

AITP - Information Technology Dialogue



Need IT That Understands
My Business



Our Objectives

- Trends in technology
- Understand one model for business technology
- Understand what cloud computing is and how it could affect you
- Understand some common risks and how businesses should govern their technology assets
- What does it take to make good technology decisions

Technology Trends

- More processes and systems are being outsourced to local IT solution providers, Internet based hosting companies, managed service providers
 - Accounting and Customer Relationship Management systems
 - Core network services – e-mail, database
 - E-mail and Internet content filtering
 - Worker productivity suites – Office365, Google Apps
 - Security services – firewall management, intrusion detection and prevention
 - Backup and disaster recovery
 - Network management, monitoring, and support services
- Server virtualization becoming commonplace
- Mobile workforce – laptops, tablets, smart phones

Strategic Alignment of Technology Investments with Business Objectives

Governance

Identification, Evaluation, Prioritization, Approval, Funding, Scheduling, Staffing, and Monitoring

	Assets		Work	
MANAGEMENT PARTICIPANTS TIMING PROCESS TOOLS ACCOUNTABILITY	Technology Categories <ul style="list-style-type: none"> • Security - firewall, policies, Internet, anti-virus • Infrastructure - routers, switches, datacenter • Collaboration - email, voicemail, Intranet • Personal Computing - desktops, MS Office, printers, PDAs, scanners, help desk • Internal & External Applications - ERP, Financials, Payroll, • Data - databases, repositories, warehouse • Facilities/Equipment - data center, laptops, PCs, printers 	People (Competencies) <ul style="list-style-type: none"> • Platform Management • Project Management • Business Analysis • Technical Analysis • Software Engineering • Network Engineering • Leadership 	Service Delivery <ul style="list-style-type: none"> • Strategy and Planning • Research • Vendor Management • Procurement • Learning & Development • Recruitment & Retention • Project Execution • Budgeting • Platform Support - preventative maintenance - enhancements / upgrades - break / fix 	Projects <ul style="list-style-type: none"> • Assessment • Decision • Implementation
PERFORMANCE METRICS FINANCIAL CUSTOMER PROCESSES LEARNING AND DEVELOPMENT	Return on Asset Productivity Leverage Utilization Throughput Life Cycle Adoption - "Transformation of the work"	Proficiencies <ul style="list-style-type: none"> • Knowledge - industry - organization • Skills - technical - interpersonal • Abilities - personal development - process execution 	Service Level Agreement <ul style="list-style-type: none"> • Cost • Quality • Productivity • Timeliness 	Return on Investment <ul style="list-style-type: none"> • Strategy Advancement • Performance Metric improvement

"Keeping the Lights On" (Cost of Doing Business)
Versus Discretionary Investment
(Continuous Improvement)

Cloud Computing Primer



Cloud Computing – What is it?

- Simply speaking, cloud computing is using hardware and/or software via an internet connection.
- The hardware and/or software might be provided by a 3rd party but not necessarily.

What services are moving to the cloud?

- E-mail
- Instant messaging
- Collaboration
- Backup and disaster recovery
- ERP
- CRM
- Mobile device management

Strategic Considerations with the Cloud

- Cloud vs. On-premise
 - What do I currently own and manage?
 - What is my time horizon for the business application?
 - How good am I in managing IT systems?
 - What's my desire strategically to be responsible for my business systems?
- Outsourcing security controls to a 3rd party
- Data is in the hands of a 3rd party
- Staff of 3rd party – who are these people and can I trust them?

Timing a Move to the Cloud

- Whenever a hardware or software purchase is being considered for a department or the enterprise
- When it's time to upgrade a piece of hardware or software
- When you are unsure of your companies ability to recover from a disaster
- When you need to deploy new functionality quickly

IT is a Team Based Approach

Information Technology Team - Typical

- Technology Manager: Responsible for internal and external customer satisfaction with IT services. Works in a technology leadership capacity with each business unit. Orchestrates the planning and budgeting process and oversees the activities of the team.
- Network Engineer: Responsible for the technical infrastructure including projects, documentation, support and maintenance activities.
- Help desk/end user support: Responsible for monitoring of systems, telephone & end-user support activities. Supports case management.
- Vendor Partners: Provide off hours monitoring, support & maintenance services. Provide project support as requested for technology implementations. Provide high level support and design assistance as required.

