Considering the Cloud?
Thinking Beyond the Readme File

Bill Malchisky Jr.
Effective Software Solutions, LLC

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Agenda

- Introduction
- Defining Cloud Strategies
- Risk Assessment
- SWOT Analysis
- Decision Matrix
- Final Thoughts

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A Little Bit About Your Speaker...

- Regulatory compliance expert in the field
- Written multiple articles on compliance and eDiscovery
- Speaker at 18 Lotus® related conferences/LUGs
- Co-authored two IBM® Redbooks on Linux®
- Designed disclosure response solutions for Fortune® 100, medium-sized, and small established regulated firms
- Technical advisor for many of my clients
- IBM Champion – Collaboration Solutions 2011

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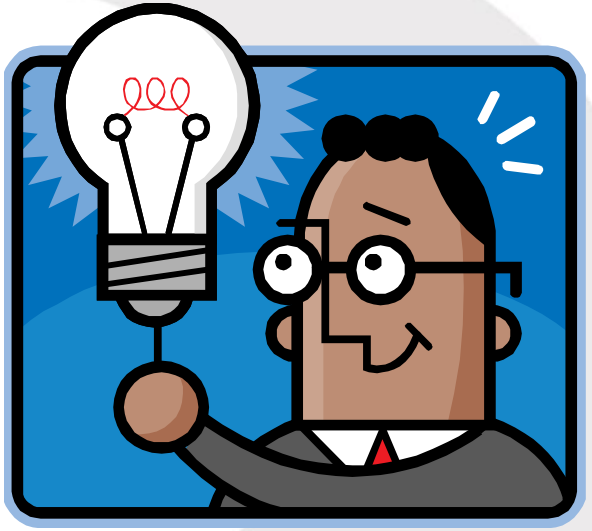
Completing Your Evaluations

- Please ensure that you fill-in your session evaluation form when it is provided after the conference
- Thank you in advance



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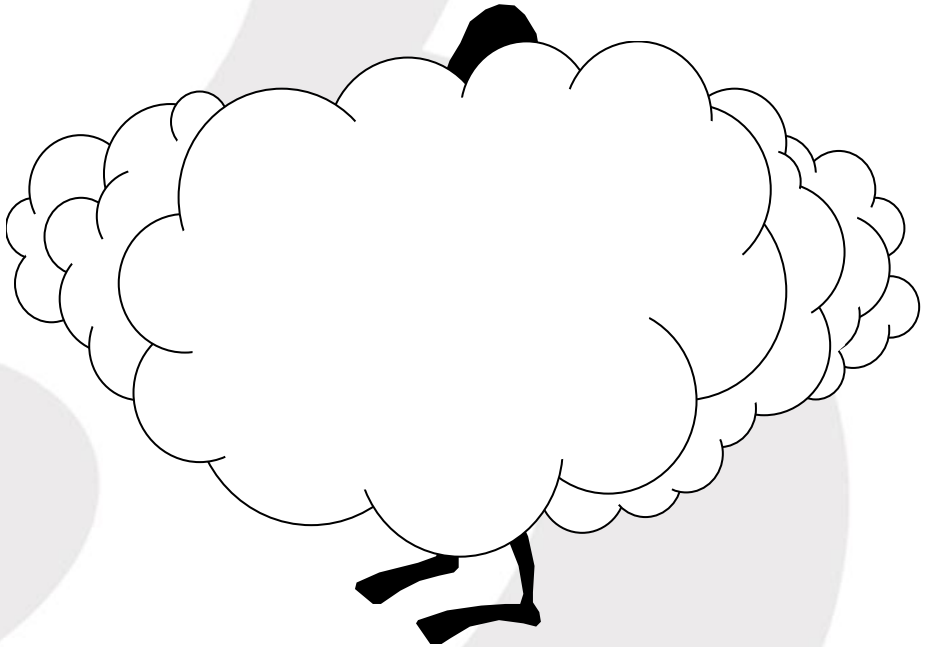
Cloud Defined

- Standard Definition
  - There is none!



