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Program Agenda

1 ➔ Digital Disruption
2 ➔ Digital Transformation
3 ➔ Reference Architecture
4 ➔ Getting Started
Technology Wave: Smaller, Faster, Better, Cheaper

- Business Computers
- Business Machines
- Personal Computers
- Business Efficiency
- Advertizing Disruption
- Sales Disruption
- Marketing Disruption
- Computing Disruption
- Product Disruption
- Service Disruption
- Occupation / Workforce Disruption
- Behavior Disruption
- Technology Acceptance
- Sense of Normalcy

Microprocessor
Internet
Social Networking
Mobile Devices
- (phone, email, SMS)
- (browser)
- (mobile apps)
Cloud Services

Digital Disruption

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Digital business is specifically focused on the peer exchange and communication between business (including process and information), people and physical things as equal entities.

A digital business must include the connection or integration with assets (business, people and things) beyond IT and beyond the control of any one company.


Digital business is the creation of new business designs by blurring the physical and digital worlds

Source: Gartner http://www.gartner.com/it-glossary/digital-business/
Why is this important?

“Digital Business Incompetence Will Cause 25 Percent of Businesses to Lose Competitive Ranking by 2017”

“We are entering a new digital industry economy where everyone will be a technology company.” - Gartner

“Digital disruptors are particularly dangerous because they grow enormous user bases seemingly overnight, and then are agile enough to convert those users into business models that threaten incumbents in multiple markets.” – Global Center for Digital Business Transformation

“Digital tools and platforms are reducing the barriers to entry in every industry, in every aspect of every business, ... you are about to face on onslaught of competitors... operating at least a tenth the cost...” - James McQuivey, Forrester
Program Agenda

1. Digital Disruption
2. Digital Transformation
3. Reference Architecture
4. Getting Started
Key Factors Driving Transformation

**Internet of Things**

**Evolution.** Today’s sensors are 1 billion times better (1000x lighter, 1000x cheaper and 1000x the resolution) than only 40 years ago. *(SAP)*

**Growth.** By 2020, estimated 26-50 billion intelligent things connected to the Internet *(Gartner, Cisco)*

**Furthermore,** by 2030, 100 trillion sensors could be operational worldwide. *(SAP)*
Key Factors Driving Transformation

- **Internet of Things**

- **Mobile Computing**

**Transformation** from browser-based application access to siloed local apps to interconnected local and remote apps.

**Trending In.** Worldwide, the number of mobile users overtook the number of desktop users.

**Contextual.** Location-based services (last known location), known destination, calendar, etc. increase value and enrich the user experience.

Source: [https://articles.tbscg.com/tag/marketing-strategy/](https://articles.tbscg.com/tag/marketing-strategy/)
Key Factors Driving Transformation

**Internet of Things**

**Mobile Computing**

**Social Networking**

**Consumer-driven sales.** Compare the impact of what consumers have to say about a product or service as compared to what a vendor has to say.

**Social networking.** Effective channel for learning about new products and services.

**Social presence.** Interests, likes, and dislikes help target customers more intelligently.

**Real-Time Marketing.** Listening and responding.

“Advertisers worldwide will spend $23.68 billion on paid media to reach consumers on social networks this year, according to new figures from eMarketer, a 33.5% increase from 2014. By 2017, social network ad spending will reach $35.98 billion...”

source: emarketer.com

**Facebook reaches 1 million active advertisers**
June 18, 2013

**Facebook now has 2 million active advertisers**
Feb 24, 2015

**Facebook grows to 2.5 million active advertisers**
Sept 27, 2015
Key Factors Driving Transformation

Volume. “According to IDC statistics, from 2005 to 2020, the global volume of data – the digital universe – will grow by a factor of 300, from 130 exabytes to 40,000 exabytes, or 40 trillion gigabytes…” - IDC

Value. “Early adopters of Big Data analytics have gained a significant lead over the rest of the corporate world.” - Bain & Company report

The new IP. How does the emergence of Data-as-a-Service providers changed the landscape with respect to the value of internal data vs. external data in terms of intellectual property?

Source: marketingland.com
Key Factors Driving Transformation

- Internet of Things
- Mobile Computing
- Social Networking
- Big Data & Analytics
- Cloud Computing

**Time to market.** No more long lead times required to provision hardware and software.

**Barrier to Entry.** Much less capital required to enter a new market when your approach is to leverage existing capabilities and create an advantage via software, social marketing, and convenience.

**Growth on Demand.** No need to accurately forecast load, growth rates, and uneven capacity demands.
Key Factors Driving Transformation

In Addition:

- **Plethora of Online Services**: Location, Traffic, Weather, Purchases, Likes, Connections, ...
- **Lower Barrier to Entry**: Software-driven businesses, mobile app-centric solutions
- **Available Technical Expertise**: Java, C/C++, Python, C#, SOAP, REST, XML, JSON, Linux, iOS, Hadoop, ...
- **Options to Secure Funding**: Angel investors, VCs, Crowd funding, Cash reserves
Digital Transformation for Business
Common Strategies – Things to Ponder...

