API Gateway based approach to Integrations

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Agenda

- Company and Product overview
  - About eQ Technologic, Inc.
  - Product overview
  - Brief Architecture
  - Key features
- API Gateway based Integration approach
  - Deployment options
  - Demonstrations
• Responsible for Product technology direction and execution @ eQ Technologic
• Over 29 years of experience
• Prior experience
  • Digital Equipment Corp
  • Ford Motor Credit Company
• Makers of the eQube Platform

Digital Backbone – Actionable Insight

• eQube®- a platform for Enterprise Information Infrastructure
  • eQube-MI – for application migration, synchronization, and integration
  • eQube-BI – “Rapid-BI” solution for enterprise-wide visibility with Big Data analytics
  • eQube-DP – for profiling data – data quality assessment, correction, and repair
  • eQube-TM – for transformation modeling – establishes a knowledge-base of simple / complex maps of disparate systems for rule-based transformations

• World Wide Customer Base
  • Aerospace & Defense, High-tech, Automotive & Transportation, CPG & Retail
  • Hundreds of large customers worldwide.
eQ is a ISO-27001 certified Company
Information security management standard for Assets:
Intellectual property, financial information, business processes,
project information, employee information, etc.

eQube-BI is also marketed by Siemens PLM as
Teamcenter Reporting and Analytics

eQ is a Siemens PLM Solution Partner for Teamcenter
integration, synchronization, and migration

eQube Connector for SAP ERP 6 is certified for
integration with SAP NetWeaver
Digital Backbone – Actionable Insight
Platform Architecture

Offerings
- eQube-BI
- eQube-MI
- eQube-TM
- eQube-DP

Platform
- BI- In Memory OLAP Server
- Distributed Cache
- Transformation Modeler
- Scheduling Services
- Event Management Services

Sources
- Databases
- Web Services
- Adapter Framework
  - PLM ERP MES
  - Teamcenter SAP
  - BaaN ECAD
  - IFS Primavera
  - MFG Planning

UI services

Data Virtualization Layer

Semantic Layer
(Domain Ontologies)

Data Access Services
eQube platform Key differentiators

- Single integrated platform that delivers Solutions
  - Core common services leveraged by eQube products
- Pre-built comprehensive eQube Connectors
  - Maintained by eQ across multiple versions of the underlying application
- Innovative Data Virtualization layer
  - Easily aggregates data from multiple applications in-memory
  - No need to have intermediate data mart or data warehouse
- Semantic layer (leverages domain ontologies)
  - Further simplifies read & write interactions with the underlying applications
  - Key to our vision of ‘Democratizing BI’
- No coding required for the “last-mile” connectivity
  - To develop interfaces for application integration / synchronization
  - To fetch data from multiple sources – data mashups - BI
eQube-MI – ‘Not only ESB’ architecture

- Next generation application integration platform
  - ‘Not Only ESB’ architecture
- Single platform for
  - Application Integration
  - Application synchronization leading to orderly migration
    - Application consolidation and application retirement
- Supports various integration strategies without having to write code for the “last-mile” connectivity to applications:
  - ESB type:
    - Message-oriented
    - Service orchestration based
    - Common (canonical) data model based
  - Loosely coupled application-to-application type
  - API Gateway type
eQube-MI – ‘Not only ESB’ architecture

• MI Process for one or more interfaces
  • MI Process Designer (integrated business process modeling capability to define a MI Process)
    – Activities – Read and Write Activities (MI Process is made up of Activities)

• Services oriented integration best practices:
  • Adheres to various Enterprise integration patterns
  • Common data model based integration
  • Service orchestration based integration
  • Message oriented integration

• Loosely coupled application-to-application integration

• Gateway-centric architecture:
  • REST API or Web-service
  • Supports Microservices architecture and implementations
**API Gateway based Integration approach**

- Agile light weight approach to application integrations using APIs/Microservices
- Visually build the business logic using the process designer
- Extend the capabilities of the existing applications using the API based approach
  - Build easy to use, for purpose Web/mobile applications on existing legacy systems or COTS applications
- Flexible deployments
  - On premise
  - Hybrid
  - Cloud deployment
On Premise deployment

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- eQube®-MI Digital Backbone
- ORACLE® E-BUSINESS SUITE
- IBM®
- TEAMCENTER
- IFS
- P6
- Mentor Graphics
- Microsoft® SharePoint
- SOLUMINA
- PTC® Windchill®
- Web Services
- Legacy Systems
- Databases
- File System
- TEAMCENTER ENTERPRISE
- TEAMCENTER ENGINEERING
- Elysium
- DOORS®
- Hive
- SAP
- Northrop Grumman
- Boeing
- Parker
Hybrid deployment

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Hybrid deployment diagram showing integration of various systems and platforms, including eQube®-MI Digital Backbone, Legacy Systems, Web Services, Databases, File System, and other tools and software like ORACLE E-BUSINESS SUITE, IBM, IFS, P6, TEAMCENTER, PTC® Windchill®, SOLUMINA, and others.
Cloud deployment - PaaS
Demonstration

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• For purpose App for simplifying the review process in Engineering Workflow
  • On premise deployment
  • Exposed to the users through SharePoint Portal as well as through Windows phone
  • Demo Link

• Simple Web application built on top of SAP and Teamcenter
  • Cloud deployment with applications on premise
  • REST APIs based simple Web
  • Demo Link

• Extending the capabilities of the existing applications
  • On premise deployment
  • Display data from SAP within Teamcenter
  • Add Forecasting Capability to MRO
Digital Backbone – Actionable Insight

Thank You