



**Driving Innovation
Through the Information
Infrastructure**

SPRING 2011

Virtualization & Cloud: New Options for Disaster Recovery and Business Continuity

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CA Technologies



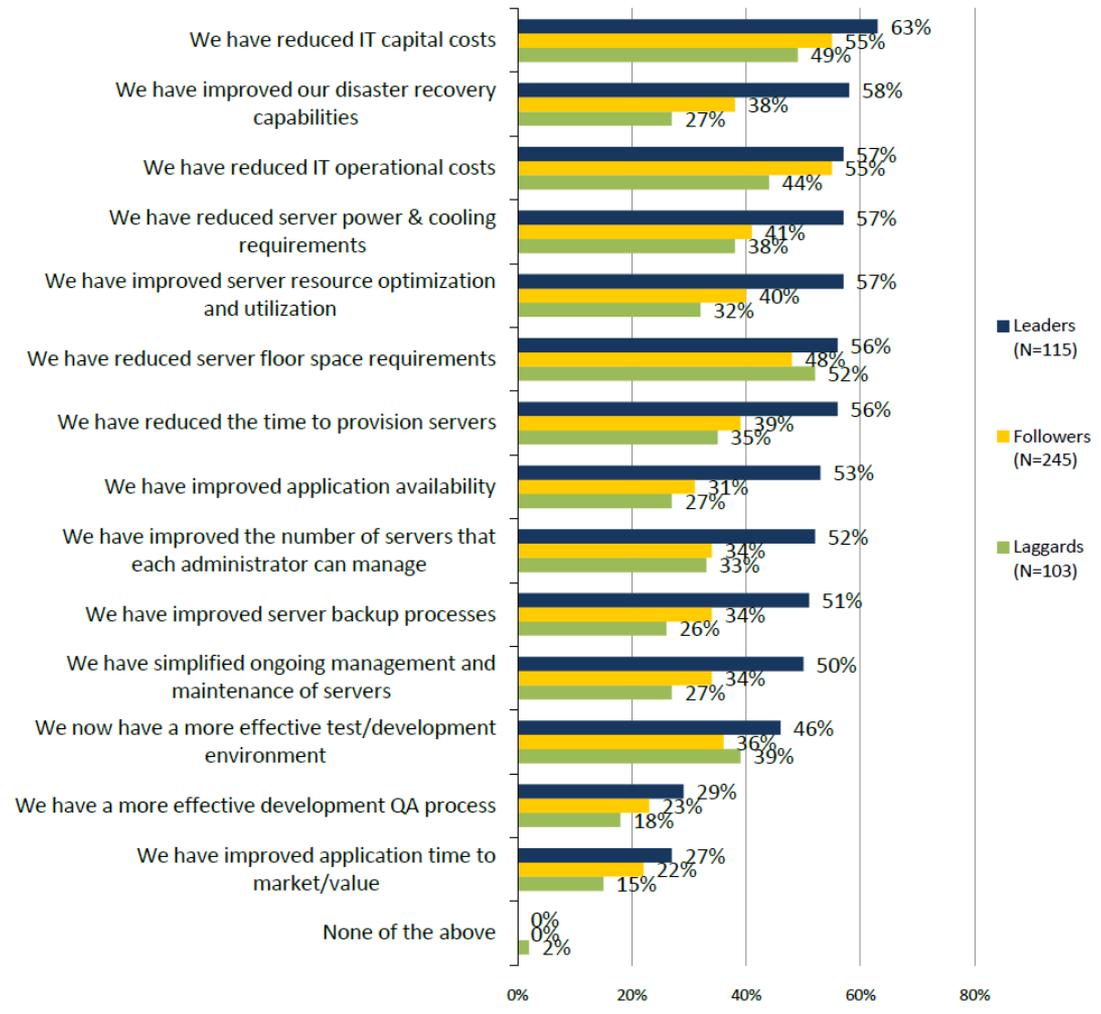
cloud storage is a numbers game

with a cloud storage strategy	with no cloud storage strategy
2.5	3.5
... downtime events per year	
2	8
... average recover time in hours	
5.3	13.7
... longest single downtime event in hours	

