

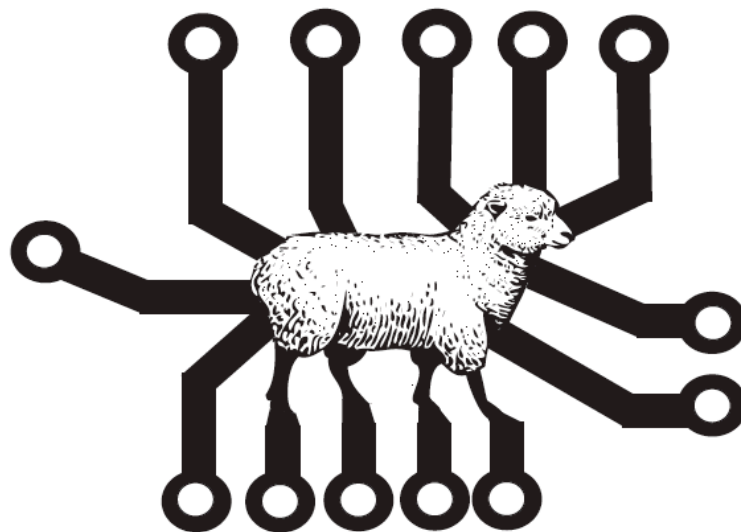
Why Security Should Embrace Disruptive Technology



*...and how to not go mental
doing it.*

Awards, Sheep, Geeks & Keynotes

“ Christofer Hoff grew up as a self-professed geek on a sheep farm in New Zealand. While other kids were playing games and tending flocks in the nearby hills, Hoff was in school, learning what he could from the only two computers in the building. ”



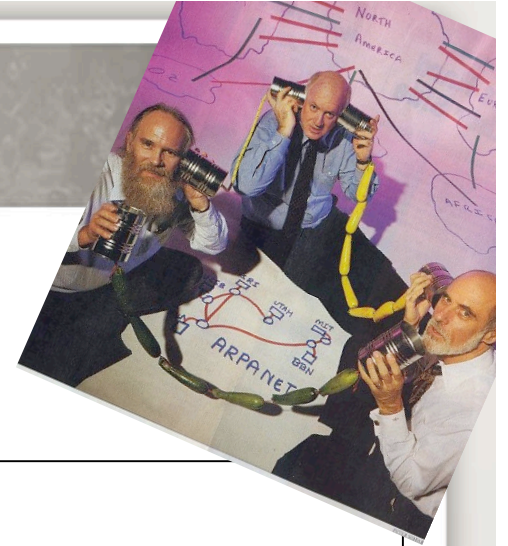
<http://sakura-graphic.com/new/elektric-sheep/>

No



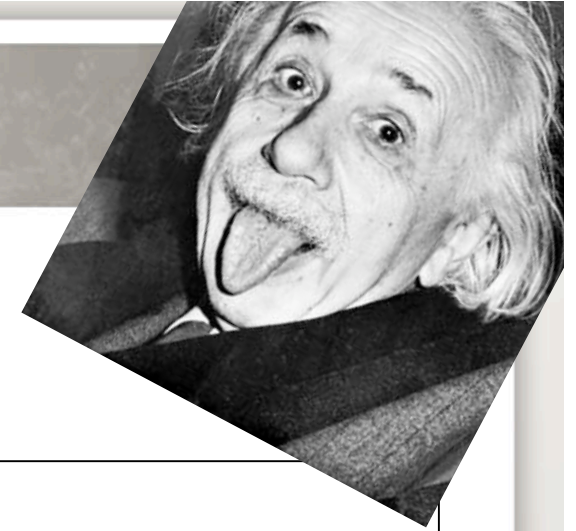
Yes





Overview

- Innovation & Disruptive Technology
- Can Security Be Strategically Innovative?
- Embracing Disruptive Innovation
- Managing Risk and Aligning to the Business
- Achieving Balance: Risk & Innovation



What is Innovation?

- ***Innovation:***

—noun

- *the action or process of innovating.*
- ***a new method, idea, product, etc.*** : *technological innovations designed to save energy.*
- *change, alteration, revolution, upheaval, transformation, metamorphosis, breakthrough; new measures, new methods, modernization, novelty, newness; creativity, originality, ingenuity, inspiration, inventiveness*

- **People implementing new ideas to solve problems and create value**

Roadblocks to Innovation

7 Deadly Sins of Problem Solving

- Shortcutting.
- Blindspots.
- Not Invented Here (N.I.H.).
- Satisficing.
- Downgrading.
- Complicating.
- Stifling.