Business Technology

- Each business is different, although there are some basic services that must be provided to support connectivity, communications and line of business applications.
- A network is a living, breathing thing. It must be cared for and maintained consistently or it will fall into a state of disarray
- Best of class processes allow technology to function reliably while maintaining the confidentiality and integrity of the information contained within your systems

Misconceptions About Business Technology

- I don't need to have a strategy
 - Often built as needed, no overall plan, inefficient use of resources
- I can't afford IT expertise
 - Can't afford not to. Like a good lawyer or accountant
- I don't need more IT
 - Improvements can spawn increases in employee morale, customer satisfaction, profits and productivity
- I don't need the latest in technology
 - Find new ways to engage with your customers long term

Misconceptions About Business Technology

- Mobility solutions just give employees an excuse to stay away from the office
 - Typically extends workday beyond the 8-5 timeframe
 - Combined with flexible work schedule it can boost productivity
 - Studies show that remote systems access makes staff more productive
- I don't have to worry about IT security
 - No company can afford a security breach
- I can wait to Implement a backup/recovery plan
 - How long could you survive without your systems
- I just don't have time for IT. Everything is fine
 - Businesses need to evolve to survive and thrive, be nimble

Typical Improvement Opportunities

- The C-level wants to engage in discussions about:
 - Risk – Information Security
 - Risk – Disaster Recovery
 - Risk – Business Continuity
 - Risk – Operational Outages
 - Risk – Project Failures
 - Reward – Technology that supports process improvement
 - Reward – Technology to support growth and new markets
 - Reward – Increased focus on the business not technology

