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COUNSEL TO GREAT COMPANIES

Cloud Computing Legal Issues

Practising Law institute 2015

San Francisco
New York
Chicago

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Agenda

- Introduction and overview of cloud computing technologies
- Frequently raised issues in cloud computing contracts

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Introduction and Overview of Cloud Computing Technologies

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What is Cloud Computing?

- Although each vendor has different definitions, in general, typically the resources used to provide the cloud services:

  - are pooled
  - can be rapidly adjusted
  - are location independent
  - are widely accessible

- In many cloud service arrangements, the customer pays for the resources that are used

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Some Significant Factors Driving Cloud Computing Growth Today

- Costs associated with maintaining internal data center can be greatly reduced by using cloud services
- Cloud services provide the ability to quickly increase or reduce resources to meet demand
- Cloud services provide the ability to have a third party monitor and rapidly deploy security patches and other upgrades
- Cloud providers may have more IT expertise than the customer

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Single vs. Shared Multi-Tenant

- Single-Tenant
  - Software/Service is administered on a customer by customer basis (e.g., patches could be applied as required by each customer)
  - Model is costly and lacks scalability
- Shared Multi-Tenant
  - Software/Service uses a single integrated code base that is delivered to multiple customers (e.g., each customer gets the same thing)

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Different Types of Cloud Computing Services

- Cloud Services
  - Content as a Service (CaaS)
  - Software as a Service (SaaS)

- Platform as a Service (PaaS)

- Infrastructure as a Service (IaaS)

Note: Other Categories Exist (e.g., DaaS – Data as a Service)

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Miscellaneous Client / User Services

Cloud Services

Platform / OS

Hardware

- The cloud offers a multitude of services that provide a wide variety of content, data and other services

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Content as a Service (CaaS)

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Software as a Service (SaaS)

SaaS

Platform / OS

Hardware

- Allows a user to use a software application over the internet, thereby eliminating the need to install and run the software application on the user's computer

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Gmail

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Platform as a Service (PaaS)
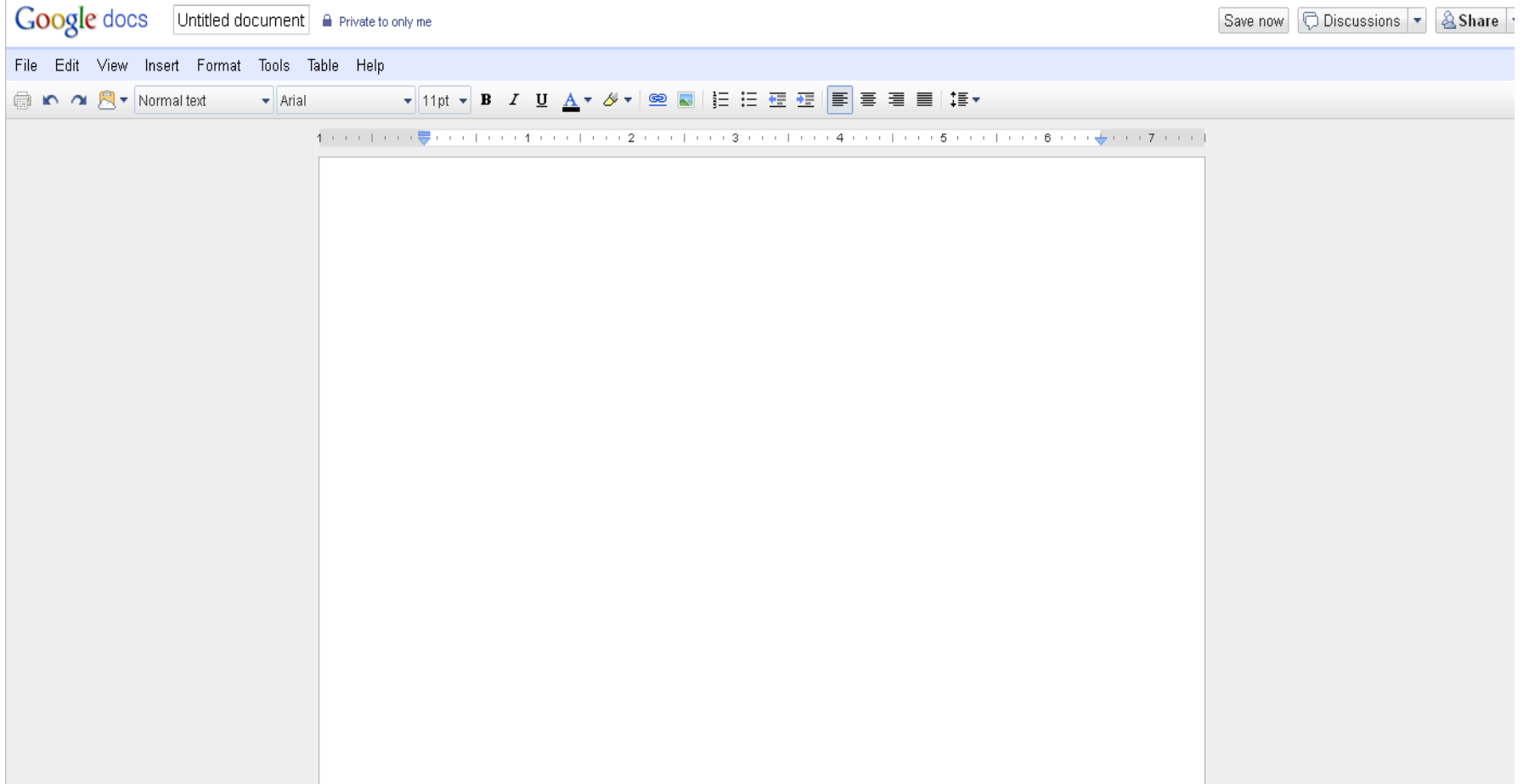
Cloud Applications / SaaS

