

Disaster Recovery Cloud Computing Changes Everything

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Agenda

Disaster Recovery to Business Continuity

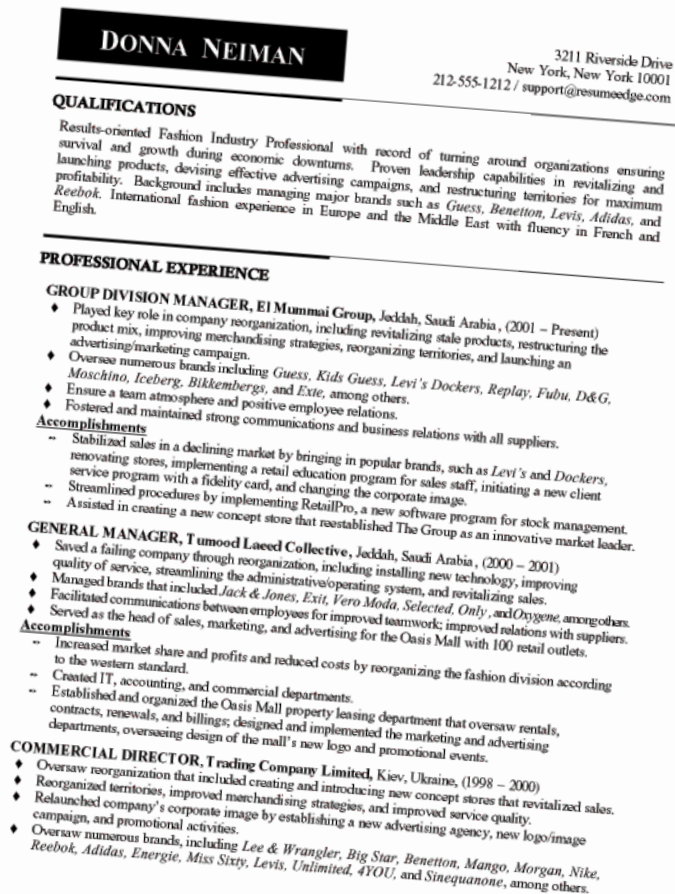
- What makes an effective DR plan?
- Business Continuity Benchmark
- **Cloud Computing**
 - Definitions, trends, players
 - Implications to law firms
- **Costs Analyzed**
 - Infrastructure, Software, Connectivity, Personnel
- **Putting it all together**
 - A vision for Business Continuity moving forward

#1 The Resume Plan

Keep your resume polished so when things go down you are ready to go...

Benefits

- Highly cost effective
- Easy to implement
- Low management overhead



As Effective as your Budget

#2 Typical DR Plan

- 2 – 4 critical systems protected
- Offsite facility with limited infrastructure
- Insufficient bandwidth
- 100+ systems on tape backup
- 24 hour to 7 day RPO
- 1+ week lead time for new hardware
- Recovery Times Uncertain

#3 Unlimited Budget

- Complete replication of data center



Disaster Recovery Definitions

- **Recovery Point Objective**
 - Point in time to which you must recovery data – the total amount of data you could lose
- **Recovery Time Objective**
 - The time it takes to bring a system back online

DR to Business Continuity

- **Two types of Downtime**
 - Planned and Unplanned
 - Goal of Business Continuity is to reduce both
- **Business Continuity Benchmark**
 - RPO and RTO of 15 minutes or less for all systems
 - Multiple ways to recover data and systems
 - Failover to secondary facilities
 - Offsite backup included
 - Ability to test individual systems



The Future is Cloudy

Cloud Computing will
displace \$150B in spending
by 2012...

