

Session title and abstract:

Clouds and Virtualization, Don't be scared, however look before you leap!

For some organizations the cloud is a destination, yet for others it is vehicle or platform to enable change as part of a journey for IT environments. A common theme and objective is to transform how information services are delivered in order to sustain business and meet organizational objectives. Those objectives may be to enhance agility, flexibility, resiliency along with scalability or perhaps increase productivity and profitability or reduce complexity and thus costs.

Regardless of what your primary business as well as technology objectives are, the question should not be if you will be using cloud, virtualization or other forms of abstraction. Instead, the questions should be when, where, why, how and what approaches to leverage as we transit into the next wave which is life beyond consolidation. A question should be not if, rather when, where, how and why Virtualization along with clouds will take on an increased and complimenting roles in your environment. Look into how clouds and virtualization should be seen as complimentary and enabling to your particularly IT journey objectives regardless of the intended destination.

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IT Clouds and Virtualization

Don't be scared, however look before you leap!

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Industry Trends and Perspectives:

Moving from Hype and FUD to strategy, planning & deployments

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Some Background Material...

Who is Greg Schulz as well as Server and StorageIO?

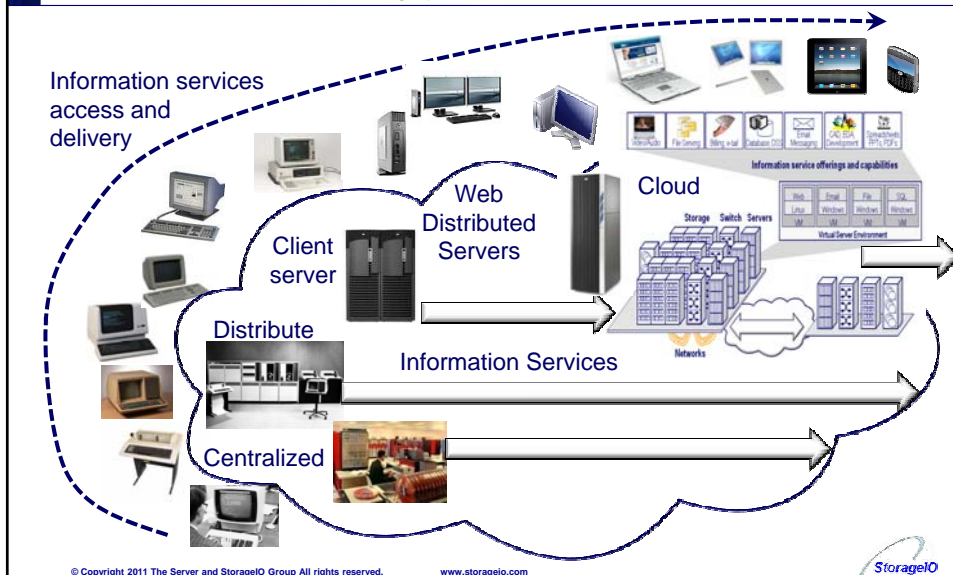
- Independent IT Advisor, Author, Blogger and Consultant
- Worked in IT as a customer, as a vendor and then industry analyst
- Provide industry trends and perspectives on IT infrastructure topics
- Books, articles, tips, reports, videos, podcasts appear globally

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Industry Trends: IT continuum journey

Information services delivery, presentation and access continuum



Industry Trends: Common challenges

There is no such thing as a data or information recession!

- Support continued and increased demand for services
- Meet or enhance QoS, SLA, SLOs and agility
 - Performance, availability, capacity, energy, cost of services delivered,
 - Reliability, security, BC/DR, response time, customer satisfaction
- Contending with corner office initiatives around buzzword bingo:
 - Agility, Analytics, Archive, Backup modernization, Big data, Cloud (private/public)
 - Compliance, convergence, cost reduction, DFR and Dedupe, E2E, Elasticity
 - Flexibility, IaaS, IRM, Metrics and Measurements, Multi-tenancy, MSP, NAS
 - Optimization, PaaS, SaaS, SAN, SRA, SOA, UCS, unstructured data, VDI
 - Virtualization (applications, desktop, I/O and networking, servers, storage)

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Industry Trend: Need for Innovation

Supporting business demands, maintaining QoS while reducing costs

In order to support demand:

Don't save as much data, limit expansion and QoS enhancements

Leverage improved densities
Remove IT footprint constraints

Boost efficiency, lower unit costs
Improve performance

Do more with what you have
Avoid compromise of QoS
Enable agility and flexibility

Note: Innovation = Do and enable more with less without compromising customer service