Matthew May - Mind of the Innovator: Taming the Traps of Traditional Thinking





What is Disruptive Technology?

- A technological innovation, product, or service that eventually overturns the existing dominant technology or status quo product in the market.
- Few technologies are intrinsically disruptive or sustaining in character. It is the strategy or business model that the technology enables that creates the disruptive impact.
- Disruptive technologies are not always disruptive to customers, and often take a long time before they are significantly disruptive to the established/dominant technology.
- Can be radical or incremental in impact

Examples of Disruptive Technology

- Mainframe computers
- Telephone-long distance
- Gasoline Automobiles
- Bookstores
- Music Stores/CD's
- Network television
- Film Photography

Desktops

Internet Telephony

Hybrid Vehicles

Amazon.com

iTunes & Starbucks

Satellite & Cable

Digital Imaging



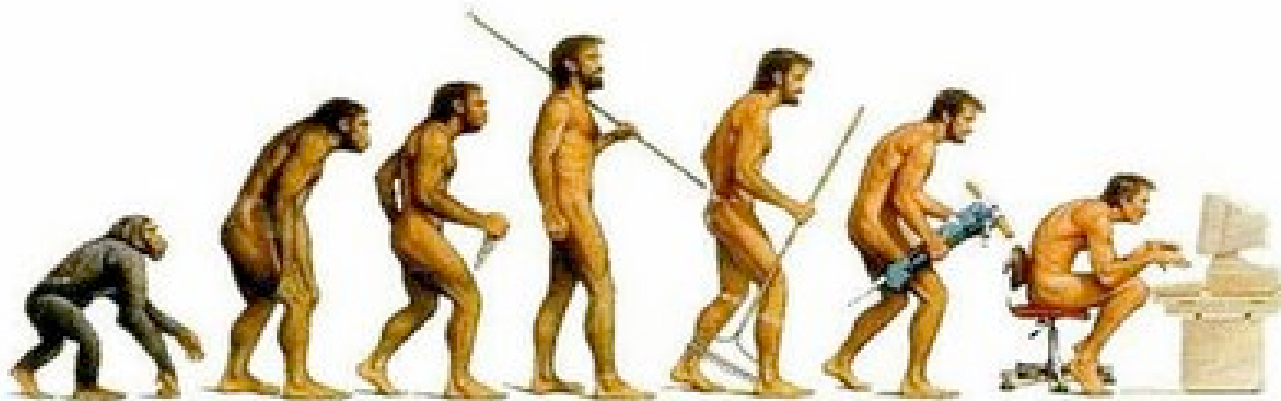


Can Security Be Strategically Innovative? Yes!

- People implementing new ideas to create value in alignment to the business
- Balancing the risk of providing services and sharing information
- Managing risk rationally & thinking about security in uncommon terms: information assurance, information survivability
- Focus holistically on infrastructure, architecture, business process, applications and information

The Theory of Punctuated Equilibrium

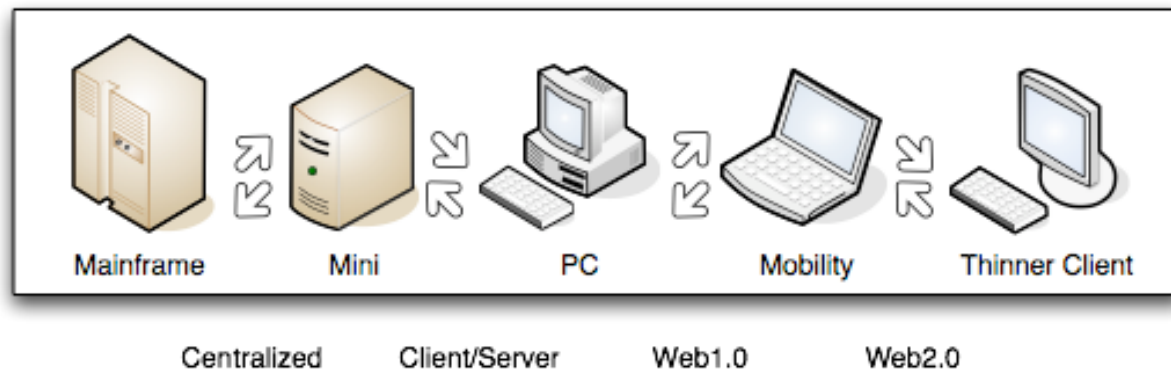
- Suggests that evolution amongst reproducing species takes place in rapid bursts, separated by long periods in which little change occurs...as opposed to uniformly and with the steady and gradual transformation of whole lineages



