

Everything your practice needs  
for **Billing, EMR & Support**

- MEDICAL BILLING & CLAIMS MANAGEMENT •
- UNLIMITED IT SUPPORT •
- EMR APPLICATION HOSTING & SUPPORT •
- EMR & PRACTICE MANAGEMENT SOFTWARE •
- ALL INCLUSIVE, SUBSCRIPTION-BASED FEES •



## Security in Cloud Computing

*The Questions to Ask of your Cloud Vendors...*



**hfma**<sup>™</sup>  
healthcare  
financial  
management  
association

Medical Billing • IT Support • EMR Hosting • Electronic Medical Records



## About the Speaker...

### John O'Keefe – ITelagen – Chief Executive Officer (CEO)



- **CEO & Founder – ITelagen - ([www.itelagen.com](http://www.itelagen.com))**
- **Designed & Manage Healthcare IT Systems**
  - Muir Medical Group IPA, El Camino Hospital IPA, Lenox Hill Medical Group, Manhattan's Physician Group
- **"dot com" CEO & Founder - Fine Point Technologies - ([www.finepoint.com](http://www.finepoint.com))**
- **Early Pioneer of "Support Automation" software technology**
- **Designed Support Automation solutions for leading broadband providers:**
  - AOL (Japan), EarthLink, Verizon, TelMex, CenturyTel, and hundreds of ISPs



**ITelagen® services over 500 physicians / 4,500 staff members nationwide**

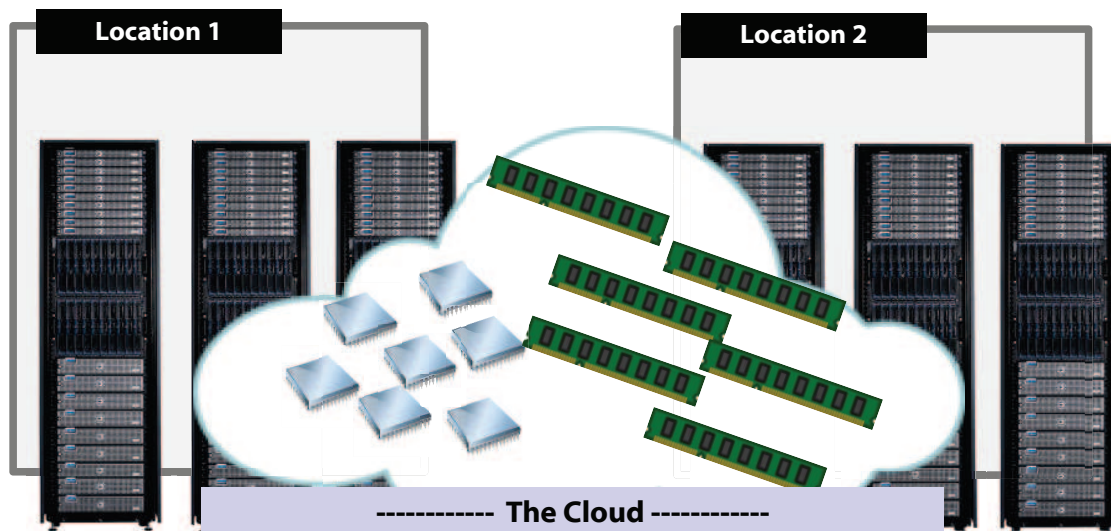
## HEALTHCARE CLIENTS

- Manhattan's Physician Group
- Lenox Hill Medical Group
- Muir Medical Group, IPA
- El Camino Hospital IPA
- And many more....

