

# SOFTWARE SECURITY ASSURANCE SUMMIT

September 12, 2011 | HP Protect at Gaylord National | Washington D.C.

# Social Media and Evolving Cyber Threats

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Director Cyber Security  
Sayres and Associates



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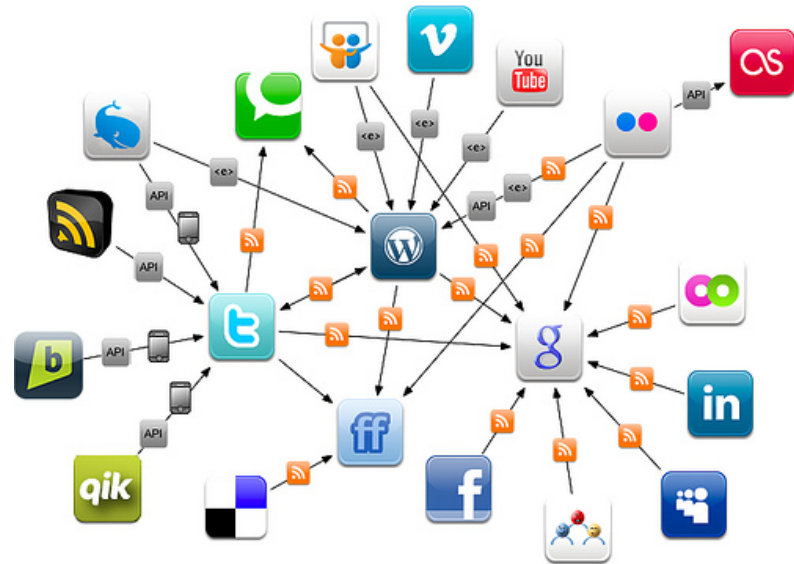
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## Communications Revolution

- Dramatic shifts in media and communication
- Continuous and direct dialog and action with less contemplation and organization
- Persistence of PII across a variety of platforms



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## Driving Technologies



Social



Mobile



Visual



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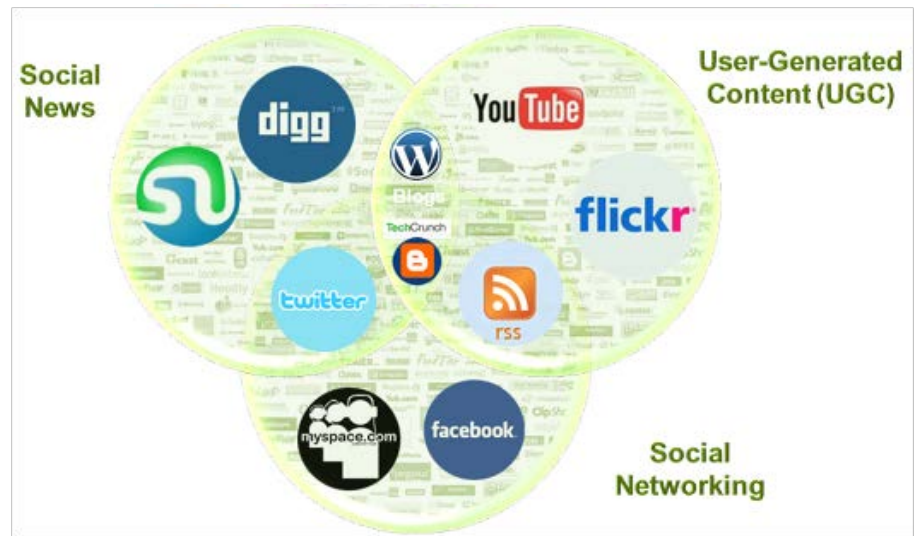
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## Social

- Commerce and content driving aggregation to mega-platforms
- 50% of network traffic created by 150 networks
- 15% by Facebook/Google
- Battle for PII advantage:
  - Social graph
  - Preferences