Customer Experience
• How customers find you
• What they learn about your products and services
• How you compare to your competitors
• How easy and convenient it is to do business with you
• Stickiness
• Online presence
• Self service
• Automatic residuals

Operational Efficiency
• Employee efficiencies
• Manufacturing processes
• Warehouse management
• Inventories
• Deliveries
• Sales and marketing strategies
• Asset maintenance

New Opportunities
• Evolutionary
• Revolutionary
• Business Related
• Unrelated
Digital Transformation for IT
Common Objectives

Connected Enterprise
- User Interaction
- Mobile Interaction
- Device Interaction
- Social Interaction

Situational Intelligence
- Real-Time Data Stream Processing
- Universal Data Integration
- Analytics
- Embedded Intelligence

Integrated Processes
- Service-Oriented Architecture
- Partner & Cloud Integration
- Business Process Orchestration
- Sense and Response
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Reference Architecture
Establish Architecture Principles

Secure, Standards-Based Integration
- Adopt common standards for integration with external services, devices, and partners
- Ensure all interfaces follow security protocols for access control and information privacy
- Establish architecture best practices and governance processes to facilitate compliance

Contextual Awareness
- Acquire and leverage user context data, e.g. location, environment, activity, time
- Factor contextual data into processing decisions and interactions
- Develop an understanding of normal conditions, activities, tendencies, and outcomes

People-Centric Interaction
- Provide user access via most appropriate and convenient channels and devices
- Design interfaces that effectively balance ease-of-use with robustness
- Support personalization such that it entices even greater adoption and user affinity

Cloud-First Implementation
- Initiate large scale solutions via incremental “pay-as-you-grow” cost strategy (e.g. Big Data)
- Support “bursty” solutions without having to build to worst-case load specifications
- Enable fastest time-to-market by leveraging ready-made service environments
Reference Architecture
Reference Model to Organize Capabilities

• Many types of reference models available
  – TOGAF TRM
  – TRM Custom Variations (NSPIS, CISITAF)
  – Application
  – Cloud Computing
  – SOA
  – Industry
  – …
Connected Enterprise Logical View

Management Layer
- Mobile Management
- Device Management
- API Management
- Services Management

Interaction Layer
- Web Interaction
- Mobile Interaction
- Device Interaction
- Service/API Interaction
- Social Interaction

Integration Layer
- Service Mediation
- Messaging
- Connectivity

Application Layer
- Business Applications
- Social Marketing & Analysis

Information Management Layer

Security Layer
- Mobile Security
- API Security
- Federation
- WS Security
- Access Control
- Transport Security
- Identity Management

Social / Remote Identity Validation Services

Monitor & Manage Social Presence

Connected Enterprise
- User Interaction
- Mobile Interaction
- Device Interaction
- Social Interaction

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Integrated Processes Logical View
Integrated Processes Implementation View

Management Layer
- Application & Hybrid Cloud Management
- Device Management
  - Oracle IoT Cloud
- API Management
  - Oracle SOA Cloud
  - Oracle API Catalog
- Services Management
  - Oracle Enterprise Repository
- Rules Management
  - Oracle SOA Cloud
  - Oracle SOA Suite
- Process Management
  - Oracle Process Cloud
  - Oracle BPM Suite

Interaction Layer
- Mobile Interaction
- Service/API Interaction
- Web Interaction
- Personal Interaction (Email, SMS)
- Business Interaction

Integration Layer
- Service Mediation
- Messaging
- Connectivity

Application Layer
- Service Orchestration
  - Oracle SOA Cloud
  - Oracle SOA Suite
- Application Customizations
  - Oracle Java Cloud
  - Oracle WebLogic Suite
- Business Rules
  - Oracle SOA Cloud
  - Oracle SOA Suite
- Business Process Orchestration
  - Oracle Process Cloud
  - Oracle BPM Suite
- Business Analytics
  - Oracle BI Cloud
  - Oracle BI Foundation Suite

Development Layer
- Process Composition
  - Oracle Process Cloud
  - Oracle BPM Suite

Information Management Layer

Security Layer
- Access Control
  - Oracle Access Management
- Identity Context
  - Oracle Access Management
- Federation
- API Security
- Single Sign-On
- WS Security

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Reference Architecture
Capability Reference Model

• High level view of all important capabilities related to the digital business initiative
• Capabilities and usage scenarios can be further detailed in the reference architecture
Cloud, or No Cloud?

• Functional Capabilities
• Qualities of Service
• Security
• Governance, Risk, & Compliance
• IT Strategy
• Architecture Principles
• Local Affinity
• …
Program Agenda

1. Digital Disruption
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4. Getting Started
Begin Your Transformation

• Incubate business ideas
  – Capture ideas in journey maps, storyboards, etc.
  – Develop business strategy
  – Review governance, risk, and compliance

• Assess your IT capabilities
  – Cloud computing, SOA, Mobile, Big Data, Security, etc.

• Develop your architecture & roadmap
  – Develop EA to address your business initiative

• Repeat
Engage With Oracle

Oracle Products
- Oracle Public Cloud
- Oracle Hardware
- Oracle Software

Oracle Consulting
- Digital Business Architecture Development Process
- Consulting Services

Architecture Online
- IT Strategies and Architecture from Oracle (ITSAO)

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Technology
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Industries

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Applications & Platform Services