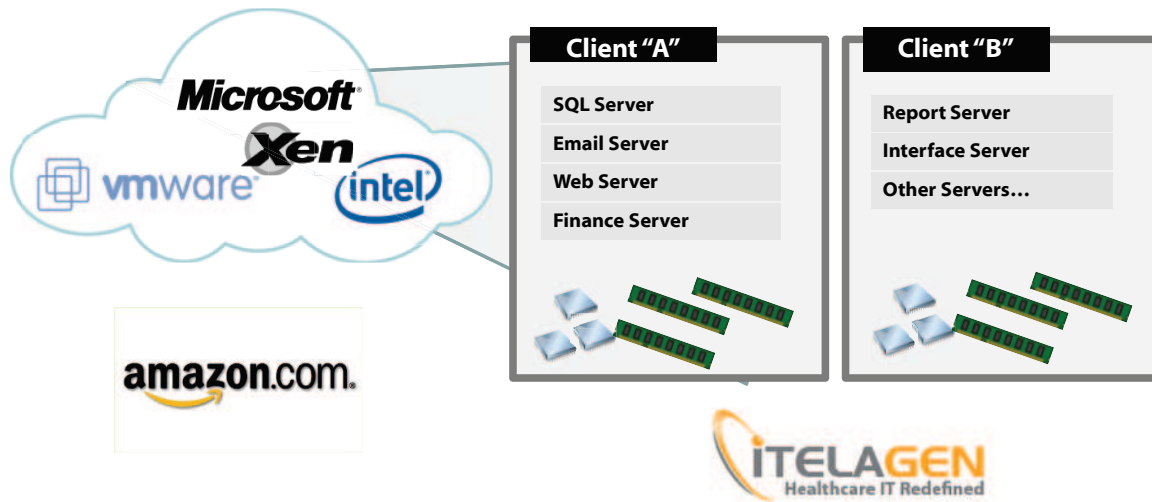


## What is Cloud Computing?

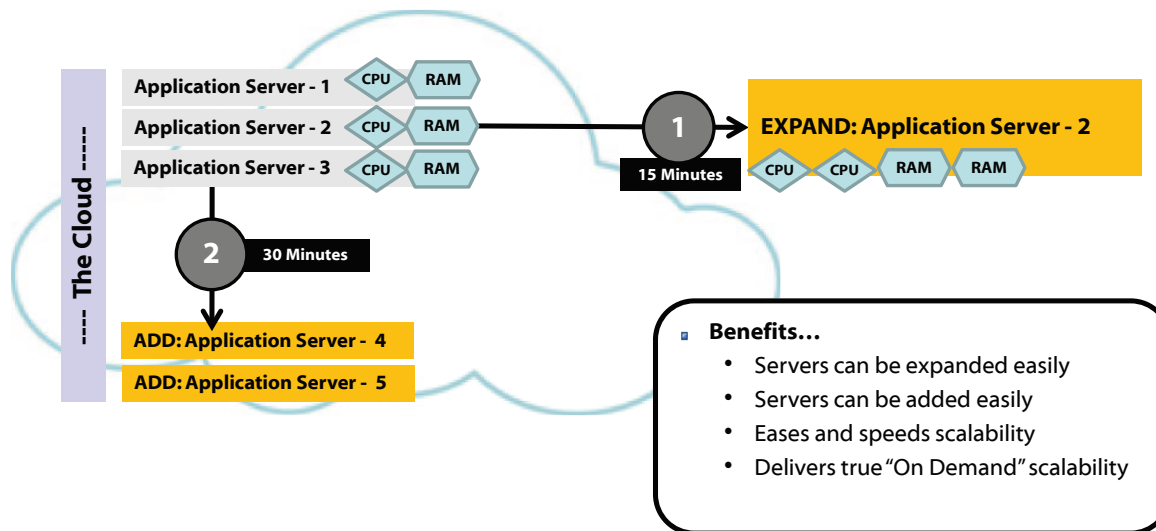
**The delivery of computing as a service rather than a product.**  
*"A Large Pool of CPUs and Memory"*