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## Mobile

- Organic continuous user experience
- Hyper-targeting information based on location, preferences, and connections
- Services work towards holy grail of marketing and advertising



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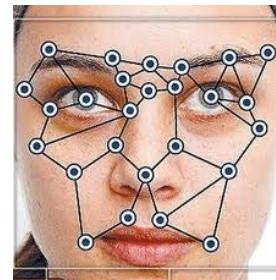
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## Video

- On-demand video
  - Video conferencing
  - Facial and object recognition
  - Augmented reality
- 
- Real-time manipulation  
“Diminished Reality”



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## Social Media Engagement

The HP Blog Hub



DATA CENTRAL | HP NEWSROOM | COMMUNITY GUIDELINES

HP transformation: reference guide  
By Ethan Bailey, August 19, 2011



**EDITOR'S PICKS**

Answering your Questions  
By Mark Budgett, 23 August 2011

The next chapter for webOS  
By Richard Karris, 19 August 2011

HP webOS: The next generation  
By Jon Ziber, 19 August 2011

HP transformation: frequently asked questions about Autonomy and webOS  
By Ethan Bailey, 19 August 2011

Hewlett-Packard has **345,961** followers

Follow Company Share

How you're connected to Hewlett-Packard

- 0 First degree connections
- 308 Second degree connections
- 147,701 Employees on LinkedIn
- Check out insightful statistics about Hewlett-Packard employees »
- Learn more about working at Hewlett-Packard

facebook Search

HP networking Product/Service

Wall

HP networking - Everyone

HP networking  
It's Friday...and that means Tim Swider talks Interop. This time the move to IPv6 for Interop New York 2011 and how (fortunate) networking products are ready!

HP Blogs - Networking countdown to Interop 2011 continues... - The HP Blog Hub  
h30507.www3.hp.com  
HP Blogs

Share - Friday at 7:18pm  
Donny Boerman likes this.

HP networking  
If you were unable to join HP at VMworld 2011 here's your chance to watch the major HP YouTube video highlights.

HP Event -- VMworld 2011 - YouTube  
www.youtube.com  
MASTER your path to the Cloud with HP Cloud Infrastructure, Software and Services. Don't miss it!

Share - Thursday at 8:29am  
2 people like this.

HP networking  
Talking the cloud talk, walking the cloud walk for the InteropNew York 2011!

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For more info on #SAPTechEd HP Session: Rapid Deployment Solutions for #SAP Landscapes [bit.ly/oSCYam](http://bit.ly/oSCYam)  
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HPServices HPEnterpriseServices  
Dodge the #virtualization traps; get help without spending a fortune. Tips from #HP blogger Alain Convert: #HPCI - <http://ow.ly/6p9Ct>  
18 hours ago

HPServices HPEnterpriseServices  
Why Enterprise Architecture must adapt to support #cloud services - and why it'll be hard, by #HP blogger Larson - <http://ow.ly/6p9Cy>  
18 hours ago

FIND HP IN SOCIAL MEDIA



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## Migration to Amateur Content



WIKIPEDIA



- Amateur voice of many is more responsive and accurate than the professional voice of one.
- More choice to select the voices of interest (rss).



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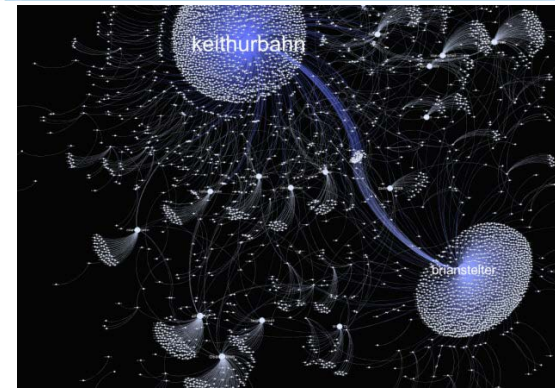


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## The Tweet Heard Round the World