PaaS

Hardware

- Allows a user to use a software application over the internet, thereby eliminating the need to install and run the software application on the user's computer

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Example of a PaaS

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Example of a PaaS

Windows Azure
Microsoft's Cloud Services Platform

| PRODUCTS | EXPLORE | CUSTOMERS | BUY | DEVELOP | PAF |

Windows Azure

Windows Azure™ is a cloud services operating system that serves as the **development, service hosting and service management environment** for the Windows Azure platform. Windows Azure provides developers with on-demand compute and storage to host, scale, and manage web applications on the internet through Microsoft® datacenters.

Windows Azure is a flexible platform that supports multiple languages and integrates with your existing on-premises environment. To build applications and services on Windows Azure, developers can use their existing Microsoft Visual Studio® expertise. In addition, Windows Azure supports popular standards, protocols and languages including SOAP, REST, XML, Java, PHP and Ruby. Windows Azure is now commercially available in 40 countries.

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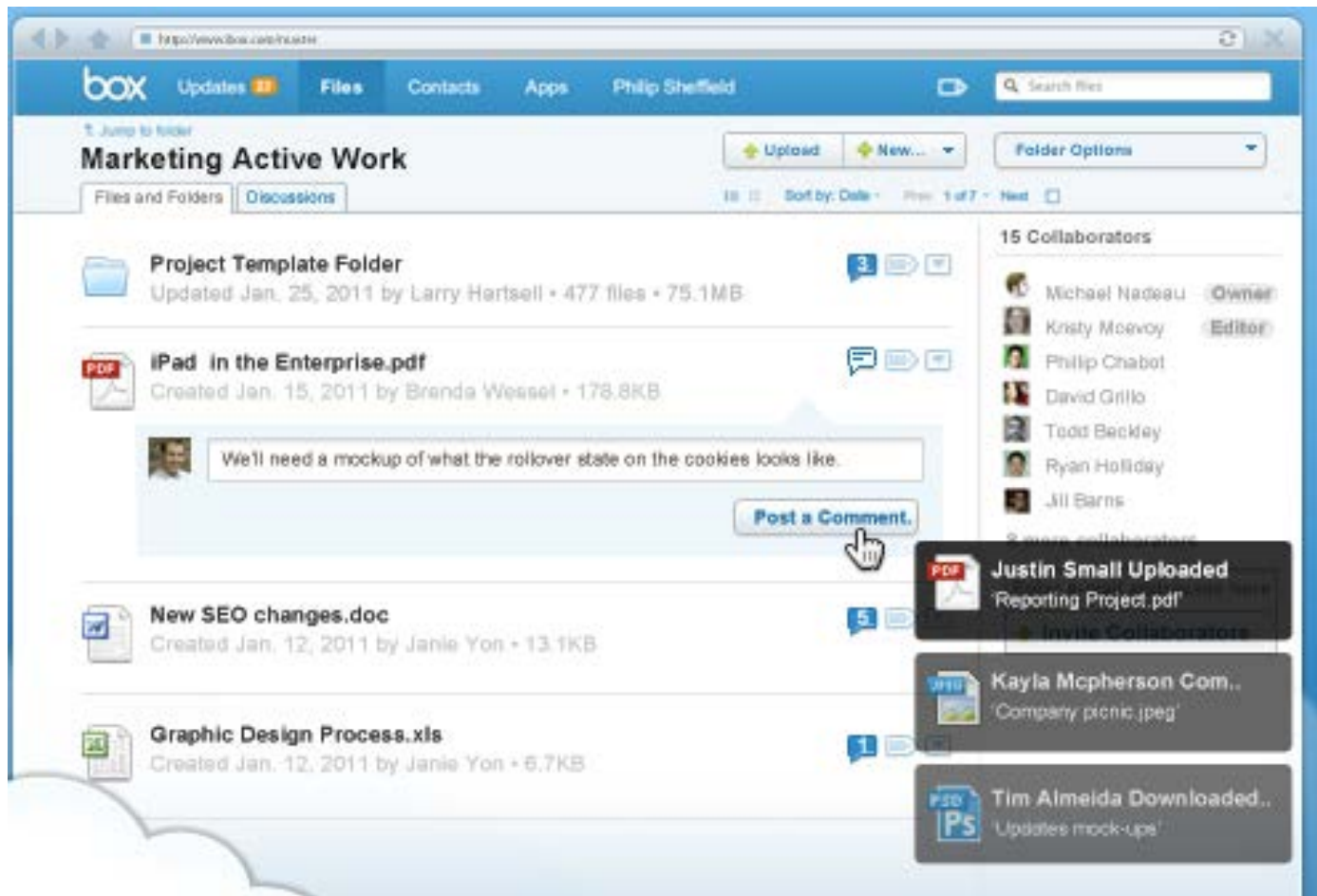