**Enabled by the Cutting Edge Technology**  
*Allows the "time sharing" of computing resources*

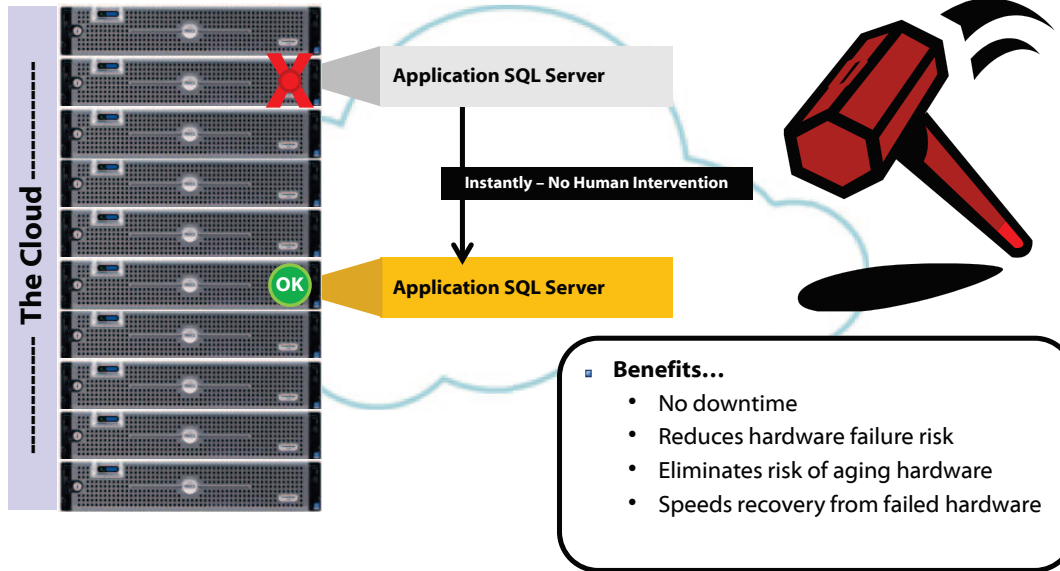


**Benefit: "On-Demand" Scalability – Add or Expand Servers....**

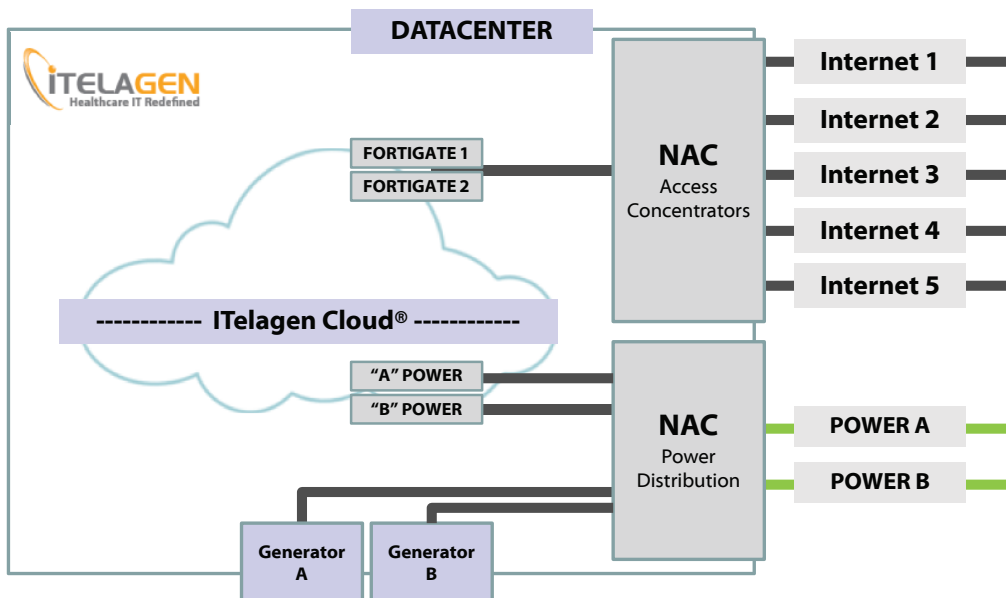


## Hosting Challenge: High Risk – Aging Hardware Failure(s)

Cloud Benefit: Images move \*automatically\* to other portion of “Cloud”



## Clouds are generally built in highly redundant & secure facilities.



## In Summary – Clouds Reduce Most Risks & Costs...

### ■ Reduced Risk

- Hardware Failures
- Power Failures
- Internet Failures
- Facility Failures

### ■ Reduced Costs

- Little Initial Cost
- No Capital Cost
- Low Operational Cost\*\*

### ■ Other Considerations

- Security???????



