

# Disaster Recovery in California



**P.K. Agarwal**  
**September 18, 2008**



# IT Has Arrived





# Messages safe in BlackBerry outage, RIM says

An apology but no explanation for three-hour service failure

By Sumner Lemon

Comments  5 Recommended  155 Share 

February 12, 2008 (IDG News Service) [Research In Motion Ltd.](#) acknowledged that an outage left users in North America without access to their [BlackBerry e-mail](#) service on Monday, but it said no messages were lost during the incident.

The [outage started](#) around 3:30 p.m. Eastern time and lasted for about three hours, causing "intermittent delays" for data services, RIM said in an e-mail statement released hours after normal BlackBerry service had been restored.

"No messages were lost, and message queues began to be cleared after normal service levels were restored," RIM said, adding that voice and Short Messaging Service services operated normally during the



## A VIRTUAL CONFERENCE

Presented by Computerworld

### Keynote Speaker



**Joan Albeck,**  
**Director of IT Infrastructure, Scottrade**  
Joan Albeck is credited with directing the design and implementation of Scottrade's (an online trading company) new state-of-the-art \$25 million data center. The data center for Scottrade is the largest technology facility that Scottrade has made since it was founded.

Live Event: August 26 - 9:30 am / 6:30 pm

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John McCain



Country: United States

**Currently Running For**

Office: President  
Party: Republican Party

**Current Office**

Office: Senate  
State: Arizona  
Party: Republican Party

▼ Supporters

6 of 1,746,565 supporters

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Hilmar Magnússon



Candice Butson



Dave Tschopp



Don Drake



Mary-Lul Poupart



