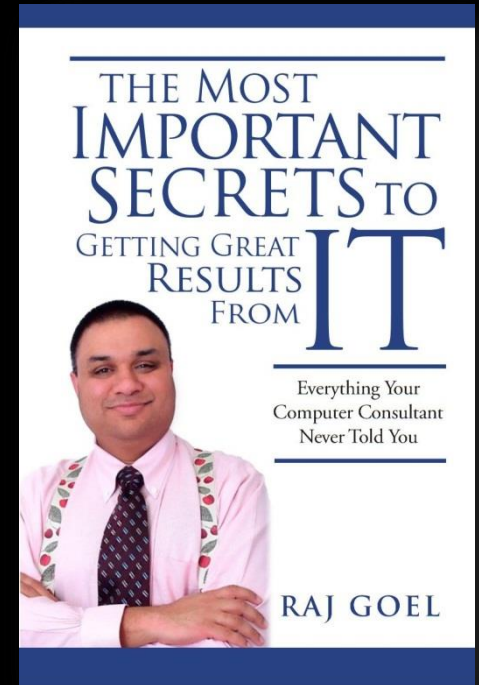


Protecting Information As We Move Toward The Mobile Office: HIPAA, Confidentiality and Consent



Raj Goel, CISSP
Chief Technology Officer

35th Annual MHA Conference
June 23, 2015

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Raj Goel, CISSP

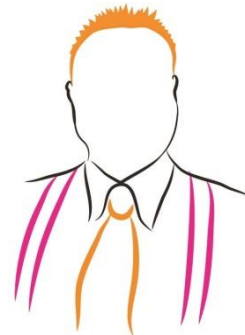
Raj Goel, CISSP, is an Oracle and Solaris expert and he has over 25 years of experience in software development, systems, networks, communications and security for the financial, banking, insurance, health care and pharmaceutical industries.

Raj is a regular speaker on HIPAA/HITECH, PCI-DSS Credit Card Security, Disaster Recovery, Information Security and other technology and business issues, addressing diverse audiences including technologists, policy-makers, front-line workers and corporate executives.

A internationally known expert, Raj has appeared in over 30 magazine and newspaper articles worldwide, including *Information Security Magazine*, *PenTest*, *CSOOnline*, *Entrepreneur Magazine*, *Business2.0* and *InformationWeek*, and on television including *CNNfn*, *Geraldo At Large*, *PBS* and *WPIX11*.

Raj has presented at:

- **ISC²** conferences
- **ASIS International** conferences
- **BrightTalk** conferences
- Medical Conferences
- Legal Conferences
- **GBATA 2012 & 2013** (keynote speaker)
- **The Hague, Netherlands NCSC.NL 2013** (plenary)
- **GBATA 2013 Helsinki** – Keynote
- **ICT Curacao** – Keynote
- **Datto Partners Conference** - Keynote



Media Appearances



The New York Times

Entrepreneur

(ISC)²

SECURITY TRANSCENDS TECHNOLOGY™



BrightTALK™



PenTest magazine



NEW YORK COUNTY
NYCLA
LAWYERS' ASSOCIATION

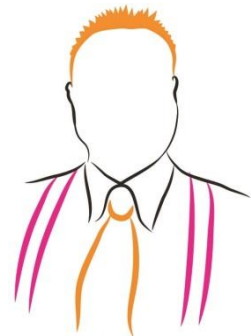
Statistics

- Cyber Crime Reports Jump 49% in 2013¹
- 262,813 consumer complaints with a dollar loss of \$781,841,611 in the USA alone! ¹
- 600,000 Facebook accts hacked every day²
one every 140 milliseconds
- 2 million new viruses created each month³

1: FBI 2013 UC₃ Crime Report

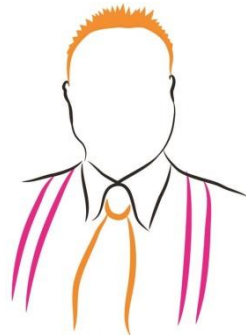
2: Facebook

3: Kaspersky Labs and Panda Security concurs



This is MOBILE

- PC's and Servers
- Phones
- Home Automation
- Video Conferencing
- Refrigerator
- HVAC System
- Photocopiers
- Facebook
- Twitter
- Your Website
- Cars
- TV's
- Video Games

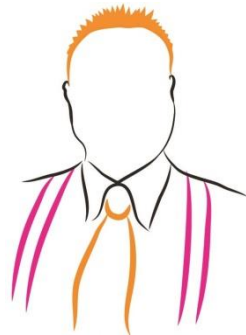


How?

