The Sprawl of Cloud Services & Data Everywhere in an Enterprise


Mount Tai, China

World Standards Day 2015
October 14th
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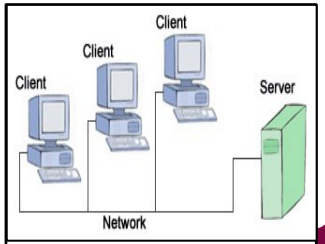
WE CAN DIGITIZE ALMOST EVERYTHING.

… WE CAN CONNECT/ANALYZE EVERYTHING DIGITIZED

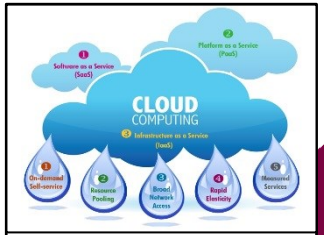
The Evc

Mainframes



Client-Server

Internet



Cloud

<80s

Huge Upfront CapEx

90s

Perpetual Licensing

00s

Diversity, Agility

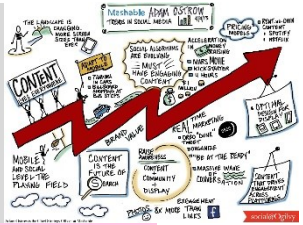
10s

Efficiency, Agility
Pay as you go

Happening Now…

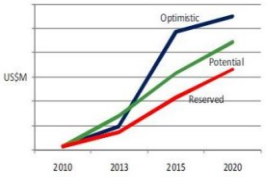
TRENDS

- Industry 4.0; cross-industry integration; new business models
- IoT: integration of prosumers, businesses, partners, smart
- Cloud & data explosion



MARKET POTENTIAL - EXAMPLES

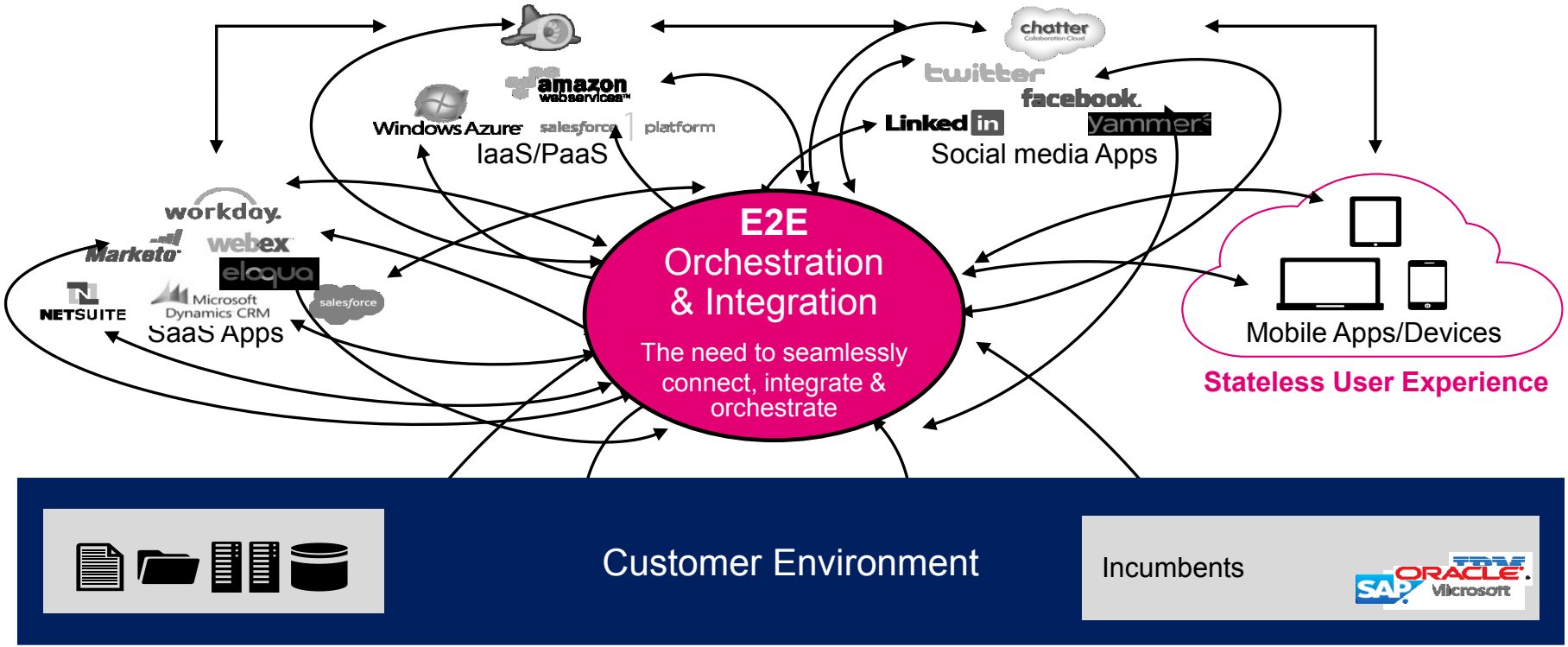
- 50B connected devices by 2020
- Cloud industry digitalization >100B€ market potential in 2017