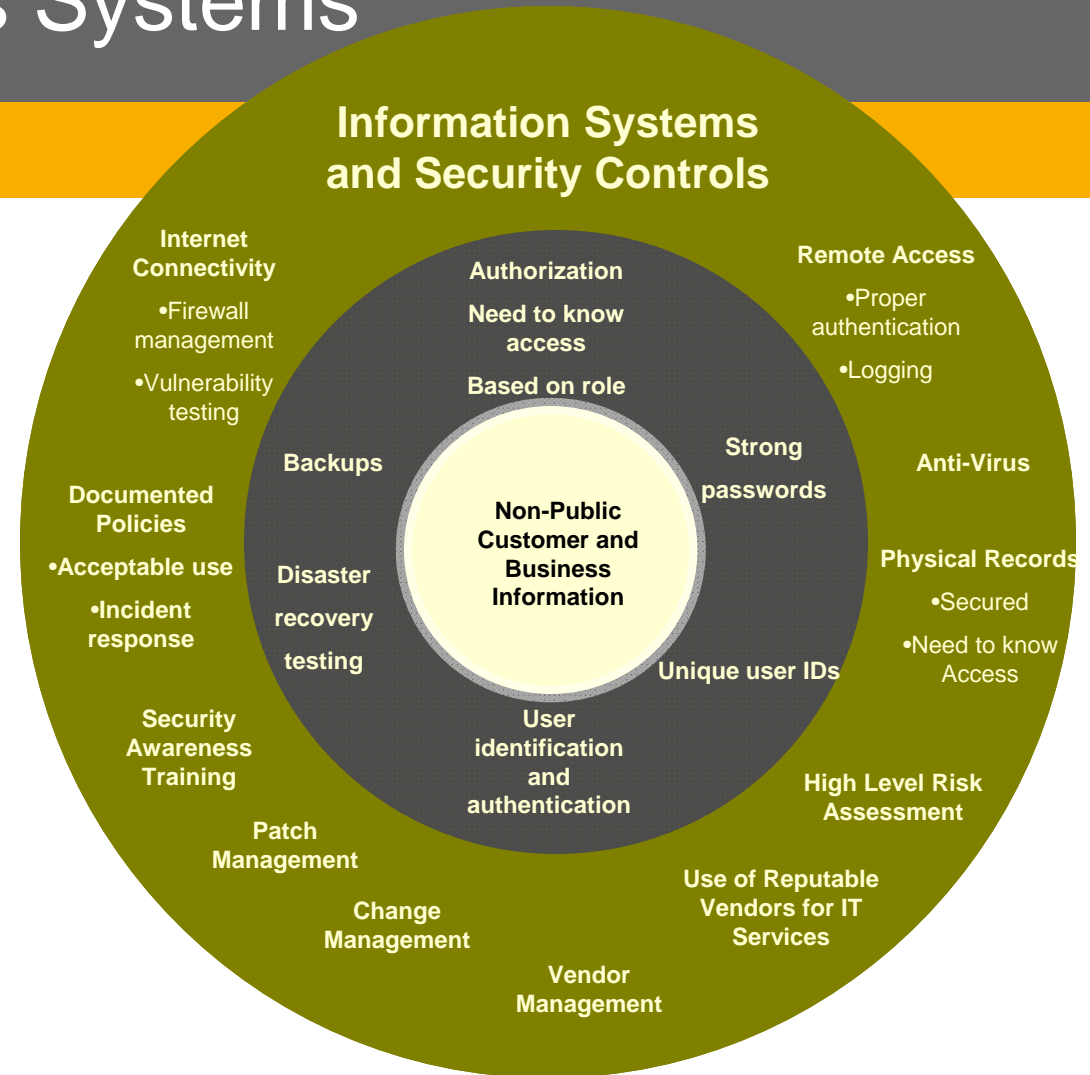
Securing Business Systems

Your connection
to the Internet

Your control
structure

Your data

...Your business



Risk - Information Security

- Most networks have vulnerabilities through unpatched systems, inadequate passwords, etc.
- It takes only one weakness to cause a serious breach
- Your staff is just as likely to cause a breach as is a technical issue
- Many times caused by lack of adequate training
 - Administrators or end-users
- Crooks are after your business accounts – on-line banking activities

Risk Mitigation - Information Security

- If data privacy is important you must increase security to match
 - Training
 - Strong password policy
 - Patch management
 - Mobile device management
 - Third party assessment and testing
 - Appropriate policies and procedures
 - Consistent enforcement of policies

Safe On-Line Banking Activities

- Dedicated computer: Use a dedicated computer
- Banking only: Only perform banking transactions— do not use email, office applications, or visit non-banking websites
- Malware protection: Protect the computer with anti-malware software
- Software updates: Keep the computer updated with the latest software updates (Microsoft and non-Microsoft)
- Strong authentication: Use strong, two-factor authentication for gaining access to bank accounts

BYOD

- Have a policy
- Most companies are allowing BYOD to occur
- Regulated industries are taking the approach that it will be a company owned device, strictly controlled
- It is all about corporate data, sandbox it, encrypt it
- There are good mobile device management tools out there

Risk - Disaster Recovery/Business Continuity

- Non-existent or outdated plans
- Failure to identify and plan for common risks
- Many times companies consider IT disaster recovery, but not other critical business processes
- Most companies fail to test the plan and its individual components
- Improper change management can bring a system to its knees and lead to operational issues
- Systems are often not built to scale appropriately

Risk Mitigation - Disaster Recovery/Business Continuity

- Identify and plan for common risks
- Devise recovery plan for each, starting with highest risk
- Consider other critical business processes
- Have a communications plan
- Test the plan and its individual components
- Keep plans up to date as systems change
- Train your employees on the plan

Risk - Project Failures

- Many large projects fail, the larger they are the more likely to fail
- Never seem to complete or fail to meet expectations
- Significant cost escalation
- Inadequate project management
- Communications failures
- Outsourcing can sometimes make it worse
- Accountability can cut across internal and external organizations