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Infrastructure as a Service (IaaS)

Cloud Applications / SaaS

Platform / OS

IaaS

- Allows customers to rent computer processing services (e.g., servers) and storage

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Example of IaaS - 1
online storage

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Example of IaaS - 2
Amazon Server Pricing

Region: US East (Virginia)	Linux/UNIX Usage	Windows Usage
Standard On-Demand Instances		
Small (Default)	$0.085 per hour	$0.12 per hour
Large	$0.34 per hour	$0.48 per hour
Extra Large	$0.68 per hour	$0.96 per hour
Micro On-Demand Instances		
Micro	$0.02 per hour	$0.03 per hour
Hi-Memory On-Demand Instances		
Extra Large	$0.50 per hour	$0.62 per hour
Double Extra Large	$1.00 per hour	$1.24 per hour
Quadruple Extra Large	$2.00 per hour	$2.48 per hour
Hi-CPU On-Demand Instances		
Medium	$0.17 per hour	$0.29 per hour
Extra Large	$0.68 per hour	$1.16 per hour
Cluster Compute Instances		
Quadruple Extra Large	$1.60 per hour	N/A*
Cluster GPU Instances		
Quadruple Extra Large	$2.10 per hour	N/A*
* Windows® is not currently available for Cluster Compute or Cluster GPU Instances		

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Private vs. Public vs. Hybrid Clouds