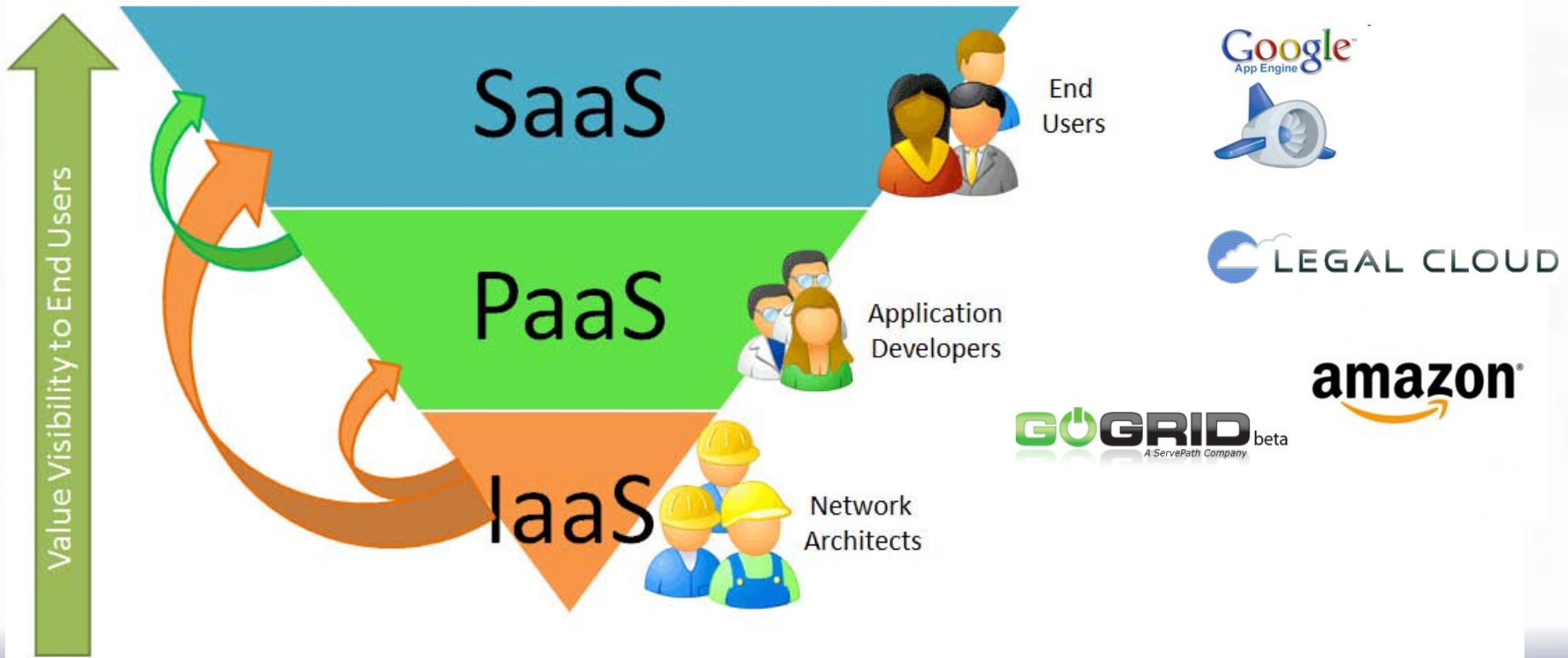
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Will be as influential as E-
Business...

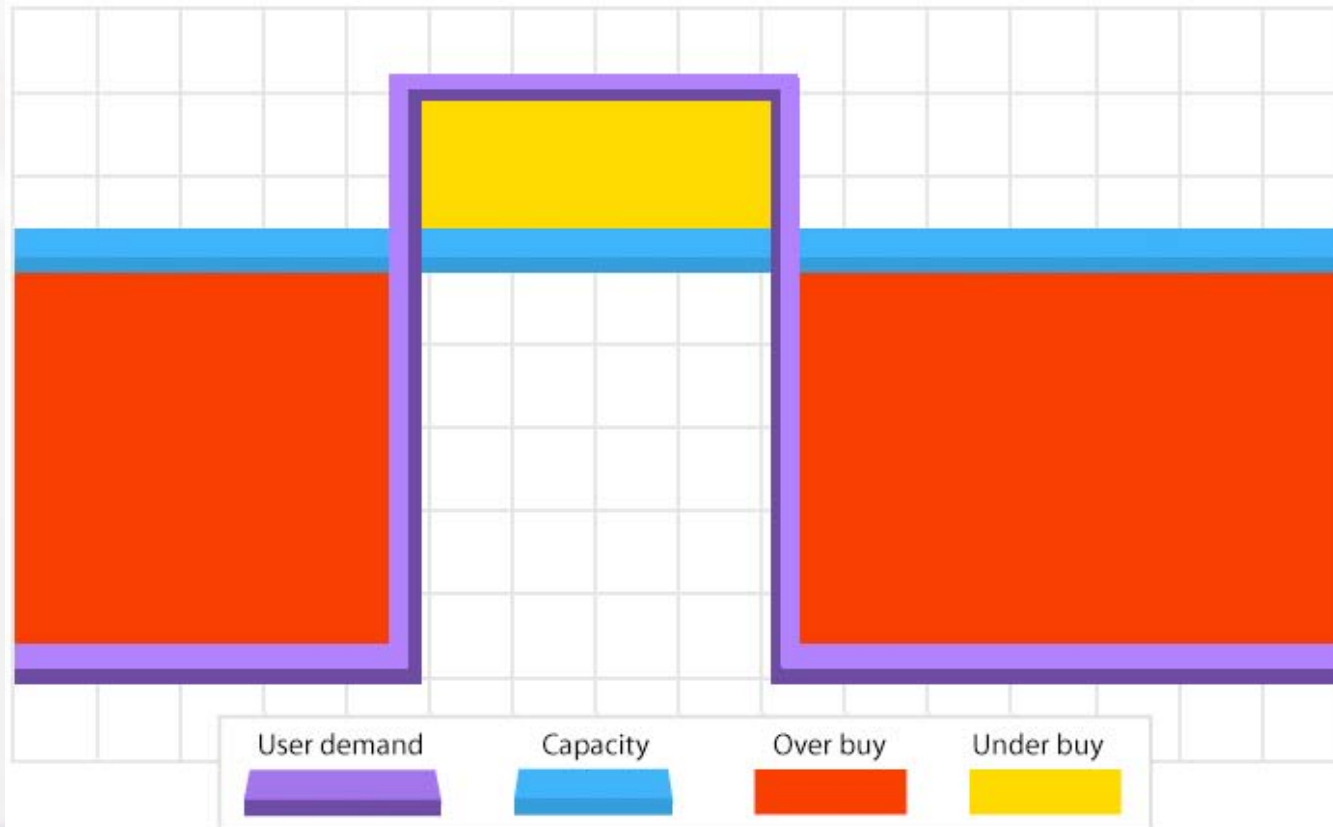
- No capital costs
- Elastic – scale up and down on demand
- Virtual – no hardware



