# The ITFM Triple Play:

# Track IT, Measure IT, Improve IT™

## Next Generation IT Financial Management Solutions™

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# Randy James

- 10 Years as a CIO and CTO
- Banking, Insurance, Manufacturing, Analytics, Retail, E-commerce
- 20 Years in Technology Firms and Consulting
- Recognized by Computerworld as one of the Top 100 CIO's in the World
- MBA
- Author of the IT Best Practices Benchmark

# Today's CIO Questions

- ✔ What are we spending?
- ✔ Where are we spending it?
- ✔ When are we spending it?
- ✔ Who is using our services and how much?

## Today's Answers:

apptio

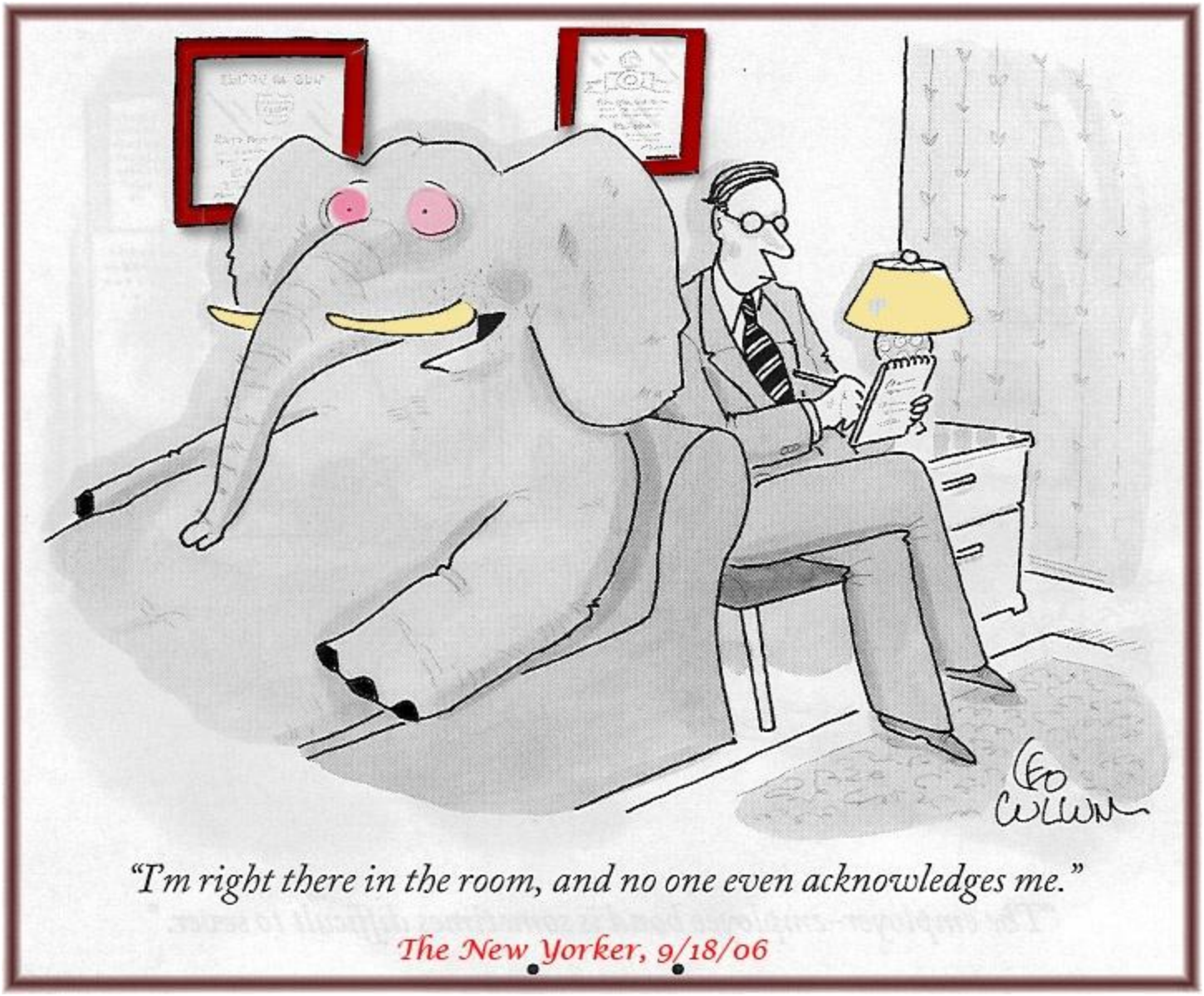
DigitalFuel SaaS IT Financial Management

comsci

NICUS SOFTWARE

ITFMA

**Use IT Financial Management tools and processes to Quantify and Allocate *Historical* IT Costs based upon Consumption**




*"I'm right there in the room, and no one even acknowledges me."*

*The New Yorker, 9/18/06*

# Questions the Elephant Will Ask

- Where and why are costs out of line with budgets and peers?
- What is the value of improving our use of technology?
- How do we identify the issues and solve the root causes?
- How do we free up IT resources for high value initiatives?
- How do we plan to "do it right the first time"?
- How can we monitor costs in real-time and keep us "on the rails"?

# The Source of the Answers:

**IT Financial Benchmarking**

infoTECH HEALTH*CHECK

**Technology Economics Consulting**

rubin worldwide

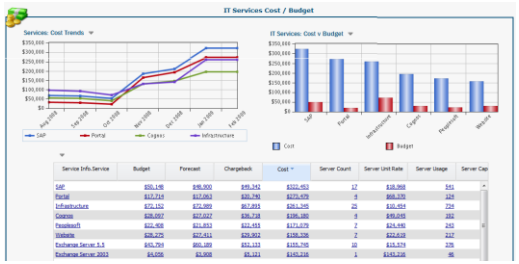
**IT Best Practices Audit**

The Consultants Source

# Next Generation IT Financial Management™

## "WHAT and WHERE" Financial Management:




- SERVICE COSTING
- BILL OF IT
- BUDGETING & FORECASTING
- SERVICE QUALITY & UTILIZATION

## "STATISTICS and COMPARISONS" Financial Benchmarking:

Key Metrics by Module

| | Client | Peer Groups | Peer TQ | Industry Avg. | Industry TQ | Database Avg. |
|---|---|---|---|---|---|---|
| Distributed Cost per User | $2,375 | $2,237 | $1,867 | $2,605 | $2,318 | $2,242 |
| Help Desk Cost per Contact | $21.2 | $20.4 | $17.7 | $23.2 | $21.5 | $20.4 |
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| Telecom Wireline Cost per Minute | $0.106 | $0.100 | $0.084 | $0.117 | $0.104 | $0.100 |
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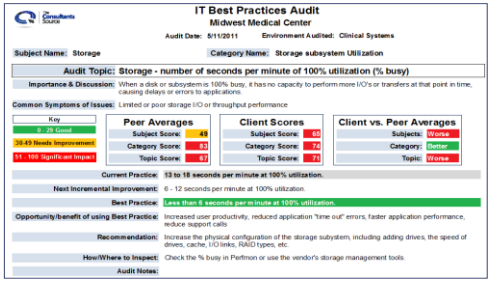
- COST STATISTICS
- PEER COMPARISONS
- QUANTIFY FINANCIAL OPPORTUNITY

## "WHAT/HOW TO IMPROVE" IT Best Practices Audit:




- BASELINE CURRENT STATE
- BEST PRACTICES
- PEER COMPARISONS
- WHAT/HOW TO IMPROVE

CONSULTING PARTNERS

TECHNOLOGY ECONOMICS PARTNERS

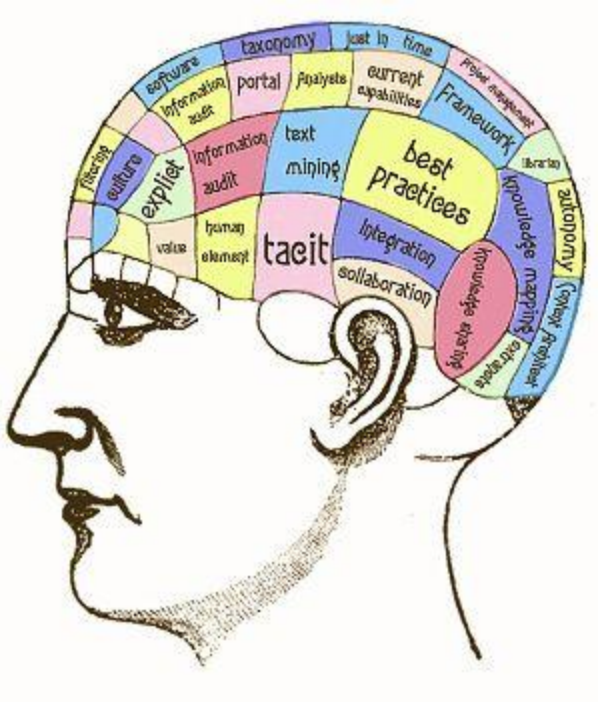
 www.TheConsultantsSource.com 312-835-4742

The Consultants Source


**“The IT Best Practices Audit is the “missing link” in the IT Financial Management solution.”**

**-Mr. Jed Rubin, Rubin Worldwide**

# A Missing Link: Knowledge



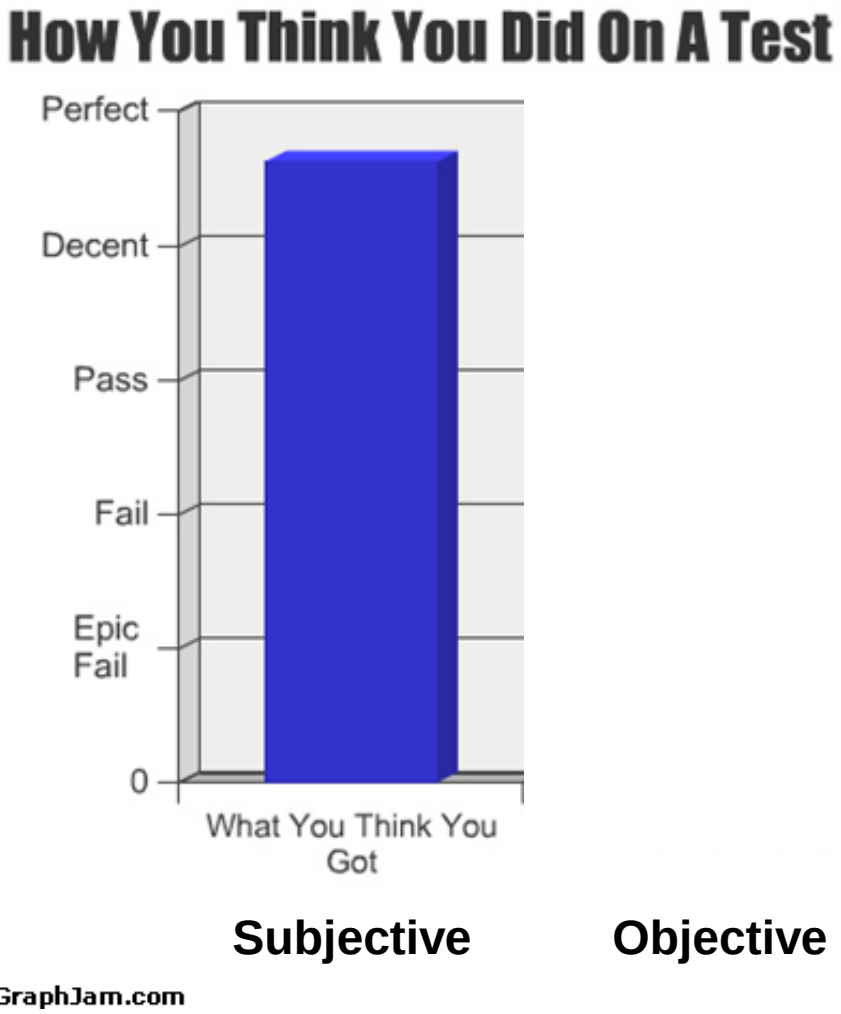

## Definition:

**A collection of facts, information, and/or skills acquired through experience or education.**

## Uses:

- **Recognize "symptoms"**
- **Why is action needed (issues, problems, opportunity)?**
- **What can/needs to be done (treatment/procedure)?**
- **Where to "operate"**
- **When (before or after a problem occurs)?**
- **How (methods, sequence, tools needed)?**

# Human Nature:
# Self Assessment of Our Knowledge




## Denial:

- ✔ "We haven't had these type of issues in 15 years"