Private Cloud
On-Premises/Internal
Dedicated Resources

IaaS **PaaS** **SaaS**

Hybrid Cloud

Public Cloud
Off-Premises/External
Shared Resources

IaaS **PaaS** **SaaS**

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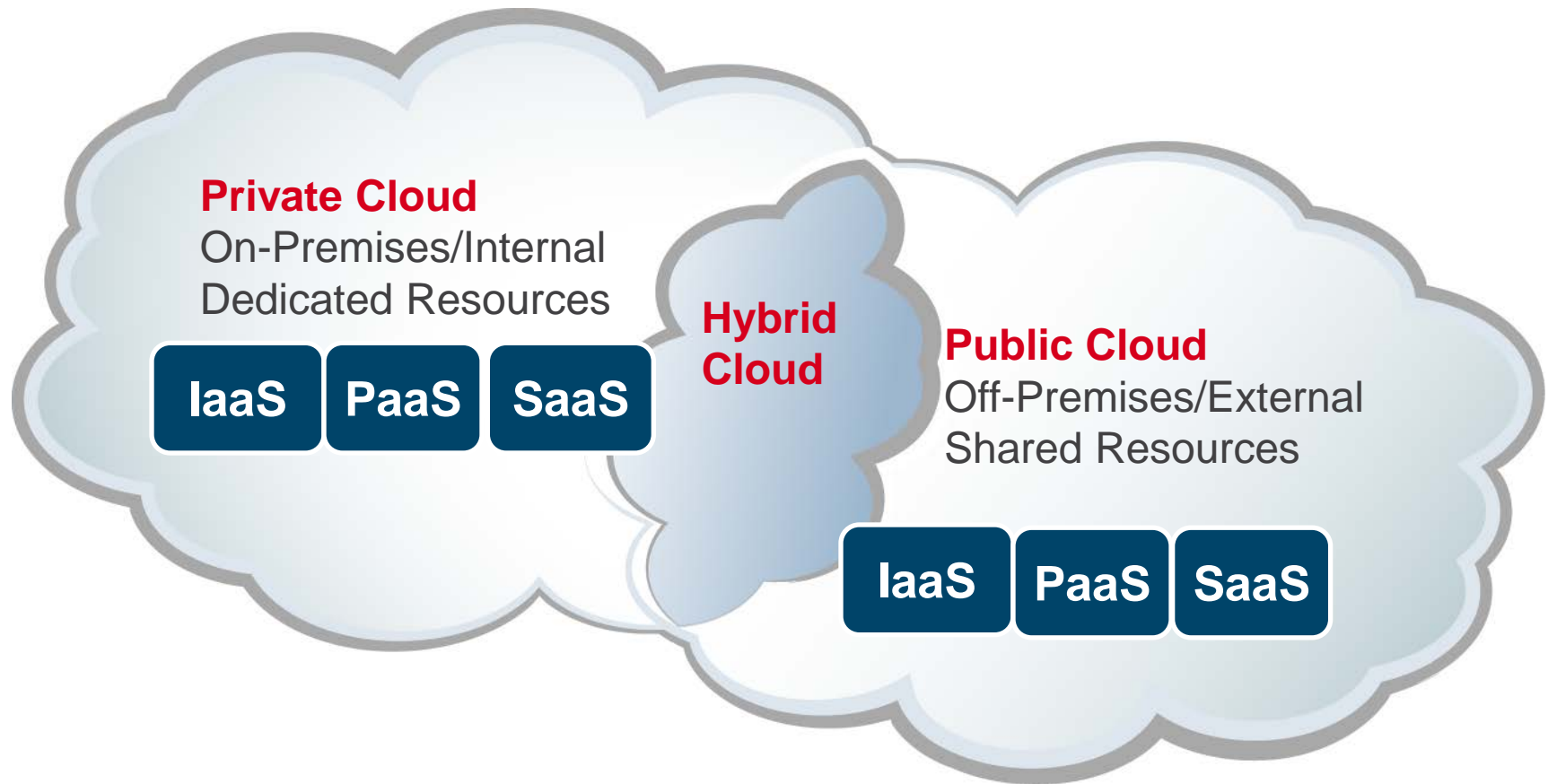
Frequently Raised Issues in Cloud Service Contracts

Cloud Services Contract Format - 1

- Goods/Software vs. Services Models
  - Many current customer contracts have evolved from a software licensing/UCC model
    - UCC often imposes warranties on delivered software but not on a pure services contract
  - Cloud computing contracts more closely resemble hosting or strategic outsourcing agreements
    - Knowledgeable customers will demand express warranties and remedies to cover services
  - A software license grant clause may cause confusion

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Services Contract Format -2

- Compare:
  - Provider hereby grants customer a non-exclusive right to use the software/services

  - Provider will use commercially reasonable efforts to provide access to the services set forth in Exhibit A.

