The World Wide Cloud
Bridging the Data Center and The Cloud

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Reuven Cohen

* Founder & Chief Technologist, Enomaly

* Creator of the Enomaly Elastic Computing Platform

* Instigator of Cloud Camp (Worldwide series of events)

* Creator of the Cloud Interoperability Forum

* IEEE Program Chair on Cloud Computing

* Sun Microsystems Board of Advisors

* Writing cloud guide for O'Reilly (2009)

* Blogs at www.elasticvapor.com

World Wide Cloud UnSession

* Federated

* Global

* Interoperable

* Scalable

* Self Healing

* Hybrid, Intracloud

Cloud Computing

- **Cloud Computing = Internet Computing**
- Internal Cloud = Intranet
- External Cloud = Internet
- No System Boundaries
- No physical or geographic limitations
- No internal composition or ownership
- Service Oriented
- "Internet centric computing"

Platform Vs Infrastructure

✳ **Platform** = Application Centric

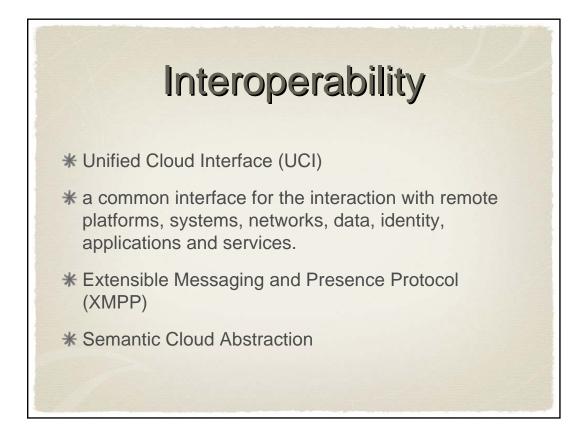✳ **Infrastructure** = Hardware Centric

Cloud Computing Challenges

✳ Enterprise IT wants Control

✳ Business units want flexibility

✳ Data Portability and Interoperability

✳ Trust & Security

✳ Network Latency and Availability

✳ IT Transparency

✳ Disaster Recovery

✳ Cloud Costing

Cloud Benefits

✳ Economies of Scale

✳ CAPEX and OPEX

✳ Pay per use

✳ Flexible usage models

✳ On Demand Scalability

✳ Globalized

Cloud Barriers

✳ Data Security & Privacy

✳ Regulatory Control (SoX, HIPPA, etc)

✳ Lack of Audit, Governance & Accountability

✳ Questionable Reliability & Performance

✳ Lack of Management Tools

✳ Lack of Integration with Internal Infrastructure

✳ Lack of Regional "Clouds"

✳ Lack of Turn key cloud platform solutions

Hybrid Cloud

✳ Both Local and Remote Resources

✳ Common Abstraction & API's

✳ Uniform Operating Environments (Networking & Storage)

✳ Federated Authentication and Identity

✳ Data Portability

Interoperability

✳ Unified Cloud Interface (UCI)

✳ a common interface for the interaction with remote platforms, systems, networks, data, identity, applications and services.

✳ Extensible Messaging and Presence Protocol (XMPP)

✳ Semantic Cloud Abstraction

Cloud Bursting

✳ Cloud Bursting allows you to automatically scale to sudden and extreme spikes in demand by enabling a hybrid cloud computing model which combines both private data center resources and remote cloud resources such as Amazon EC2

GeoPolitical Cloud Computing

✳ Geo-targeted Computing

✳ Regulatory Concerns (i.e. US Patriot Act)

✳ Compliance (Sarbanes Oxley, HIPAA)

✳ Accountability & Audibility

✳ Data Authority

✳ Jurisdiction and data protection laws

The Stack

✳ Infrastructure Vs Platform

✳ Storage

✳ Networking

✳ Authentication & ID

✳ User Data

✳ WAN Optimization

✳ P2P

✳ Messaging (XMPP)

XMPP Strengths

✳ Decentralization : The architecture of the XMPP network is similar to email; anyone can run their own XMPP server and there is no central master server.

✳ Open and standards compliant

✳ Security

✳ Flexibility & Extensibility (Extension Protocols XEP)

Questions?

✳ Let's chat

✳ www.enomaly.com

✳ Blog: www.elasticvapor.com