Möbius Strips and the Cyclic Security Continuum



- Security Innovation manifests itself over time initially by means of solution diversity which settles out and ultimately yields conformity until it begins anew.
- “It’s a classic damped oscillation, with big interesting swings in thinking that gradually settle down until everyone is saying the same thing.”*



**Bob Warfield/SmoothSpan*

Security Surveys: Random Number Generators or ?



- Surveys are an interesting and useful resource
- Offer thin-sliced perspectives on the sampled population's thought process
- GIGO
- Winner of the "Most Abused for the Sake of Budget" award
- For trendspotting & forecasting, an excellent tool

Gartner's Top 10 Strategic Technologies for 2008

- Green IT
- Unified Communications
- Business Process Management
- Metadata Management
- Virtualization 2.0
- Mashups & Composite Applications
- The Web Platform
- Computing Fabric
- Real World Web
- Social Software



Gartner's 2007 CIO Priorities

- **Top 10 Business Priorities**
- 1. Business process improvement
- 2. Controlling enterprise-wide operating costs
- 3. Attract, retain and grow customer relationships
- 4. Improve effectiveness of enterprise work force
- 5. Revenue growth
- 6. Improving competitiveness
- 7. Using intelligence in products and services
- 8. Deploy new business capabilities to meet strategic goals
- 9. Enter new markets, new products or new services
- **10. Faster innovation**

Source: Gartner EXP 2007



Gartner's 2007 CIO Priorities

Top 10 Technology Priorities

1. Business Intelligence applications
2. Enterprise applications (ERP, CRM and others)
3. Legacy application modernization
4. Networking, voice and data communications
5. Servers and storage technologies (virtualization)
- 6. Security technologies**
7. Service-oriented architectures
8. Technical infrastructure management
9. Document management
10. Collaboration technologies