Cloud Landscape

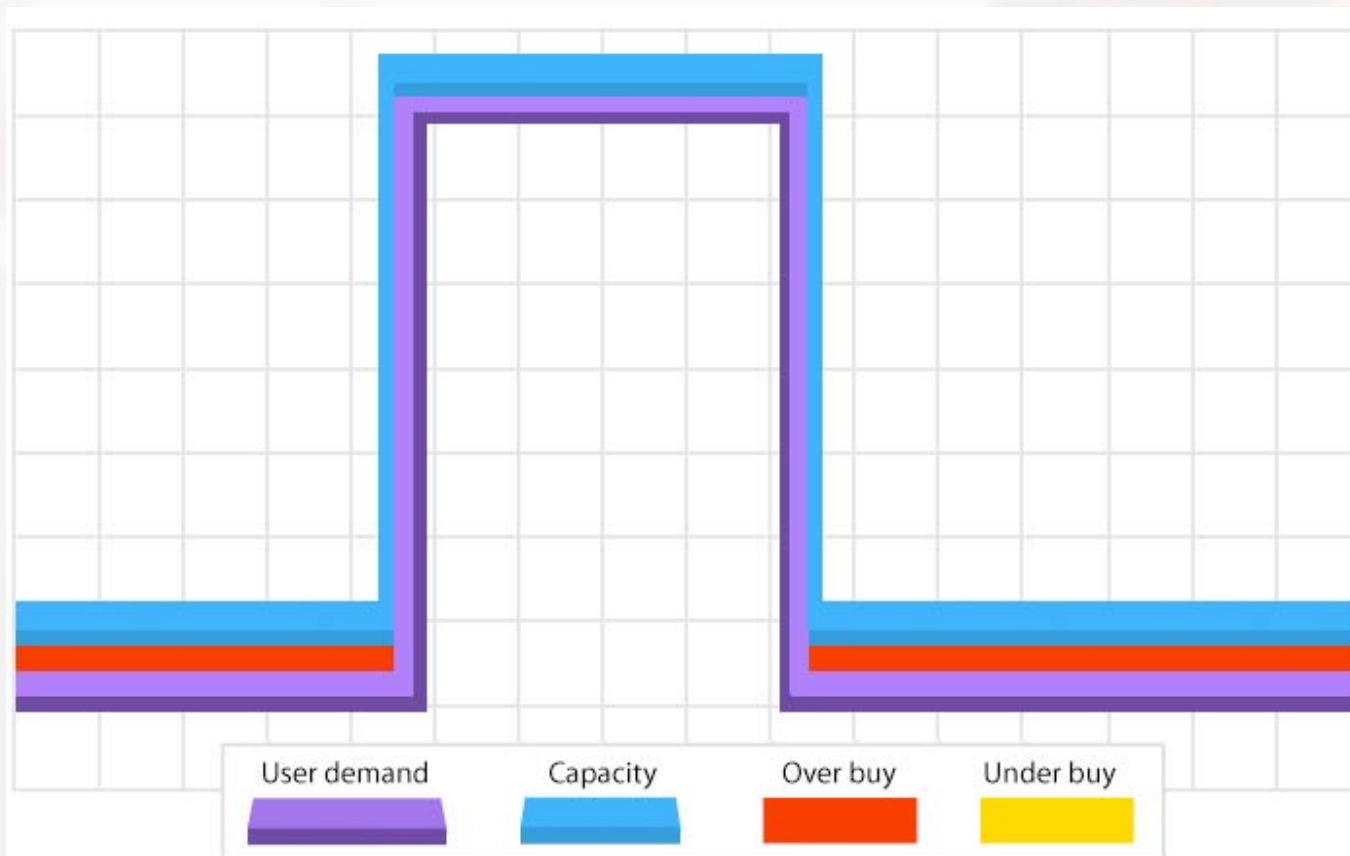


Business Continuity Cloud



Business Continuity today

Business Continuity Cloud



Business Continuity Cloud Model

Cloud – Impact on law firms

- **Tremendous opportunity**

- Reduce costs
- Speed to delivery of new services
- Out-compete firms with burdensome infrastructure
- Globalize
- Your clients are already doing this!