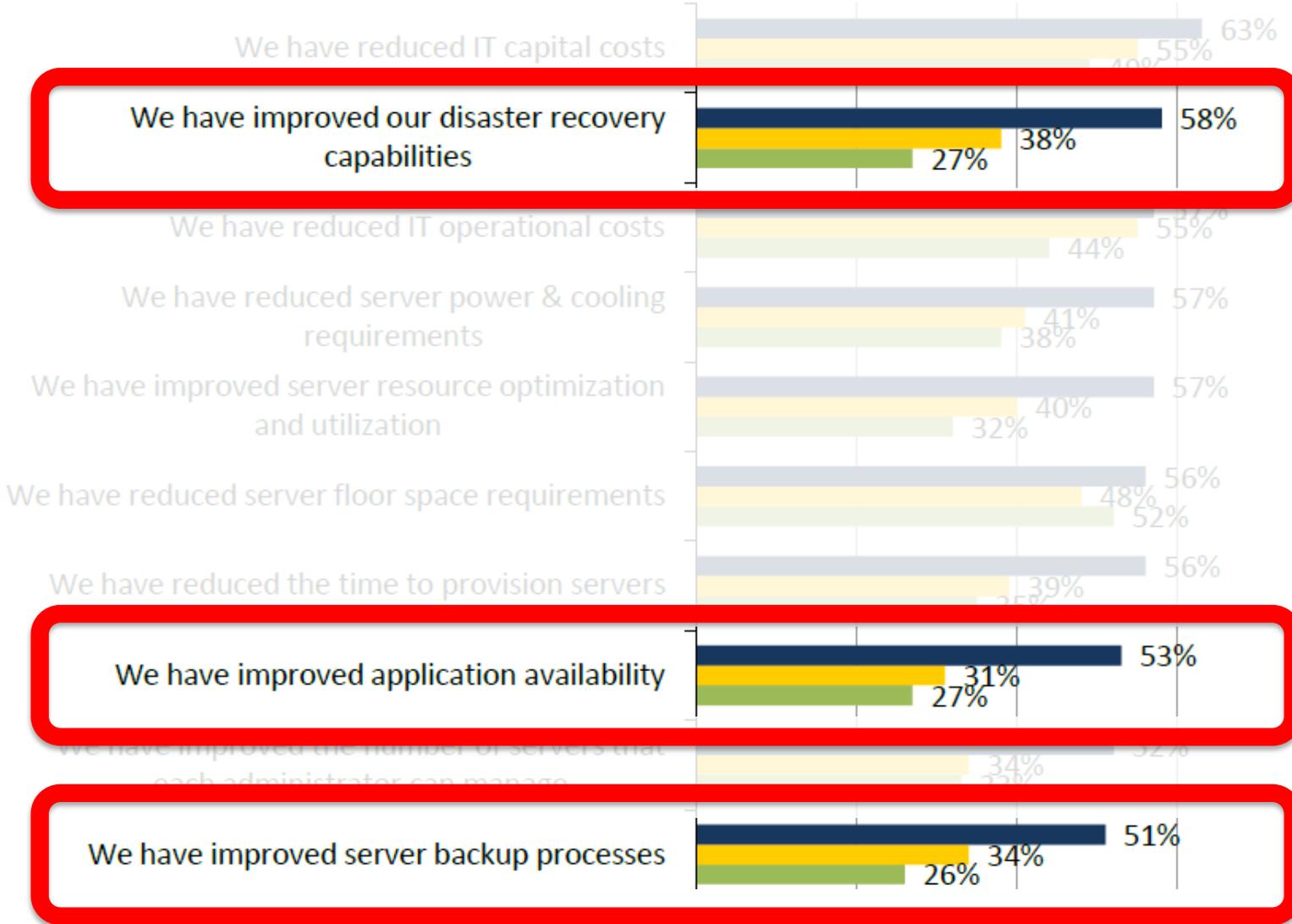
Aberdeen Group, Oct 2010

virtualization delivers better DR

Benefits realized as a result of deploying server virtualization technology, by virtualization maturity. (Percent of respondents)