Jenny Castillon

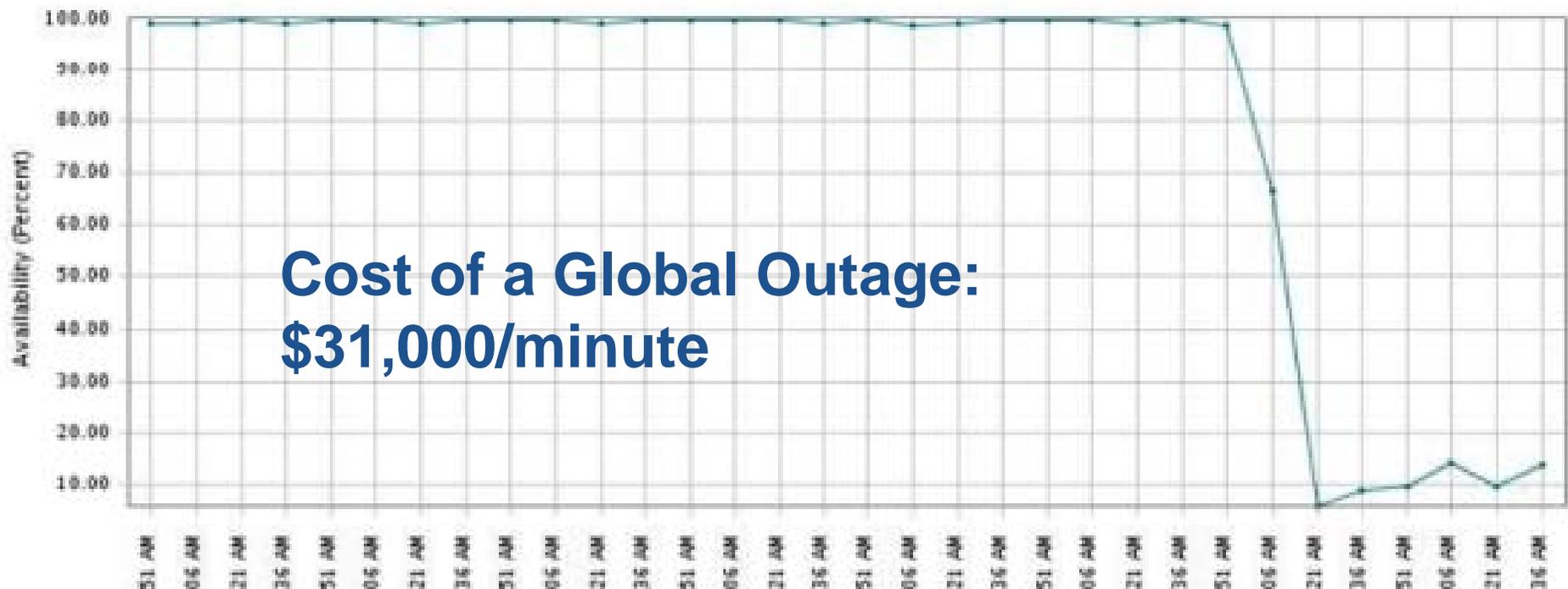


# Amazon suffers U.S. outage on Friday (June 6)

Posted by [Stephen Shankland](#)

40 commen

*Update 3:22 p.m. Amazon has declared the outage over. For details, check our [follow-up post](#)in.*  
*Updated 12:43 p.m. PDT with further details, including partial site recovery.*



**Cost of a Global Outage:  
\$31,000/minute**



# Cost of Failure of one DTS Campus

**\$20,000/minute**

Assume 40k employees  
impacted @ \$30/hour





# Technology Serving Californians





# State Controller's Office

2,184,000 payroll checks each year





## State Controller's Office

**3,312,000 direct deposits each year**





# Employment Development

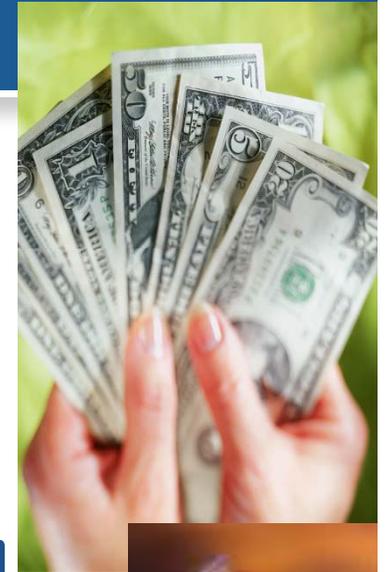
2.3 million unemployment claims





# Unemployment Benefits Disbursed

\$4.7 billion





**DMV**

**33 Million cars**





**DMV**

**23 Million driver licenses**





# DMV

\$5.9 Billion license fees





# Monitoring 45,000 miles of freeways/highways lanes





# Serving 2.3 million needy families





# Health Care

Information on 219 million  
Medical Procedures





**\$41 billion in use tax collection**





# Point to Ponder

How long could you afford to be down for one of your major applications?





# Availability – The Critical Issue

- **Cost versus Performance**

	Annual Outage	Monthly Outage	Weekly Outage	Cost
95%	18.25 Days	36 Hours	8.4 Hours	Current Rates
98.5%	7.3 Days	14.4 Hours	3.4 Hours	Current Rates
99%	3.7 Days	7.2 Hours	1.7 Hours	2x-4x
99.9%	8.8 Hours	43 Minutes	10 Minutes	2x-4x
99.99%	53 Minutes	4.3 Minutes	1 Minute	2x-4x





# The Shape of the Future

- **IT as a Utility**
  - 24x “forever” expectation
- **Impending mission critical and life support applications**
  - 500-800 online services
  - Health IT
  - Voice over IP