- Open WiFi & Key loggers
- Phishing emails & SMS
- Shady websites & Porno
- Re-Route your phone calls
- Buy stuff that already contains Malware
- Fake Antivirus
- Ransomware like Cryptolocker

1

Your Employees Doing Dumb Things

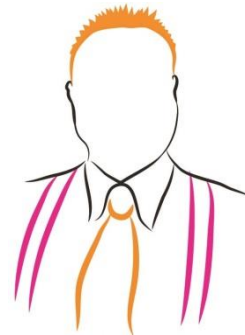


Unsecured Surveillance Cameras

- Hackers Set Up Live Streaming Website For Private Webcams

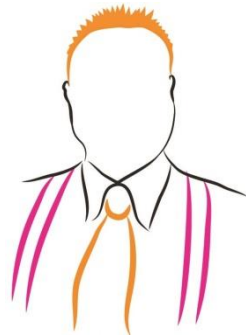


- <http://www.brainlink.com/2014/12/01/hackers-set-up-live-streaming-website-for-over-100-nyc-private-webcams/>



Coffee & Free Bitcoins!

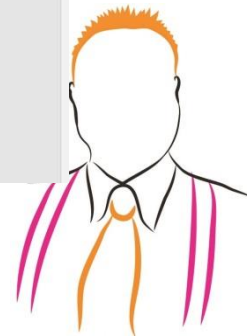
- An Office business center offered free coffee and iMacs to guests and visitors
- Several “guests” installed Javascript Bitcoin miners on these machines
- We caught it through network analysis and systems monitoring



App Store Mine Field

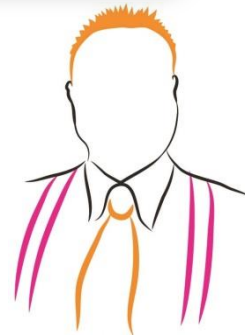
The screenshot shows the Google Play Store interface with the search term 'banking'. The search results are displayed in a grid of eight app cards. Each card includes the app icon, the app name, the developer name, a star rating, and the price. The apps listed are:

App Name	Developer	Price
State Bank Freedom	State Bank of India	FREE
Banking 4A	Subsembly GmbH	\$5.70
Easy banking	BNP Paribas Fortis	FREE
Bank of America	Bank of America	FREE
Citizens Bank Mobile	RBS Citizens N.A.	FREE
Personal Banking	Santander UK plc	FREE
U.S. Bank	U.S. Bank Mobile	FREE
Banking	Susquehanna Bank	FREE



Some Examples...

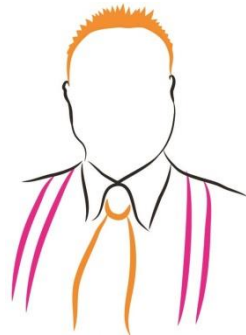
- Cyber crooks steal \$588,000 from Maine-based Patco Construction Company
- New Year's Eve burglary leads to billing firm bankruptcy.
- Hackers stole 160 million credit cards
- \$1.5 Million cyberheist ruins Escrow firm
- But none of this applies to you...



Anchorage CMHS

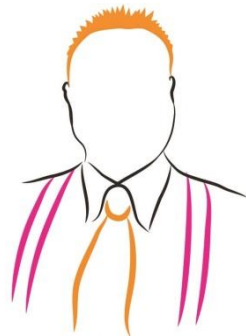
Anchorage Community Mental Health Services will pay \$150,000 to HHS to settle potential HIPAA violations after the organization

- failed to patch their systems and
- continued to run outdated, unsupported software that eventually led to a malware data breach affecting 2,743 individuals. ACMHS reported the breach to HHS back in March 2012.



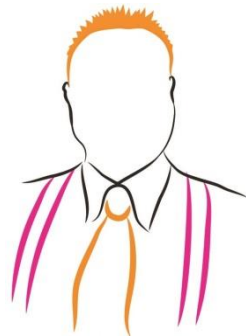
Community Health Systems Professional Services Corporation

- The biggest HIPAA-related data breach of 2014,
- These records contained patient names, addresses, dates of birth, telephone numbers and Social Security numbers
- To steal this information, a Chinese hacker group utilized an Advanced Persistent Threat form of malware, which managed to bypass CHS cybersecurity measures. The company, one of the largest hospital organizations in the U.S., alerted all affected patients and offered them free identity theft protection services.



