

A photograph of the Golden Gate Bridge in San Francisco, California, taken at dusk. The bridge's suspension cables and towers are silhouetted against a deep blue sky. The water below is dark, and the bridge's lights are beginning to glow. The overall mood is serene and contemplative.

The Cloud – Truth or Dare?

NASCIO Annual Conference
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Officer

- 2006 – SaaS offerings available through Cooperative Contracts
- 2008 – Private cloud for consolidated data center
- 2011 – First operational instance of cloud broker delivering IaaS in public sector (per Forbes, 2012)
- 2012 – Release RFO for Broker, IaaS, PaaS, Assessment
- 2013 – Awarded 24 master contracts, offered DBaaS in Consolidated Data Center
- 2014 – Offered Imagery as a Service in Consolidated Data Center
- 2016 (fall)– Offered public, private and hybrid IaaS with self service orchestration layer for automated provisioning in Consolidated Data Center

- ✓ Metered billing (pay for what you use)
- ✓ Self Service orchestration (speed of service delivery)
- ✓ Burst to handle peak demand (elasticity)
- ✓ Ease of access (broad and standard connectivity)

**When your customers demand cloud,
give them cloud characteristics
whether on-premise or in the cloud!**

So What is This Cloud Thing Really?

- **Delivery, not technology**



Technology

Process

People



So What is This Cloud Thing Really?

- **Operational Expense, Not Capital**



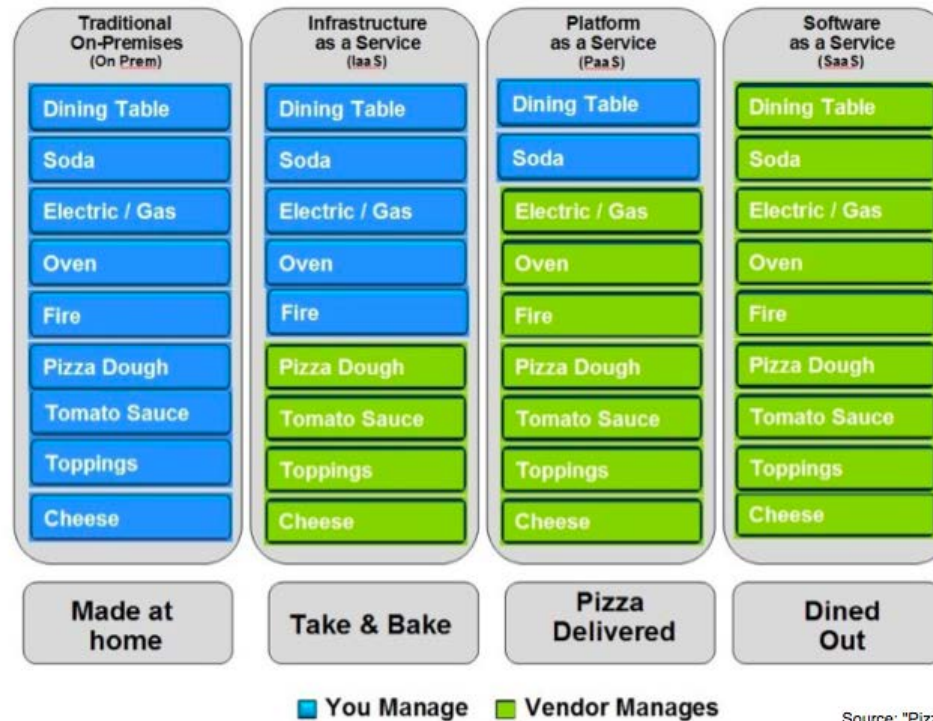
So What is This Cloud Thing Really?

- **Cloud is like Cola**



..or Cloud can be Pizza

Pizza as a Service



Source: "Pizza as a service"

So What is This Cloud Thing Really?

- **OMG – Ts and Cs???**



Perspective



Technology Business Drivers





Risks

•Some Old

- Unauthorized Access
 - Insider
 - External
- Availability Threats
 - Denial of Service
- Fraud and Theft
 - Insider
 - External
- eDiscovery

•Some New

- Seizure of Infrastructure
- Vendor Viability
- Liability
- International Laws
- Import / Export Considerations



Risk (or Uncertainty)

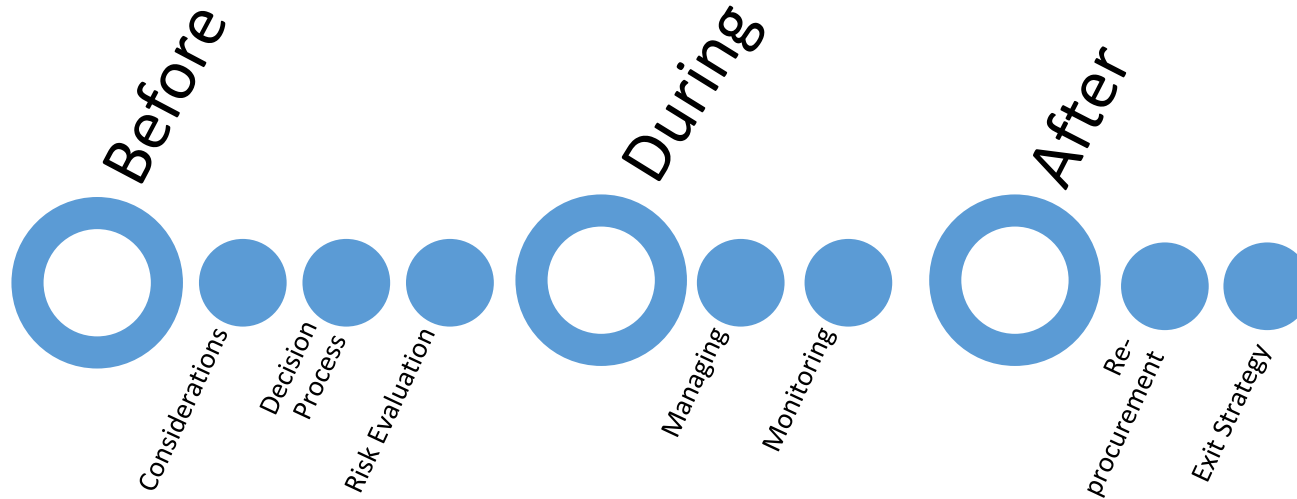
Risk Mathematically Portrayed

$$\text{Risk} = \text{Probability} \times \text{Impact}$$



Probability	Impact
Threat Vulnerability Motivation Capability Preemptive Actions (Protective Measures)	Frequency Asset Value Secondary Factors <ul style="list-style-type: none">• Regulatory Compliance• Dependencies• Financial Value• Loss Magnitude

Charting the Course



Desired State and Acceptable Conditions

First, define the desired outcome.

Security > Current or Required State

Security = Current or Required State

Security < Current or Required State

There will always be tradeoffs, sometimes regarding security



Preparing for Take-Off

Build a team to consider and evaluate:

- Legal
- Procurement
- Technical
- Security
- Finance



Pro/Con scenarios – Why move forward, why not move forward

Know what are flexible conditions and absolute requirements.

Flying forward



Post Take-off Checklist

- **Service**
 - Service Level Agreements
 - Data Stewardship
 - Performance
- **Security**
 - Notifications
 - Compliance
 - Audits
- **Record Management and Retention**
 - Media Handling and Proliferation

Perspective



The Cloud is a data center SOMEWHERE



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