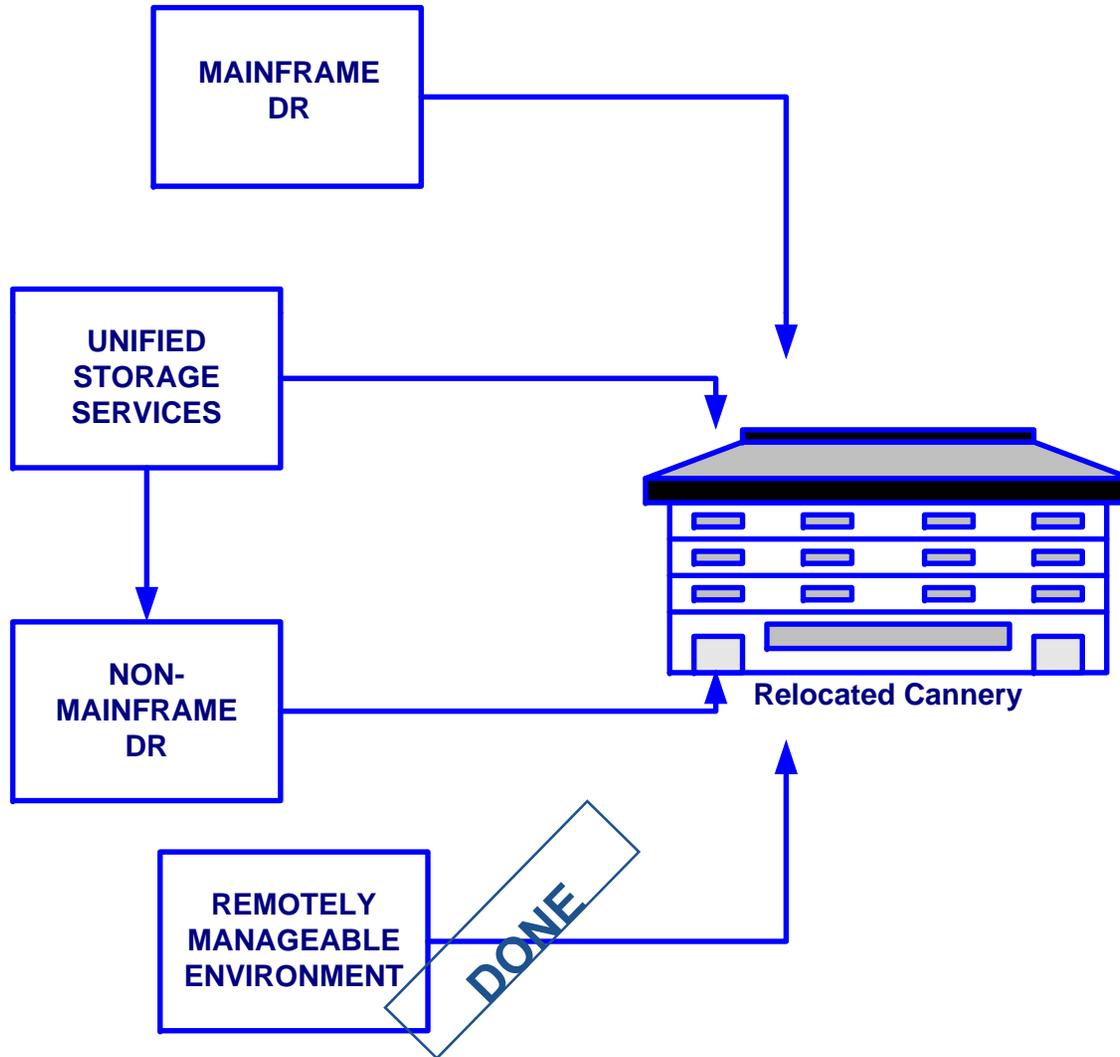
# DTS Today.....

- **Limited Provisioning of Disaster Recovery**  
– 19/72
- **The two data centers are in the same earthquake and flood zone**
- **Cannery Lease expires June 2011**