... 2nd only to cap-ex savings

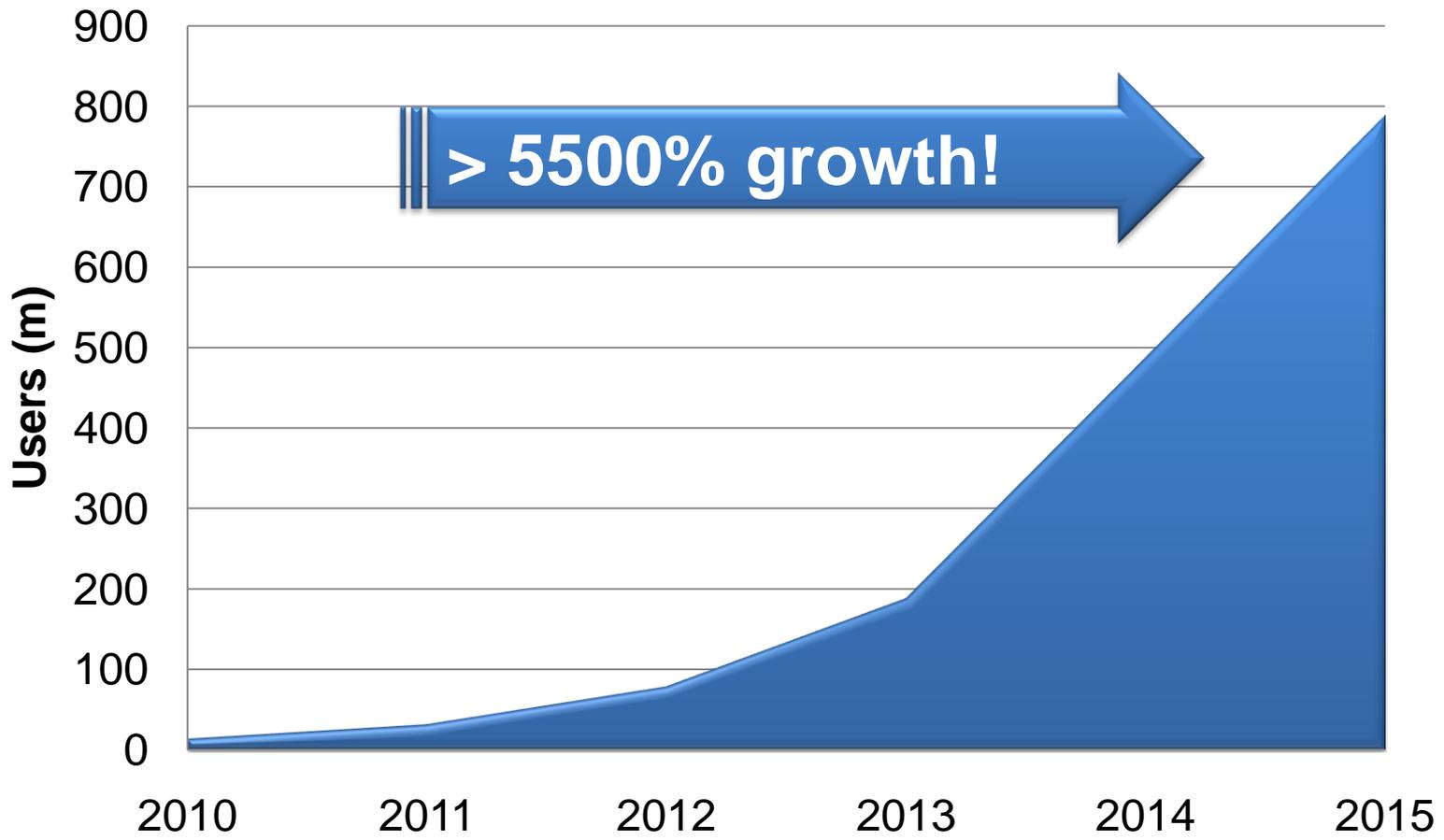




USE CASES FOR CLOUD-BASED DR/BC

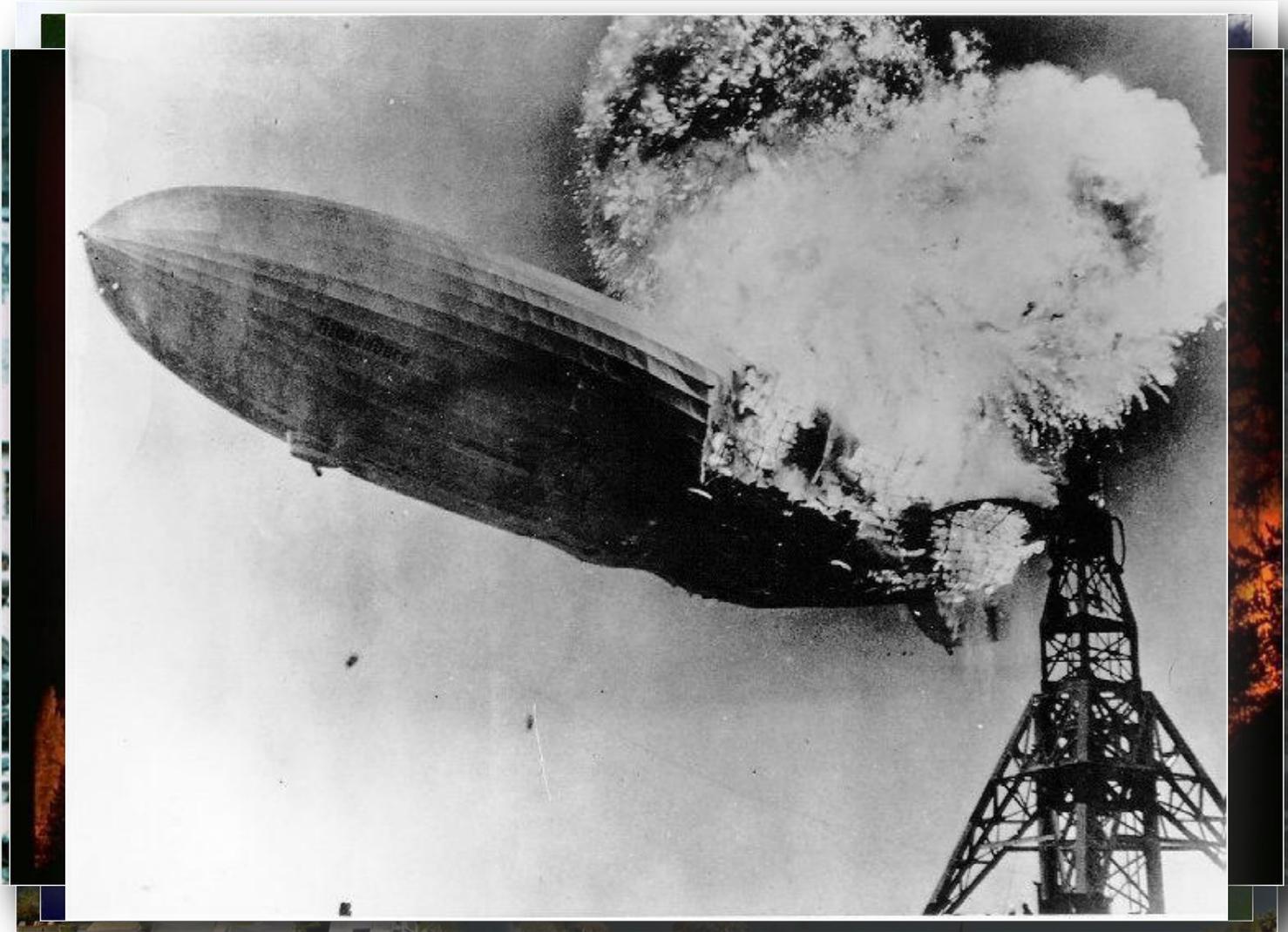
Supporting Mobile Users

Global Mobile-Only Internet Users



Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015

Catastrophic Failure





Efficiently Using Spare Capacity



robust & rapid disaster recovery



MUNDER

- retirement plans and mutual funds
- domestic and international
- funds worth around \$21 billion

→ Challenge

- constant access to information
- robust and rapid disaster recovery
- scalability to support biz. growth

→ Solution

- Microsoft Hyper-V and CA ARCserve
- backing up c. 36 TB of data every week
- 2 hrs to recover 86 servers to 12

→ Benefits

- minimize downtime
- reduce cost of DR
- enhance continuity
- safeguard decision data
- maximize revenue

Interoperability with an effective and efficient virtualization-based disaster recovery solution



Some Times NOT To Use the Cloud for Disaster Recovery



maybe ...



KEY RECOMMENDATIONS

Virtualize everything

- Snapshots
- Cross-site replication
- Virtual storage hardware
- Network virtualization
- Non-disruptive granular backups
- Image migration (P/V-to-P/V)
- vStorage API/VCB
- Mobile desktops
- On-premise/Off-premise