Available Resources

Performance, Availability,
Capacity, Energy = PACE

E.g. Store and process more data in a denser footprint

QoS, Service Levels

Response Time, Availability

Unit Cost of Resource

\$ / Capacity, \$ per IOP
Capacity per watt, IOP per watt

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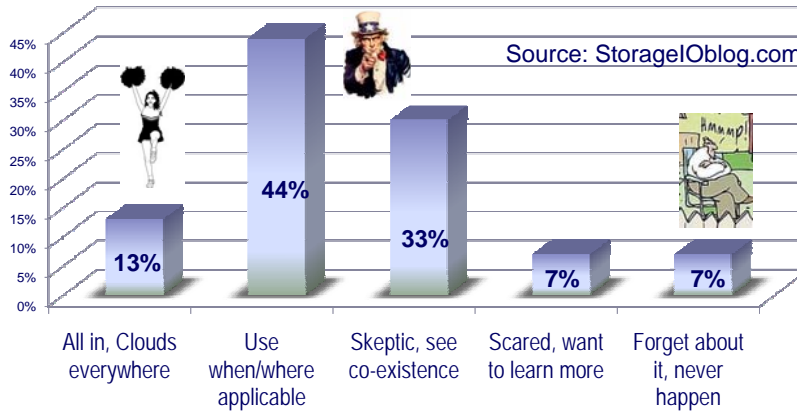
Source: Cloud and Virtual Data Storage Networking (CRC)



Industry Trends: Cloud confusion

IT cloud confusion and opportunity: Don't be scared, look before you leap!

← Plenty of FUD flying from both extremes →



Source: StorageOblog.com

FUD = Fear Uncertainty Doubt

Source: StorageOblog.com

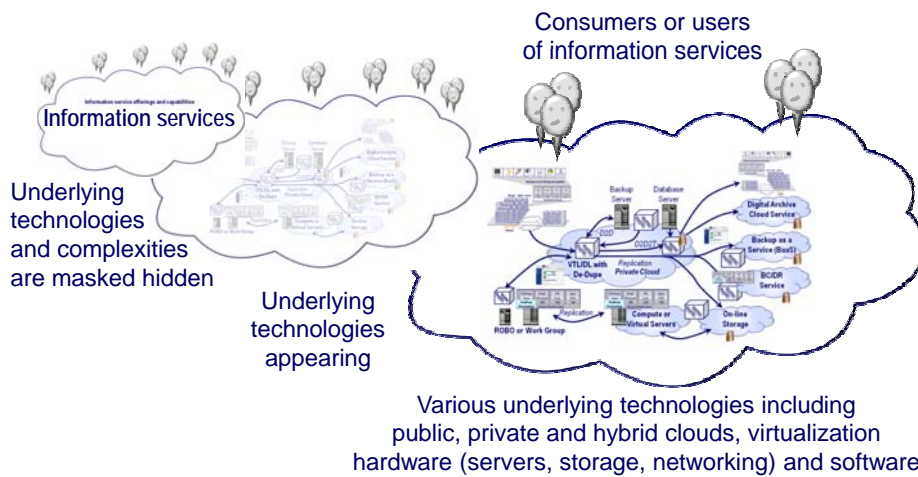
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Industry Trends: IT Services Delivery

Clouds as a means of abstracting underlying complexities



Source: Cloud and Virtual Data Storage Networking (CRC)

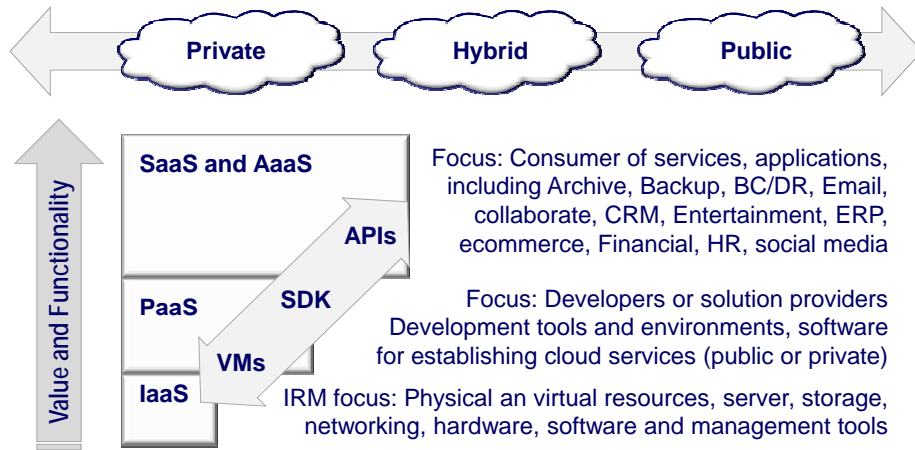
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Industry Trends: IT Services Delivery