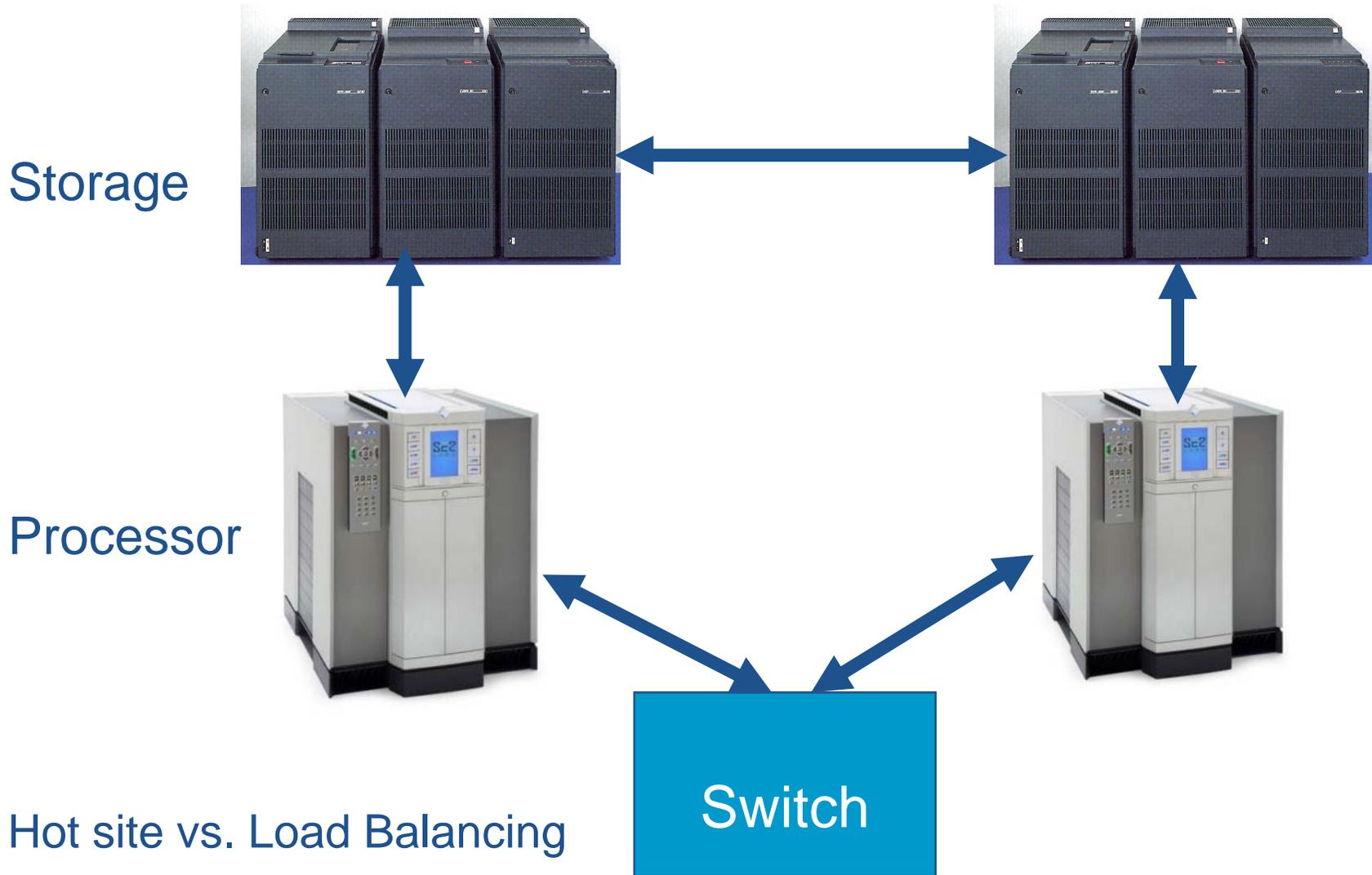


# Getting There

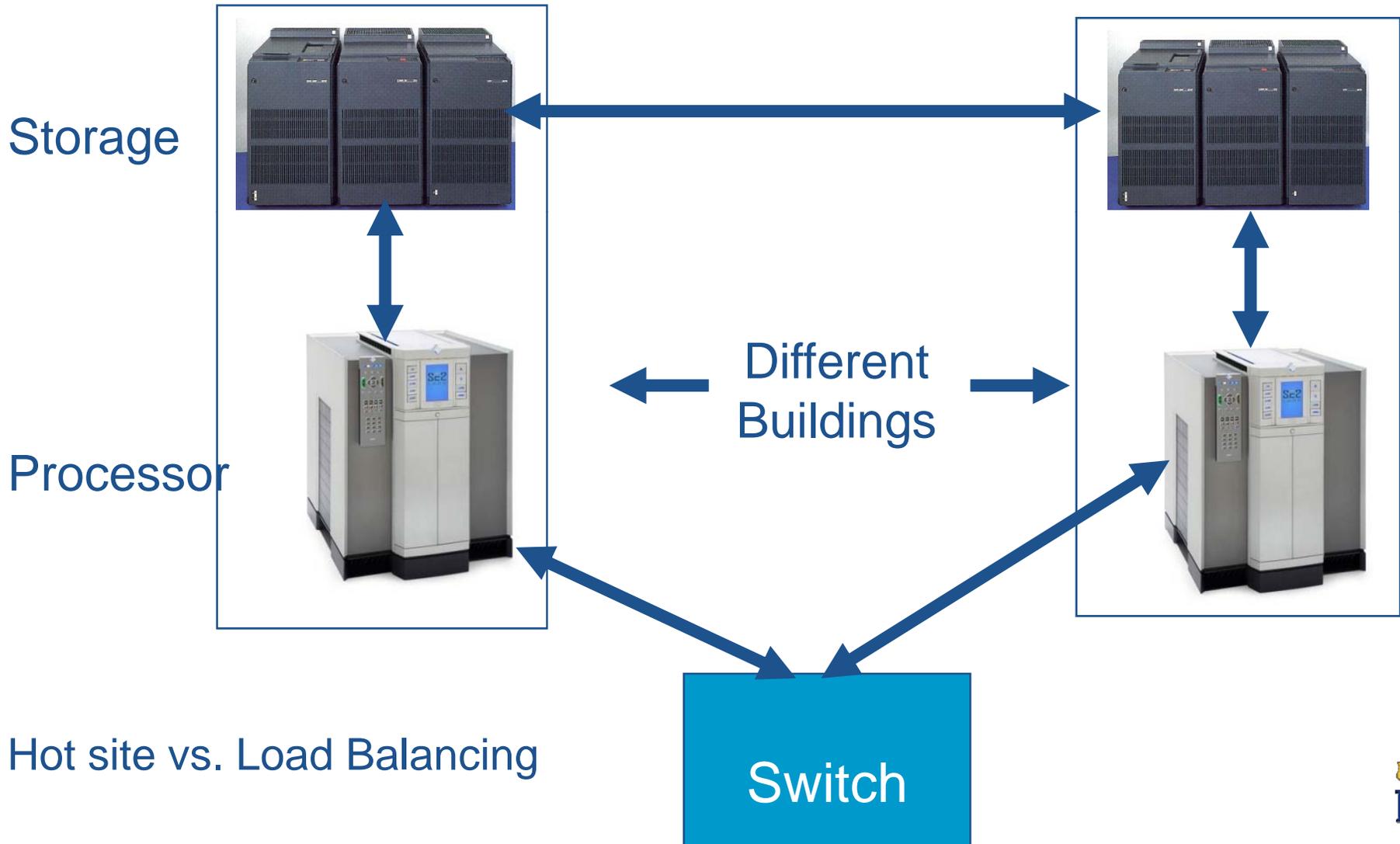




# Definition: Operational Recovery (OR)



# Definition: Disaster Recovery (OR)





# Mainframe Disaster Recovery

- **Value**
  - 4 hour recovery for all applications
  - Recovery planning is simplified
  - Reduced complexity of operations
    - No need for offsite tape storage
- **Completion - Sept 2009**





# Non-Main Frame DR

- **Case by case basis**
- **Requires Storage Unification**



# Unified Storage Services

- **Incremental Approach**
- **Value**
  - Lower Storage costs per unit
  - Simplified operation associated with tape reductions
- **Completion – December 2010**





# Relocated Cannery

- **Compaction at Gold Camp**
- **Second smaller leased data center**
- **Completion – 2010**





# Discussion

- Which of your major applications have disaster recovery today? What level is adequate two years from now?
- Are you provisioning to pay for it?