snapshots' dirty little secrets

Non-Granularity

Duplication

Storage cost

Image sprawl

Hardware dependence

Localized

Verification

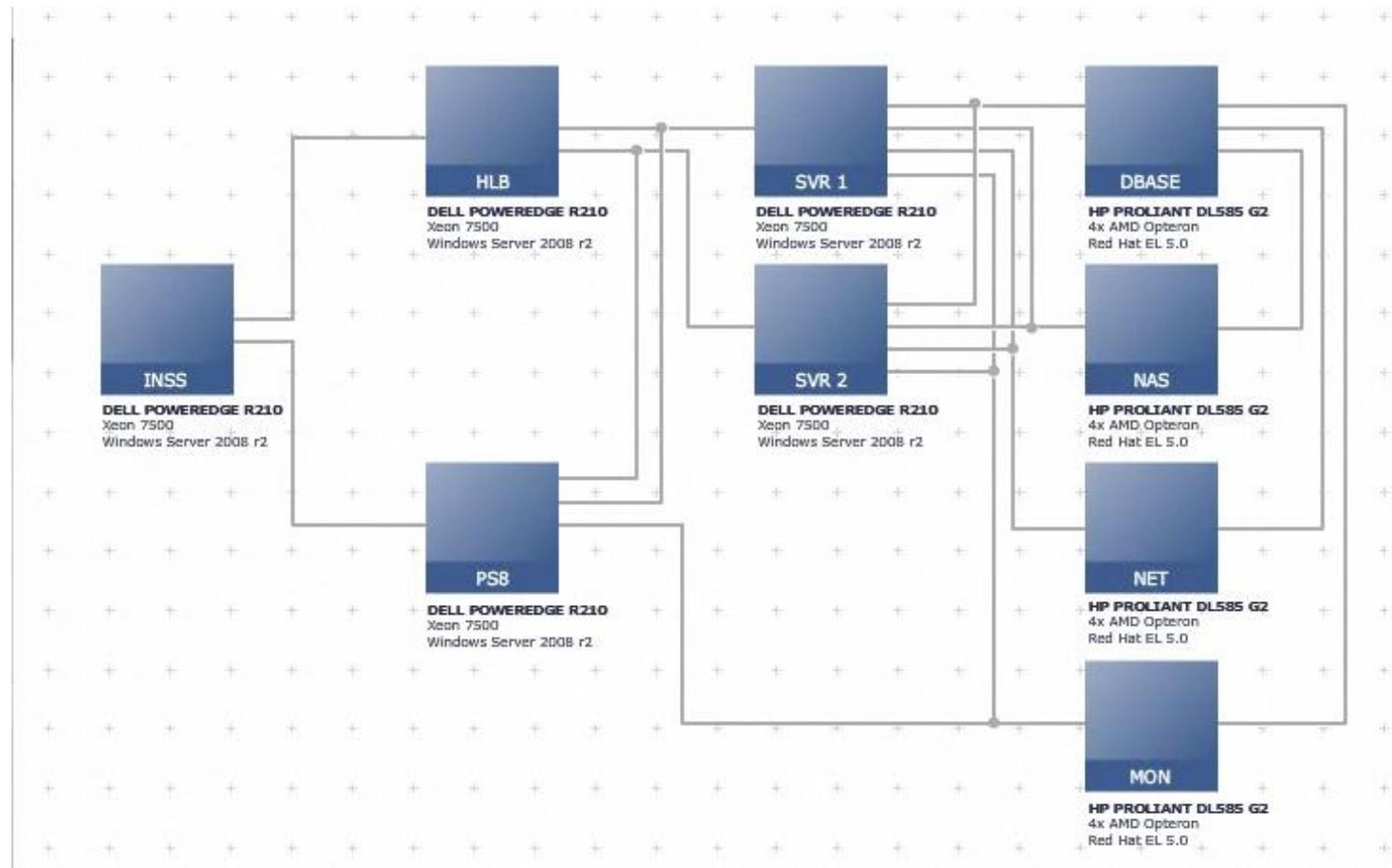
Security

... but still useful

Automate everything

- Automation is fast, reliable, auditable
- Flexible DR/BC
 - backup, recovery, failover, migration
 - failure detection, power management
 - reimage, reprovision, rebuild
- Process is critical
 - standardize, codify, orchestrate
- Deliver self-service DR
- The right tools for the job ...