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Ownership of Custom Developments

- Shared Multi-Tenant – it is difficult for the vendor to convey IP ownership of any service feature, because all customers must use the same service
  - This is the tradeoff for obtaining the efficiency of using a cloud service model

- Single Tenant - customer ownership of improvements is at least possible, as the customer is able to use a personalized instance of the software

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Pricing/Payment

- Many service providers will seek annual payment in advance (may need to address refund issues for certain breaches and termination issues)

- Pay for use -   How is "use" determined?
  - Actual use / number of users/ number of employees

- Price Increases

- Benchmarking

- MFN

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Services Description

What is included in the description ?

- A services description protects both the customer and the provider so that each party understands what services will be provided (and what services will not be provided)

- Common items that are included in the services description

    - Technical Specifications

    - Published materials

    - FAQs

    - Bug and technical reports

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Service Evolution

What is the process for changing the Service?

- Can the customer refuse or delay a change?

- How much notification needs to be given?

  - Different notice periods for routine vs. emergency changes?

- Will a test environment be provided prior to implementing a change?

- How does pricing work?

- Are the number of changes in a given time (e.g., 6 month period) limited?

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Service Levels

- How are service metrics defined?
  - Does the entire service have to be unavailable, or only particular portions of the service?
- How are service metrics reported?
  - Does the customer need to have access to vendor tools to understand or obtain metrics?
  - Does the customer need to complain to get the credit?
- Is there a process for strengthening service metrics over time?
- Are service credits the sole and exclusive remedy arising from a performance breach?

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End User Conduct

- Contracts often allow the provider to suspend or terminate service for bad user conduct (and for other reasons)

- The customer will want to make sure that such right may only be exercised in well-defined situations, preferably with advanced notice. The customer will want to limit suspension:

  - To breaches that that significantly threaten the security or integrity of the cloud service

  - To the user accounts in which the breach occurred, rather than all of customer's accounts

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Termination and Transition

- Every contract will end at some time
  - It is important to plan for termination issues prior to contract execution
- Customer will want the contract to address
  - Transition assistance
    - Data migration
      - Format of data?
      - It may not be easy to copy or download the data
  - Continued provision of services until transition completed
- Vendor will want payment for post-termination services

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Disaster Recovery -1

- Does the service provider:
  - have a business continuity plan?
  - provide redundant operations from different sites?
  - routinely test its back-up capability?
  - routinely attempt to restore data?

- It is important to consider the impact of bankruptcy on the ability to access data and the ownership of back-up media (Next Slide)

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Disaster Recovery -2
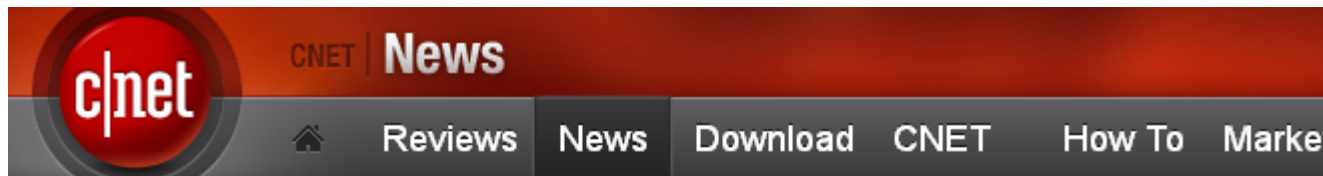
CNET | News

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October 17, 2000 6:15 PM PDT

Red Gorilla can't survive capital-market jungle

By Stefanie Olsen
Staff Writer, CNET News

Red Gorilla has shut down its site and turned over its current customers to another application service provider, its chief executive told CNET News.com on Tuesday.

"Right now the (Red Gorilla) system is offline, all the employees were let go, and there's no money in the bank," said chief executive John Witchel. "Officetool.com has agreed to continue operating the Web site so that our customers can continue to use our software."