**Don't be Put off!**

**Cloud Computing = Good (when done right)**

**Questions to Ask Your Cloud Provider...**

## Is my cloud public or private? What's the difference?

### ■ Public Clouds – 75%

- ++ Less Expensive
- ++ Low Initial Cost
- ++ Redundancy (Infinite)
- -- MORE exposure to security risks

### ■ Private Clouds – 25%

- ++ LESS exposure to security risks
- -- More expensive
- -- Large upfront cost
- -- Less Redundant (Finite)
- -- **Sometimes not even really a "Cloud" !!!**



## Who has Access to the Cloud & Data?

### ■ Data outside the enterprise brings risks...

- Physical Controls
- Logical Controls
- Personnel Controls

### ■ Ask about...

- Specific polices about hiring practices
- Oversight of "privileged" administrators
- Controls/Processes about the access
- What training is provided to the staff?
- Ask to meet the support team



## Geographically where is the data?

- **Geographic dispersion of data...**
  - Data easily replicated worldwide
  - Local laws dictate privacy of data
  
- **Ask about...**
  - Where is the data?
  - Where is the data replicated/backed up?
  - Commit the provider to certain geographic locations
  - Commit the provider to HIPAA and your BAA
  - Tour the Hosting Facility
  - Governing law & jurisdiction (**ask your attorney**)



## Require a Audit Certification...

- **Good Controls Mean Nothing if not Audited...**
  - Policies & procedures that protect security/access to Data
  - Verified service availability for operation and use as committed
  - SAS-70 Type II  
*In-depth audit of their control objectives and control activities*
  - ISO 27002  
*Security techniques - Code of practice for information security management*
  
- **Ask about...**
  - Get a copy of the Audit letter (Annually)
  - Does it also cover the provider's operations or just datacenter?
  - Read the Audit Letter...
  - Do you have the right to Audit? Get agreement in writing.



## How is the data Secured?

- **Security can be a black box to many customers...**
  - Firewall Policies
  - Data Encryption Policies
  - Network Encryption Policies
  
- **Ask about...**
  - Ask for the policies
  - Make sure they were READILY available!
  - Read the policies!
  - Have a trusted technology source provide an opinion
  - Ask for evidence of qualifications of policies architect