- @keithubahn : 1,046 followers
- 1 min. 80 re-tweets
- 2 min. 300 re-tweets
- 35 min. 5,106 tweets a sec.
- Sohaib Athar liveblogged the raid but didn't know it



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## Social Media Vulnerabilities

- The more we share, the more we get, the more we share  
\*The more we are vulnerable
- Its not just about personal privacy. Organizations have little control or insight into their aggregated information exposure, yet individual exploitation gives information on and access to organizations
- The more aggregated public information becomes the easier it is for adversaries to mine and manipulate



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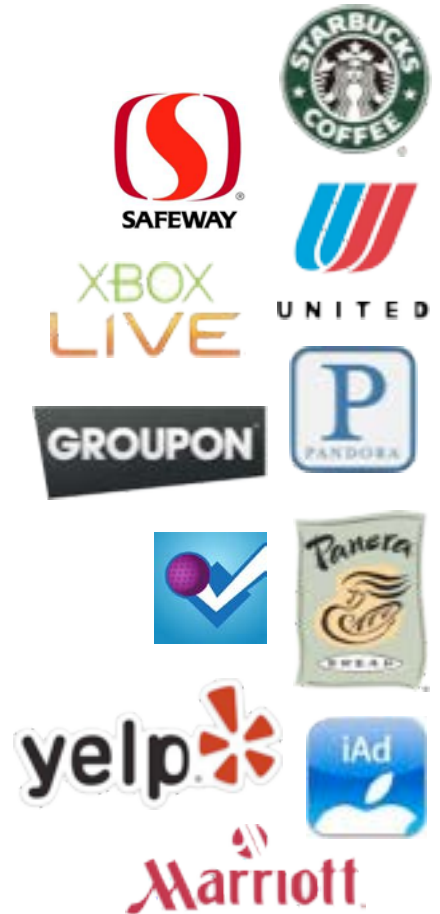
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## Your Digital Self



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## Social Media Guy

### facebook

Johnny Bravo  
Likes Redskins  
Friends with ...  
Lives in Columbia, MD



### Linked in

Acme Contractor  
Navy Cryptologist  
Member Intelligence Group

...

### twitter

@Securityguru Cyberspace  
the new domain of warfare:  
WASHINGTON: With the  
creation of the U.S. **Cyber  
Command in May and  
last...** <http://twurl.nl/bgt0xq>

### foursquare

Checked in at  
NSA Visitor Parking

...thank you, thank you very much



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## Implicit Release of Private Information

- Facial recognition
- Tagging
- Data aggregation and mining



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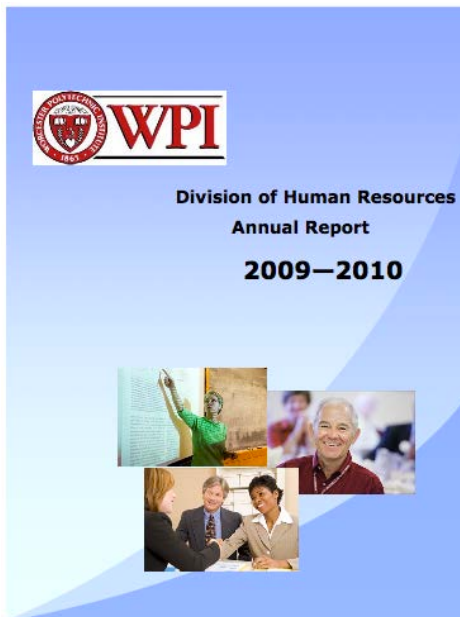