CHALLENGES

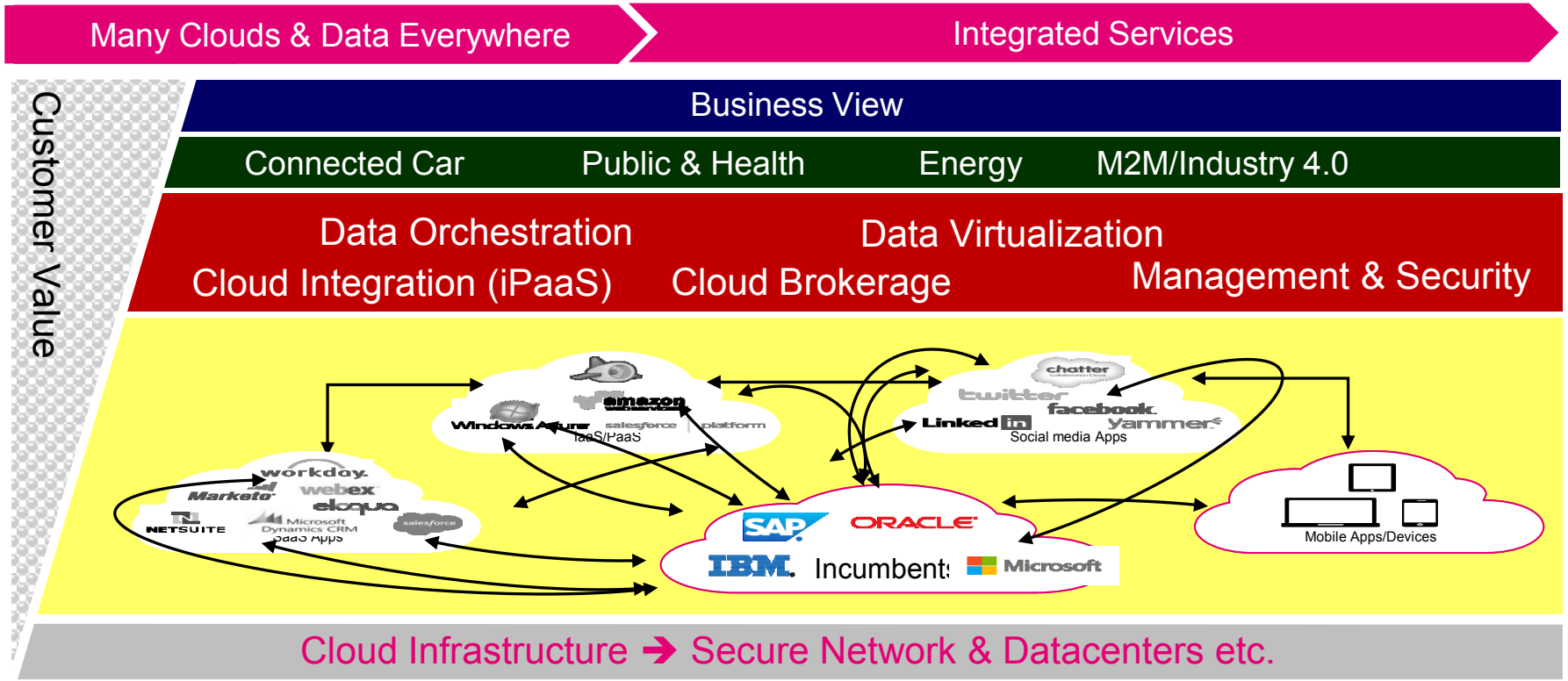
- X-industry value chain integration
- Data-driven business models
- Multi-faceted eco-systems
- Process optimization beyond corporate boundaries
- Incorporation of prosumers, social media …

The State of the Enterprise



… What is a Presentation without citing Larry Ellison?