Source: Gartner EXP 2007



The Components of Cajun Food



FOUNDATIONAL

▸ *Onion, Green Pepper, Celery, Roux*

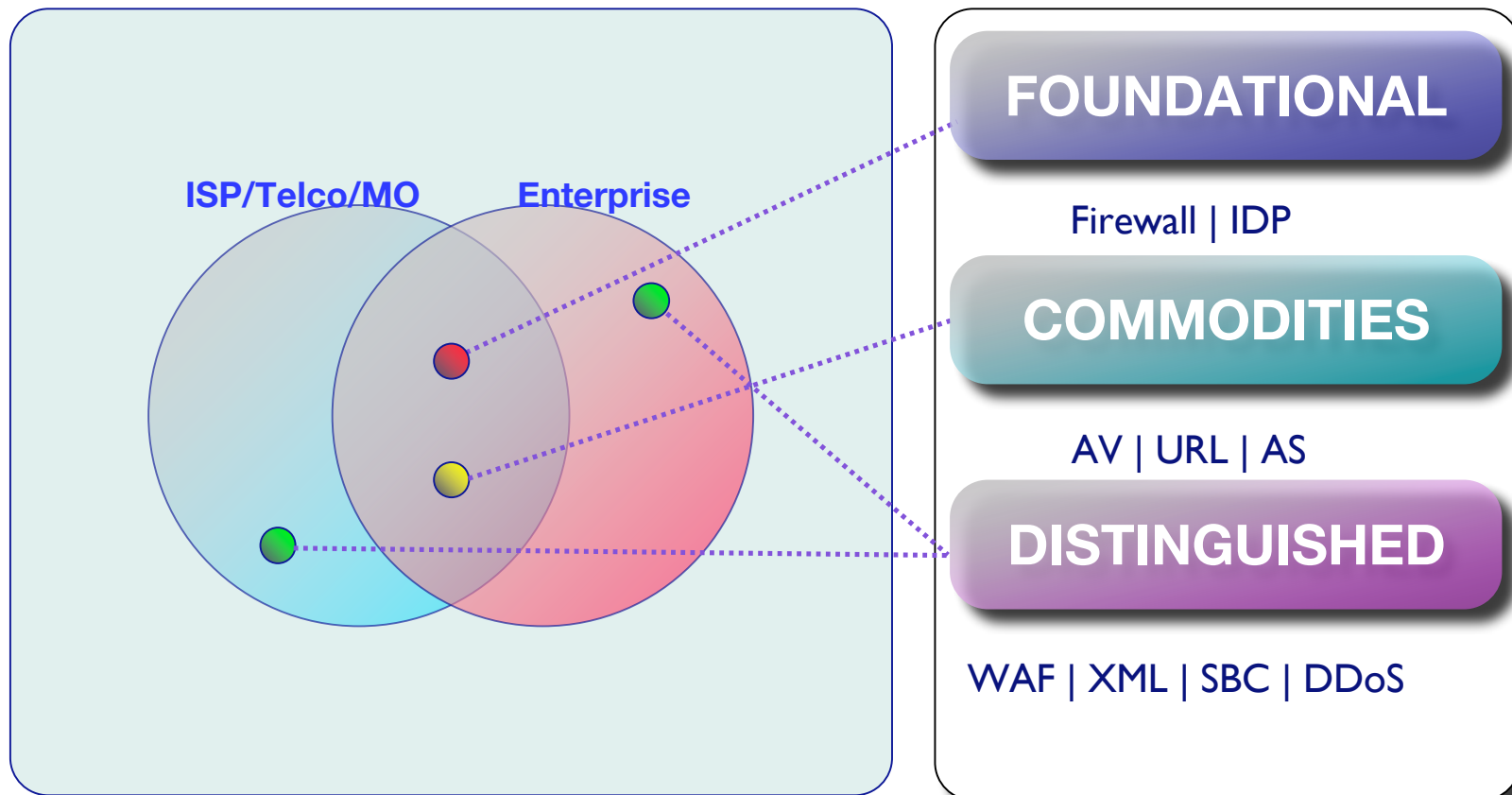
COMMODITIES

▸ *Salt, pepper, cayenne pepper, paprika, turmeric, chili powder, thyme, garlic*

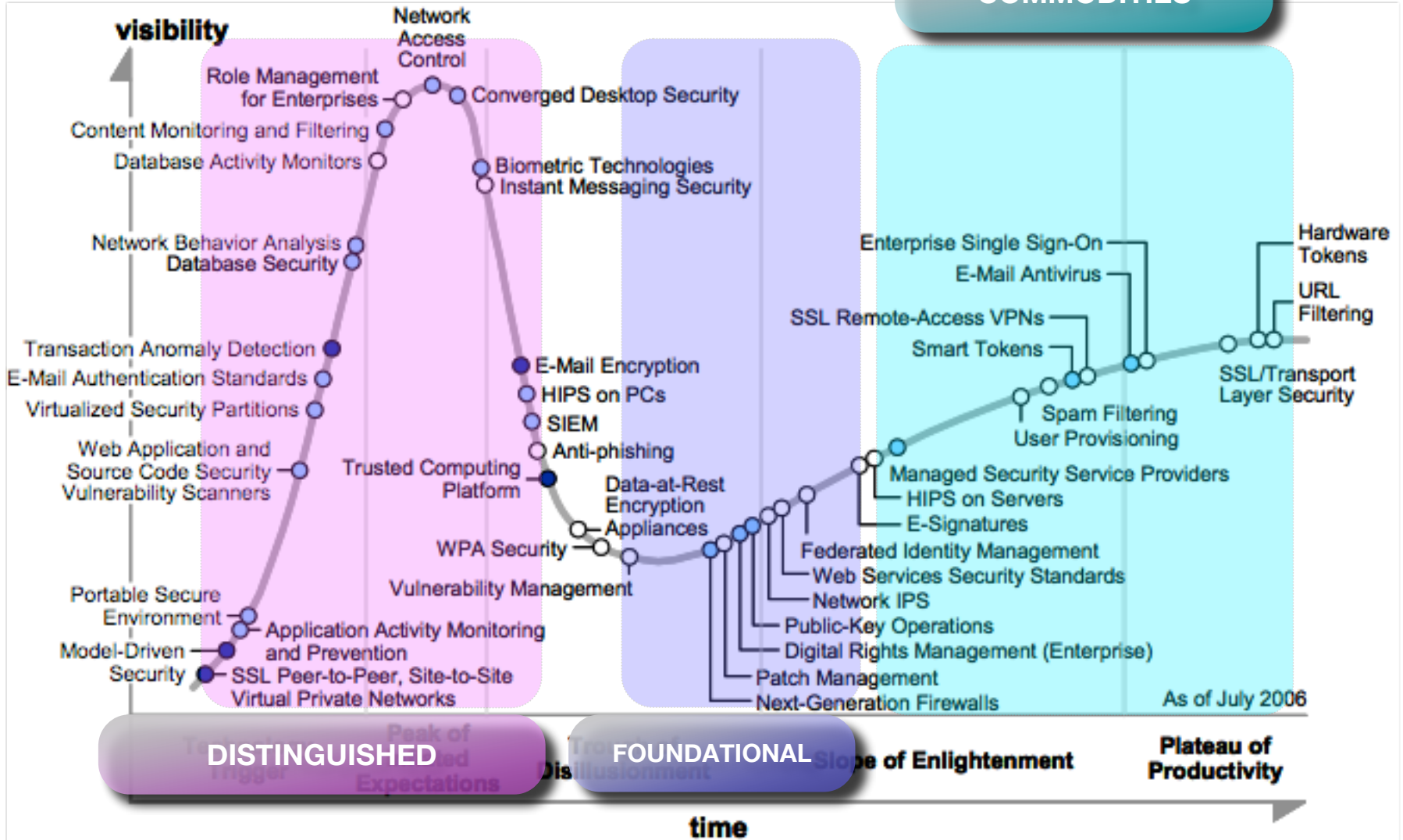
DISTINGUISHED

▸ *Crawfish, Andouille sausage, file', Tasso, alligator, squirrel*

How Security Is Like Cajun Food



COMMODITIES





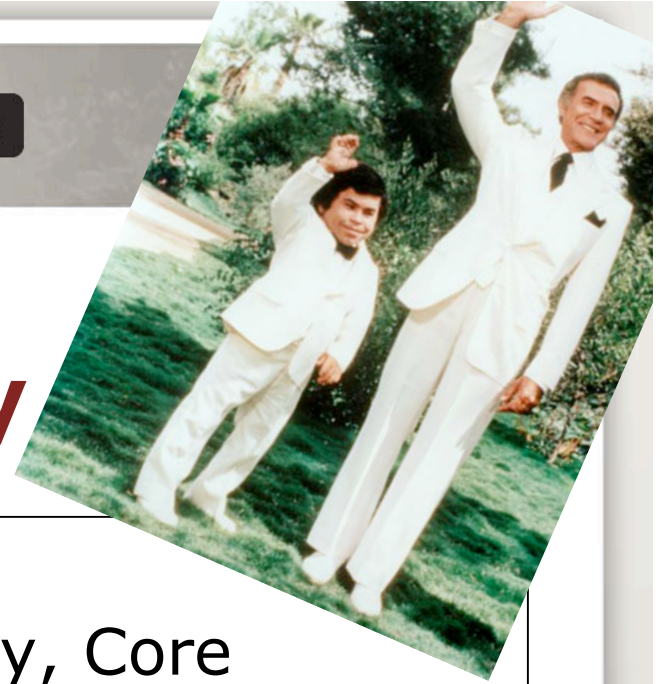
Examples of Disruptive Innovation in Security

- Internal Security
- Technology Conformity
- Host-Deployed Software
- Server/Storage Sprawl
- Castle-Moat Paradigm
- Network/Host Focus
- Monolithic Data Centers

Outsourcing of Security
Consumerization of IT
Software as a Service

Virtualization
De/Re-Perimeterization
Information Centricity
Next Gen Distributed
Centers of Data

Outsourcing of Security



- Risk Transference, Saving Money, Core Competencies & Operational Efficiency!
- How many of you outsource some element of your security?
 - *IDP, Firewall, Anti-Spam, Message Archival, Vulnerability Management, Code Analysis?*
- CyberInsurance?

Consumerization of IT

- Computerworld's 8 Most Dangerous Consumer Technologies:
 - Instant messaging
 - Web mail
 - Portable storage devices
 - PDAs and smart phones
 - Camera phones
 - Skype and other consumer VoIP services
 - Downloadable widgets
 - Virtual worlds
- Remember WiFi? SmartPhones? The Internet?





Software as a Service

- Leveraging Centralization & Scale to provide cost-efficiency while balancing access and transferring risk...
- How many of you in your company use SaaS? Salesforce.com? Google Enterprise? Microsoft Live? WebEx?
- Widespread Security SaaS is coming...

