risk and Security
- Cloud Interoperability Business Services



TM Forum Resources

- Document Library
 - Specifications, case studies and white papers: <http://www.tmforum.org/DocumentLibrary/733/home.html>
- Online Collaboration Workspace
 - <http://www.tmforum.org/DocumentLibrary/733/home.html>
 - Cloud Services Initiative: http://www.tmforum.org/community/groups/cloud_computing_services/default.aspx
 - ECLC External Compute IaaS requirements; Database-as-a-Service
 - Project charters
 - SDO liaisons: NIST, DMTF, ODCA
- Cloud Catalyst Projects:
 - <http://www.tmforum.org/EnablingCloudServices/ProjectsDemonstrations/8010/Home.html>
- Work in progress documents:
 - Cloud service definition white paper/specification
 - Cloud business model and billing white paper
 - Cloud SLA Management update to GB917 SLA Management Handbook
 - Cloud Management – joint DMTF and TM Forum technical report





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Backup Slides



TM Forum Cloud Service Initiative

ECLC

- Attracting both public and private sector members including Deutsche Bank, Commonwealth Bank of Australia, DoD DISA, Motorola, ING, McCann-Erickson's SPLIT, Northrop-Grumman, Dassault Systemes ENOVIA. State Street Financial Group
- Detailed discussions with Credit-Suisse, Thomson Reuters, Citibank, Amex, Ogilvy, J&J, Boeing, Diageo, Intel, Novartis, Curtin University and more...

Cloud Services Initiative

- Cloud Services Initiative has over 450 collaboration participants registered from over 140 companies.

ECLC Work Projects

Enterprise-Grade External Compute IaaS (VPC)

- Proposes **common terminology** to help reduce semantic arguments over meanings of words.
- Explores **requirements for an Enterprise-Grade External Compute IaaS**, or specifically an External Private Cloud in Commercial, Technical and Operational categories.
- Contains background information on the **cloud business case and use-cases** from the enterprise consumer perspective.
- **Release 1 is available** for review / comment by TM Forum membership

ECLC Work Projects

Enterprise-Database as a Service (DBaaS)

- Technology framework as implemented at ECLC member being **retrofitted** into a vendor agnostic, open reference architecture
- **Business requirements** as implied by the reference architecture are being codified
- **Use case scenarios** are being generalized and expanded to fit across multiple industry sectors
- Expect business **requirements packet release** in the not too distant future to the TM Forum membership for comment
- **Catalyst process** to follow for TM Management Forum 2011



Cloud Services Initiative Work Projects

Collaboration

- ❑ Cloud Service Definitions (Taxonomy)
 - ❑ Standardized definitions and taxonomy/ ontology (includes ECLC members).
 - ❑ A taxonomy of service categories to a higher level of specificity including standard SKUs for services and service components.
 - ❑ The “what” of Taxonomy is incomplete without knowing “what for” or “why”.
 - ❑ Process needs direct input and validation from Service Providers and Cloud Service Consumers (Enterprises).
- ❑ Cloud SLA Management.
 - ❑ Objective to expand the GB917 Service Level Agreement Management Handbook by ensuring Cloud use cases are covered.
 - ❑ Reviewing TM Forum & DMTF work on SLA Management for next generation networks and SLA Use Cases whitepapers.
 - ❑ Enterprise customers & CSPs required as well as ITIL perspective.



Cloud Services Initiative Work Projects

Collaboration

- ❑ Cloud & Business Process Framework
 - ❑ Reviewing BPF v9 Order Handling as a process flow for cloud use cases.
 - ❑ Selected E2E Order Handling process flow defined in GB921-E as a cloud-specific use case.
 - ❑ The use case will address real-time services, partners, storage, security, interoperability, portability, etc.
 - ❑ The Order Handling use case development will be split into two phases:
 - Phase 1 will include a complete end-to-end worked example.
 - Phase 2 will include ITIL linkage methodology.
- ❑ Service Provider Leadership Council (SPLC) Cloud Requirements
 - ❑ Reviewing SPLC cloud requirements.
 - ❑ Require SPLC engagement in all collaborative Cloud work projects.



Cloud Services Initiative Work Projects

Collaboration

❑ Cloud SDO Liaisons

- ❑ Forging on-going liaison with DMTF, CSA, ITU-T, OMG, The Open Group, itSMF, ATIS, SNIA and ODCA.

❑ Cloud Billing

- ❑ Finalising whitepaper synopsis exploring Communication Service Providers (CSPs) as a “billing services provider for Cloud services.”
- ❑ Focus specifically on Monetization of Cloud Services.
- ❑ Explore possible **Business Models**
 - Cloud Services Provider, Cloud Services Retailer, Cloud Services Wholesaler and Billing Services Provider
 - Charging and Pricing models; what to charge for, and how to price?
 - Competition, BoBo, Payments, Settlements...



Stateless Enterprise Cloud (File System as a Service)

- Enterprise organizations need a more agile infrastructure design, capable of scaling across internal and external service providers.
- The "enterprise cloud" must maximize density and power efficiency, minimize cost, adopt new models for storage and application mobility, and provide a comprehensive platform to support enterprise workloads.
- Enterprise & Cloud Service Providers to define methods, specifications and best practices for managing a hybrid cloud environment including service federation, data portability, and transparency.

Unified Virtual Desktop (Desktop-as-a-Service)

- Next generation "end user compute" in the enterprise will allow multiple disparate applications to appear together, dynamically assembled in context and delivered via internal or external cloud providers.
- Integration "at the glass" via contextually linked applications on a single unified virtual desktop combined with workflow technologies to enhance H2M interface.
- ECLC will provide experience and vision to publish business and technical requirements.

Common Commercial and Operational Requirements

- Define what's important to users in a cloud services contract (Terms Definitions/ Contract Language).
- Extend ITIL management framework into a VPC framework.