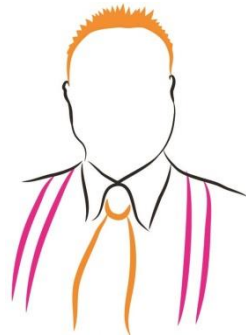
Xerox State Healthcare, LLC

- In May, the Texas HHS Commission informed Xerox that it was terminating the company's Medicaid claims administration contract. This led to a legal dispute.
- Xerox refused to return the state's data. In a court filing Xerox later acknowledged it had removed patient records from servers and hard drives and permitted other parties to view this information – HIPAA violations affecting up to 2 million patients. Xerox denied that the records were ever in jeopardy and the results of the lawsuit are still pending.



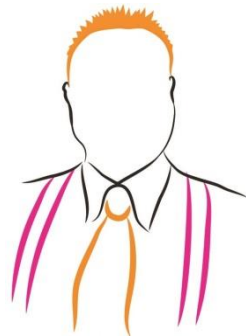
Touchstone Medical Imaging, LLC

- Touchstone Medical Imaging discovered that one of its folders containing patient information was accessible to the public via the Internet.
- > 300,000 patients' billing information may have been exposed for months before Touchstone realized its error and removed the folder from public view.



Visionworks Inc.

- Visionworks replaced one of its database servers in its Annapolis, Md., location for scheduled upgrades. The old server, which contained partially unencrypted protected health information belonging to nearly 75,000 patients, then disappeared.
- Visionworks says this server likely ended up in a landfill by mistake
- Few weeks later, they lost ANOTHER server in Jacksonville, FL



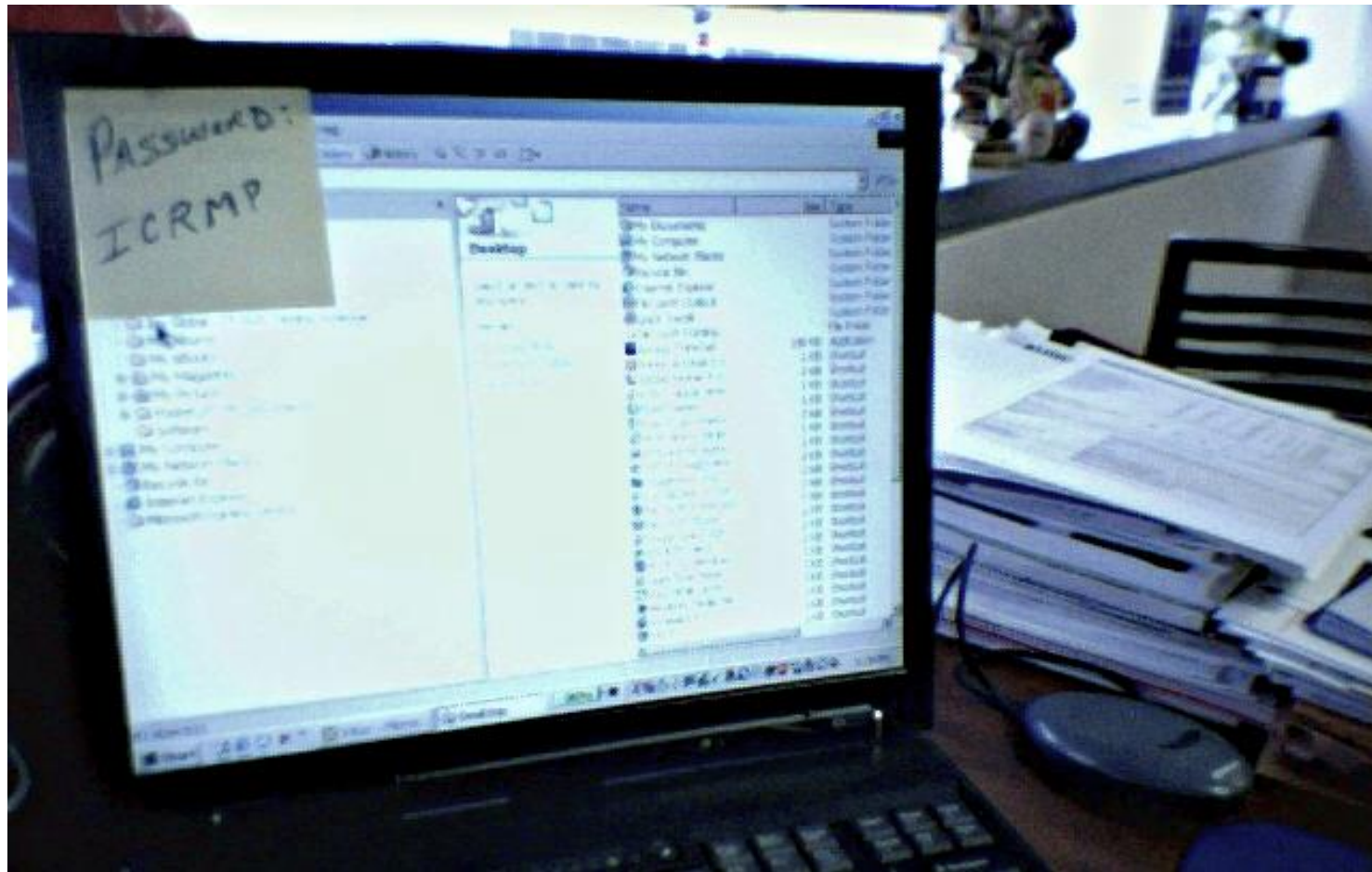
Phone or Foe?