Virtualization

- Game Changing (duh.)
- Sets the stage for the next operating systems and platforms for next generation computing
- This doesn't stop at desktops & servers: provisioning, deployment, applications, data, storage, metadata, security...
- If you're security sucks now, you'll be comforted by the lack of change when you deploy virtualization!





De/Re-Perimerization

- The perimeter isn't disappearing, it's multiplying but the diameter is collapsing.
- Managing swiss cheese that uses "defense in depth" as a crutch
- We need to drive vendors towards secure applications, OS's and protocols & developers to write secure code...



Information Centricity

- Focusing on the network or host is a losing proposition.
 - The network doesn't have context
 - You can't trust the host
- Must focus on information/content in context
- Organize around Information Survivability/Assurance and Business Resilience



Next Generation Centers of Data

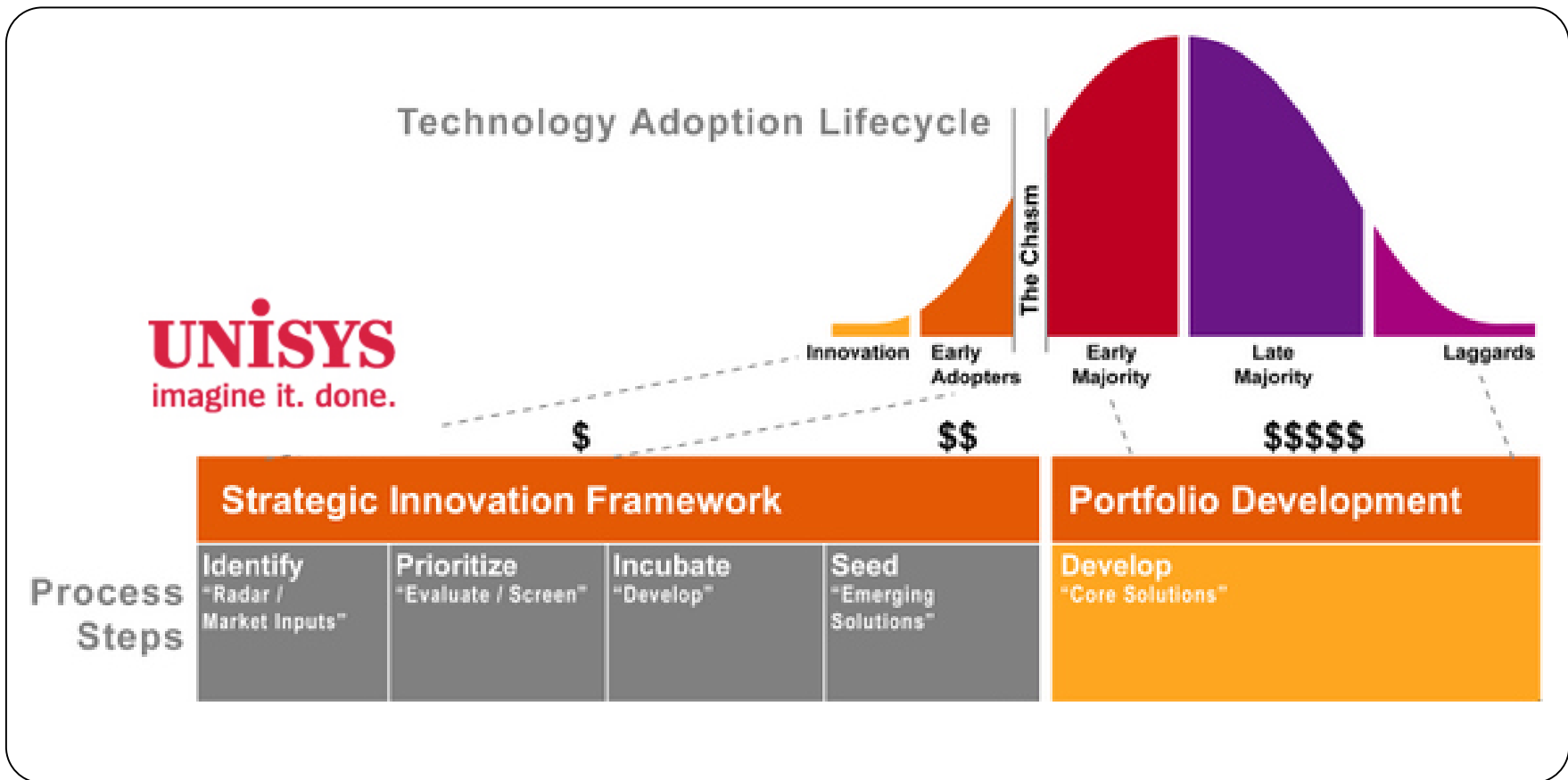
- A Datacenter today is somewhere servers go to consolidate and then die.
- A “Center of Data” is a point where information is processed, stored, secured, presented...
- The Next Generation will be a distributed utility component depot or platform for service
- Virtualization, Grid/Utility Computing, SaaS, etc. will make sure of that