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Two Primary Cloud Facets

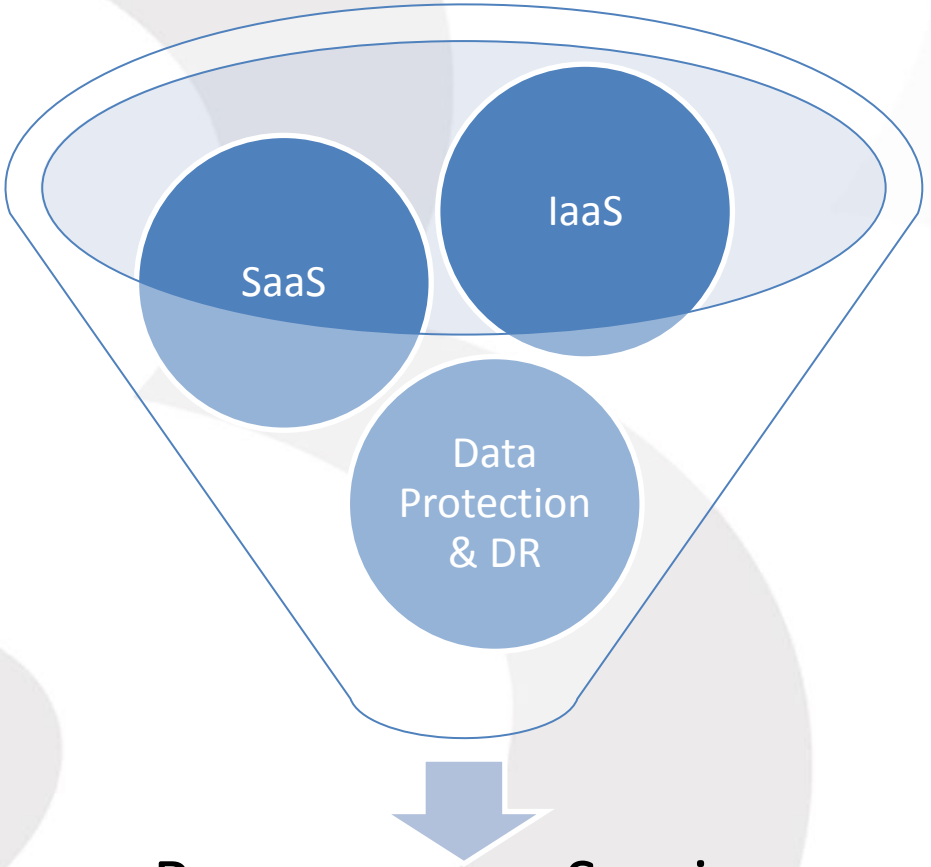
Infrastructure (IaaS)

- Virtual Hardware
- Bandwidth
- Storage

Software (SaaS)

- Layered Functionality
- Business Line Specific

Combining Cloud Facets Creates Additional Services



Recovery as a Service (RaaS)