virtualization & automation enable encapsulation



encapsulation allows global deployment





global mobility enables flexible disaster avoidance

Datcenters

Show global risk 



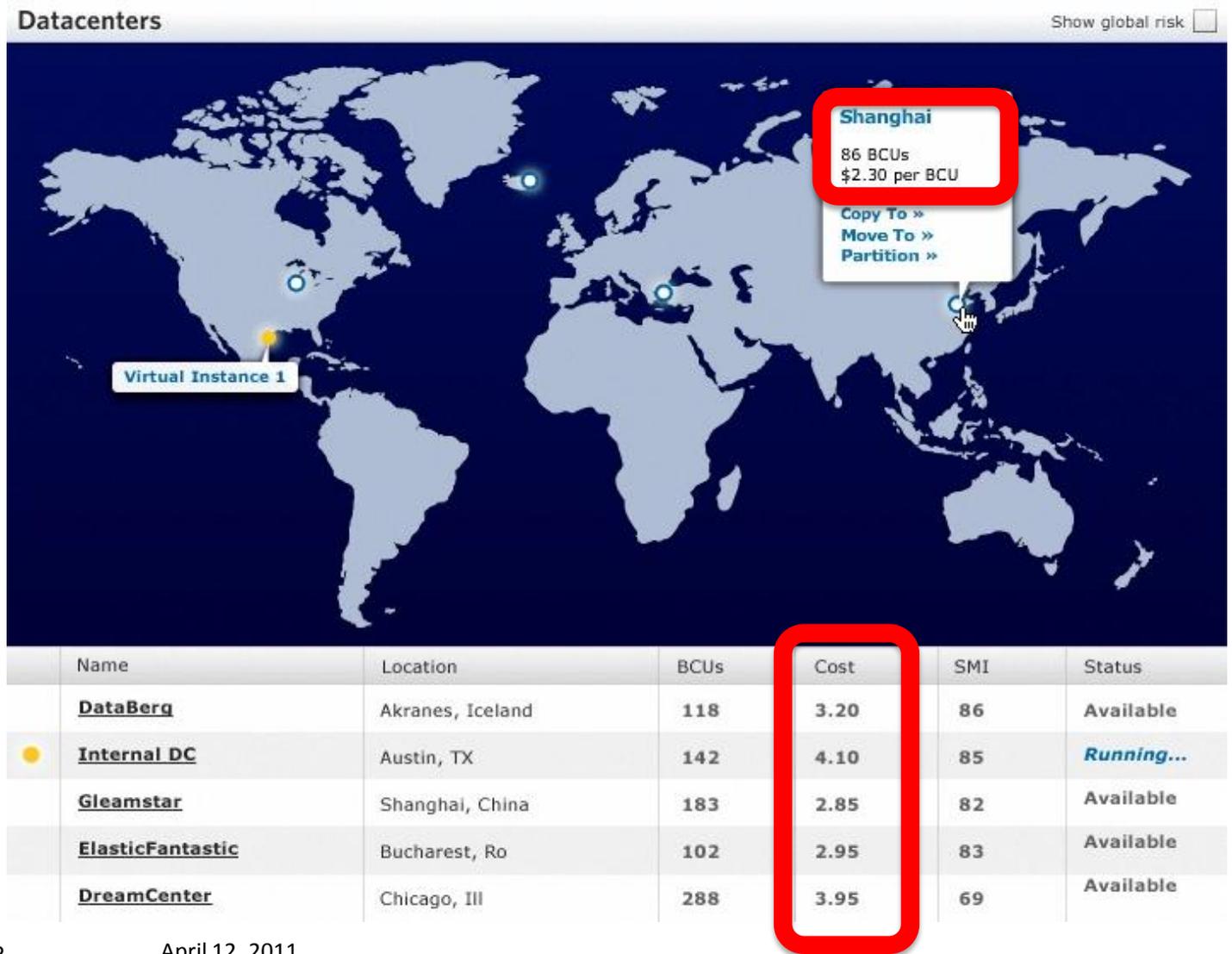
Name	Location	BCUs	Cost	SMI	Status
DataBerg	Akranes, Iceland	118	3.20	86	Available
Internal DC	Austin, TX	142	4.10	85	Running...
Gleamstar	Shanghai, China	183	2.85	82	Available
ElasticFantastic	Bucharest, Ro	102	2.95	83	Available
DreamCenter	Chicago, Ill	288	3.95	69	Available

... single-click disaster recovery

Datcenters Show global risk

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... not to mention cost mitigation