So How Can We Embrace Disruptive Technology?

- Think different & manage risk instead of threats & vulnerabilities
- Manage a strategic security portfolio
- Seek diversity and provide a formulated taxonomy of investment
- Map to a formalized innovation lifecycle management process
- Measure
- Provide Transparency

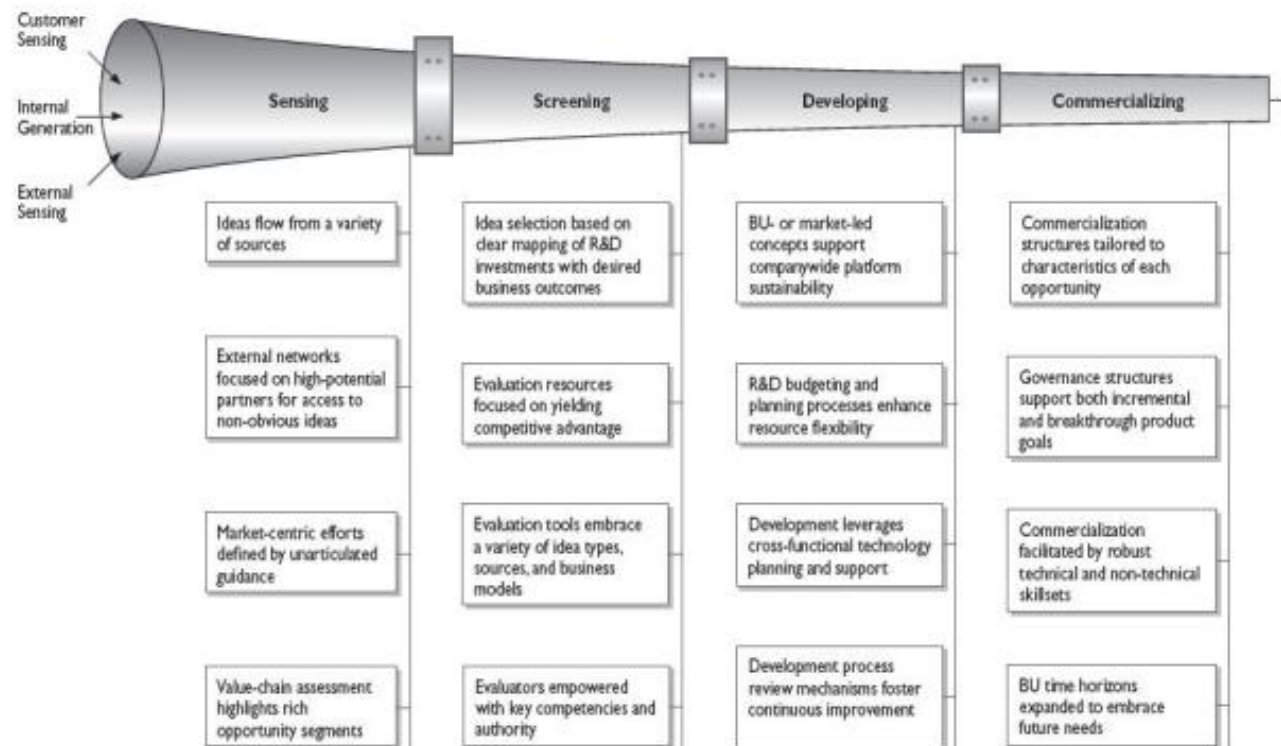
Understand Technology Adoption Lifecycle