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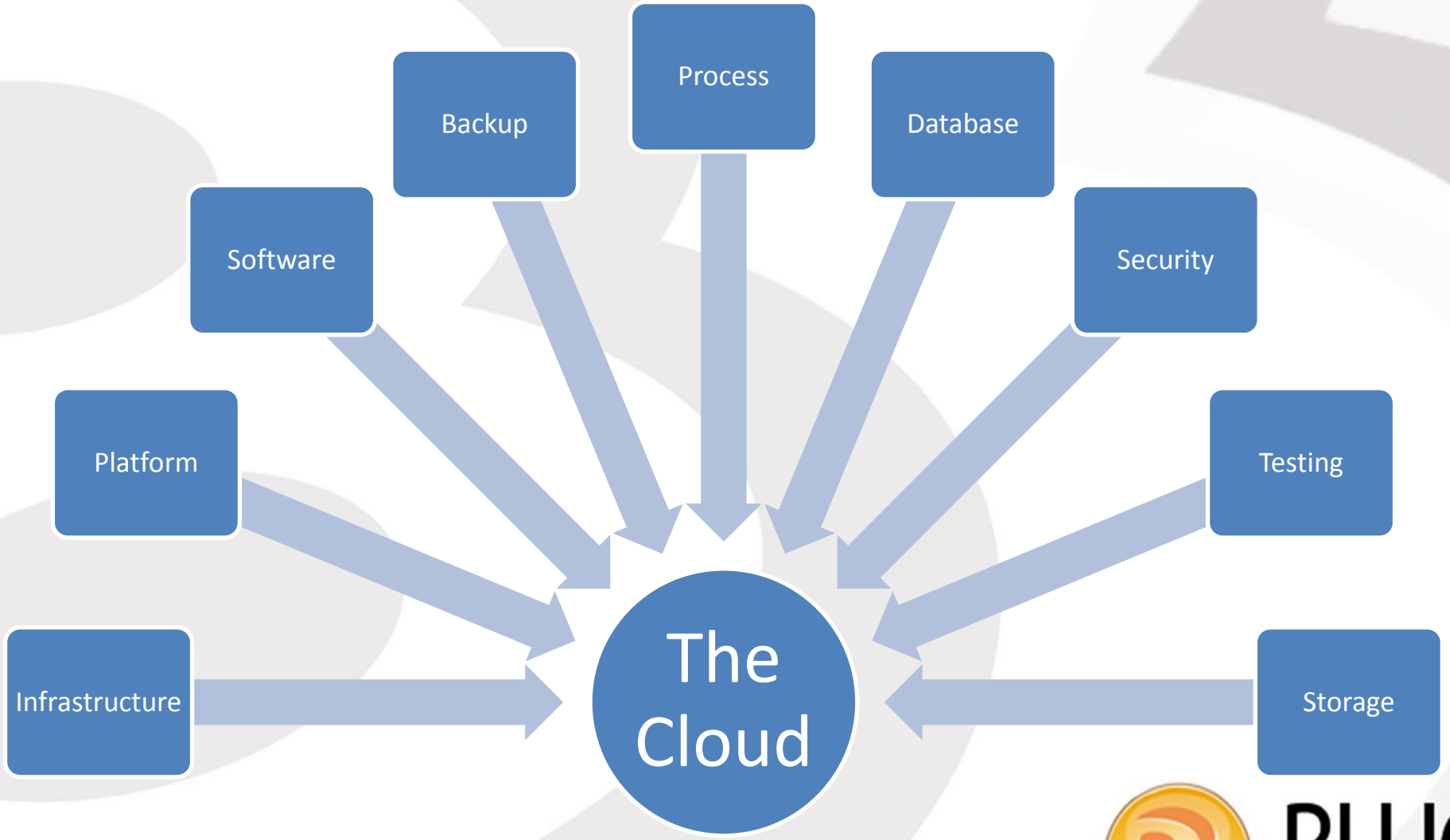
Decisions. Decisions. What Can You Cloud?



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Setting the Foundation to Make the Move

Create a well defined plan, with clear boundaries

- Otherwise, the effects to your business can be catastrophic

Define the business functionality set in-scope for the project

- Review what you feel you need to outsource
- Ensure the affected business leaders are aware, support, and well coupled during the process

Ensure legal, security, compliance, network all approve the plan

- Where you do business or with whom affects how these teams will evaluate your plan

Before your firm approves the plan, you may learn it is not in your company's best interest