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## Meta Data Exposure



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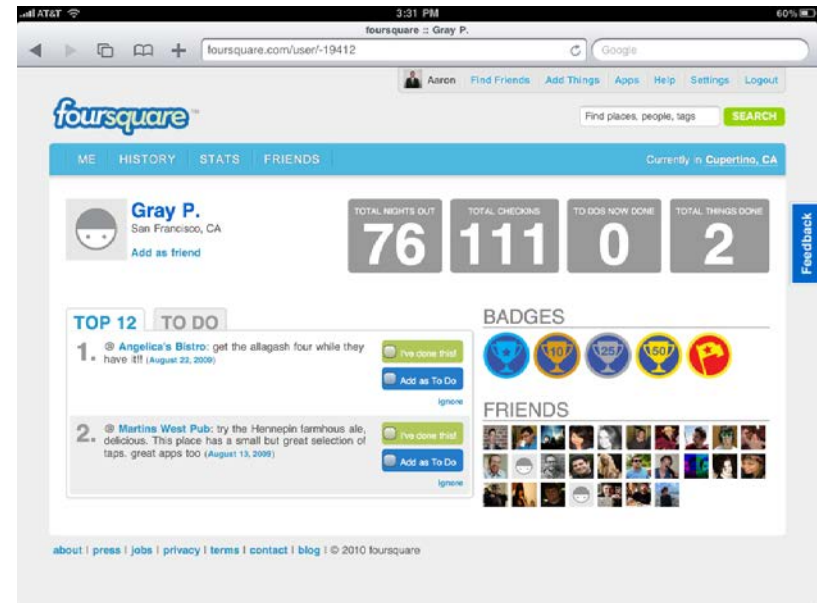
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## Vulnerability of Location

- LinkedIn Page shares he is a iPhone field product tester
- Location information on Gray including spots he frequents most and friends.



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## Information Exploitation

- Technology is allowing for easy information exposure and exploitation in real-time that can not be easily monitored or protected
- Little discussion about aggregated information exposure across platforms?
- Information manipulation becoming more prevalent



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## Following PII Bread Crumbs

Check out the Hewlett-Packard Company Profile.

Search

Keywords:

First Name:

Last Name:

Title:

Current or past

Company:

Hewlett Packard

Current

School:

Location:

Located in or near:

Country:

United States

Postal Code:

20003 Lookup

Within:

25 mi (40 km)

Sort by: Relevance View: Expanded 892 results Save

**Strategic Program Executive at Hewlett-Packard**  
Baltimore, Maryland Area | Information Technology and Services  
500+ connections  
Current: Strategic Program Executive at Hewlett-Packard  
Past: Business Development Executive at SAIC, Senior Business more...  
In Common: 11 shared connections 2 shared groups

**Patent Counsel at Hewlett-Packard**  
Washington D.C. Metro Area | Law Practice  
194 connections  
Current: Patent Counsel at Hewlett-Packard  
Past: Associate at Fish & Richardson P.C.  
In Common: 1 shared connection

**Manager Federal Server Sales Teams at Hewlett-Packard**  
Washington D.C. Metro Area | Information Technology and Services  
178 connections  
Current: Maryland State Liaison at Recreation Management  
Past: Sales Specialist to U.S. federal government  
In Common: 1 shared connection



Search

People

Jeffrey Hughes

Location Washington, District of Columbia

Add another filter...