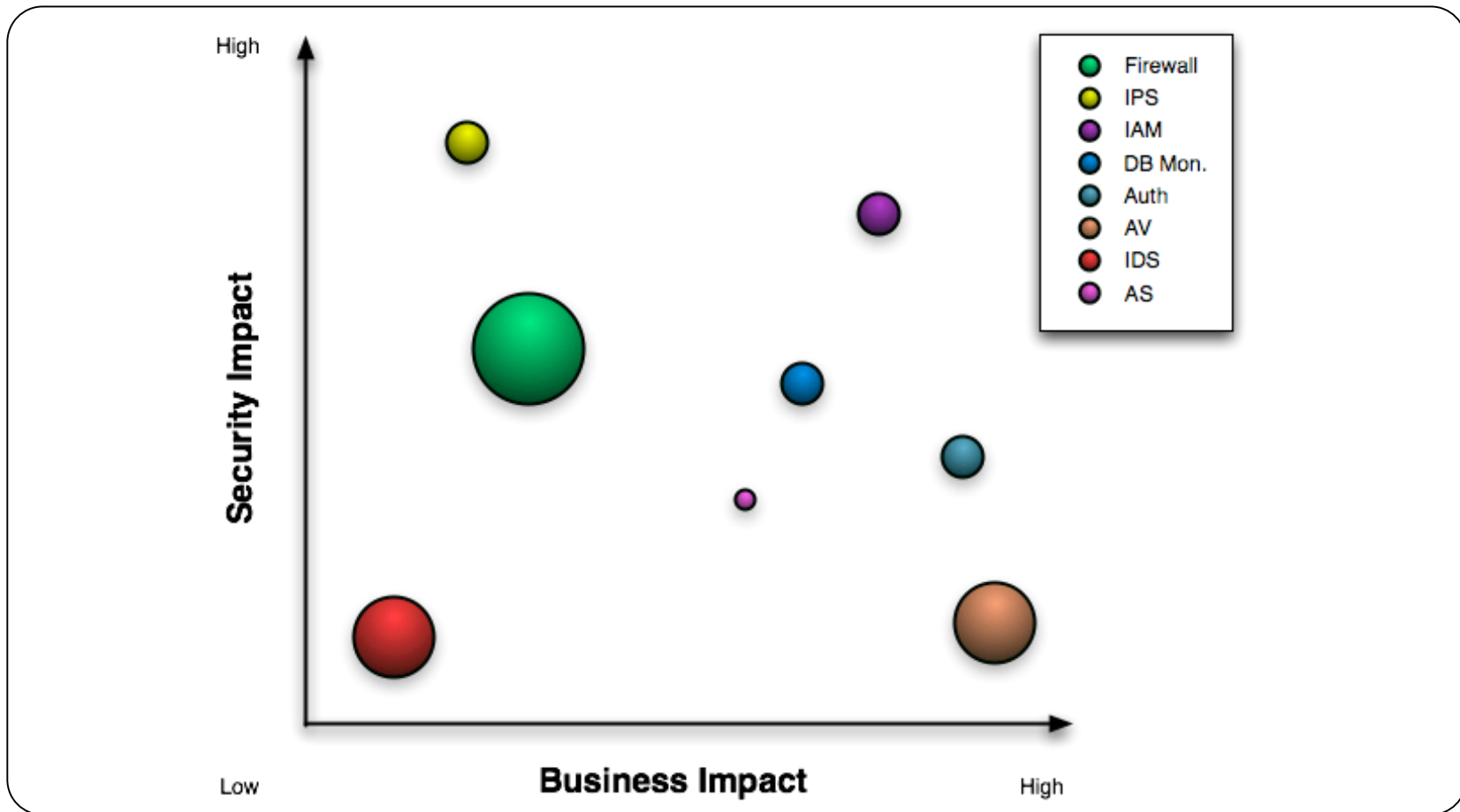
Manage Your Innovation Pipeline

ELEMENTS OF A PRODUCTIVE INNOVATION PIPELINE

Selected Mechanisms from Member Conversations



Provide Transparency In Portfolio Effectiveness



Balancing Art and Science



While the analogy is imperfect, security managers should be able to use the tools of unique and systematic management to create more-balanced security strategies

-Andy Jacquith



How Are You Doing?

- Internal Security
- Technology Conformity
- Host-Deployed Software
- Server/Storage Sprawl
- Castle-Moat Paradigm
- Network/Host Focus
- Monolithic Data Centers

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Marcus Ranum for President?



“ *Will the future be more secure?
It'll be just as insecure as it
possibly can, while still continuing
to function. Just like it is today.* ”



Thanks

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<http://rationalsecurity.typepad.com>