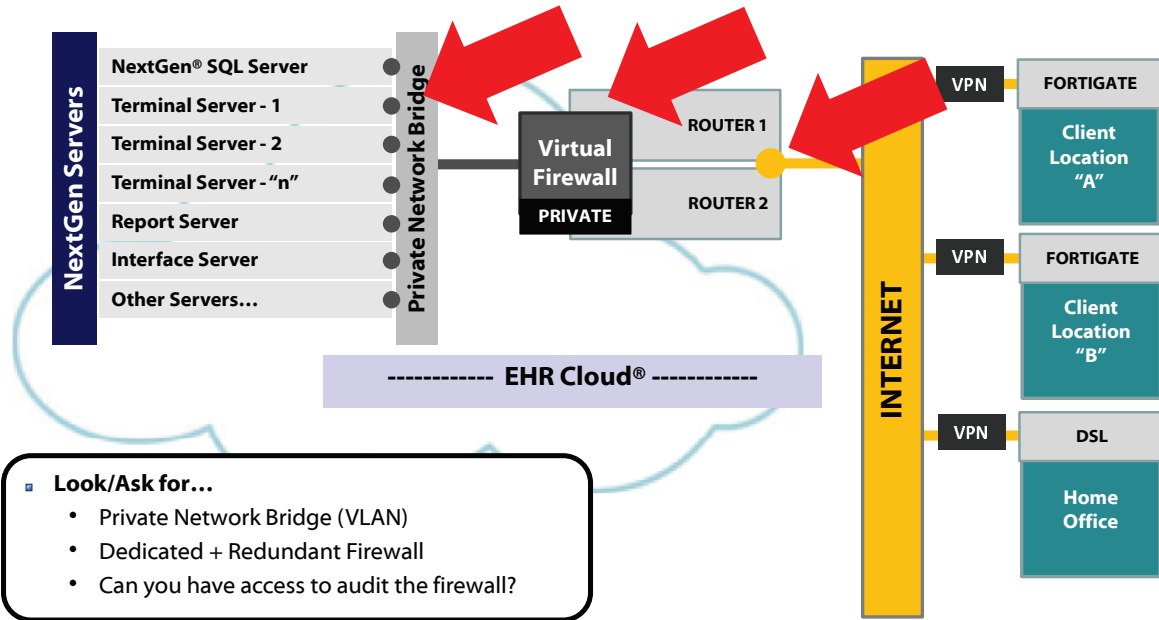


## Is your data & network segregated?

- **Data stored in the cloud utilizes common/shared hard drives...**
  - No Physical Separation
  - All Logical Separation
  - Requires expertise in SAN technology and strict policies
  
- **Ask about...**
  - Ask for the policies on "data at rest"
  - Ask for the policies on "VLAN separation"
  - Ask for evidence of qualifications of policies architect
  - Ask for Network Diagrams (should be readily available!!!)
  - What should you be looking for??? (next page)

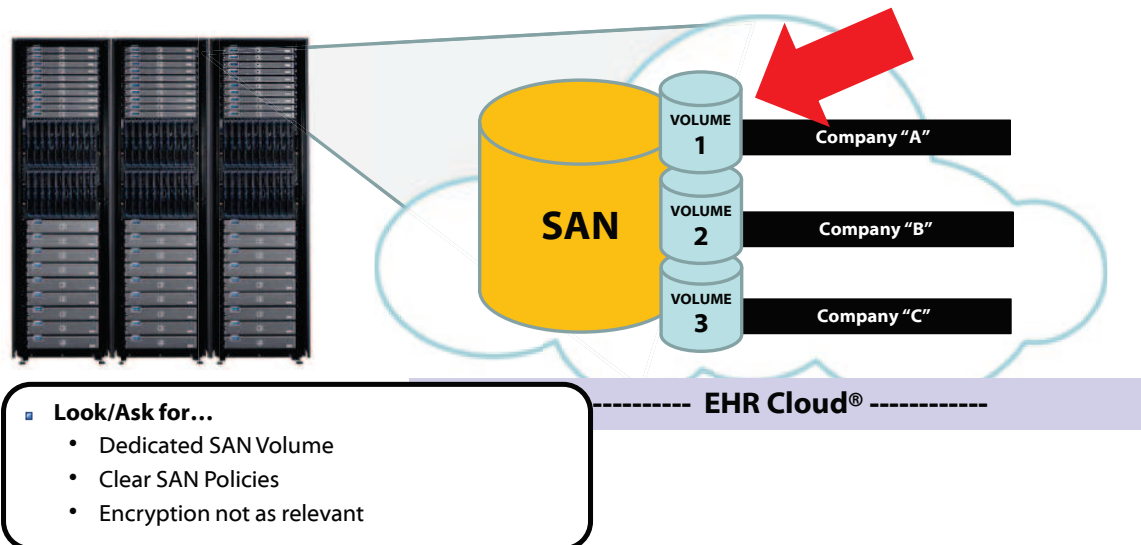


## Our High-Level EHR Cloud® Architecture – Inside of Cloud...



- Look/Ask for...
- Private Network Bridge (VLAN)
  - Dedicated + Redundant Firewall
  - Can you have access to audit the firewall?

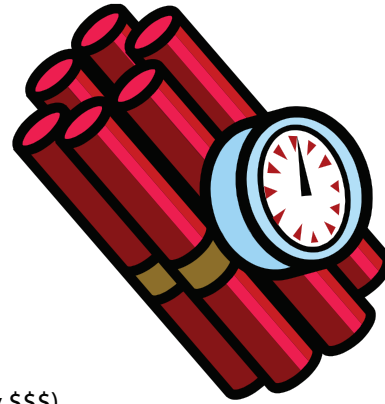
## Data at Rest must be properly partitioned (virtually)



- Look/Ask for...
- Dedicated SAN Volume
  - Clear SAN Policies
  - Encryption not as relevant

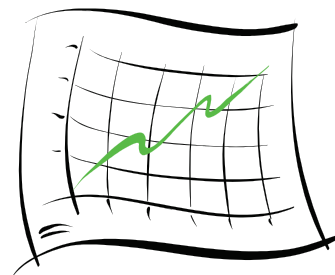
## What is the DR Plan? What is Business Continuity?