**Strategic Program Executive at Hewlett-Packard** Add Friend

**Patent Counsel at Hewlett-Packard** Add Friend

Potomac Falls High School



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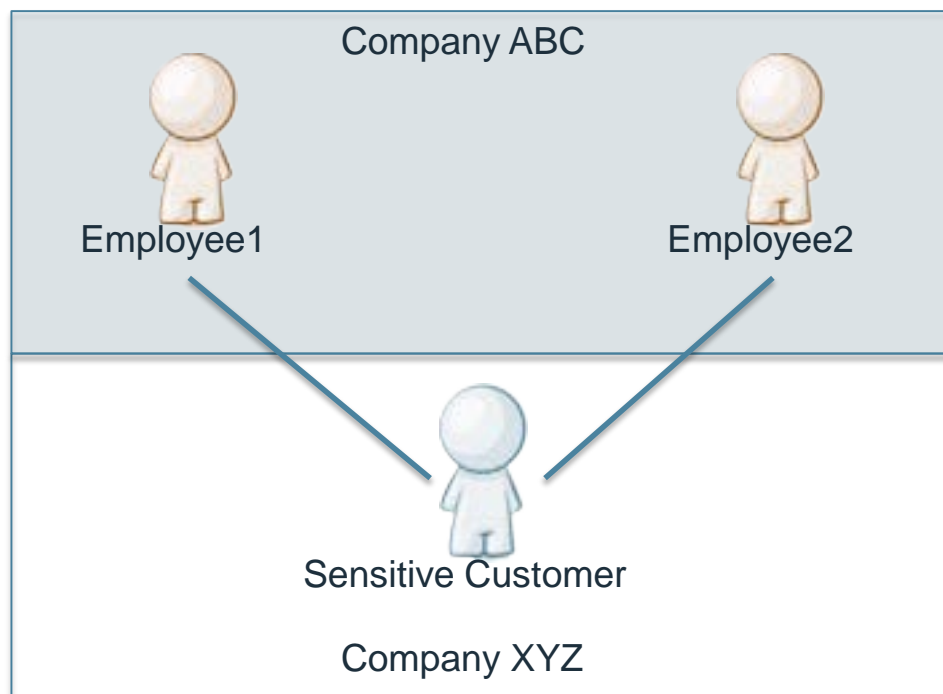
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## Link Analysis

- The more we interact online and expose relationships the easier it is for an attacker to discern hidden details about an individual and develop exploitation paths.



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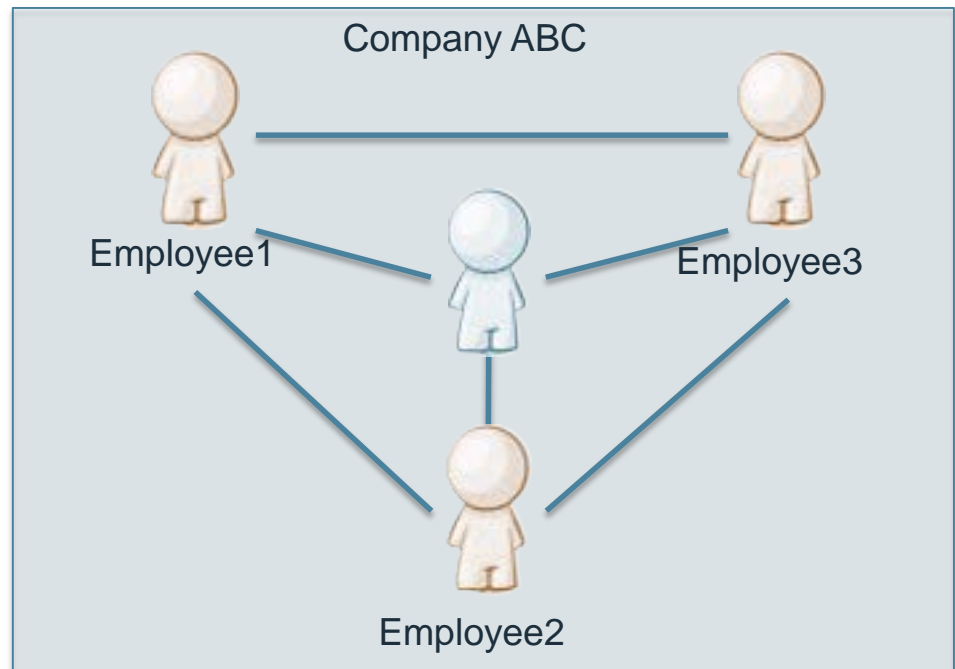
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## Link Analysis and Time Correlation



monster®



- A competitive intelligence capability with inputs from these services.
- Conducting time and data correlations of RFP release, job postings, contract awards, and profile modifications could tell you down to individual who is working on what contracts.