## Delusion:

- ✔ "We always use Best Practices"
- ✔ "We are doing the best that can be done"
- ✔ "We use the best technology"

## Blame

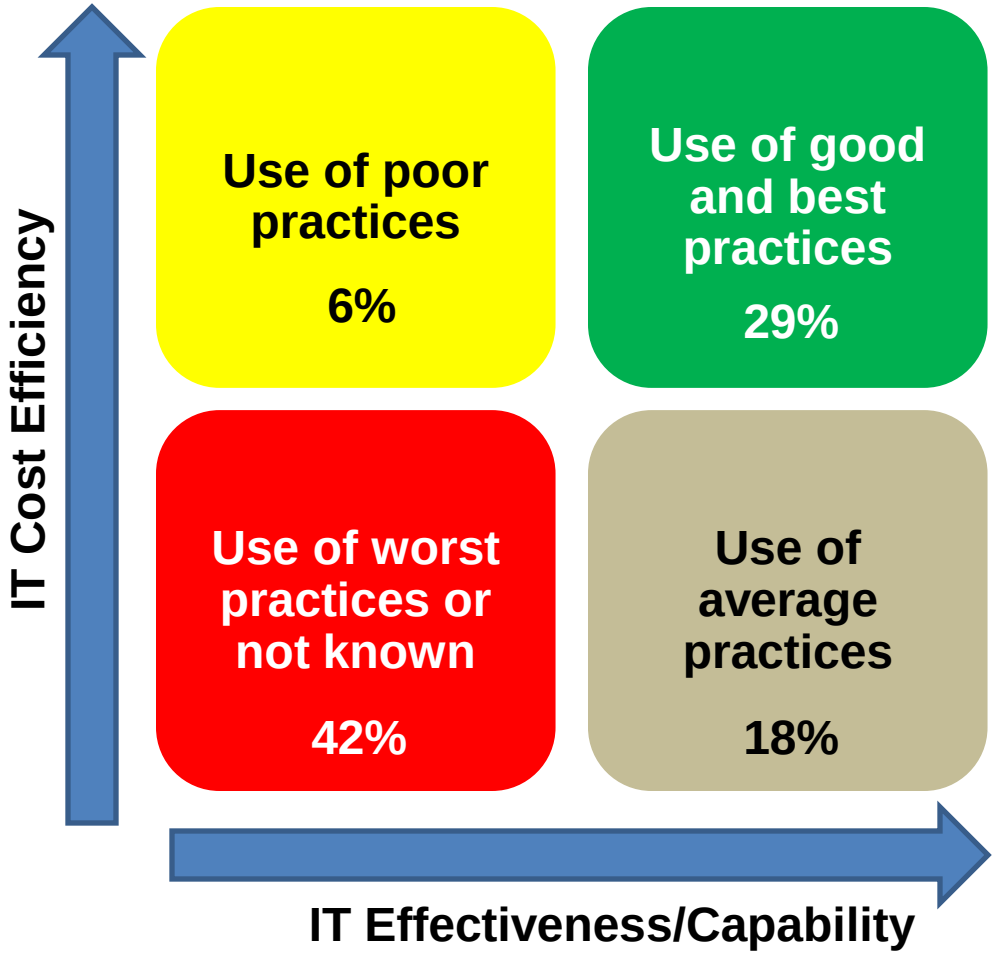
- ✔ "Windows is unreliable"
- ✔ "SAP always crashes"
- ✔ "I never was trained"

## Ignorance

- ✔ "I don't know"
- ✔ "I don't want to know"
- ✔ "Not my Job"

# How Good is Our IT Knowledge?

## Use of Best Practices




(5% of topics were not applicable Data from TCS)

**Q: What are your practices?**

**Q: Can you be World Class if 66% of your practices are not Good or Best Practice?**

# Knowledge Effects on OPEX and CAPEX

**Example: Customer needs Web site/e-Commerce capacity for 2000 users**

## Common Configuration
10 users per web server

- 200 physical servers
- 200 OS licenses
- 200 Tools licenses
- DC infrastructure
- DC operating costs
- Staffing
- Reliability issues

**$5,787,436**

## Server Virtualization
10 users per web server

- 20 physical servers
- 200 OS licenses
- 200 Tools licenses + Hypervisor costs
- 10% DC infrastructure
- 10% DC operating costs
- 100% Staffing (but higher complexity)
- Same or worse reliability issues

**$3,777,365 (35% savings)**

## Use of Best Practices
100 users per web server

- 20 physical servers
- 20 OS licenses
- 20 Tools licenses
- 10% DC infrastructure
- 10% DC operating costs
- 10% Staffing
- Improved reliability and performance

**$578,744 (90% savings)**

| | Active Users | |
|---|---|---|
| | Dec 11 2007 10:55:00 AM | Jan 10 2008 11:56:00 AM |
| Server | | |
| as01 | 7 | 176 |
| as06 | 7 | 199 |
| as07 | 17 | 97 |
| as08 | 13 | 187 |
| as14 | 12 | 103 |
| as15 | 12 | 127 |
| as16 | 12 | 190 |
| as02 | 7 | 78 |
| as03 | 8 | 35 |
| as13 | 3 | 53 |
| | 98 | 1245 |

# Example Improvements using Best Practices/Knowledge

- PC and server crashes – 90% reduction
- Service desk calls – 90% reduction
- E-Commerce server capacity – 1200%
- PC performance – 35% - 200%
- Extend useful life of devices by 33% or more
- Storage Performance – up to 1000%
- Employee Productivity – 10% to 100% or more
- Reduce Software Development Costs by 30%
- Cycle Times – from 72 hours to 8 hours
- Organization Focus – from reactive to proactive

# Sources of IT Knowledge

## *Proven*

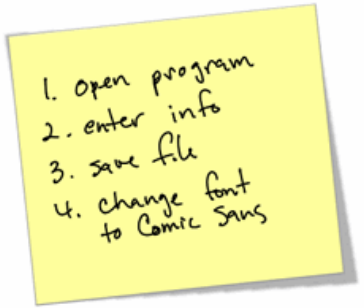
- Tribal knowledge
- Peers
- Post-It Notes
- In-formal training
- Experience
- Experimentation
- Research, media (manuals, books, magazines, Internet)
- Consultants
- Documentation
- Formal training
- Management

## *Not so much*

- Intuition – "This will work"
- How we did it last time
- Use of Process (ITIL)
- Use of defaults
- Google
- Media stories
- Vendor advertisements, white papers, sales staff, "recommendations"

**"The things that pass for knowledge, I don't understand"**
– Reelin' in the Years, Steely Dan

# IT Knowledge – Key Issues




- Post-it Notes fall off and blow away
- Human Nature – ego, fear of exposure
- Leadership – purchase millions in assets, but don't invest in knowledge for staff to maximize the value
- Confusing Tools, Data and Process with Knowledge
- Tree hugging: only Barney believes "it's nice to share knowledge"
- Academic knowledge vs applied knowledge
- Increasing complexity and component count
- Vendors have no incentive to help; problems = revenues
- Incomplete or inaccurate documentation
- **No comprehensive knowledge base**
- **How to identify opportunities to improve**

# The Ripple Effects of Knowledge and Practices

# How Did This Happen?

- Many senior IT leaders don't have infrastructure experience
- Low expectations of IT
- Few role models
- No objective, comprehensive, cost effective benchmarking tools
- Cost pressures
- Under-configured systems
- Time pressure on IT staff
- Lack of consistency; unique configurations; poor change management
- Poor project management
- Use of processes to "manage" problems
- Mainframe style discipline never transferred to servers and PCs
- Increased application portfolio and complexity
- Vendors, Consultants, Service Providers, and IT media make money from your on-going pain
- Tasks not performed
- Obsolete knowledge
- Default parameters, incorrect parameters, mistakes = under utilized systems
- Poor design and implementation
- Capacity management
- Software is key focus for IT
- Software is blamed first for problems
- Replace vs. fix philosophy
- Staffing levels and allocation
- Training, knowledge
- Documentation
- Operations and maintenance procedures

# Solving the IT Knowledge Issue

1. Comprehensive IT Best Practices Knowledge Base
2. Easy to use assessment tool to identify topics for improvement and how to improve them

## (Confidentially) Starting the Improvement of IT

1. Identify what you are currently doing
2. Learn what you are doing well
3. Learn what is done poorly or not at all
4. Learn how to improve
5. Implement/change your practices
6. Measure the results
7. Repeat annually or when needed

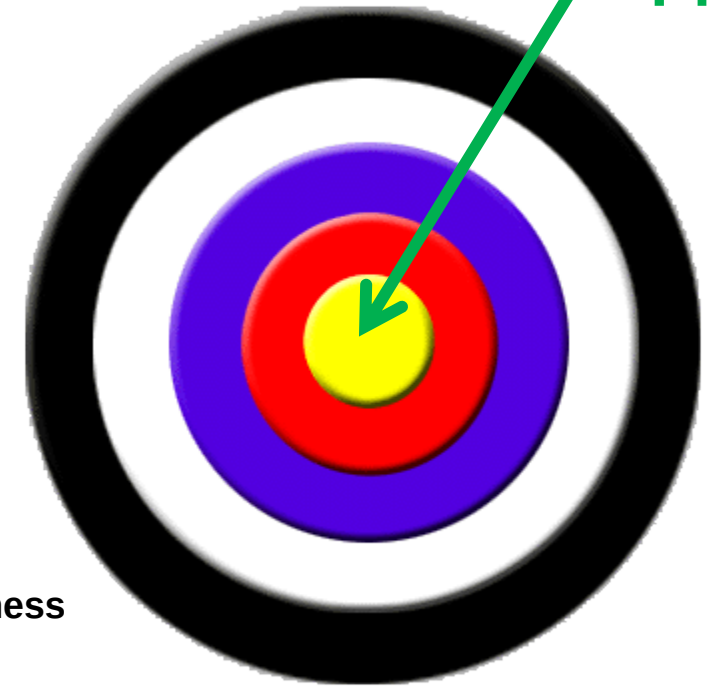
# Your Options

Do nothing – accept the current state

**Conduct a comprehensive, objective Best Practices Audit**

Have a vendor or consultant conduct a "free on-site assessment"

Buy more tools to collect data or "optimize your infrastructure"



Outsource IT

Implement the "Best Practices" contained in media and vendor whitepapers – conclusion: replace all existing equipment with ours.

Hire someone (employee or consultant or vendor) to "fix IT"

Replace or upgrade some hardware and/or software

Use a free Internet assessment: IT Effectiveness Index – 12 topics

Phone a friend: assign staff to surf the web/technical forums for "answers"

Use more processes to "manage the issues"

Try making some configuration and parameter changes via trial and error and see what happens

# Choose Audit Content

## Environment (Application, Location, etc.)

### 15 Subjects

- Cloud Computing Readiness
- Cost Containment
- Data Center
- Networks
- Desktops and Printing
- IT Governance
- iSeries Servers
- Microsoft Servers
- Web Servers
- Unix Servers
- Compliance and Security
- Storage
- Telephony
- Database
- Software Licensing