OFF-PREMISE CLOUD

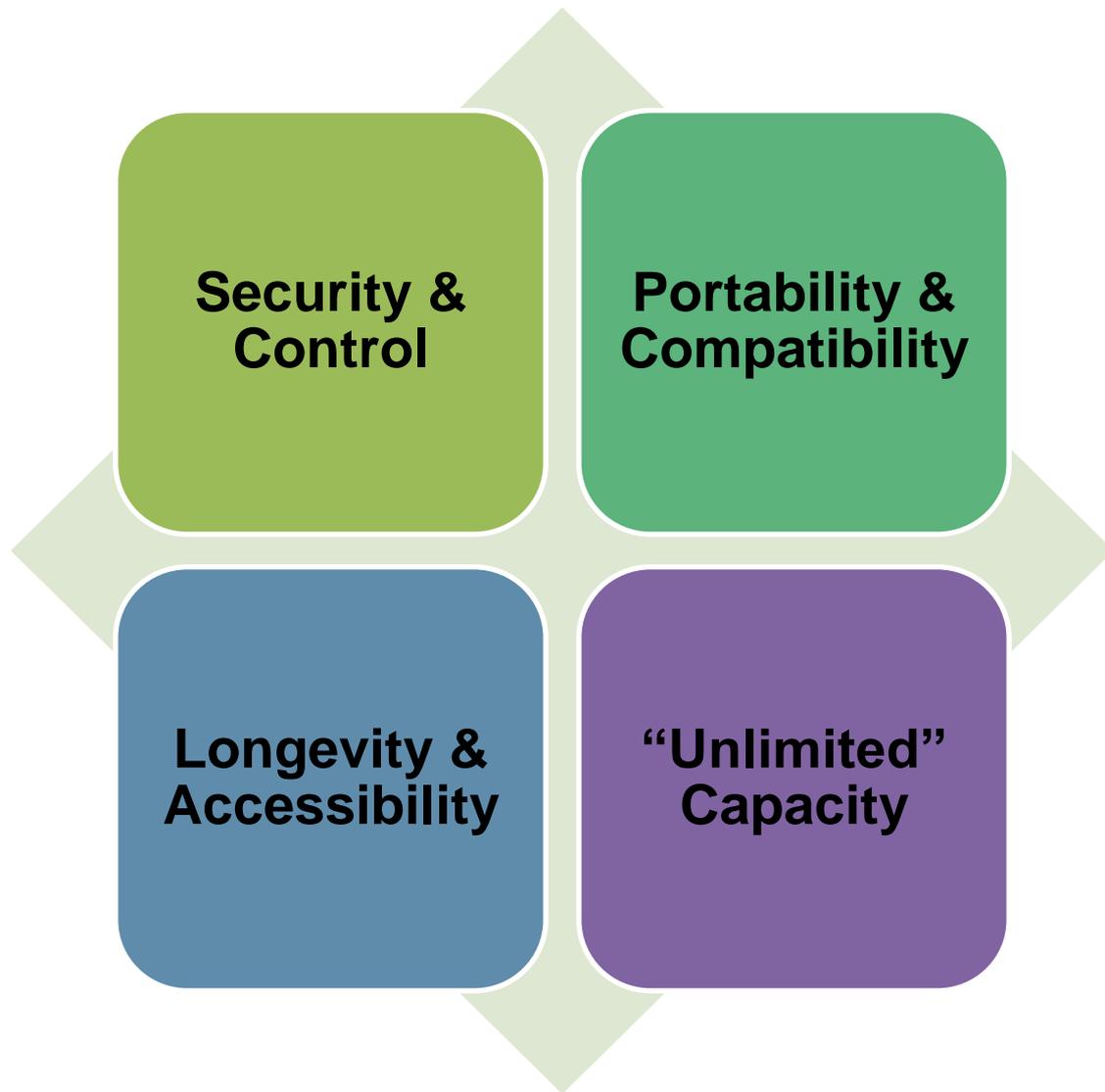


multiple providers

- Nirvanix
- Google
- MozyPro
- DropBox Pro
- Windows Azure
- Commvault
- Amazon EBS



strategic risks in public cloud



**Security &
Control**

**Portability &
Compatibility**

**Longevity &
Accessibility**

**“Unlimited”
Capacity**

risk management

- Involve all the key stakeholders
- Do not put all your eggs in one basket
- Plan carefully, prepare for contingency.
- Test early, test often, never assume
- Openness – inbound and outbound
- Do not lower your standards ... too far
- Choose the right objectives
- Understand technology restrictions
- Monitor your costs in real time