- **Understand the differences...**
  - Disaster Recovery – measured in days or weeks
  - Business Continuity – measured in hours
- **Disaster Recovery**
  - ++ Less Expensive or included
  - -- MORE risk in downtime
- **Business Continuity**
  - ++ LESS risks in downtime
  - -- Can be VERY expensive
- **Ask about/for...**
  - Ask how long for catastrophic data recovery
  - Ask for the policies on “disaster recovery”
  - Regular Tests of Data Backup and/or DR (May have to pay \$\$\$)



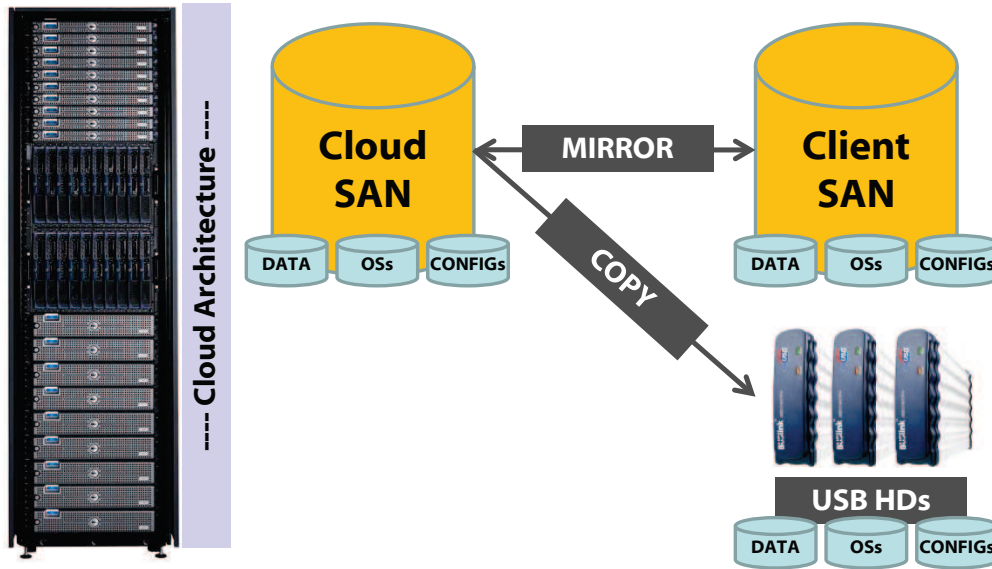
## Make sure the vendor company is viable

- **Why do I care about?**
  - Make sure the vendor will be in business long term
  - Make sure you wont lose your data during bankruptcy
  - Unprofitable business cut corners!!!!
  - Too Big can be bad too!
- **Warning Signs**
  - Financials that show loss or < 33% Gross Margins
  - Unable to READILY produce Policies & Network Diagrams
- **Ask about...**
  - Ask for financials (agree to an NDA)
  - Ask for and RECEIVE Policies quickly
  - Visit their offices!
  - How can you get your data back? (See the plan – next page)



## Ask for a CLEAR and EASY Way to get back your data

Sample from proposal provided by ITelagen to prospective client...



### Of all the tips provided always make sure to at least...

#### ■ Always Ask for...

- SAS-70 Type II Certified Audit Letter Each Year
- Ensure that ALL components: network, servers and facility are redundant
- Where is the data?
- Copies of Policies and Procedures (NDA may be required)
- What's the DR Plan?
- Ask for Financials
- Visit the Vendor Location

#### ■ Warning Signs – Stay Away from...

- Data stored outside of the USA
- Unable to READILY produce Policies & Network Diagrams
- Financials that reveal less than 33% Gross Margins