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## People Are the New Worm

Scam started Aug 2nd.  
and peaked on Aug 4th.

shared a link.  
**This is what happens when ex GF forgets to turn her vwebcam off.**  
[www.cmaosbiodnbo.tk](http://www.cmaosbiodnbo.tk)  
 Boyfriend revenge on EX girlfriend. See the full Video.

30 minutes ago · Share

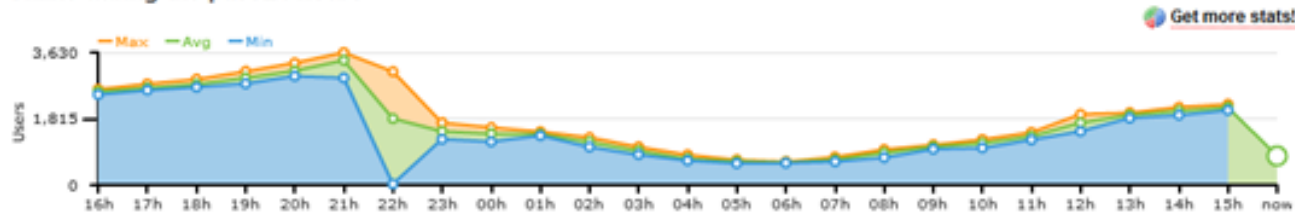
### Statistics

#### People on Facebook

More than 750 million active users  
 50% of our active users log on to Facebook in any given day  
 Average user has 130 friends  
 People spend over 700 billion minutes per month on Facebook

1,267,200 visitors a day  
 Avg. of 1% share the video

Online during the past 24 hours »



- Avg. user has 130 friends. 82,368,000 users exposed.



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## Social Media Manipulation



**Bill Simmons**

**@CelticsChants** LeBron's Subconscious

*A far-fetched idea to see if we can mobilize Celtics chants during a playoff game*

<http://sportsguy.net>



**@mpLASD**

Mike Parker



About @CelticsChants

27

Tweets

1

Following

15,445

Followers

517

Listed

@TheGame Plz delete Tweet off UR wall of phone# that begins with 310: #LASD #Compton #Sheriff This is compromising public safety. Hi # calls

12 Aug via web ☆ Favorite ↻ Retweet ↩ Reply



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## Future of Social Media Security

- The growing popularity and convergence of social media and mobile to deliver real-time tailored information will provide increased opportunity for collection and manipulation



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## Evolution of Cyber Threats

- In the last 18 months we have seen significant advancements in the organization and TTPs of cyber threats.
  - Individuals - collaborating, more aggressive, public
  - Groups - specializing, process improvement, established
  - State - operational experience, integrating



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## Aurora

- Large scale attack on commercial and defense companies.
- Started with social media targeting and spear phishing attack vector
- Accessed dissident accounts and stole source code



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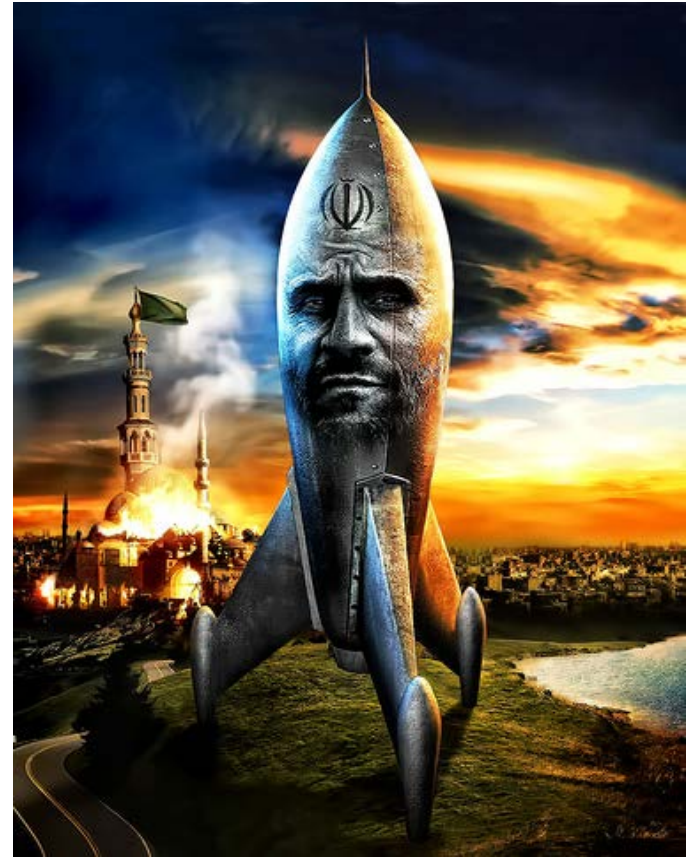
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## Stuxnet