### Categories

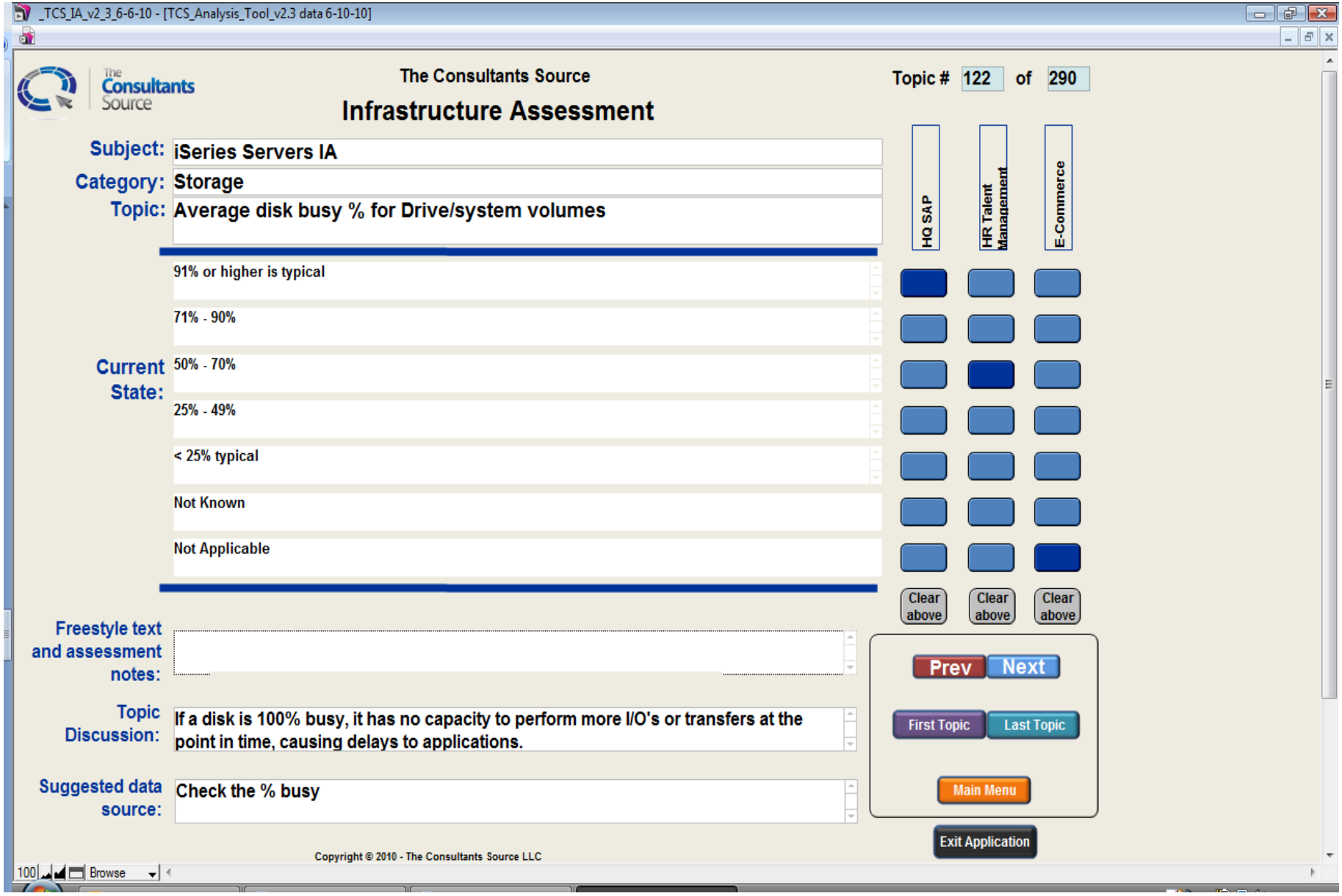
- Documentation
- Staffing
- HW Configuration
- SW Configuration
- Parameters/Tuning
- Tools
- Utilization
- Reliability
- Data Center Equipment
- Security
- Operations
- Maintenance

### 2200+ Topics

- Symptoms
- Current state
- Topic Importance
- Suggestions on where to find supporting data
- Relative importance to other topics
- Current Impact
- Best Practice of the topic
- Specific recommendations to improve results

**Subjects can be selected for each Audit**

# A Structured Interview to Collect Data



# Actionable Knowledge and Recommendations

## IT Best Practices Audit

### Midwest Medical Center

**Audit Date:** 5/11/2011 **Environment Audited:** Clinical Systems

**Subject Name:** Storage **Category Name:** Storage subsystem Utilization

**Audit Topic:** Storage - number of seconds per minute of 100% utilization (% busy)

**Importance & Discussion:** When a disk or subsystem is 100% busy, it has no capacity to perform more I/O's or transfers at that point in time, causing delays or errors to applications.

**Common Symptoms of Issues:** Limited or poor storage I/O or throughput performance

| Key |
|---|
| 0 - 29 Good |
| 30-49 Needs Improvement |
| 51 - 100 Significant Impact |

| Peer Averages | |
|---|---|
| Subject Score: | 49 |
| Category Score: | 83 |
| Topic Score: | 67 |

| Client Scores | |
|---|---|
| Subject Score: | 66 |
| Category Score: | 74 |
| Topic Score: | 71 |

| Client vs. Peer Averages | |
|---|---|
| Subjects: | Worse |
| Category: | Better |
| Topic: | Worse |

| | |
|---|---|
| **Current Practice:** | **13 to 18 seconds per minute at 100% utilization.** |
| **Next Incremental Improvement:** | 6 - 12 seconds per minute at 100% utilization. |
| **Best Practice:** | **Less than 6 seconds per minute at 100% utilization.** |
| **Opportunity/benefit of using Best Practice:** | Increased user productivity, reduced application "time out" errors, faster application performance, reduce support calls |
| **Recommendation:** | Increase the physical configuration of the storage subystem, including adding drives, the speed of drives, cache, I/O links, RAID types, etc. |
| **How/Where to Inspect:** | Check the % busy in Perfmon or use the vendor's storage management tools. |
| **Audit Notes:** | |

# IT Best Practices Audit

## Sample Reports

### Cloud Computing Readiness Options Matrix™

| The Consultants Source Cloud Computing Options Matrix™ | | | | Cloud Options | | | | Other Options | |
|---|---|---|---|---|---|---|---|---|---|
| Category | Action Score™ | | Description of Current State | SaaS - Software as a Service | PaaS - Platform as a Service | IaaS - Infrastructure as a Service | Private Cloud | Short Term | Longer term |
| Business Preparedness | 22 | PROACTIVE | Few, low impact issues with existing processes, training, change management, clearly articulating requirements, etc. | Migrate existing app (COTS or custom) to SaaS | Migrate existing app (COTS or custom) to PaaS | Move existing app (COTS or custom) to IaaS | Move to a private cloud using existing infrastructure | Optimize existing applications and business processes | Examine cloud options; research; R&D |
| Client IT Staff Preparedness | 35 | REACTIVE | Skill and experience levels of current IT staff/support needs some improvement | Migrate existing app (COTS or custom) to SaaS | | Move existing app (COTS or custom) to IaaS | | Fix/stabilize existing infrastructure; invest in staff and training. Consider use of external resources | Replace existing infrastructure |
| Cloud Cost Model Components | 25 | PROACTIVE | Identification and quantification of components of current costs and expected cloud related costs is complete | Proceed with decision and/or selection | Proceed with decision and/or selection | Proceed with decision and/or selection | Proceed with decision and/or selection | Identify costs of performing upgrades of current systems | Measure and monitor costs as the projects progress |
| Cloud Services Provider (CSP) Vendor Research | 78 | REACTIVE | Identification of key vendor services, pricing, financial stability, customer satisfaction and support, billing policies, etc. needs significant improvement | | | | | Invest staff time and effort to compete the research to identify available providers and compare the products and services. | |
| Current Technology Infrastructure | 47 | REACTIVE | Current infrastructure needs some improvement | Implement new apps as SaaS to minimize infrastructure impact | | Move existing app (COTS or custom) to IaaS | | Fix/stabilize existing infrastructure; consider use of external resources | Replace existing infrastructure |
| Peak Capacity Requirements | 80 | REACTIVE | High peak volume requirements | Migrate existing app (COTS or custom) to SaaS | Convert and/or rewrite custom app to PaaS | Move existing app (COTS or custom) to IaaS | Implement a private cloud to provide needed peak capacity | Increase capacity of existing infrastructure | Replace existing infrastructure to add capacity |

# CIO Needs

| CIO Need | How the Audit Helps |
|---|---|
| Comprehensive review | 16 subjects, over 2200 available topics. We are former CIO's with over 60 years of technology and business experience. |
| Objective | The review is industry, vendor and technology neutral. TCS does not recommend, sell or represent ANY product or service. |
| Proven Content | We have direct experience with EVERY topic; use of each topic's Best Practice has proven to have significant, positive impact. |
| Specific | Includes descriptions of the importance of each topic, where to find supporting evidence, examples for each topic – illustrating poor practices to best practices, and specific recommendations. |
| Actionable | Color- and numeric coded reports prioritize and recommend what topics to tackle, starting with highest impact. Many topics can be improved by your IT staff. |
| Repeatable | The structured interview process and comprehensive content ensures that all topics are consistently addressed. Results can be directly compared against peers, different environments, locations, or timeframes. Some clients perform annual reviews, or use the process for M&A deals. |

# CIO Needs

| CIO Need | How the Audit Helps |
|---|---|
| Minimal impact on IT staff | Only 1-2 staff members are needed for 2-3 hours for each subject. A typical review requires less than 1 week to complete. |
| Fast | Detailed reports are available within 5 days of the interview, improvement activities can begin immediately following the delivery of reports. |
| Help to permanently solve recurring issues | The review identifies many of the root causes of recurring issues, and communicates the recommended Best Practices/solutions to permanently solve the problem. |
| Maximize the value in the existing IT assets we own | Is designed to identify opportunities to improve reliability, utilization, performance, and ROI of existing hardware, software, and IT staff. |
| Customizable to my needs | You select the subjects to be covered, and the depth of each subject. |
| Non-invasive | No software is installed. No devices are connected to your network. No data extracts are required. |
| Cost effective | Fixed price per assessment + travel expenses |
| Confidential and no pressure | The reports are delivered directly to the CIO. |

# Who Should Audit IT Practices?


**Seeking a fresh start!**

**Those in denial**


**Always seeking improvement**

# Financial Benchmarking

## Subjects

- Desktops
- Servers
- Network
- Mid-Range
- Mainframe
- Telephony
- Wireline (circuits)
- Wireless
- Help Desk
- Application Development
- Application Support

## Example Categories

- Total Costs
- Cost Per user
- Costs per device
- Salary Costs
- Staffing Counts – in-house
- Comparable Staffing Counts including outsourced functions
- Users per staff
- Employee vs Contractors

***Over 1200 statistics are available***

***A database of over 3000 data points collected over 6 years***

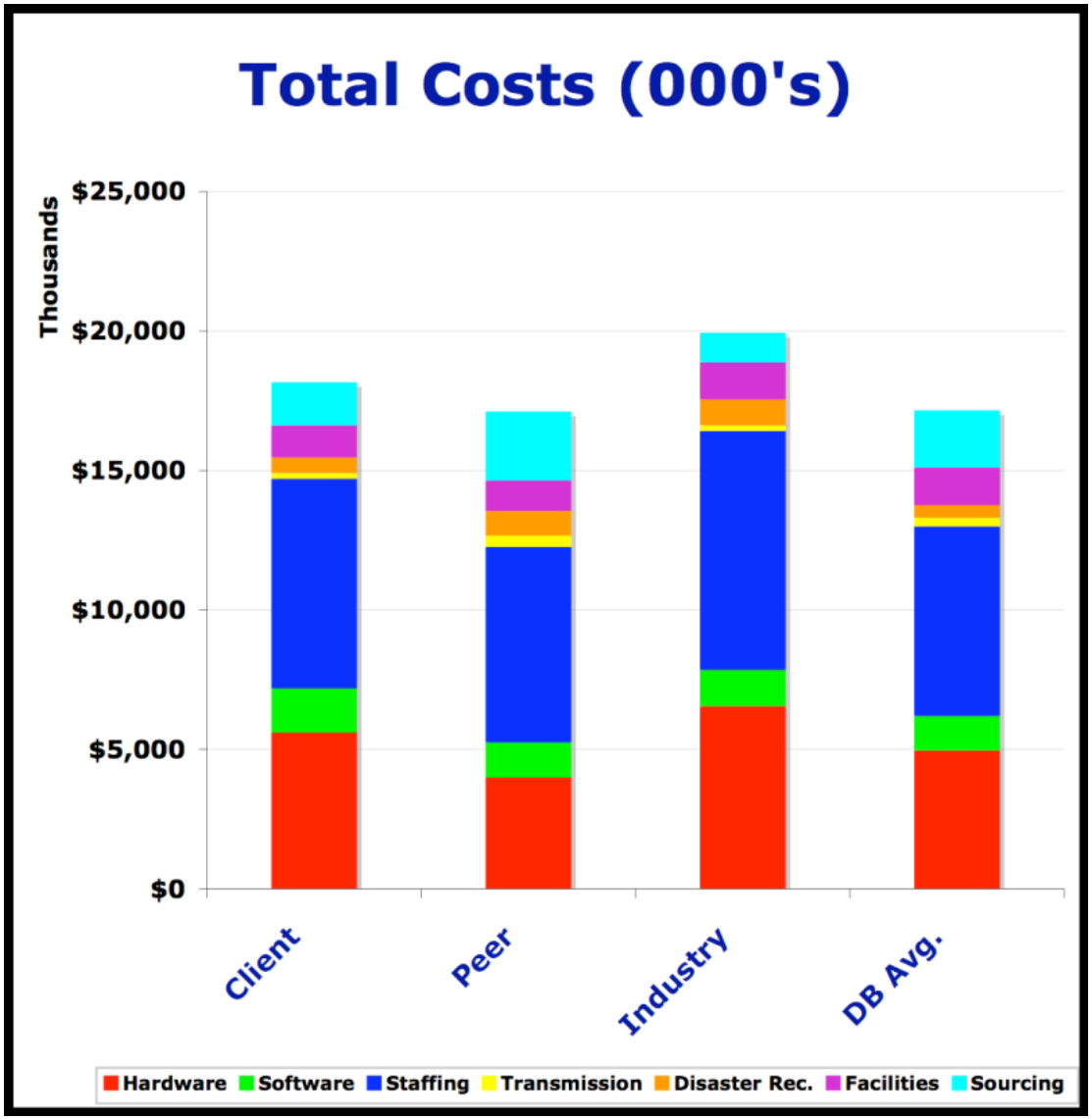
***Compare the client against peers of similar complexity***