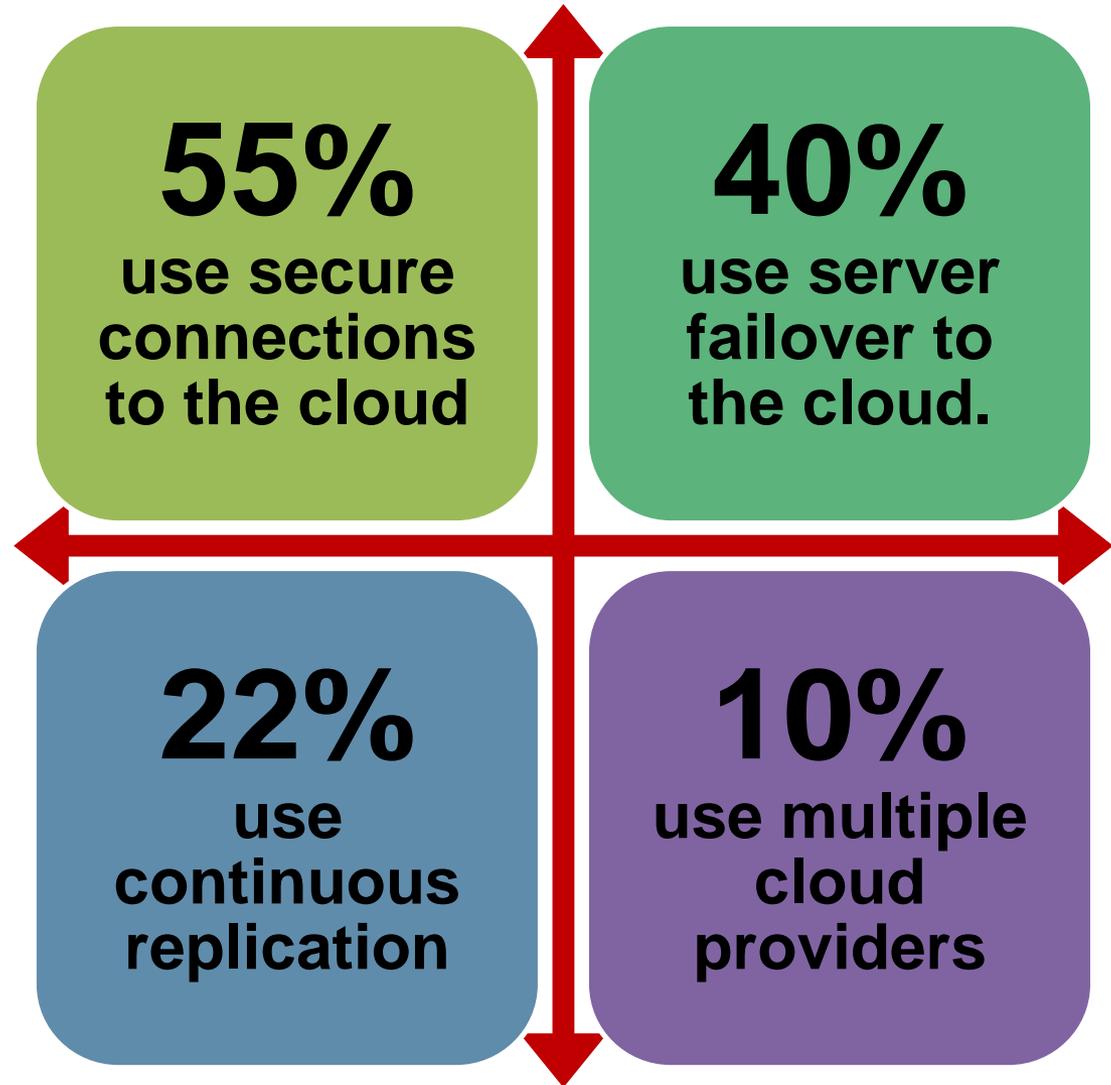
best practices don't go away

RTO	RPO	D2D	De-dupe
Compression	Offsite storage	Offsite recovery	Reliability
Granularity	RAID	Audit	Compliance
Encryption	Thin provisioning	SSL	CDP

a word on public cloud SLAs

- Trust but verify e.g. confirm:
 - internal cloud DR controls
 - expected, average, worst-case RTO, RPO
 - security, encryption, audit controls
 - etc.
- Do a background check
- Visit the cloud provider site
- Make sure your SLAs have teeth
- Your provider may be your weakest link

best in class cloud storage strategies





the last word

**backup is easy.
recovery is hard.**



SUMMARY AND CLOSE

How CA Technologies Can Help

- CA Technologies is an IT management software and solutions company. Our products enable customers to manage and secure IT environments and deliver more flexible IT services
- ‘Lift and Drop’ solutions for virtualization-based application encapsulation and whole-service DR (like [CA 3Tera Applogic](#))
- Solutions to automate the IT processes for P/V to P/V, backup/recovery, and cloud migration (such as [CA ARCserve](#))
- Resource and whole-workload migration (like [CA Automation Suite](#)), and instrument high availability (like [CA Process Automation](#))
- Solutions that provide desktop and user mobility so your staff can work from wherever they are (like [CA IT Client Manager](#))
- People and process expertise from CA Services on virtualization and cloud deployment and best practices

Sources/Resources

CA ARCserve Website

<http://arcserve.com>

CA Technologies virtualization management website

<http://CA.com/virtual>

Case Study: Munder Capital helps to safeguard \$21 billion in funds with CA ARCserve Backup

http://www.ca.com/files/successstories/ca-munder-css-170209-gp_201036.pdf

Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015

http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

Whitepaper: overcoming virtual stall through 1:1 virtualization

<http://www.ca.com/~media/files/whitepapers/virtual-stall-final.ashx>

ESG research report, The Evolution of Server Virtualization

<http://www.enterprisestrategygroup.com/2010/11/the-evolution-of-server-virtualization/> (subscribers only)

SearchCIO.com, IT execs question whether cloud disaster recovery is a viable option (feat. Aberdeen Group)

<http://searchcio.techtarget.com/news/2240032950/IT-execs-question-whether-cloud-disaster-recovery-is-a-viable-option>

NIST definition of cloud computing

<http://csrc.nist.gov/groups/SNS/cloud-computing/>

Stock images (free!) courtesy of Stock.Xchnng

<http://www.sxc.hu/>



QUESTIONS



THANK YOU