- **Some concerns**

- Security
- Which vendor?



A Look at Costs

Many firms that have duplicated infrastructure have bought themselves an ongoing, expensive insurance policy

- Infrastructure
- Collocation fees
- Data Growth
- Connectivity
- Software
- Personnel time



Disaster Recovery is costly, limited, inefficient and risky

Infrastructure Capital Costs

8 x Servers	\$100,000
SAN	\$150,000
Network Infrastructure	\$75,000
Software	\$50,000
Total	\$375,000



Monthly Service Fee

Infrastructure Capital Costs

Collocation	\$16,000
Connectivity	\$6,000
Personnel time	\$6,000
Total	\$28,000

Monthly
Service Fee

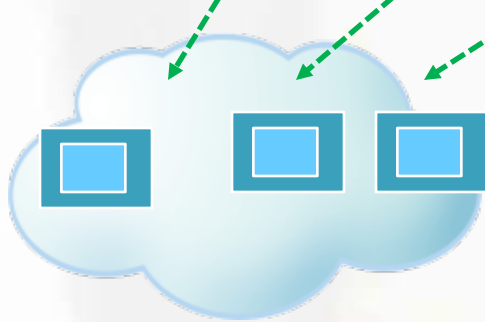
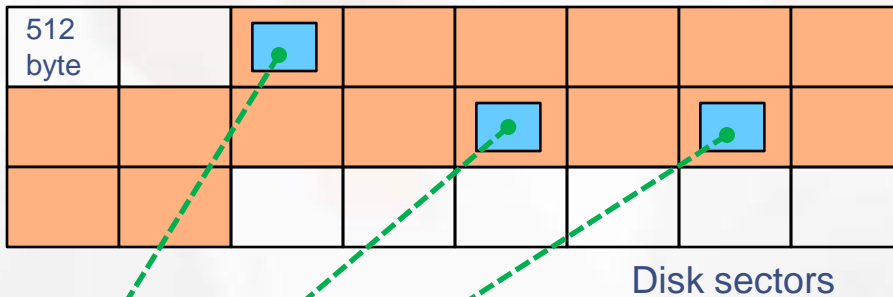
Connectivity Costs

1. Total amount of data to transmit to keep pace with RPO goals
2. Latency of connection after failover



Connectivity Costs

-  = empty disk sector
-  = data written by application or file system
-  = sector with actual data change



A typical 8k write of data. Many systems send all 8k or more.

De-duplication software is very influential

Avoid constant resending / storage of duplicate data

Connectivity Costs

83 days worth of replicated data – Law Firm example

Site	File Change in GB	Filtered	Actual GB Transferred	Percentage Reduction
Houston	4,869	4,017	852	82%
New York City	16,176	13,409	2,767	83%
Wash D.C.	7,289	5,581	1,708	77%
Atlanta	73,376	62,527	10,849	85%
Total	101,710	85,534	16,176	84%
Avg per Day	1225	1031	195	84%

Min. Storage Unit to Track Changes on Disk	LegalCloud	NetApp	HDS	EMC
	512 Bytes	4 KB	16 KB	64 KB
Storage Efficiency	1	8 x less efficient	32 x less efficient	128 x less efficient

Connectivity Costs

- Actual user production data for Exchange replication
 - 1300 users, hourly replication from CA to PA
- Average WAN traffic reduction of 97% with no additional network equipment needed

Storage Group	Exchange Sectors Changed	Sectors Replicated	Average Percent Replicated	Average Savings
SG1	11,045,655	291,794	2.64%	97.36%
SG2	10,228,363	250,180	2.45%	97.55%
SG3	12,809,355	301,842	2.36%	97.64%
SG4	10,587,042	330,289	3.12%	96.88%
AVERAGE	11,167,604	293,526	2.64%	97.36%

Adding it all Up

Capital Costs	\$375,000
Monthly Costs x 36	\$28,000
Total Over 3 years	\$1,383,000

Per user annual
\$461

Vs.

Monthly
Service Fee

Vision for Business Continuity



No Worries

- Servers
- Storage
- Disaster Recovery
- Offsite Backup

Vision for Business Continuity



No Capital

- Pay for what you need when you need it

ilta09

leading technology | optimizing value

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Vision for Business Continuity



**Globally
Available**

Vision for Business Continuity

**Drive Down
Costs**

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leading technology | optimizing value

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Thank You

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