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Disaster Recovery - 3

- What events cause the service provider to engage in data recovery operations?

- Does the contract contain data recovery goals?

- What are the consequences if the data is not recovered within the specified time frames?

- Who takes priority if multiple customers of the service provider are affected?

- How will a force majeure event impact contractual obligations?   (next slide)

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"Force Majeure" Events

- Parties can bargain for effects of "FME"
- Consider scope and wording (what is/is not considered FME)
- What form of relief is granted (excused from performance, suspension of performance, termination, etc.)?
- What are the disaster recovery obligations during an FME?
  - Are some customers contractually prioritized?

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Privacy -1

Frequently implicated data protection laws:

- EAR/ITAR (prohibits "export" of information)

- Patriot Act and other laws (U.S. gov't can access data)

- Sarbanes-Oxley (controls over financial information)

- EU Data Protection Act (see next slides)

- Patchwork of Federal Laws, For example:

  - Gramm-Leach-Bliley (banking/insurance information)

  - HIPAA (employee or third party health information)

  - FERPA (information concerning students)

- Patchwork of evolving state laws

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Privacy -2

EU Restrictions on Data Transfer

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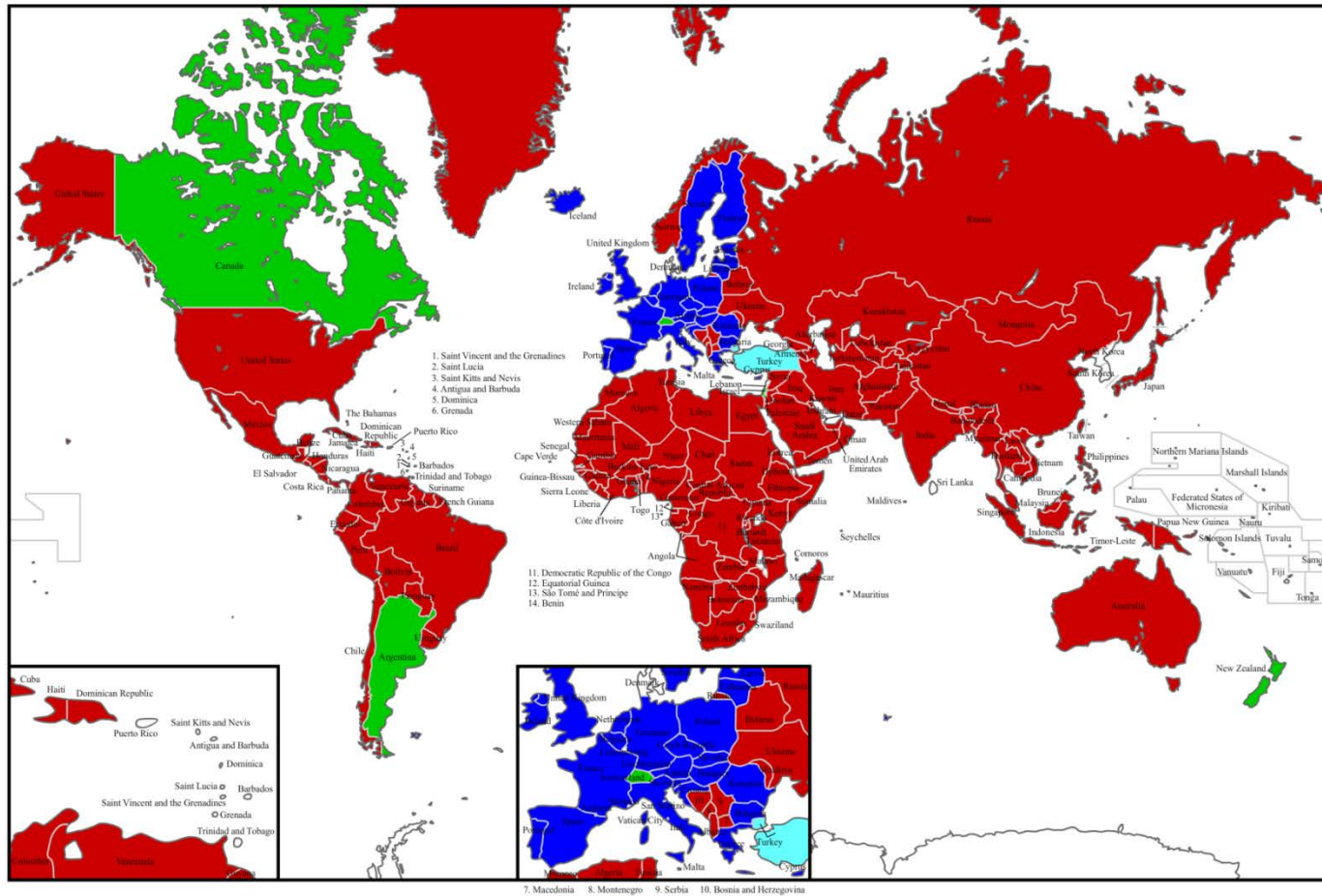
EU Data Protection Laws -1