# Financial Benchmarking Example Statistics

- Cost Per User
- Total User Count
- Total Direct Costs
- Hardware Cost Per User
- Software Cost Per User
- Staffing Cost Per User
- Transmission Cost Per User
- Facilities Cost Per User
- Sourcing Cost Per User
- Total Hardware Cost
- Total Software Cost
- Total Staffing Cost
- Total Transmission Cost
- Total Facilities Cost
- Total Outsourcing Cost
- Hardware Percent of Cost
- Software Percent of Cost
- Staffing Percent of Cost
- Transmission Percent of Cost
- Facilities Percent of Cost
- Outsourcing Percent of Cost
- Average Cost Per Staff
- Average Cost Per Management Staff
- Average Cost Per Desktop Support Staff
- Average Cost Per Training Staff
- Average Cost Per Plan & Process Staff

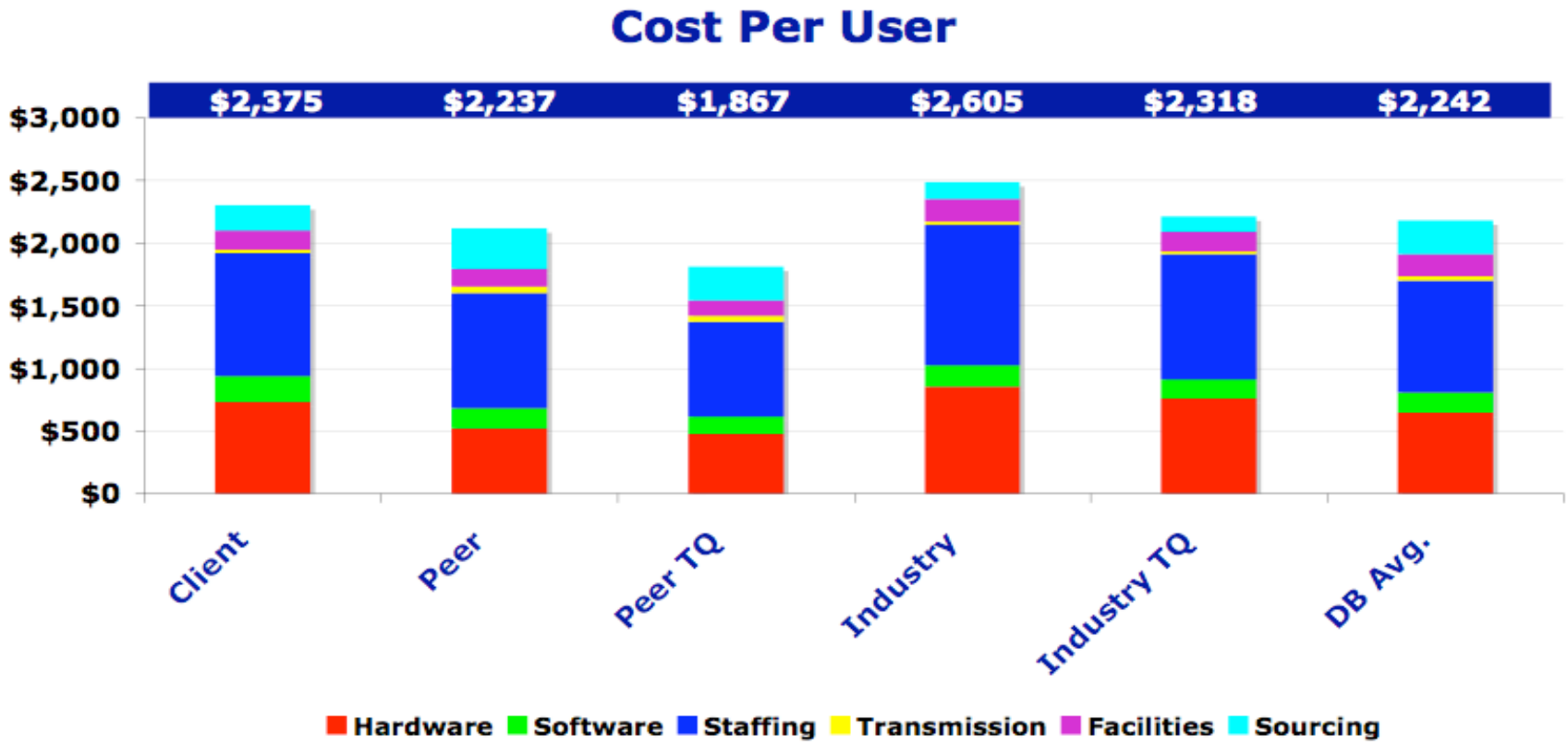
# Financial Benchmarking Results

**Comparison of Total IT costs compared against Peers, Industry, and Averages**



# Financial Benchmarking Results

**Comparison of IT Cost per User compared against Peers, Industry, and Averages**




HOW DOES YOUR COST PER USER COMPARE?

Your Cost per User is the prime metric for the Distributed computing module. The metric is calculated by taking the total of all costs in this area and dividing it by your total end user count. The results provide a concise breakout of the costs, by category, for each user. The chart provides a comparison to the Peer Group, the Peer Top Quartile, Industry Average, Industry Top Quartile, and the DB Average for the given client

**Cost per User is:**

**X % [higher/lower] than the Peer Group**
**X % [higher/lower] than the Peer TQ**
**X % [higher/lower] than the Industry Avg.**
**X % [higher/lower] than the Industry TQ**
**X % [higher/lower] than the DB Avg.**

# Financial Benchmarking Results

**Comparison of Client IT costs compared against Peers, Industry, and Averages by Subject and key Metrics**

## Key Metrics by Module

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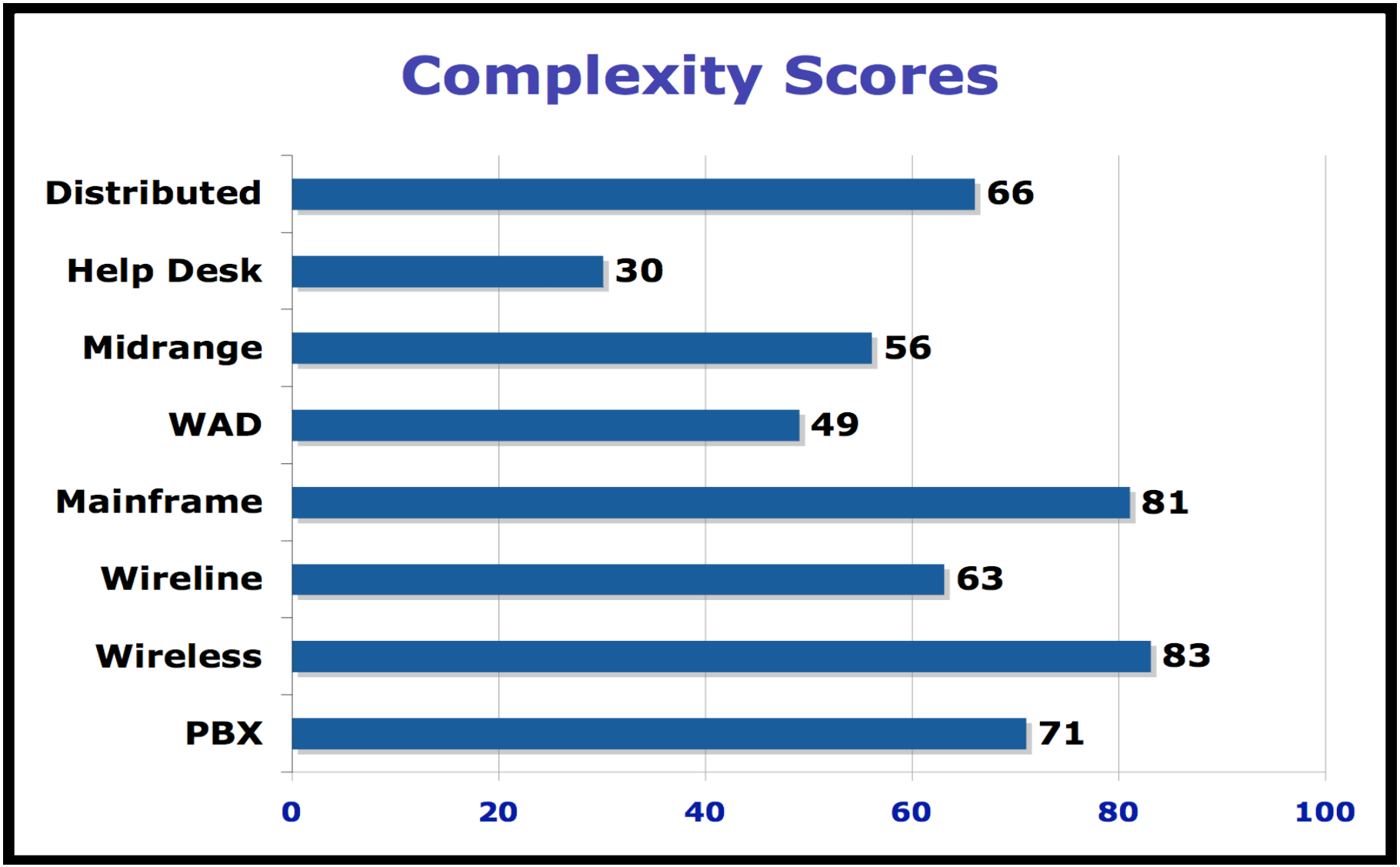
# Financial Benchmarking Results

**Comparison of Client IT Complexity**



# Putting It All Together

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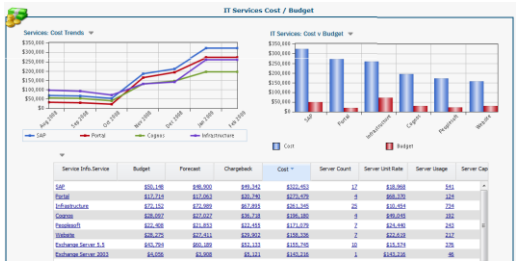


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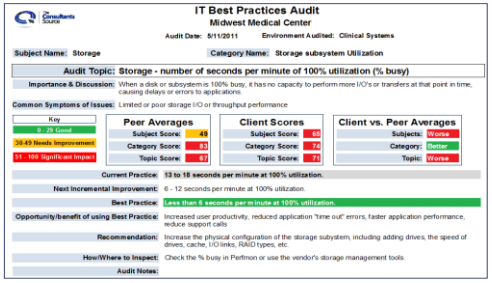
- COST STATISTICS
- PEER COMPARISONS
- QUANTIFY FINANCIAL OPPORTUNITY

## "WHAT/HOW TO IMPROVE" IT Best Practices Audit:




- BASELINE CURRENT STATE
- BEST PRACTICES
- PEER COMPARISONS
- WHAT/HOW TO IMPROVE

CONSULTING PARTNERS

TECHNOLOGY ECONOMICS PARTNERS

# Evolution of IT Financial Management Solutions™

## Past

React to rectify the perceived issues

- Asset Cost
- Depreciation Expense
- Remaining value
- OPEX and CAPEX

- **Limited Info for IT leadership to make decisions**
- **Allocation of costs at a limited level (# of checks per bank branch)**
- **Some reporting of impact is 120 days old (1 quarter + 30 days)**
- **No IT specific financial management tools**
- **IT benchmarking = high cost and effort, not repeatable**
- **Infrastructure Assessment = 30 biased questions from a vendor**
- **Consultant operated**