- Perhaps modifying the design to achieve unanimous approval is required

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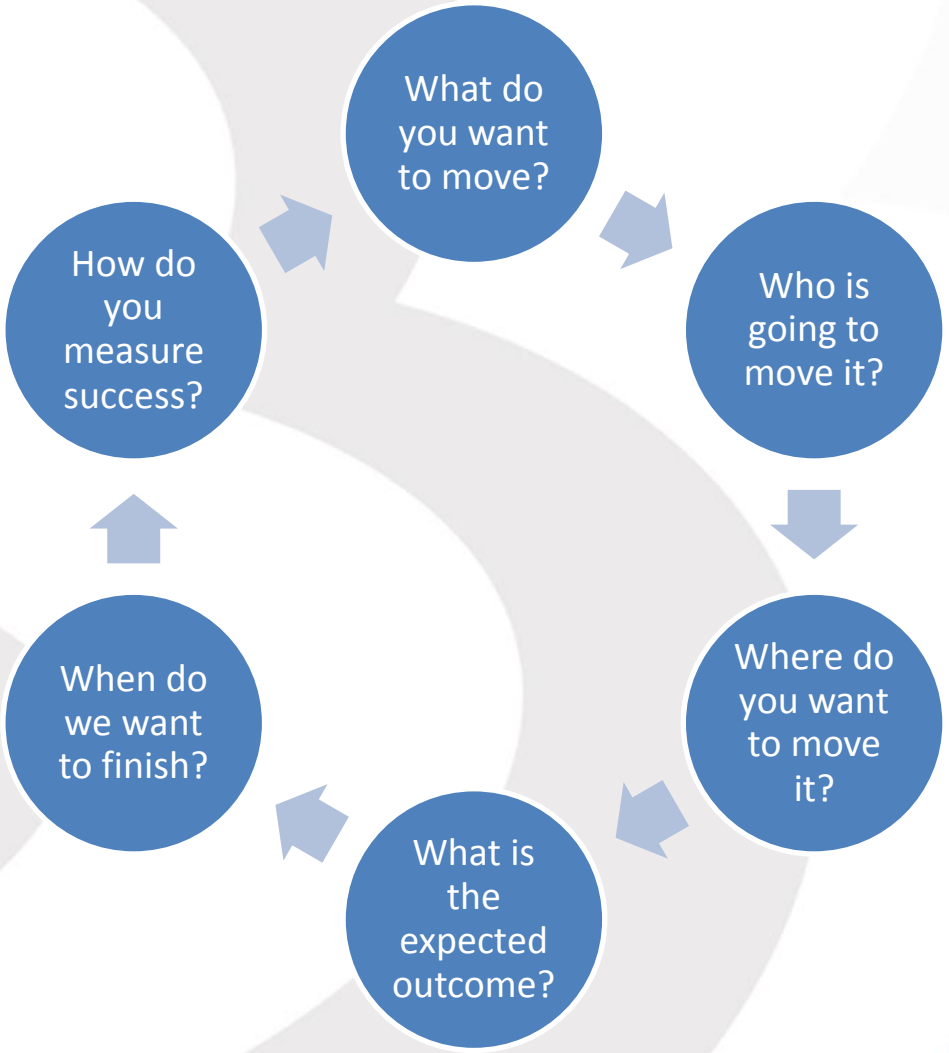
For Any Cloud Move Discussions, Key Questions Must Have Answered



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The Benefit Contrast – A Trio

- What are the best points of cloud, hybrid, and on-premises solutions

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First, the Cloud: Private and Public

Ubiquitous access	Upgrade simplicity	Decreased overall TCO
Business process efficiency	Decreased capital expenditures	Predictable cash flow calculations

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On-Premises

- Ubiquitous access
- Increased security
- Decreased overall risk
- Governance
- Customizable solution
- Data portability
- Increased vendor management
- Maintain multiple vendor relationships

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Hybrid

Same benefits as cloud and on-premises

Increased design flexibility

More security over pure cloud

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The Hybrid's Three Styles Allow for Cost and Configuration Optimization

Public

- On-premises
- Public cloud

Private

- On-premises
- Private cloud

Public-Private

- On-premises
- Public cloud
- Private cloud

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The Detriment Contrast – In Multi-part Harmony

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Reasons Not To Go To The Cloud

- You hate your IT Staff
  - "Who cares about the cost, get rid of them!"
  - This is a management issue, not a resource issue: fix the team
- You want to impress the boss
  - "If I succeed, I'll get a promotion."
- Your users are threatening to leave
  - If the users dislike a solution to the point of changing career paths, address the true problem
    - Users drive features, but not infrastructure
  - Address the underlying issue(s) instead
- Cost
  - "The cheap solution is always the most expensive."
  - If you only look at the hard numbers, you will ignore mitigating factors
    - E.g. eDiscovery responsiveness
- "Everyone is doing it!"

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Private Cloud Considerations Beyond the Risks

Private clouds are less DR hardened	• Lack of multi-location clustering • Generally housed in one building
New utilization, monitoring, and billing tools needed	• Built in-house or purchased • Establishes self-service resource allocation • Must be designed, planned, and developed
Private Clouds are SMB cost prohibitive	• Cooling, clustering, connections • Priced only for the largest shops

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Public Cloud Considerations Beyond the Risks

Public clouds are housed with an unknown entity	• Security officers will be concerned • Your control ends at their door
Data transport to public clouds	• Third-party tools help • Costs are hardly trivial
Vendor lock-in	• Proprietary data storage • Lack of standards forces dependency • Upgrade frequency is mostly on their terms

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On-Premises Considerations Beyond the Risks

Nothing changes	• Whatever issues you have, will remain • Must actively create projects to renew • Can outsource these efforts
Upgrade complexity	• The larger the shop, the longer the project • Customizations require additional testing
Cash flow unpredictability	• New equipment requires ad hoc approvals • Dramatic changes can consume budget • Additional projects can be delayed

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Hybrid Considerations Beyond the Risks

Split Environment	• Creates complexity through resource tracking workflow • Must ensure proper access to both environments
New security concerns	• Perimeter extension beyond your walls • New/additional encryption key management
Extending identity management tools	• Common to resolve by extending to the cloud • Can impact the corporate identity through security due to risk; discuss with security team

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Cloud Compound Critical Risk Factor Identified

“Single point of failure, where you have no control.”