EU Data Protection Laws Issues

- Rule: Data must not be transferred to countries outside the EU that do not offer an "adequate level of protection"
    - Currently only: Andora, Argentina, Canada, Faroe Islands, Guernsey, Isle of Man, Israel, Jersey, New Zealand, Switzerland, Uruguay.
- Exceptions:
    - ask permission from every "data subject" involved
    - for US - Dept. of Commerce "safe harbor" registration
    - EU model contract clauses
    - "Binding Corporate Rules"

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EU Data Protection Laws -2

- Legislation makes fundamental distinction between:
  - **data controller**: party that defines the purpose and the means of processing the data
  - **data processor**: the party performing the tasks
- Data controller is liable towards the "data subjects"
- Data controller is obligated to select appropriate data processors, and must obtain adequate contractual protection from them

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EU Data Protection Laws -3

EU law will apply when:

- A "controller" is located in its territory; or,

- When a "controller" outside the EU uses "equipment" within the EU territory

Applied to cloud computing:

- using an EU-based data center triggers legal compliance obligation

- Many authorities interpret "equipment" in an extremely broad way (e.g., browser cookies)

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Privacy and Security Issues -1

Subcontractors

- Are subcontractors used to provide the service?

  - Can the service provider impose contractual obligations on the subcontractors?

- Can vendor identify the subcontractors?

- Does the customer have a right to approve new subcontractors? (or a category of subcontractors?)

  - What is the approval/disapproval process?

  - Service providers are reluctant to provide approval right, but may provide a termination right

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Privacy and Security Issues -2

Data Location and Data Center Issues

- Data Segregation
  - Public vs. Private Cloud
  - Encryption?
    - Transmission? Rest?
    - Who has the keys?
  - Where and how is backed-up data stored?
- Does the system have software and other access controls to prevent unauthorized access?
- Is penetration testing routinely performed?

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Security Obligations – 1

- Are physical and logical security procedures required?

- Employee background screening?

- How is security verified?

  - Note that a customer audit may not be permitted under law or under other provider contracts

- Is a separate Data Protection Agreement needed?

  - Often used when handling EU data

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Security Obligations – 2

- Data Protection Agreement - May cover a wide range of topics, such as:
  - Organizational measures, such as: security officer; security plan; staff functions
  - Technical measures, such as: authorization, identification, authentication, access controls, management of media
    - Note: may specify different measures based on sensitivity of data
  - Record Keeping

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Security Events

- Agreements may distinguish between "Security Issues" and "Security Incidents" and provide different rights, obligations and remedies for each category.

  - Security Issues – issues that could give rise to a security breach

  - Security Incidents – actual breach of security

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Security Issues

- How are security issues defined?
    - objective vs. subjective definition
    - Are issues in the vendor's control and those in the control of its subcontractors differentiated?
    - Does every problem need to be investigated?
    - Does every problem need to be fixed?
- What is the process for fixing the issue?
    - Is there a specified time frame?
    - How is the time frame adjusted for fixes that take longer to implement?