Adding value and enabling information services delivery



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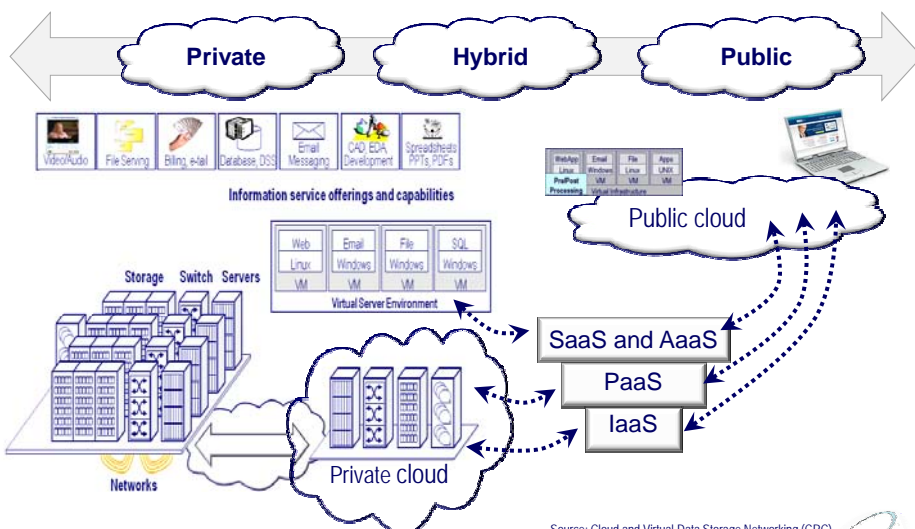
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Source: Cloud and Virtual Data Storage Networking (CRC)



Industry Trends: IT Services Delivery

Public and private clouds services and solutions co-existing with IT



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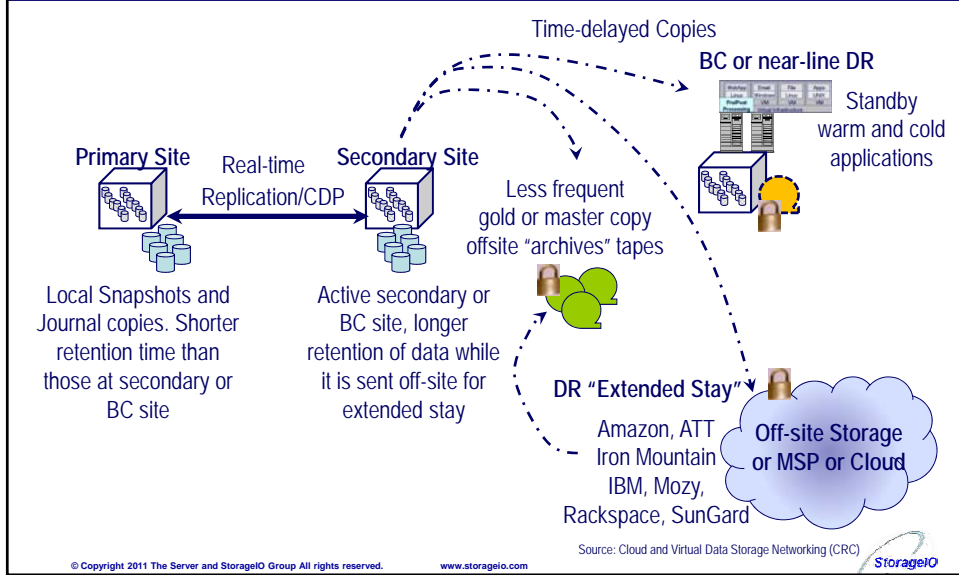
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Source: Cloud and Virtual Data Storage Networking (CRC)



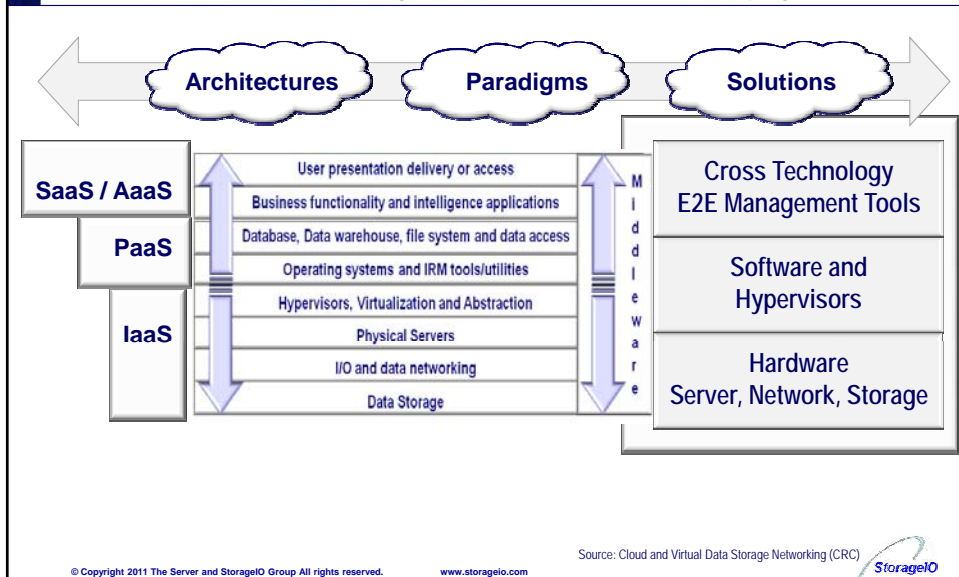
Industry Trend: Modernize data protection