– David Leedy, Notes In 9

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With the Good, Does Come The Bad: Majors Areas to be Evaluated

- Legal risk
- Compliance risk
- Security risk
- Vendor lock-in risk
- Data usability risk
  - Received format will any returned data be useful
- Data safe-guards risk
  - Bypassing what you currently have in-place
- Data management risk
- Personnel risk
  - Who's vetting the people running your systems?
  - Unable to screen administrators in your usual manner

Vendor Outsourcing Risk

- Just because you have a contract with your cloud vendor, hardly indicates those terms will continue when they outsource certain aspects of their data center
  - Quite common and is a question that is almost never asked
  - Can create quite a concern down the road for disclosure motion requests
  - They can decide to move part of their environment to a place that is unpalatable to your business
  - The cloud is faceless
    - Changes are never seen by the end-user
  - Almost all vendors deny they do this; some are correct

Finally, Reliable Accessibility

- What if you cannot get to your data when you need it?
  - The big question and one that catches all the news headlines
- What is your company's reputation worth?
- Lack of multiple network access paths
  - Regardless of how well your servers are clustered
  - Company-wide outage is just one hop away

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The Delicate Corporate Balancing Act

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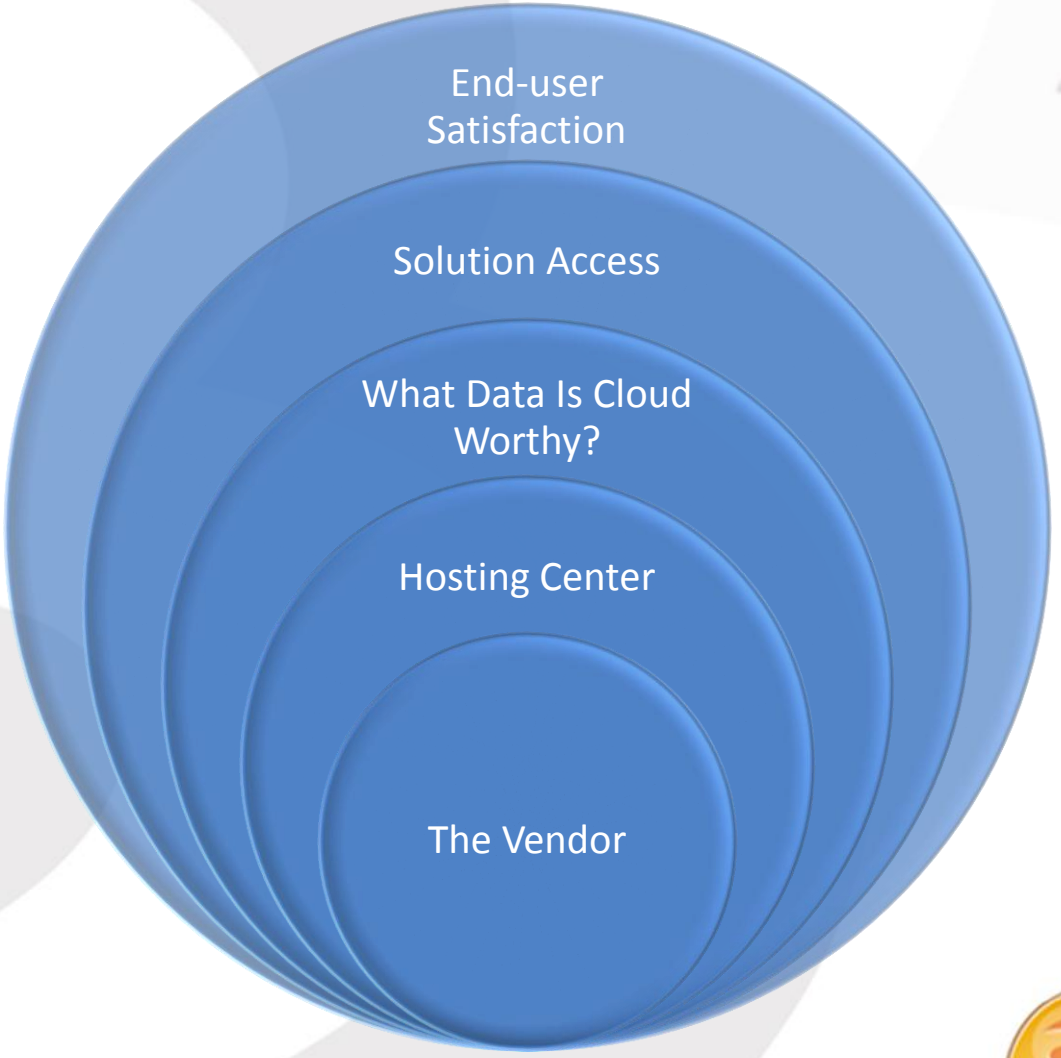
The Overall Risk Relationship Model – Putting the Pieces Together Helps Drive Proper Inter-team Dialogue