## Present

Use data to react/rectify the historical issues/decisions

- **Cost allocation**
- **Dashboard**
- **Reporting**
- **Budgeting**
- **Some benchmarks**

- **Detailed actual ratios/statistics**
- **Detailed peer benchmarks – identifies the cost saving potentials**

- **Detailed assessment of infrastructure current state**
- **Detailed recommendations to improve or achieve goals using Best Practices**

## Future

Plan to avoid issues or react in real-time

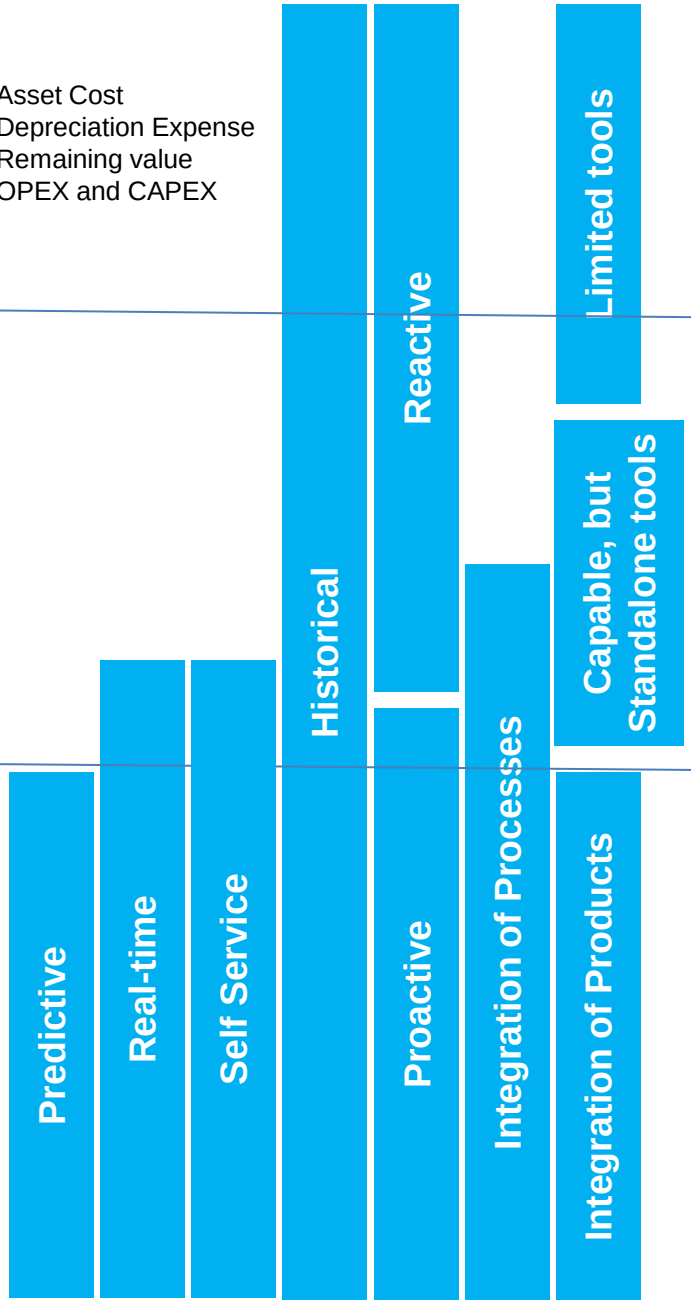
- **Integrated ITBM, Financial Benchmarking and IT Best Practices**

- **What if – financial modeling of identified issues – what is the impact and opportunity?**

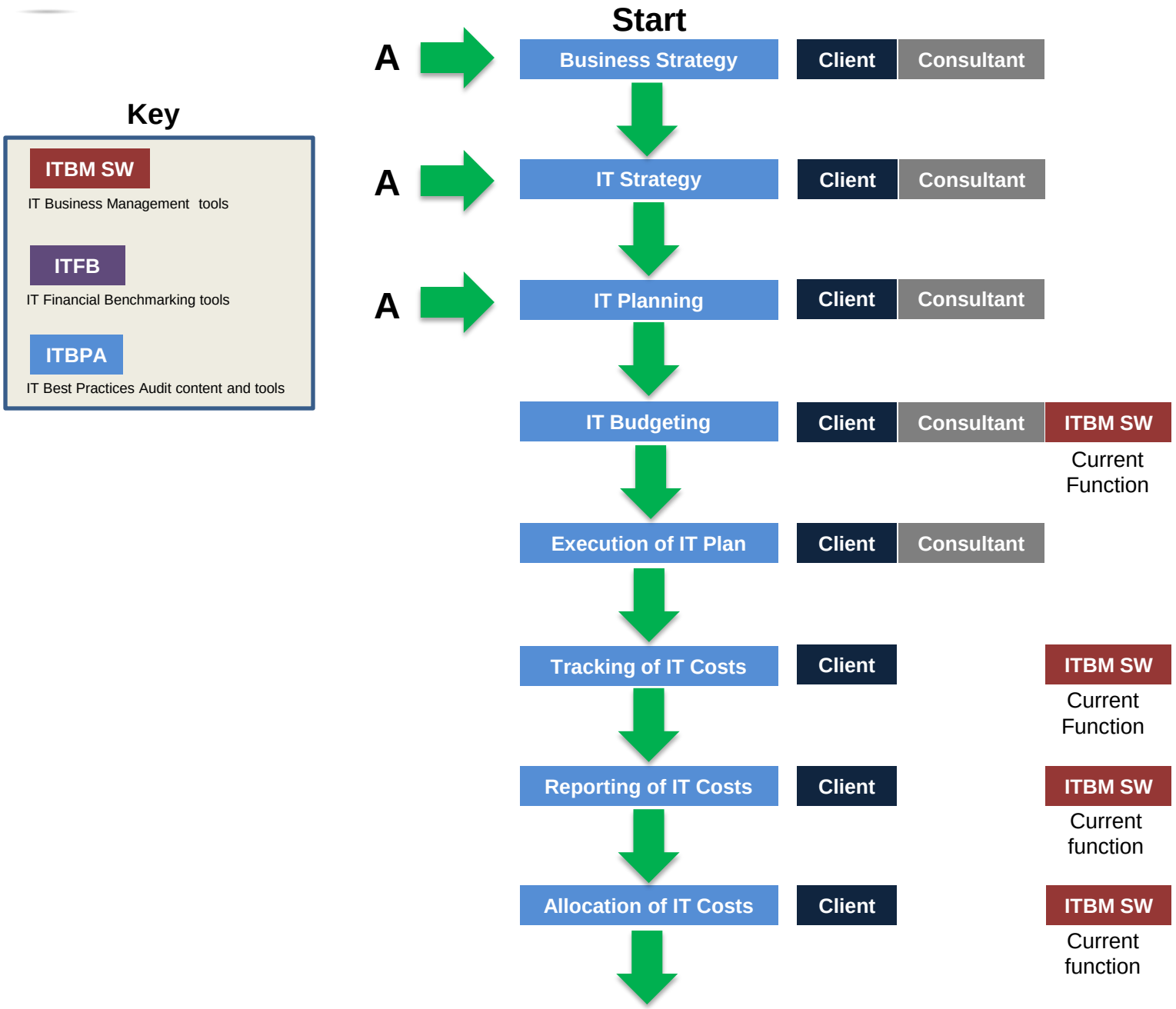
- **Guide the client on where to look, what to do, to improve or correct many infrastructure related issues**

- **Real-time alerts of plan vs. actual**

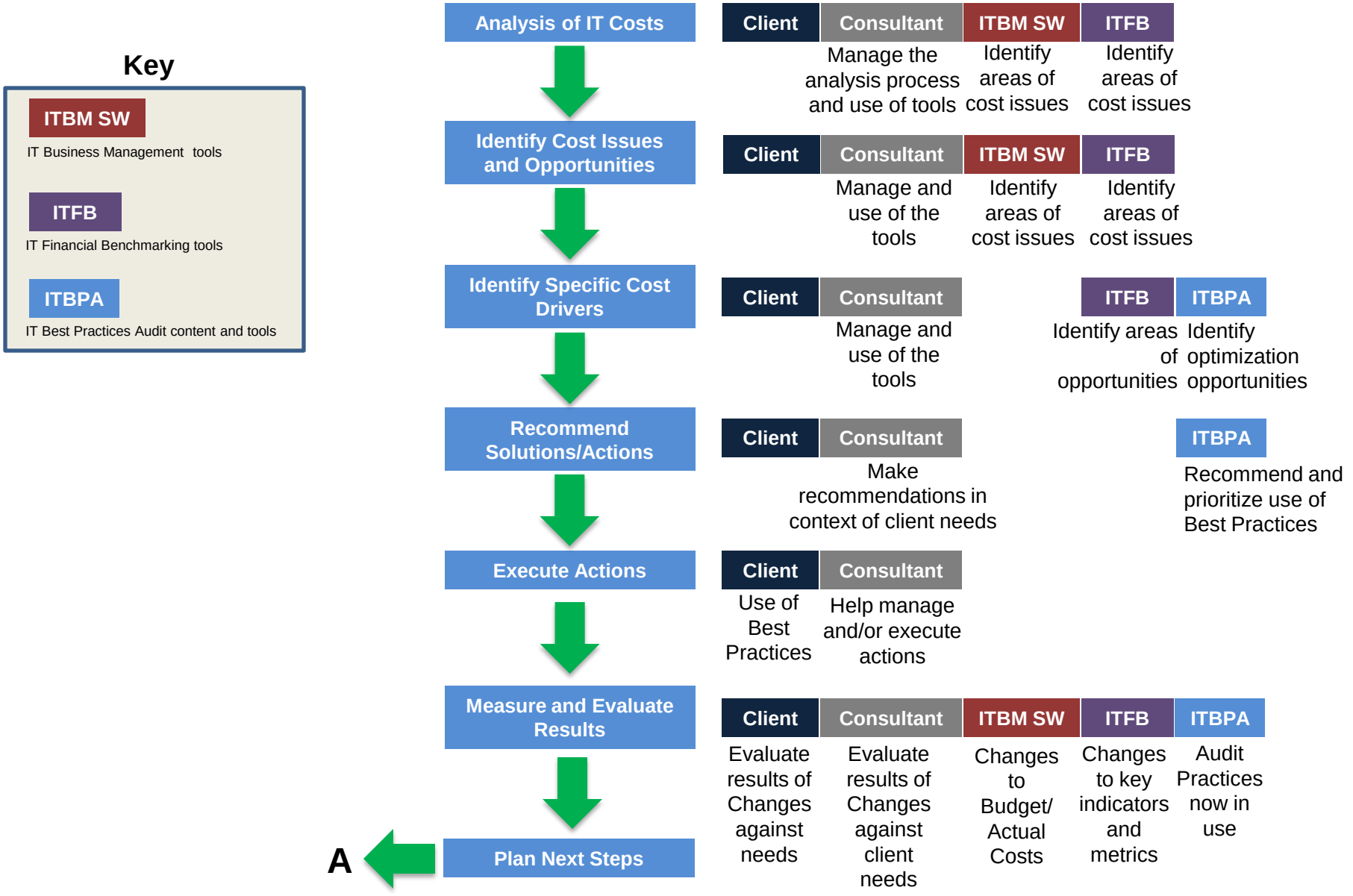
- **Using cost statistics and infrastructure best practices as part of the project planning phase – ensure cost and ROI goals are met the 1st time**



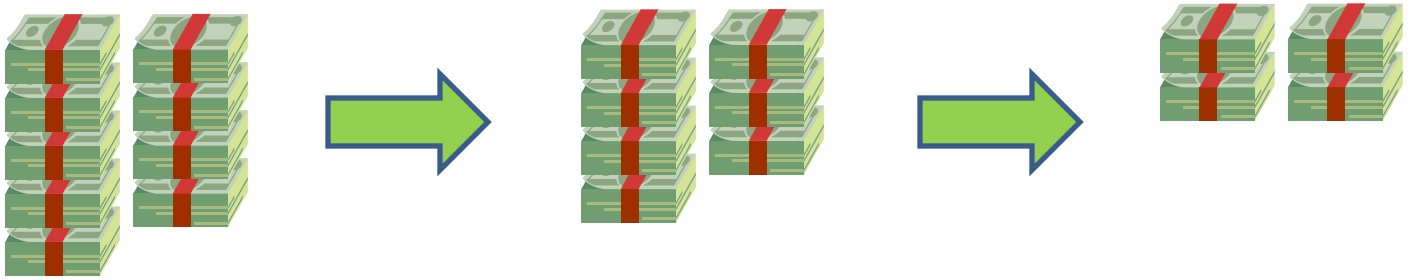
# IT Financial Management Processes, Roles, and Functions