- 50% of all Flashlight apps are malware
- Upwards of 50% of Android phones are rooted with malware
- Social Media Check-Ins are an invitation to crime



One of My Favorite Photos

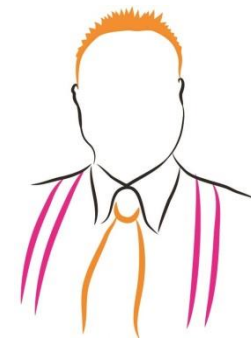
“I have met the enemy, and he is us.” - Pogo



Employees cause 87% of breaches

Trace Type	Data
File	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\REVIT2012\Crack\xf-adesk2012x64.exe
Archive	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\REVIT2012\Crack\xf-a2012-64bits.rar xf-adesk2012x64.exe
Archive	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\REVIT2012\Crack\xf-a2012-32bits.rar xf-adesk2012x32.exe
Archive	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\REVIT2012\AUTODESK.REVIT.ARCHITECTURE.V2012-ISO\rac2012\rac2012...
Archive	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\REVIT2012\AUTODESK.REVIT.ARCHITECTURE.V2012-ISO\rac2012\rac2012...

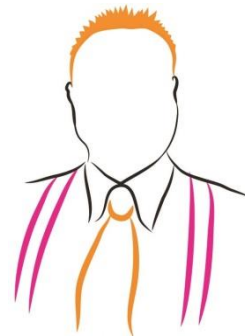
- Young employee downloaded pirated software.
- Banking trojans come along for the ride



Watering hole attacks

3/15/2013	Deep Scan	Quarantined	[REDACTED]	192.168.1.200	Remote Agents	[REDACTED]
Trace Type		Data				
File	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\Downloads\Metal Roof Rail Bracket Install Manual pdf(1).exe					
File	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\Downloads\Metal Roof Rail Bracket Install Manual pdf.exe					
2/14/2013	Deep Scan	Quarantined	COR-AD2	192.168.1.200	Remote Agents	CORNERSTONE
Trace Type		Data				
File	D:\RoamingProfiles\Desktop\ [REDACTED] My Documents\Downloads\FastDownload.exe					

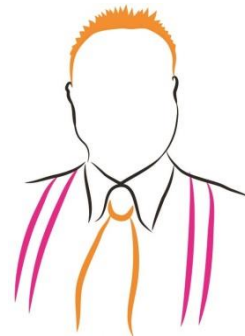
- Criminals infected a major supplier site
- PDFs were infected
- Nasty rootkit hidden in the files



Playoffs or Projects?

Top Web Users		
User	Hits	Bytes
N/A	39669	771.16 MB
[REDACTED]	22513	6.04 GB
media.newyork.cbslocal.com		3.71 GB
cbsnewwork.files.wordpress.com		8.68 MB

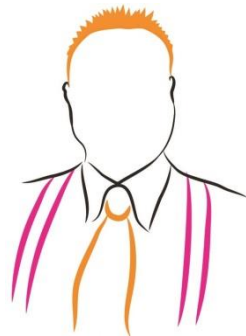
- During playoffs, a single employee consumed as much internet as everyone else combined.
- He spent the whole day watching baseball at work
- Next day, this report was in front of his manager.



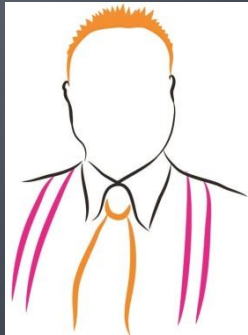
Raj's Top Six Action Steps

1. Patch and Update all systems
2. Backup, Backup, Backup
3. Invest in Quality Antivirus Software
4. Businesses must have a Real Firewall home users can use Software Firewall
5. Be aware. Control your business data and personal info. Shred, Avoid ATM's, Keep eye on credit and cards
6. Review your Cyber Insurance

Look before you Click!