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Some of the Top Outages in 2011

- See if any of these stories sound familiar

Note: Images with supporting prose included from the CRN article, *"The 10 Biggest Cloud Outages of 2011, So Far"*

http://www.crn.com/slide-shows/cloud/231000954/the-10-biggest-cloud-outages-of-2011-so-far.htm

The Data Center Glitch – 500 Customers Affected

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One Update Glitch Equals Disappearing Mail Boxes for 150,000 People

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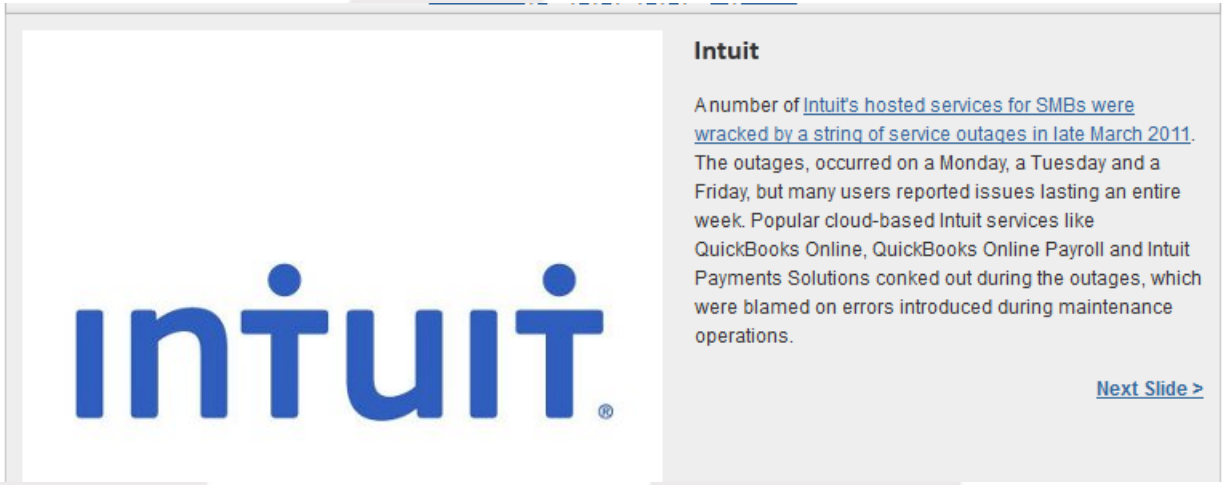
Maintenance Operation Malfunction – The Seven Day Glitch



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The Seven Day “Re-mirroring Storm”

Amazon Web Services

On April 21, Amazon Web Services' cloud offerings suffered sweeping outages and service interruptions for customers using Amazon's North Virginia data center, aka Availability Zone. Service hiccups from Amazon's cloud outage persisted for several days for some customers, angering users. Amazon's lack of communication around the cloud outage prompted calls for transparency.

Amazon said its Elastic Block Store (EBS) service got stuck in a "re-mirroring storm" in its North Virginia data center. The hiccup knocked several Amazon cloud users offline. More than a week after the initial downtime, Amazon apologized for the cloud outage and offered users a cloud credit.

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One Errant Keystroke and All Load Balancers Gone

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The Undisclosed Mystery Outage

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BPOS: Four Days -- 1.5 Million Messages Are Stuck

Microsoft®

Microsoft BPOS: Round 1

Between May 10 and May 13, Microsoft Business Productivity Online Service (BPOS) suffered a string of cloud outages that caused lengthy cloud e-mail delays for BPOS users.