# IT Financial Management Processes, Roles, and Functions (continued)



# Roadmap for Resource Limited Organizations

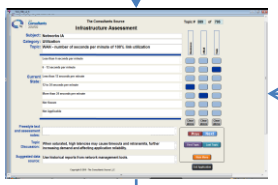
| | Current State | Implement "Quick Hits" | IT Transformation |
|---|---|---|---|
| IT Operations Spend |  | | |
| IT Investment Spend |  | | |
| Recommended Roadmap | • Baseline current IT practices (ITBPA)<br>• Identify high value/low cost opportunities<br>• Limited IT Cost benchmarking (ITFB) | • Implement highest value recommendations<br>• Begin use of Best Practices<br>• Maximize value of existing hardware and software assets<br>• Resolve recurring issues<br>• Free up IT $$ and resources<br>• Lower total costs<br>• Research and planning | • Implement IT Business Management system<br>• Review application portfolio<br>• Review platform options<br>• Continue adoption of best practices<br>• IT Alignment w/business<br>• New IT based functions<br>• Retire old platforms and applications |
| Timeline | • 2 weeks – 3 months | • 3 – 12 months | • 12 – 36 months |

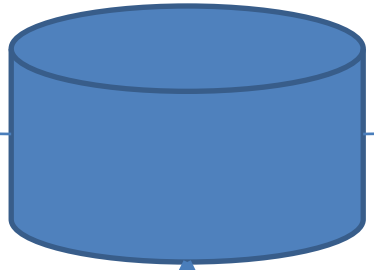
## Reduce and Re-allocate IT Costs

# Technical Integration of ITBM, ITFB, and ITBPA

**From IT Best Practices Audit: Capture Client Infrastructure Current State from Interviews and some use of ITBM data**

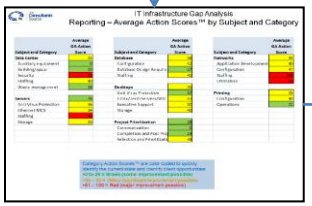
**From IT Business Management tools: Client Financial Data, Device Utilization data, Dashboard, and Reports**





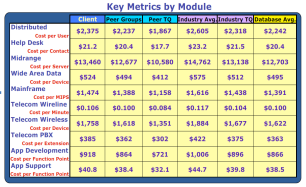
**IT Financial Benchmarking - Statistics Compute Engine**

Client # and Chart of Accounts




Topic ID# and Chart of Accounts number

Statistic # and Chart of Accounts number




**:Cross Reference to link Best Practice and Peer Statistics**

**Cross Reference Client Financial data and Financial Statistics**

# The BIG Opportunities of Best Practices

- IT CAPEX
- IT OPEX
- Employee Productivity
- Software Development Cost and Schedule
- Asset utilization and longevity
- Customer Satisfaction
- Customer Service Levels
- New channels
- New products
- Quality
- Cycle Times
- Organization Focus

# Thank You!

# Questions?

# More Information:

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312-835-4742

# Case Studies

# Results of IT Best Practices

# E-commerce Case Study – Results of IT Best Practices

**Options considered to provide Web site/e-Commerce capacity for 2000 users**

## Common Configuration
10 users per web server

- 200 physical servers
- 200 OS licenses
- 200 Tools licenses
- DC infrastructure
- DC operating costs
- Staffing
- Reliability issues

**$5,787,436**

## Server Virtualization
10 users per web server

- 20 physical servers
- 200 OS licenses
- 200 Tools licenses + Hypervisor costs
- 10% DC infrastructure
- 10% DC operating costs
- 100% Staffing (but higher complexity)
- Same or worse reliability issues

**$3,777,365 (35% savings)**

## Use of Best Practices
100 users per web server

- 20 physical servers
- 20 OS licenses
- 20 Tools licenses
- 10% DC infrastructure
- 10% DC operating costs
- 10% Staffing
- Improved reliability and performance

**$578,744 (90% savings)**

# E-commerce Case Study – Results of IT Best Practices

## 2000 User E-commerce Cost Details

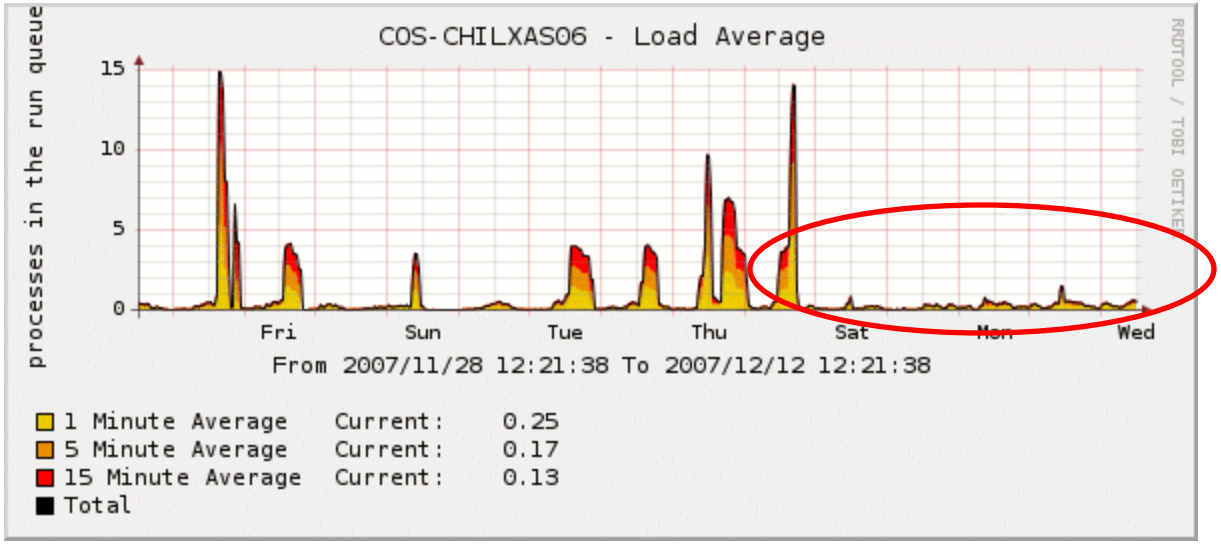
| Cost Element | Unit/Initial Cost | 3 Year Cost - Default | 3 Year Cost - Virtualized | 3 Year Cost - Use of Best Practices |
|---|---|---|---|---|
| HP DL 385 4GB 2 disks, no extended warranty | 3000 | 3000 | 14486 | 3000 |
| Supporting Servers (.1 NAS per server) | 1500 | 1500 | 1500 | 1500 |
| Supporting Hardware (KVM, LAN, UPS, Rack, A/C, cables, etc) | 1679 | 1679 | 1679 | 1679 |
| Backup Tapes | 1125 | 3375 | 3375 | 3375 |
| Electrical – 20A Circuit, Server Power and Server Cooling (.12/KWH) | 100 | 3196 | 3196 | 3196 |
| MS 2008 Std Server License, Monitor and backup license, and MS annual maintenance | 955 | 1944 | 1944 | 1944 |
| Estimated Hypervisor costs | 0 | 0 | 1000+ | 0 |
| IT Support costs (60K+30% benefits) for Setup, Migration, .4 hours daily support (20 servers per admin) | 1450 | 13350 | 13350 | 13350 |
| 7% Tax | 546 | 928 | 1902 | 928 |
| Per Server Totals | $10,495 | $28,972 | $42,432 | $28,972 |
| Servers needed – physical/virtual | | 200/200 | 20/200 | 20/20 |
| Estimated 3 year cost | | $5,787,436 | $3,777,365 | $578,744 |

# E-commerce Case Study – Results of IT Best Practices
## Server Utilization Details

**Apache web server capacity – more than 12X users on the same servers**

| | Active Users | |
|---|---|---|
| | Dec 11 2007 | Jan 10 2008 |
| | 10:55:00 AM | 11:56:00 AM |
| Server | | |
| as01 | 7 | 176 |
| as06 | 7 | 199 |
| as07 | 17 | 97 |
| as08 | 13 | 187 |
| as14 | 12 | 103 |
| as15 | 12 | 127 |
| as16 | 12 | 190 |
| as02 | 7 | 78 |
| as03 | 8 | 35 |
| as13 | 3 | 53 |
| | 98 | 1245 |

**Process wait queues – reduced to nearly zero, and server crashes eliminated**




**Implementation Costs = $26,000**

Tuned web servers = $2000 (service)

Tuned database server = $1500 (service)

Replaced database server = $7500 (hardware)

Replaced server storage = $15000 (hardware)

**Mix of Internal IT staff and Consultants**

# Insurance Case Study – Results of IT Best Practices

**Citrix, AS/400, Windows, Xiotech SAN, Netapp NAS, Worklfow and Document Imaging, Life Insurance, 600 employees, 3 locations.**

## Key Activities

Local Area Network replaced
Wide Area Network replaced
Storage replaced
Servers replaced
Desktops moved to thin client/Citrix
3 Data Centers consolidated to 1

# Insurance Case Study – Results of IT Best Practices

| Metric | Before | After | Annual Value |
|---|---|---|---|
| Work Environment | • Frequent downtime<br>• Poor application performance<br>• Frustrated users, agents, and policyholders<br>• Technology is limiting everything<br>• Reactive/No fun | • No limits on user productivity<br>• High employee morale<br>• Industry leading customer service<br>• Technology is strategic<br>• Proactive/fun | • Organic, profitable growth<br>• No changes to products or commissions<br>• Forward looking |
| Sales | $67M | $512M | $445M increase (660%) |
| Employees (FTE) | 676 | 454 | $13.3M reduction (60K each FTE) (33%) |
| Operating Expenses | $95M | $76M | $19M reduction (20%) |
| Employee Turnover | 67% annually | 12% annually | $5M; reduction (55%); higher quality data and service |
| Backlog of transactions | 6 months | none | Reduce regulatory risk; eliminate duplicate work; improved customer service |
| Avg Minutes/Trans | 2.82 | 1.92 | 32% improvement |
| Marketing Staff FTE | 104 | 25 | 75% reduction |
| IT budget | $16M | $13M | $3M reduction (19%) |
| IT Staff FTE | 49 | 35 | 29% reduction |
| % of IT time on new projects | 0% | 80% | Development of automated and self service functions |