Risk Mitigation - Project Failures

- Large, complex projects must be split up into smaller deliverables
- Schedule the riskiest components first
- Define and document requirements for each phase
- Many reasons to outsource, external resources do not have the deep understanding of your business
- One project manager to manage both internal and external facets of the project. Project “Czar”.
- Leadership must hold frequent in-depth reviews
- Leadership must be involved. Keep close tabs

Rewards

- Process improvement
- New markets and profitable growth
- Business focus for technology

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Business Focus for Technology

- Project charters can help
- An IT steering committee made up of leaders from each business unit or functional area
- IT needs to engage business leaders and understand the business
- Business leaders need to engage with IT to help them understand their business
- Defined process that includes at least one business transformational project a (month, quarter, year, etc.)

Profitable Growth

- Defined sales and marketing process with tools to help leadership manage it
- One book of record for prospects and customers
- Automation to assist in gathering customer feedback
- Analytics on who and what our most profitable customers and products are

Analytics (Handout)

- Understand what purpose we are trying to accomplish
- Measure what's already available
- Define the vocabulary
 - Can be a laborious exercise
- Understand data collection accountabilities
- Build dashboards in iterations

Analytics (Handout)

- Choose the right tool(s) and make the data usable to your audience
- Management should define what measures are required for each functional area the dashboard will serve
 - Too often we are inundated with data on a nice to know basis
- Solicit feedback from the users for next iteration

Assessing Your Technology Area

Assessment of Your Technology Area

Possible outcomes:

- Identify gaps in technology area
- Create work/project list and budget
- Identify training and educational needs
- Identify deviation from best practices for operational processes that could leave your business vulnerable to system or data compromise
- Identify gaps in disaster recovery expectations and capabilities

Your People

- People
 - Who is accountable for IT and who should be
 - Who is involved and what are their responsibilities
 - Who are the key users
 - What is the satisfaction level with IT
 - What could be done to improve the users satisfaction with IT

Processes

- Process
 - What is the current support process
 - What is the current procurement process
 - Who approves purchases
 - What is the technology planning and budgeting process
 - How are end users and technical staff trained
 - What is the infrastructure maintenance and obsolescence process
 - What information is reported to management
 - What is the technology governance process

Governance

- Governance
 - Are there policies in place
 - Acceptable use
 - E-mail and Internet usage
 - Password
 - Information security
 - Are there procedures covering backups, preventive maintenance, change management or equipment replacement
 - Are policies in place that spell out managements right to monitor employee use of technology and address expectations for privacy

Technology Acquisition & Licensing

- Procurement and Software Licensing
 - Is software licensing current for all installed software
 - Is there an inventory of all hardware and software
 - Are all media or license keys for licensed software available
 - How is software licensed
 - Full packaged product, Select agreement open license agreement, PKC
 - Where are hardware and software purchased

Change Management

- Change
 - Is there a requirements definition stage with sign-off
 - Is there a testing phase
 - Are implementation and back out plans defined
 - Is there a sign-off process
 - Is there a lessons learned component
- Custom Development
 - Is there a defined custom development process that includes: definition, testing, documentation, security

Support

- **Help Desk Services**

- Is there a help desk system for tracking issues and requests
- What is the process for end-users to obtain support
- What are the hours of operation for support personnel
- What systems are supported outside of business hours
- How many IT issues are there in a typical week
- How are issues escalated and to whom
- Is there a defined after hours support protocol

Information Systems Access

- Access Controls

- Is administrative access to systems controlled properly
- Who controls security access to the network and applications
- Is the process to open and close user accounts documented
- What is the password policy
 - Minimum length
 - Is complexity enforced
 - Is a change enforced
 - Are accounts locked after so many failed logins
 - Disallow reuse of passwords
- Are servers configured for an appropriate level of security logging

Internet Services

- Internet Service Provider
 - Who is the ISP
 - What is the speed of the Internet connection (up/down)
 - Who manages the domain name
 - Where is DNS hosted
 - Where is the website hosted
 - Who makes changes to the website
 - Are there any integrations with the website