Trouble started around 12:30 p.m. on Tuesday, May 10, when the BPOS-S Exchange service experienced an issue with one of the hub components due to malformed e-mail traffic on the service. Microsoft said Exchange features a built-in capability to handle malformed traffic but "encountered an obscure case" where that also didn't work correctly, creating a backlog of e-mail. The issue caused delays of six to nine hours.

Then, on May 13, more issues caused e-mail delays, resulting in more than 1.5 million e-mail messages getting stuck and awaiting delivery. Microsoft fixed that issue by 3:04 p.m. and all e-mails were cleared within a few hours.

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BPOS: Mail Issues Cause Exchange Delivery Delays

Microsoft®
Online Services

Microsoft BPOS: Round 2

On May 19, Microsoft's Exchange Online cloud e-mail service, part of BPOS, suffered a software problem that caused intermittent e-mail delays for customers in the Americas. Microsoft said less than one percent of customers were affected by the e-mail delays, which began at 8:48 a.m. when monitoring systems detected abnormally large email queues in 30 percent of Exchange Online hub servers. By 9:54 a.m., e-mail queues had fallen to normal levels on all but one hub server, and at 11:21 a.m., Microsoft's BPOS, Exchange and Forefront Engineering teams identified the software problem causing the issue. Microsoft fixed the software problem by adding a single new hub server that relieved the backlog and restored the free flow of email by 3:33 p.m.

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BPOS – Fourth Outage in a Month, Blinding Admins and Users

Microsoft BPOS: Round 3

Microsoft BPOS suffered its fourth outage in just over a month on June 22. The service was knocked offline for more than two hours and also took with it the Online Services Health Dashboard, meaning users had no place to look to see the problem.

Throughout the outage, Microsoft kept affected BPOS customers up to speed via social networks like Twitter and Facebook.

Next Slide >

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Heating Up the Internet for Four Days and 17,000 People

Microsoft Windows Live Hotmail

While Microsoft's Windows Live Hotmail outage started on Dec. 30, 2010, it persisted until Jan. 2, 2011 when Microsoft finally gave the all clear.

Hotmail, the widely popular cloud e-mail service suffered an outage that temporarily deleted user inboxes for more than 17,000 Hotmail users. The outage lasted roughly four days. Users reported that when they logged into their accounts they noticed e-mails, folders and other data had vanished and could not be recovered. While Microsoft said the Hotmail hiccup was fixed by January 2, some users said problems lasted at least two days later.

Microsoft said a load balancing issue knocked out the cloud e-mail service to affected users.

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But Wait, There are More…

- Playstation Network
- Twitter Service
- Netflix Streaming Service
- Research In Motion (SaaS/push)

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Some Additional Queries Around Risk

When service levels change between a cloud provider and their vendors, will you be notified?

What control do you have around data access?

- Data encryption
- Vetting administrators

How do you manage data distribution across multiple jurisdictions?

- When you lack awareness of the matter?

What guarantee do you have the cloud provider will take the same data safeguards to protect your data?

- How do you fill-in the gaps?