Technology realignment: Find and fix the problems vs. the symptoms



Industry Trends: Racks, Stacks & Packs

Information services delivery and IRM stack's: Ease of deployment



Closing Comments

Where to learn more, next steps...

- Sift through the hype and FUD:
 - Do not treat all applications and data the same
 - Establish service categories with applicable metrics
 - Modernize data protection, and reduce your data footprint
 - Develop a vision, strategy and plan to begin deployment
 - Look beyond cost and consolidation, consider agility
 - Do more with what you have, boost productivity where needed
 - Align applicable RTO, RPO and QoS to SLO/SLA needs
 - Balance the old with the new, don't be afraid, look before you leap!
- Where to learn more
 - www.storageio.com articles, videos & webcasts
 - www.storageioblog.com and twitter @storageio
 - Feel free to call, IM, tweet, or email greg@storageio.com



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Industry Trends: What's the Buzz?

Clouds and Virtualization, Don't be scared, however look before you leap!

- Life beyond consolidation – next wave of virtualization
- E2E situational awareness and insight
- Data protection modernization
- Data footprint reduction (DFR) expanding focus
- Clarifying cloud confusion
- Converged technologies and techniques

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Industry Trends: What's the Buzz?

Clouds and Virtualization, Don't be scared, however look before you leap!

- Life beyond consolidation – next wave of virtualization
 - Emphasis expands from consolidation to agility and flexibility
 - Not everything can be consolidated, most can be virtualized
 - Expand from how many VMs per PM, to fewer VM per PM for agility
 - Servers, storage, desktops and networking
 - Transforming your environment into an Information factory
 - Delivering information services more effective and competitively
- E2E situational awareness and insight
 - Metrics matter, you cant manage effectively what you don't know about
 - E2E (End to End) more important across technology domains
 - Expanding from Systems Resource Monitoring to Systems Resource Analysis (SRA)
 - If you do not know or can communicate your costs, you are at a disadvantage
 - Establish metrics, communicate and review with your customers

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Industry Trends: What's the Buzz?

Clouds and Virtualization, Don't be scared, however look before you leap!

- **Data protection modernization**
 - Common-sense Data Protection (CDP) aka Complete/Cloud Data Protection
 - Protecting clouds and virtualized environments, or the inverse!
 - Using clouds and virtualization to protect traditional environments
 - If backup is broken, why treat the symptom, fix the problem!
 - Swapping media is like changing flat tires, why are they going flat?
 - Find and fix the problems vs. moving them around to become more efficient
 - First and foremost, verify and review SLAs and SLO expectations
- **Data footprint reduction (DFR) expanding focus**
 - The ABCDs (Archive, Backup modernize, Compress, Dedupe storage/server tiering)
 - Small percentage changes on large basis have big benefits
 - Look beyond backup leveraging various tools and techniques
 - Balance reduction ratios (space) with performance rates (time)

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Industry Trends: What's the Buzz?

Clouds and Virtualization, Don't be scared, however look before you leap!

- **Clarifying cloud confusion**
 - There are many different types of clouds, which fits your needs?
 - Products, architectures, bundles, services (rackem, packem and stackem)
 - Public, private, hybrid moving beyond low cost craze value proposition
 - Metering and measurements for productivity and competitiveness
 - Complementing your environments vs. competing with existing technologies
 - Clouds need to be protected, they can also be used to protect!
- **Converged technologies and techniques**
 - Server, storage, networking, hardware, software, people and processes!
 - You have been on a path or journey involving convergence most of your careers
 - Technology needs to work for you, however, your organization may be a barrier
 - Are you or will you simply use converged technologies in legacy ways?
 - Simply put, how can you change organizational boundaries to become more efficient?

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Thank You

Industry Trends and Perspectives:
Gaining more value out of IT data center resources

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