- SCADA Malware now a reality
- Physical damage for cyber attack no longer theory
- Critical infrastructure moving to IP
- Essential target for state sponsored asymmetric objectives



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## Financial

- NASDAQ compromise in Oct.
- Attacks not limited to direct assault.
- The significant loss of corporate IP has significant repercussions on financial markets



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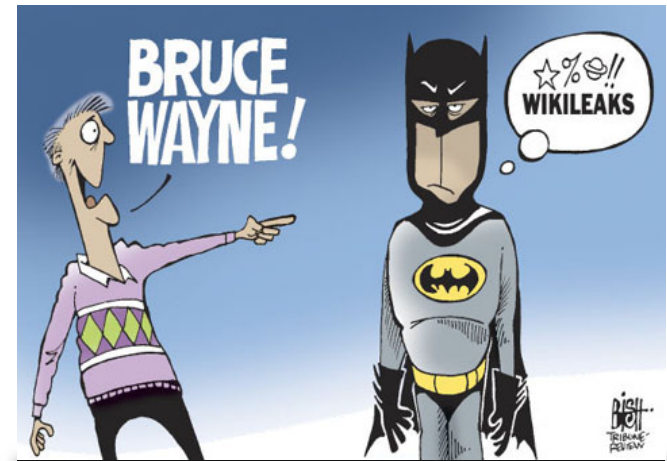
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## Hacktivism

- Insider Threat has few defenses
- Very vocal attacks create greater sense of fear
- Politically and socially motivated
- Leverages the capability and voice of many



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## Arab Spring

- Social and political movements organized in information controlled countries using social media
- Protests in Egypt were organizing on Facebook and Twitter weeks before physical protests



@SultanAlQassemi

@Sandmonkey



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## Flash Mob

- Initially an attention and marketing tactic
- Now being used to organize and overwhelm
- Social media a more effective communications tool than any military or government



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## DigiNotar Certificate Authority Hacked

- 531 fake certs. created
- Microsoft, Google, CIA, Mi6
- Mobile platforms highly vulnerable because of low update rates
- Monitor rerouted traffic
- Considered by some to be worse than Stuxnet



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## Mobile Applications

- 1/2 of 30 randomly selected apps sending PII to advertisers
- Jackeey Wallpaper app (1M)
  - Sent to [www.imnet.us](http://www.imnet.us)
- Droid Dream Light
  - 30K - 120K devices infected
  - 26 Apps
  - Authors also made 50 earlier malicious apps



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## Social Media Services

- Single Sign-on compromises
- In-service privacy disclosures
- Links, posts, apps - all can contain links to malicious content (short links)
- Lots of unvetted content that looks vetted.



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## Future of Security

- Mobile - perimeter is faded to gone. Fight is at the end points.
- Personal and organizational social media vulnerability monitoring and protective services
- Can not be reliant on compliance. More complex rulesets and sophisticated technologies to identify vulnerabilities and threats in real-time.



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## Questions & Comments



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