Why BRAINLINK?

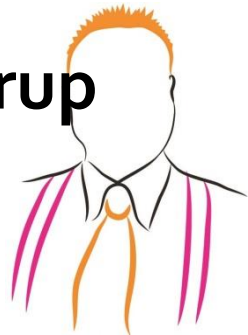


THE BEST THING WE EVER DID WAS HIRE BRAINLINK...



There is no one else that I could or would trust with my technology needs. From my hosting and email to the upkeep of my network and the data that runs my company, Brainlink and Raj have always been there for me. Knowing that they are taking care of my information structure means I don't have to worry

**Kelly Fox, 5th Generation owner
H Fox & Co. – Makers of Fox's U-Bet Syrup**

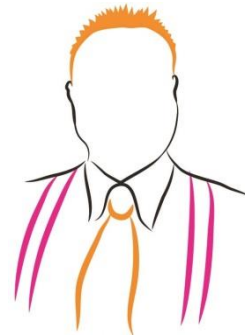


BRAINLINK'S STAFF IS VERY RESPONSIVE AND PROFESSIONAL...



What I like best about Brainlink is that their ticketing system tracks issues and gives us the ability to spot trends or issues before they become major problems

Chris Gallin, Partner
4th Generation Owner
John Gallin & Son

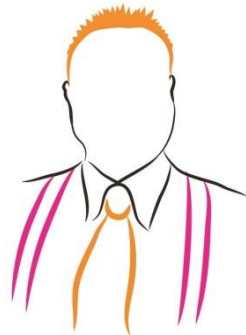


THE PROACTIVE PLANNING MAKES MY LIFE A LOT EASIER...



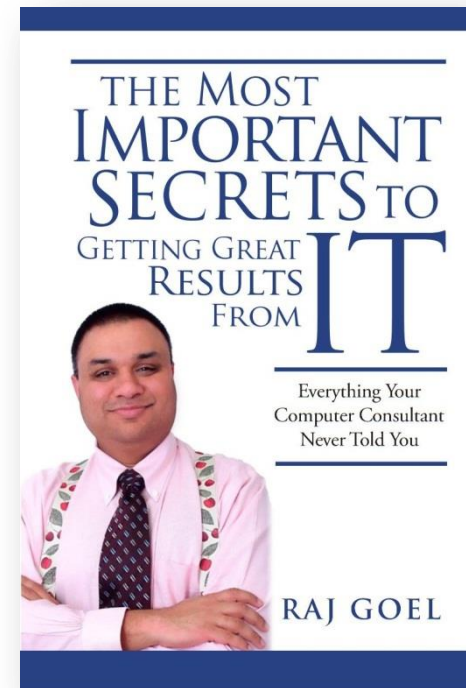
I love the prompt response and the ticketing system. **Instead of wasting 10 phone calls calling our old vendor, now I get complete visibility in my email!** Having our internal IT staff plug into your ticketing system and follow that process has increased our productivity. I have fewer people in the field that are down or ignored. My staff gets back to work faster. The project plans, proactive budgets and forecasts make my life easier. **What sets Brainlink apart is that you guys are doing exactly what you said you were going to do.**

Dan Williams, CFO
E W Howell
Industry: Construction



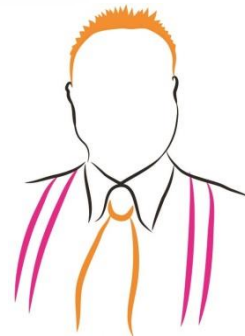
Contact Information

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www.linkedin.com/in/rajgoel



Author of "The Most Important Secrets To Getting Great Results From IT"

- <http://www.amazon.com/gp/product/0984424814>

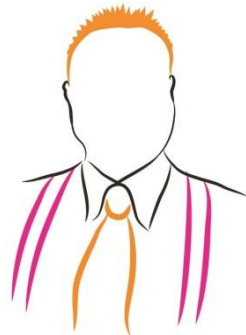


Recommended reading

<http://www.brainlink.com/about-us/media/>

<http://www.brainlink.com/category/articles/>

<http://www.brainlink.com/resources/newsletters/>



Last Action – Help Someone

We are here to HELP YOUR
members and their Clients.

Think of a client who has been a victim of Cyber
Crime, Is worried about Security or Struggling
with Compliance Challenges...

Now help us help them