# Insurance Case Study – Results of IT Best Practices

**Insurance Industry Case Study**
**Productivity of Workflow Transactions**

**Document imaging and workflow application response times before and after optimization**

| | Before IT Changes | | | After IT changes | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dec 1 -15 | | | Feb 5 - 17 | | | Differences in % | |
| AWD Work type | Transaction Count | Total Minutes | Average per Minute | Transaction Count | Total Minutes | Average per Minute | Transaction Count | Average per Minute |
| APPLJET | 2440 | 11943.65 | 8.29 | 3538 | 12783.88 | 4.53 | 45 | -45 |
| APPL | 1777 | 9586.51 | 6.41 | 1480 | 4676.06 | 3.67 | -17 | -43 |
| SURR | 1566 | 2194.78 | 2.05 | 2479 | 2089.81 | 1.24 | 58 | -40 |
| CHECKWK | 894 | 691.6 | 0.92 | 7 | 1.04 | 0.13 | -99 | -86 |
| INCAPPL | 597 | 3353.75 | 6.39 | 732 | 2379.52 | 3.47 | 23 | -46 |
| LAB | 564 | 315.29 | 0.66 | 488 | 173.69 | 0.31 | -13 | -53 |
| AGTCTRT | 410 | 549.35 | 2.36 | 384 | 277.35 | 1.27 | -6 | -46 |
| REFUND | 401 | 289.96 | 0.81 | 497 | 200.03 | 0.43 | 24 | -47 |
| APPLSMS | 394 | 604.44 | 3.3 | 431 | 212.37 | 0.93 | 9 | -72 |
| PNRTM | 329 | 361.49 | 1.54 | 42 | 21.14 | 0.59 | -87 | -62 |
| NTO | 269 | 219.46 | 0.86 | 197 | 119.49 | 0.55 | -27 | -36 |
| ANNB | 235 | 1615.62 | 9.95 | 188 | 507.03 | 2.17 | -20 | -78 |
| AUTH | 235 | 106.03 | 0.37 | 333 | 82.74 | 0.21 | 42 | -43 |
| NBREISSUE | 160 | 702.15 | 5.72 | 219 | 236.9 | 0.92 | 37 | -84 |
| APPLARGE | 142 | 1165.95 | 8.41 | 223 | 920.79 | 4.68 | 57 | -44 |
| OWNR | 139 | 563.28 | 4.13 | 196 | 357.07 | 1.63 | 41 | -61 |
| AERRU | 116 | 86.09 | 0.7 | 57 | 16.23 | 0.41 | -51 | -41 |
| LSBLSPEC | 105 | 249 | 2.78 | 160 | 219.36 | 0.90 | 52 | -68 |
| AERR | 105 | 80.58 | 0.72 | 166 | 49.16 | 0.37 | 58 | -49 |
| PHONECOM | 80 | 462.96 | 4.57 | 134 | 345.46 | 2.15 | 68 | -53 |
| NBPHONE | 79 | 24.37 | 0.46 | 1199 | 240.64 | 0.26 | 1418 | -43 |
| FADDR | 73 | 393.38 | 6.16 | 44 | 196.19 | 3.70 | -40 | -40 |
| VDREISNB | 71 | 277.35 | 8.7 | 52 | 99.28 | 1.50 | -27 | -83 |
| JVNB | 70 | 119.74 | 2.4 | 79 | 107.9 | 1.45 | 13 | -40 |
| APPLC | 69 | 93.3 | 1.5 | 64 | 19.3 | 0.30 | -7 | -80 |
| LOINSF | 56 | 245.24 | 4.32 | 56 | 81.03 | 2.30 | | -47 |
| LEGALB | 47 | 13.64 | 0.33 | 3 | 0.28 | 0.09 | -94 | -73 |
| MED LAM | 47 | 18.69 | 0.37 | 1 | 0.2 | 0.20 | -98 | -46 |
| IR | 46 | 13.01 | 0.39 | 89 | 22.18 | 0.21 | 93 | -46 |
| REPLACE | 44 | 19.23 | 0.59 | 47 | 10.97 | 0.19 | 7 | -68 |
| VOIDPA | 42 | 41.23 | 1.58 | 82 | 93.41 | 1.00 | 95 | -37 |
| CL712 | 34 | 381.87 | 14.09 | 12 | 54.28 | 4.52 | -65 | -68 |
| CKNOINFO | 28 | 12.49 | 0.38 | 2 | 0.2 | 0.10 | -93 | -74 |
| PEND1035 | 22 | 4.04 | 0.18 | 15 | 1.77 | 0.10 | -32 | -44 |
| REINREQ | 20 | 7.75 | 0.39 | 2 | 0.21 | 0.10 | -90 | -74 |
| GOVPMT | 19 | 21.94 | 1.27 | 37 | 18 | 0.52 | 95 | -59 |
| EFT ERROR | 19 | 9.44 | 0.62 | 3 | 0.86 | 0.28 | -84 | -55 |
| LEADCHG | 16 | 20.07 | 1.26 | 11 | 8.36 | 0.58 | -31 | -54 |
| STBOARD | 14 | 467.34 | 46.97 | 13 | 37.01 | 2.83 | -7 | -94 |
| CORRNB | 13 | 6.35 | 0.76 | 28 | 6.15 | 0.25 | 115 | -67 |

# Insurance Case Study – Results of IT Best Practices

| Insurance Company FTE Analysis | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Policy Maintenance FTE** | | Starting | Year 1 | Year 2 | Year 3 | Year 4 | | 4 year FTE % Reduction |
| Group 1 | Accounting | 27.8 | 30.5 | 26.9 | 6.8 | 15 | | |
| | Customer | 28.1 | 26.9 | 23.5 | 17.5 | 38 | | |
| | Customer | 24 | 23 | 20.5 | 16 | - | | |
| | Claims | 17.1 | 20.1 | 20.9 | 16 | 12 | | |
| | General | 6 | 6 | 4 | 5 | 4 | | |
| | Compliance | - | - | 0 | 26 | 15 | | |
| | Office | 19 | 17 | 15.2 | 16.8 | 12 | | |
| **TOTALS** | | **122** | **123.5** | **111** | **104.1** | **96** | | **21%** |
| Group 2 | Accounting | 21 | 19 | 18.5 | 19 | 15 | | |
| | Customer Service | 32 | 30 | 27.3 | 28 | 19 | | |
| | Agency/Commissi | 17.3 | 13 | 5 | 6 | 4 | | |
| | Claims | 4 | 4 | 4 | 6 | 7 | | |
| | General | 2 | 2 | 1 | 0 | 2 | | |
| | Support | 12 | 12 | 22 | 30 | 25 | | |
| | Office | 24.8 | 22 | 23 | 20 | 19 | | |
| **TOTALS** | | **113.1** | **102** | **100.8** | **109** | **91** | | **20%** |
| Group 3 | Accounting | 28 | 10 | 10 | 10.8 | 12.8 | | |
| | Policyowner | 20 | 12 | 15 | 11 | 6 | | |
| | Critical | - | 6 | 5 | - | - | | |
| | Commissions | 13 | 5 | 4.5 | 4 | 5 | | |
| | General | 3 | 3 | 1 | - | - | | |
| | Support | 5 | 5 | 5 | - | - | | |
| | Office | 9 | 6 | 4 | 5 | 4 | | |
| **TOTALS** | | **78** | **47** | **44.5** | **30.8** | **27.8** | | **64%** |
| **Total Policy Maintenance** | | **313.1** | **272.5** | **256.3** | **243.9** | **214.8** | | **31%** |

# Insurance Case Study – Results of IT Best Practices

| Policy Issue FTE | | Starting | Year 1 | Year 2 | Year 3 | Year 4 | | 4 year FTE % Reduction |
|---|---|---|---|---|---|---|---|---|
| Location 1 | General | 59 | 21 | 16 | 16 | 16 | | |
| | Preneed | 0 | 0 | 17.8 | 9 | 6 | | |
| | Call Center | 0 | 16.8 | 14 | 11 | 8 | | |
| | Mortgage | 0 | 21 | 12 | 8 | 5 | | |
| | Licensing | 0 | 12.3 | 11 | 10 | 9 | | |
| | International | 0 | | 9 | 7 | - | | |
| | Underwriting | 13 | 13 | 11 | 8 | 11 | | |
| **TOTALS** | | **72** | **84.1** | **90.8** | **69** | **55** | | **24%** |
| Location 2 | New | 24 | 15 | 11 | 18 | 16 | | |
| | Agent | 0 | 2 | 4 | 0 | 0 | | |
| | Call | 0 | 0 | 0 | 7 | 6 | | |
| | Licensing | 0 | 5 | 4.5 | 11 | 8 | | |
| | Underwriting | 1 | 1 | 0.5 | 0 | 0 | | |
| **TOTALS** | | **25** | **23** | **20** | **36** | **30** | | **-20%** |
| **Total Issue** | | **97** | **107.1** | **110.8** | **105** | **85** | | **12%** |

| Sales and Marketing FTE | Starting | Year 1 | Year 2 | Year 3 | Year 4 | | 4 year FTE % Reduction |
|---|---|---|---|---|---|---|---|
| Sales 1 | 20 | 16 | 7 | 4 | 0 | | |
| Sales 2 | 8 | 3 | 6 | 0 | 0 | | |
| Marketing | 11 | 7 | 19 | 26 | 25 | | |
| Sales 3 | 1 | 4 | 0 | 0 | 0 | | |
| Sales 4 | 64.5 | 0 | 1 | 0 | 0 | | |
| **Total** | **104.5** | **30** | **33** | **30** | **25** | | **76%** |

# Insurance Case Study – Results of IT Best Practices

| Corporate FTE | | Starting | Year 1 | Year 2 | Year 3 | Year 4 | | 4 year FTE % Reduction |
|---|---|---|---|---|---|---|---|---|
| | Executive 1 | 0 | 6 | 6 | 3 | 0 | | |
| | Executive 2 | 9 | 10 | 10 | 9.5 | 7.5 | | 17% |
| | Mortgage | 3 | 3 | 3 | 3 | 3 | | 0% |
| | IT | 49 | 42 | 40 | 34 | 35 | | 29% |
| | Product | 19 | 9 | 9 | 7 | 10 | | 47% |
| | Marketing | 0 | 3 | 4 | 1 | 1 | | |
| | Investments | 10 | 8 | 9 | 8 | 8 | | 20% |
| | Corp Sec | 6 | 9 | 9 | 9 | 10 | | -67% |
| | HR | 16.8 | 13 | 15 | 13.8 | 15 | | 11% |
| | Finance | 46 | 44 | 44 | 39.8 | 36.8 | | 20% |
| | Other | 3 | 3 | 3 | 2 | 3 | | 0% |
| **Total Corporate** | | **161.8** | **150** | **152** | **130.1** | **129.3** | | **20%** |
| **Total Company FTE** | | **676.4** | **559.6** | **552.1** | **509** | **454.1** | | **33%** |

| Summary | | Starting | Year 1 | Year 2 | Year 3 | Year 4 | | 4 year change |
|---|---|---|---|---|---|---|---|---|
| New Sales | | 67,000,000 | 155,000,000 | 283,000,000 | 512,000,000 | 454,000,000 | | 578% |
| Sales/FTE | | 99,054 | | | | 999,780 | | 909% |
| Operating Expenses | | 95,000,000 | | | | 76,000,000 | | 20% |

# Order Processing Case Study – Results of IT Best Practices

**Custom Products Order Management FTE Analysis - facilitation, data entry, typesetting, grouping, QA and supervisor functions**

**Baseline Productivity - all fax and electronic orders require data entry and typesetting**

| Date | Total Daily Orders | Fax orders | Link Orders | BAS orders | # of orders needing data entry - (all fax orders plus all BAS and Link Orders) | # of line items needing typesetting - (1.6 * number of orders) | # of work orders needing QA | D/E FTE needed (100 orders a day) | Typeset FTE needed (150 images per day) | QA FTE needed (150 number of Orders per FTE) | Facilitation | Supervisor | **Total FTE for Order Mgmt** | **FTE / Order** | **Total Estimated Loaded Monthly Staffing Cost** | **Avg cost / order** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | 1480 | 1302 | 89 | 89 | 1480 | 2368 | 1480 | 14.8 | 15.8 | 9.9 | 1.5 | 3 | **45.0** | **32.9** | **$ 129,036** | **$ 4.18** | |

**Systems running reliably and Integrator on line**

| Date | Total Daily Orders | Fax orders | Link Orders | BAS orders | # of orders needing data entry - (all fax orders plus all BAS and Link Orders) | # of line items needing typesetting - (1.6 * number of orders) | # of work orders needing QA | D/E FTE needed (100 orders a day) | Typeset FTE needed (150 images per day) | QA FTE needed (150 number of Orders per FTE) | Facilitation | Supervisor | **Total FTE for Order Mgmt** | **FTE / Order** | **Total Estimated Loaded Monthly Staffing Cost** | **Avg cost / order** | **Annualized savings from Baseline (includes order volume changes if any)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| March | 1800 | 1260 | 360 | 180 | 1476 | 2880 | 1476 | 11.4 | 14.4 | 7.4 | 1.5 | 3 | **37.6** | **47.8** | **$ 109,181** | **$ 2.91** | **$ 573,061** |
| | **21.6%** | **-3.3%** | **305.4%** | **102.7%** | | | | | | | | | | **45.3%** | change from base | | |

**Link Stamp orders autotypeset and autogrouped**

| Date | Total Daily Orders | Fax orders | Link Orders | BAS orders | # of orders needing data entry - (all fax orders plus all BAS and Link Orders) | # of line items needing typesetting - (1.6 * number of orders) | # of work orders needing QA | D/E FTE needed (100 orders a day) | Typeset FTE needed (150 images per day) | QA FTE needed (150 number of Orders per FTE) | Facilitation | Supervisor | **Total FTE for Order Mgmt** | **FTE / Order** | **Total Estimated Loaded Monthly Staffing Cost** | **Avg cost / order** | **Annualized savings from Baseline (includes order volume changes if any)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October | 1892 | 851 | 757 | 284 | 1211 | 1937 | 1211 | 9.3 | 9.7 | 6.1 | 1 | 2 | **28.1** | **67.4** | **$ 80,835** | **$ 2.05** | **$ 1,009,467** |
| | **27.8%** | **-34.6%** | **752.3%** | **219.6%** | | | | | | | | | | **104.8%** | change from base | | |