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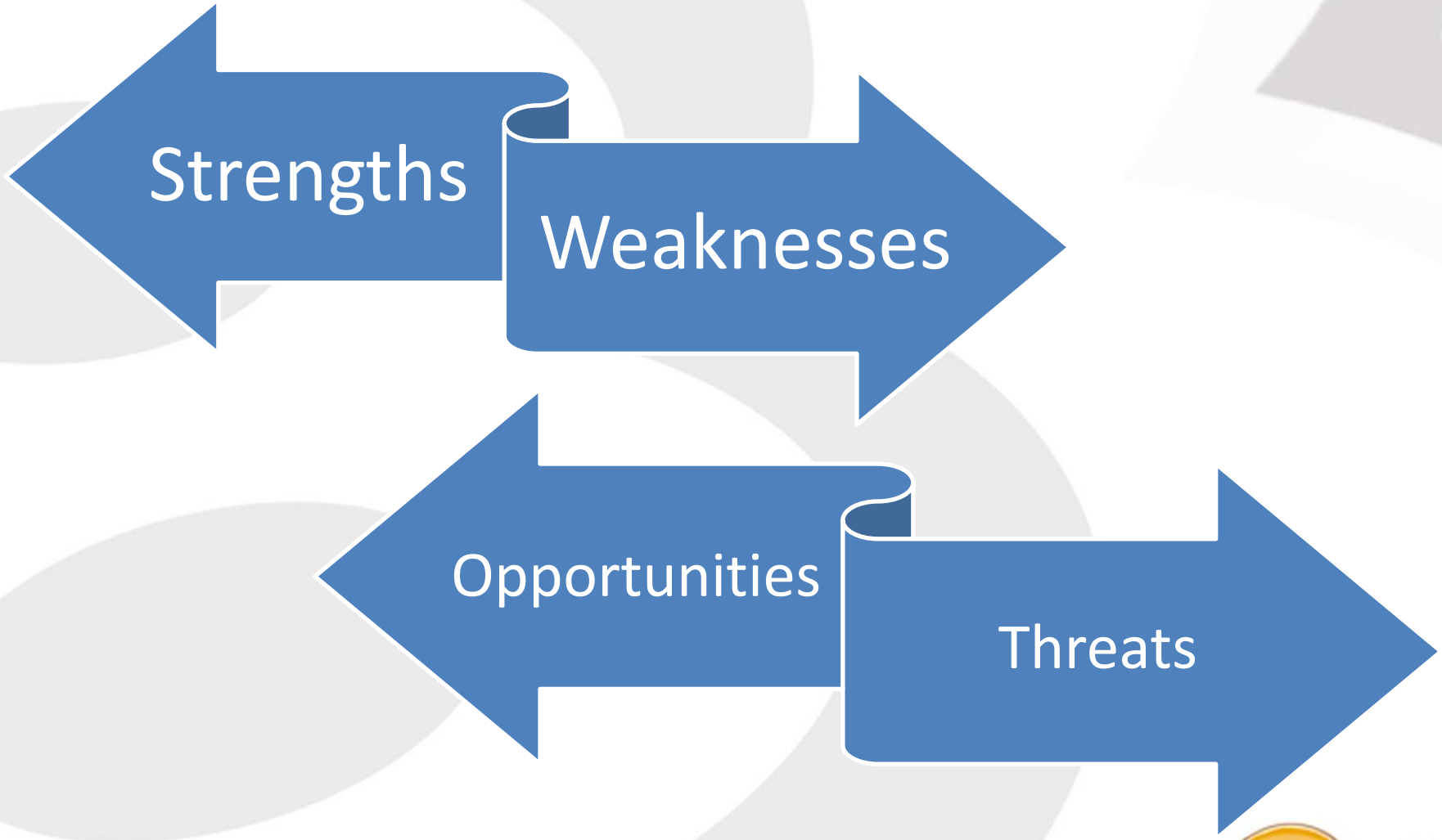

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The Basic Process

One SWOT matrix for each strategic permutation			
Facets with each to help you endure	Faults with each strategy/process	How does each help your business?	Where could each hurt your business?

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Group Discussion Exercise: Learning From Each Other

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SWOT: Your In-session Input, Entered Below

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Decision Matrix Template

What is the data we want to move? _____

What is the time-frame? _____

What is the end goal/objective? _____

Full Risk Assessment Completed? _____

External forces *assisting* process? _____

Strategy	Risks	Timeline	Compliance Concerns	Fixed Costs	Variable Costs	Legal Concerns
On-Premises						
Public Cloud						
Private Cloud						
Hybrid						

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Your Pre-session Questions Answered Below

- Want to put a blog in the cloud: concerned about system security
  - A: Blogs are one of the easier applications to move to the cloud and it is quite common to do so; security concerns are common and should be reviewed with your vendor(s) of interest as it will vary based upon the vendor
- Challenges
  - A: Good question and we cover this extensively in the session
- Security
  - A: Another good question, which we cover in the session in a few areas
- Record Management
  - A: Although we did not cover this directly in the session, I would be happy to answer a few questions afterwards, as time for the session expired
- Is moving to the cloud technically feasible?
  - A: Absolutely it is. The challenges you will face depend upon what you want to move, getting the correct vendor, and ensuring that your company has a full and complete discusson around risk and the process

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Contact Information

Bill Malchisky Jr.

IBM CHAMPION

E-mail: bill@billmal.com
Skype: fairtaxbill
Twitter: @billmalchisky

Company site: http://www.effecitvesoftware.com
My Blog: http://billmal.com

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Merci

Bedankt

Vielen Dank

THANK YOU

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