Networking and the Perimeter

- Firewalls, Switches, Routers

- What is the manufacturer of the firewall
- How old is it, what version of the software is running
- Who manages changes to the firewall
- Is remote administration enabled from the Internet
- Has the firewall been tested for vulnerabilities
- Is an Internet content filtering and browsing control solution in place
- Is the firewall used to allow remote access into the network –VPN
- Are non-company owned devices allowed VPN access
- Are vendors allowed access. Is this “always on” and monitored
- Are there single points of failure in the switching infrastructure
- Are critical network components covered by an on-site warranty
- Are firewall logs redirected to a logging server and properly maintained

Wireless Infrastructure

- Wireless Services

- Are wireless network services provided
- What type of encryption is used
- How many wireless access points are there
- What is the make and model
- Is the management interface secured with a strong password

Server Infrastructure

- Servers

- How many, what are their ages, what operating systems are used
- Is virtualization used
- Is shared storage used – SAN or NAS
- Are the functions of each server documented
- Is there an inventory of all server hardware and software
- Are they current with service packs and operating system patches
- Have there been any issues with them
- Are there other locations, are these connected via WAN or VPN
- Are servers located anywhere else – hosting partner or other location
- Are management agents installed and reporting healthy status
- Are remote management interfaces installed and properly configured
- Do server hard drives have enough capacity

Business Applications

- Applications – each business application software
 - What is the name
 - Who supports it
 - Is there a current support contract
 - What are the business hours of use
 - Is it considered business critical
 - How long can the business afford to be without the use of it
 - Is the frequency of backups aligned with managements expectations and tolerance for data loss or re-entry
 - What are the plan for recovering the functionality of this application
 - How is the application deployed to the users
 - Who is the business owner and power users

Communications

- E-Mail and Messaging

- Is e-mail hosted in house or elsewhere - where
- If in house, what e-mail server platform is used and what version
- How do users access their mail – Outlook, browser, smartphone, tablet
- What type of spam and virus filtering is used
- Do users receive an excessive amount of spam
- Is e-mail archiving being used. How
- Is instant messaging used. What product
- Are policies implemented to govern mobile device usage incl. remote wipe
- Do employees sign an acknowledgement of this protocol

Backups

- Backups

- What application is used to perform backups
- What is the backup hardware
- How often are backups performed. Are these full backups
- How long is backup media maintained before being overwritten
- When was the last time someone audited the backup process to ensure backup jobs are sufficient to protect the organization
- When was the last time the backup media was tested in a restore process. Was it successful
- Is the frequency of backups in alignment with managements expectations and tolerance for loss or re-entry of data
- How are critical databases backed up. Are there periodic transactional backups occurring

Disaster Recovery

- Disaster Recovery
 - How long would it take to recover from a single server outage
 - How long would it take to recover from a data center loss
 - Is the network and its components sufficiently documented to allow someone with the requisite knowledge to manage or recover it should a disaster occur the organization tied to recover a full server and its functionality. Was it successful
 - Is there a documented disaster recovery plan
 - Has your plan been tested, regularly

PCs

- Workstations

- What are the numbers for PCs, laptops, thin clients
- What operating systems are they running
- What are their ages
- How are software updates managed for Microsoft and 3rd party patches
- How is workstations security managed. Are users local admins
- Is there a hardware and software inventory for PCs

Anti-virus, Anti-Malware

- Anti-virus protection
 - What product(s) is/are being used
 - Is the software managed and monitored regularly via a central console
 - Is inbound Internet e-mail scanned for viruses at the point of network entry
 - Is inbound Internet traffic filtered for viruses and malware at the Internet gateway as users browse the Internet

Key Points to Remember

- Dependable technology is vital to almost all business. Dependability occurs through proactive planning and operational best practices.
- IT is complicated. If you are not comfortable with the state of your IT systems, or the answers you get from your technical team, call someone to assess things.
- When making a technology decision you should always be presented choices with pros and cons.
- If you do not have some basic policies or guidelines to govern how things are done, your information systems will likely have issues that will negatively impact the business..



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Thank you!

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