# Order Processing Case Study – Results of IT Best Practices

## Quality Analysis Impact from Auto Typesetting - Chicago only

| Month | Error Rate | | |
|---|---|---|---|
| March | 2.06% | | |
| April | 2.35% | | |
| May | 2.23% | | |
| June | 2.69% | 2.33% | Average error rate before typeset automation |
| July | 1.81% | | Autotypeset implemented mid month |
| August | 1.28% | | |
| Sept | 1.40% | 1.34% | Average error rate after typeset automation |
| | | 42% | Reduction in Errors |
| | | 390 | Estimated # of order remakes/month eliminated |
| | | 23 | Estimated Cost/order for a remake ($13.00 + 10.00 shipping) |
| | | **$ 8,971** | **Estimated monthly savings for Chicago only** |
| | | **$ 107,656** | **Estimated Annual Company wide savings from improved quality** |

# Order Processing Case Study – Results of IT Best Practices

| Major Customer Order Cycle Time Report | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **January** | | | | | | | | |
| Order Method | % of orders | total orders / orders shipped in 2 days | Same Day | Day 1 | Day 2 | Day 3 | Day 4 | 5+ days |
| A | 3% | 968 | 35 | 161 | 343 | 228 | 77 | 123 |
| in 2 days | | 56% | 4% | 17% | 35% | 24% | 8% | 13% |
| | | | | | | | | |
| F | 29% | 8232 | 186 | 1415 | 2298 | 1344 | 967 | 2020 |
| in 2 days | | 47% | 2% | 17% | 28% | 16% | 12% | 25% |
| | | | | | | | | |
| N | 67% | 18919 | 995 | 5781 | 5961 | 3725 | 1431 | 1025 |
| in 2 days | | 67% | 5% | 31% | 32% | 20% | 8% | 5% |
| | | | | | | | | |
| Total Orders | 100% | 28119 | 1216 | 7357 | 8602 | 5297 | 2475 | 3168 |
| in 2 days | | 61% | 4% | 26% | 31% | 19% | 9% | 11% |

| **September** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Order Method | % of orders | total orders / orders shipped in 2 days | Same Day | Day 1 | Day 2 | Day 3 | Day 4 | 5+ days |
| A | 3% | 610 | 75 | 249 | 156 | 32 | 24 | 74 |
| in 2 days | | 79% | 12% | 41% | 26% | 5% | 4% | 12% |
| | | | | | | | | |
| F | 22% | 4949 | 91 | 392 | 841 | 1550 | 952 | 1123 |
| in 2 days | | 27% | 2% | 8% | 17% | 31% | 19% | 23% |
| | | | | | | | | |
| N | 75% | 16704 | 1888 | 8269 | 4178 | 1129 | 565 | 675 |
| in 2 days | | 86% | 11% | 50% | 25% | 7% | 3% | 4% |
| | | | | | | | | |
| Total Orders | 100% | 22263 | 2054 | 8910 | 5175 | 2711 | 1541 | 1872 |
| in 2 days | | 72% | 9% | 40% | 23% | 12% | 7% | 8% |

# B2B Case Study - Results of IT Best Practices

## Server downtime eliminated

**Server Downtime**

| 2007 | | 2008 | |
|---|---|---|---|
| Date | Time | Date | Time |
| 7/24 | 2:01 PM | 1/3 | 9:45 AM |
| 7/24 | 3:01 PM | 1/3 | 11:28 AM |
| 7/25 | 8:01 AM | 1/3 | 12:46 PM |
| 7/25 | 8:51 AM | 1/4 | 6:58 AM |
| 7/26 | 9:55 AM | 1/22 | 7:18 AM |
| 7/26 | 10:37 AM | 2/7 | 6:46 AM |
| 8/1 | 7:10 AM | 2/26 | 3:43 PM |
| 8/2 | 7:26 AM | 3/6 | 7:43 AM |
| 8/3 | 4:30 PM | 3/13 | 9:33 AM |
| 8/9 | 8:55 AM | 3/20 | 7:20 AM |
| 8/13 | 7:19 AM | 3/31 | 10:15 AM |
| 8/13 | 8:43 AM | 4/1 | 10:07 AM |
| 8/20 | 2:11 PM | 4/3 | 7:24 AM |
| 8/21 | 8:30 AM | 4/16 | 7:24 AM |
| 8/27 | 10:36 AM | 4/17 | 7:12 AM |
| 8/29 | 8:26 AM | 4/17 | 3:32 PM |
| 8/30 | 9:20 AM | 4/18 | 6:49 AM |
| 8/30 | 11:37 AM | 4/18 | 12:58 PM |
| 8/30 | 4:17 PM | | |
| 9/12 | 6:51 AM | | |
| 9/14 | 6:48 AM | | |
| 9/17 | 6:37 AM | | |
| 9/25 | 8:01 AM | | |
| 10/4 | 7:27 AM | | |
| 10/10 | 7:33 AM | | |
| 10/23 | 7:24 AM | | |
| 10/29 | 8:01 AM | | |
| 10/29 | 9:55 AM | | |
| 11/16 | 7:28 AM | | |
| 11/27 | 7:32 AM | | |
| 11/27 | 2:13 PM | | |
| 12/4 | 7:13 AM | | |
| 12/11 | 7:35 AM | | |
| 12/14 | 7:06 AM | | |
| 12/21 | 6:27 AM | | |

## Web response times reduced 40% and now consistent; site availability dramatically improved

# SaaS Marketing Analytics Case Study
# Results of IT Best Practices

## Marketing Analytics SaaS provider

**HP Unix, Oracle Database, IBM Mainframe, EMC SAN, Marketing Automation ASP, 120 employees, 1 location.**

Eliminated crashes, increased system performance by 300%; avoided $1.5M in capital costs; enabled new daily services to match competition.

**Infrastructure Tune-up using Best Practices**

| Metric | Before | After |
|---|---|---|
| Product Offering | Monthly analysis | Weekly and daily |
| Cycle time for 1TB | 72 hours with multiple restarts | 8 hours – no restarts |
| SAN data rates | 33MB/sec | 100MB/sec |
| % of developer time on job support | 50% | 5% |

**Total capital costs = $1000**
**Performed by Internal IT staff**

# Case Studies – Results of IT Best Practices

**A financial services firm invests $150K in Solid State Disk (SSD) from Texas Memory Systems.**

- The internal IT staff configures and installs the device using their standard methods, which include using many default parameters.
- Testing demonstrates 361MB/sec..
- Using the configuration recommendations from the TCS Assessment, bandwidth increased to 760MB/sec.
- **The use of best practices more than doubled the value of the investment, and enabled new real-time, data intensive products to be introduced to their clients.**

# Case Studies – Results of IT Best Practices

**Windows, IIS, SQL, Biztalk, Windows NAS and EMC SAN, B2B, Custom Products Manufacturing, 1400 employees, 10 locations.**

- Eliminated downtime, Increased scalability from 100 users to 3000+, sales grew to $6.25M, saved business. Repeated tuning to 3 similar environments with same results. Saved $1.5M+ new investment and hosting costs.

**Windows, IIS, SQL, Windows NAS and EMC SAN, B2B, Custom Products Manufacturing, 1400 employees, 10 locations.**

- Eliminated downtime after 54 outages in 7 months, increased application performance by 15X, saved a $5M revenue account.

**Web Open Source (Java, Apache, MySQL, JBOSS), B2B, Custom Products Manufacturing, 400 employees, 5 locations.**

- Eliminated downtime, Increased scalability from 100 users to 2500+, increased online orders from 12% to 76%.

- Eliminated downtime, Increased employee productivity by 40%, reduced employee turnover from 67% to 12%, reduced total company costs by 20%, saved $20M annually, sales grew 660%.

# Case Studies – Results of IT Best Practices

**Unisys Mainframes, EMC SAN, Windows, Citrix, Retail Banking, 3000 employees, 220 locations.**

- Eliminated downtime, increased IT productivity by 300%, saving $5M annually, company grew 300% in 18 months

**AS/400, Windows, IIS, EMC SAN, Biztalk, Order Processing, Custom Products Manufacturing, 1400 employees, 10 locations.**

- Resolved capacity bottlenecks that delayed orders 24 hours and caused manual intervention and missed service levels.

**Windows Terminal Server, AS/400, FoxPro database, Order Processing, Custom Products Manufacturing, 400 employees, 5 locations.**

- Eliminated downtime, increased database performance 900%, increased employee productivity by 50%, saved $1.5M annually.

# The Myth of the $3500 Server

| Item | Initial Cost | 3 Year Cost |
|---|---|---|
| HP DL 360 4GB 2 disks, no extended warranty | 3500 | 3500 |
| Supporting Servers (.1 NAS) | 1500 | 1500 |
| Supporting Hardware (KVM, LAN, UPS, Rack, A/C, cables, etc) | 1679 | 1679 |
| Backup Tapes | 1125 | 3375 |
| Electrical – 20A Circuit, Server Power and Server Cooling (.12/KWH) | 100 | 3196 |
| MS Software Std Server License, Monitor and backup license, and MS annual maintenance | 955 | 1944 |
| IT Support costs (60K+30% benefits) for Setup, Migration, .4 hours daily support (20 servers per admin) | 1450 | 13350 |
| 7% Tax | 546 | 928 |
| **Totals** | **$10,855** | **$28,544** |

# Benefits of Higher User Productivity

500 users of the application
$14 hour average hourly rate
30% benefit ratio
$18.20 fully loaded hourly rate
**$18,928,000 Annual costs of workforce**

| Increase in Productivity | Annual Benefit |
|---|---|
| 1% | $189,280 |
| 5% | $946,400 |
| 10% | $1,892,800 |

***Reduced Recruiting and Training costs***

***Improved Morale, Improved Service***

***Management Focus on Key Activities***

# Costs of Employee Turnover

500 users of the application
$14 hour average hourly rate
30% benefit ratio
$18.20 fully loaded hourly rate
160 hours (4 weeks) to train + ¼ of a supervisor at $22.20 fully loaded hourly rate
3 hours IT setup per hire
$1000 cost for ads, fees, interviewing, HR, etc. per hire
**$18,928.000 Annual costs of workforce**

| Turnover Rate | Direct Training Costs | Supervisor Costs | IT Setup Costs | Other Hiring Costs | Total Turnover Costs |
|---|---|---|---|---|---|
| 1% | $14,560 | $4,440 | $560 | $5,000 | $24,560 |
| 5% | $72,800 | $22,200 | $2,810 | $25,000 | $122,810 |
| 10% | $145,600 | $44,400 | $5,630 | $50,000 | $245,630 |
| 20% | $291,200 | $88,800 | $11,250 | $100,000 | $491,250 |
| 50% | $728,000 | $222,000 | $28,130 | $250,000 | $1,228,130 |

***+ Product Quality, Service, Cycle Times, and Leadership Costs…***

# Increased Utilization of Current IT Assets

| Current IT Assets | Increase in Utilization | Benefit |
|---|---|---|
| $50,000,000 | 10% | $5,000,000 |
| $50,000,000 | 20% | $10,000,000 |
| $50,000,000 | 50% | $25,000,000 |

***Use of Best Practices can often increase utilization by 100% or more***

# Healthcare Client Findings/Improvement Opportunities

- Poor physical security of data center – card entry system not working for 6 months; open doors
- Data center location is at risk from flooding and plumbing issues – DC flooded during the audit
- 75+ TB of mission critical data not backed up in 9 months – identified specific capacity issues in environment preventing required backups
- SAN and DAS storage has not been tuned – opportunity to improve throughput by 10X
- Desktops are under-configured and have not been patched since installation, causing reliability and performance issues and high support costs
- Server farms are not identical, causing reliability and troubleshooting issues
- No current disaster recovery/business continuity plan
- Poor WAN reliability; no backup network links to remote sites; no network disaster recovery plan
- Highly saturated WAN circuits – suggested specific configuration actions that can significantly reduce bandwidth use with no business impact
- Network security risks due to VPN software and user management issues
- No use of network penetration testing; no server hardening; no inspection of security logs
- Poor documentation across all IT subject areas
- No monitoring or historical data collection tools for performance and capacity management
- No inventory of IT assets
- Poor management of software licensing – tracking of purchases, what is installed, regulations, etc.
- No monitoring of key business applications
- No test environments are in place
- Understaffed in most areas; need to increase staff training across all IT subject areas

**…over 450 high impact topics were identified**

# Thank You!

# Questions?

# More Information:

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