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Security Incident

- Notice requirement to other party
- Remediation efforts
  - Who does what?
  - Who pays for the remediation efforts?
  - Does the breach require end-user notification?
- Who has legal liability for the incident?
  - May want to address liability caused by third parties (e.g., hackers)

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Confidentiality Clauses

- May impose a back door security obligation on the service provider
    - Is the service provider obligated to keep a customer's information "confidential"?
    - Some providers will state that they will employ "commercially reasonable efforts" to "protect" a customer's confidential information

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Subpoenas/ E-Discovery

- Who bears the costs associated with subpoenas and e-discovery
  - Many vendors will attempt to make the data available to the customer and let them figure out what data is relevant
    - May need special procedures if the system produces metadata
- Vendor may not be able to disclose all subpoenas (e.g., national security subpoenas)

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Data Retention Issues

- Customers tend to want two conflicting obligations
  - Vendor should keep the data as long as customer needs it
  - Vendor should promptly destroy it when it is no longer needed
- Depending on the service, vendor may not know the content of the data and will be unable to assess legal retention requirements
- Contract should specify when data is destroyed

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Compliance Requirements

- Customer may want the contract to contain procedures for auditing compliance issues:
  - Does the vendor data center facility allow visitors?
  - Will the audit disclose too much security information?
  - Will a customer's auditor have access to other customers' data?
- Customer may want to impose compliance obligations on the vendor

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Risk Mitigation - 1

- From a customer perspective
  - Diligence

  - Audit pre- and post-contract execution

  - Contract risk allocation

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Risk Mitigation - 2

- Typically, the customer wants to impose a combination of the following obligations on the service provider:
  - Operating procedures
  - Warranties
  - Indemnities
  - Insurance
- Typically, the vendor wants to minimize obligations (especially any obligation that slows its ability to make changes or causes "out of process" deviations) and impose other limitations on its liability

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Risk Mitigation - 3

- Operating procedures
  - Back-up and recovery procedures
  - Compliance procedures
  - Audit procedures
    - Contract should contain procedures for addressing deficiencies discovered during audits

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Risk Mitigation - 4

- Warranties/covenants
  - Obligations found in hosting and outsourcing agreements may not be included in cloud computing contracts, due to the commoditized nature of the relationship
  - Customer will want to try to memorialize diligence results (including vendor procedures)
  - Vendors typically push to provide an indemnity rather than a warranty

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Risk Mitigation - 5

Exemplary Types of Express Warranties:

- Conformance with Specification/Documentation/Sales literature
- Security Measures
- Scalability
- Operating Performance (system response)
- Non-Infringement (service and combinations)
- Data Conversion/Compatibility/Integrity
- Documentation
- Delivery Times/Methods
- Standard of Services
- Support and Response Times
- Lack of Viruses/Time Bombs
- Qualifications of Employees

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Risk Mitigation - 6

- Indemnities
  - Like warranties, vendors typically provide very limited, if any, indemnification obligations
  - Vendors will vigorously push back on typical liability caps (damage cap and consequential damages cap)

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Risk Mitigation - 7

- IP Indemnity - Vendors will typically:
  - Defend and pay finally awarded judgment
  - Want to exclude combinations created by the customer
    - Observation: The customer creates a combination in most cloud arrangements
    - Potential compromise: Vendor indemnifies for a combination, unless a reasonable non-infringing combination was available
  - Want to exclude certain customer data issues

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Risk Mitigation - 8

- Software Escrows?
  - Typically, software escrows have little value in many cloud service arrangements, because the customer will not have the equipment/data center infrastructure to actually utilize the escrow
- Service Escrows: Situation may be different if service is an "app" running on commercial third party platform
- Data Escrows?
  - Data stored with a third party that can be accessed separately by customer

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Risk Mitigation - 9

- Insurance
  - Contract may require a party to carry certain levels of insurance
  - CGL policy may not be enough to cover many cyber liability issues
  - Cyber liability policy may have lower limits for certain categories of damages (e.g., breach notification, credit reporting services)
  - Requires consultation with broker/agent

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Limitation of Liability

- Issues to consider:
  - Caps on the "type" of damages
    - Direct vs. Consequential vs. Incidental
  - Caps on the "amount" of damages
    - Different categories of damages may require different amounts
  - Exceptions to the one or both of the caps?
    - Indemnification
    - Security Breach

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