The Future is Integrated



Standards Efforts to Help Here?

…Little Background

- Many cloud products based on individual vendor offerings - create market share dominance
- US NIST charged with creating a roadmap for US government adoption of cloud.
  - NIST's efforts to create roadmaps for cloud computing and big data standards.
- Outside US, similar projects started and sometimes put into practice throughout the world.

Why Standards?

- Less Risk: Lessen/remove vendor service lock-in; & Mitigate reusability barriers for S/W & data access
- Provide best-of-breed development and methods
- Allow innovation/competition at more interesting layers
- Facilitate interoperation between software services, components and infrastructures

Permits S/W processes to interoperate with components & infrastructures ➔ no risk of vendor lock-in.
Developers, vendors and users focus on capabilities rather than plumbing

Standard Organizations

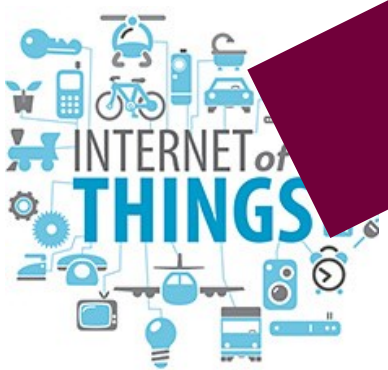
Current specification status for several active cloud-specific standards

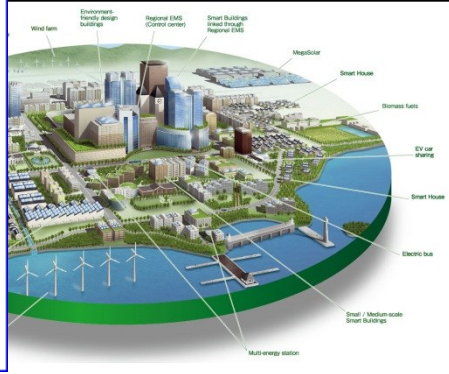
Parent SDO	Specification Title	Current version & date
OASIS	Topology & Orchestration Specification for Cloud Applications (TOSCA) Cloud Application Management for Platforms (CAMP)	TOSCA v1.0, 11/2013 (v1.1 in progress) CAMP v1.1, 11/2014
OGF	Open Cloud Computing Interface (OCCI) (Specification Set)	OCCI v1.1, 6/2011 (v1.2 in progress)
DMTF	Open Virtualization Format (OVF) Cloud Infrastructure Management Interface (CIMI) Cloud Auditing Data Federation (CADF)	OVF 2.1.0, 1/2014 (+ associated profiles) CIMI v1.1, 10/2013 (v2.0 in progress)
SNIA	Cloud Data Management Interface (CDMI)	CDMI v1.1, 8/2014

Market Share of Cloud Vendors

Cloud is Enabling Social Innovations

Cloud computing is enabling Social Innovations





Cloud is Evolving and Maturing…. But Need to Address Standardization is Very Much Needed… But Not Yet.

Interoperability

Data Portability

Security

Laws Lag Technology Advancements

Data Value:

Should businesses use your personal data to generate revenue?

Data Privacy:

Collective Effort – User and Cloud Provider

Data Sovereignty:

Custodian of the data is responsible for the data

IEEE Cloud Computing Magazine

- Published by IEEE Computer & Communication Societies
- 6 Issues/year
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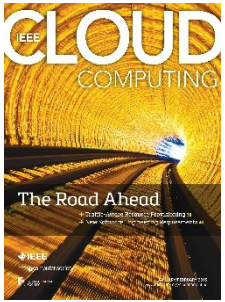
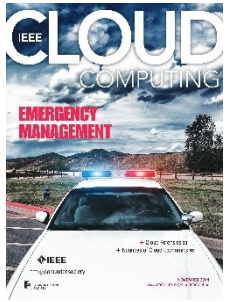
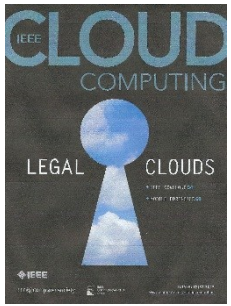
- Most Recent: Special Issue on Legal Clouds
- Next Issue: Cloud Engineering







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