

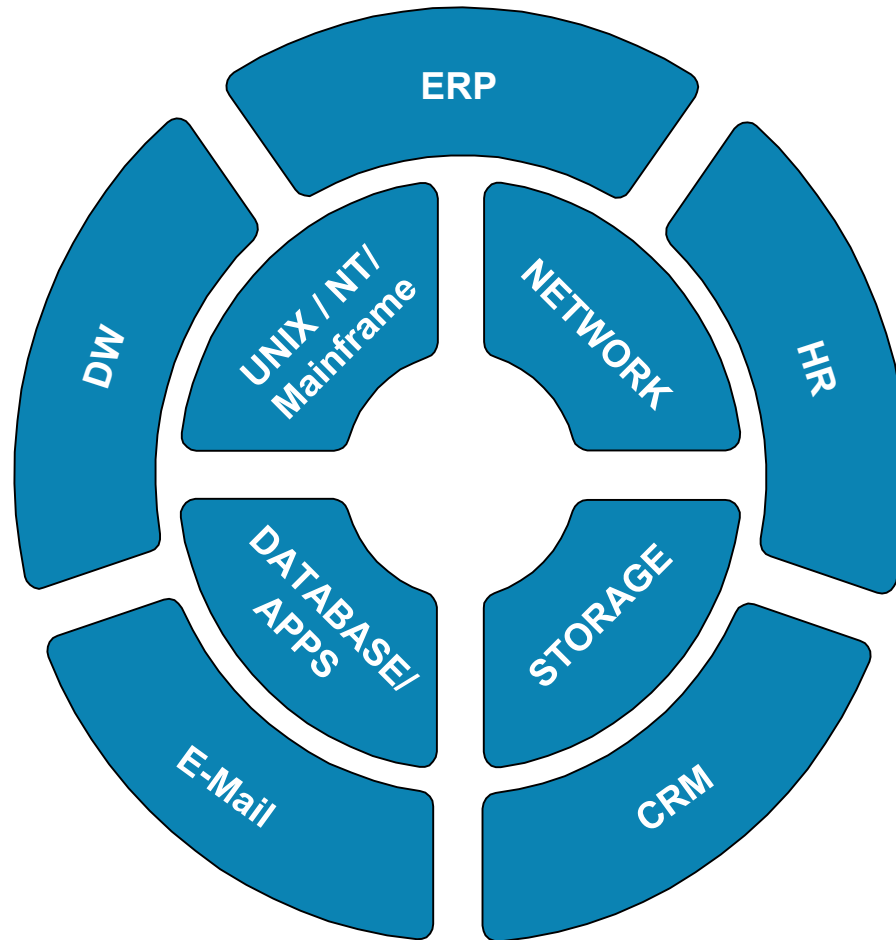
IT Management: A convergence of people, process and technology

Laury Behrens

Director of Enterprise Management
Forsythe Solutions Group, Inc.



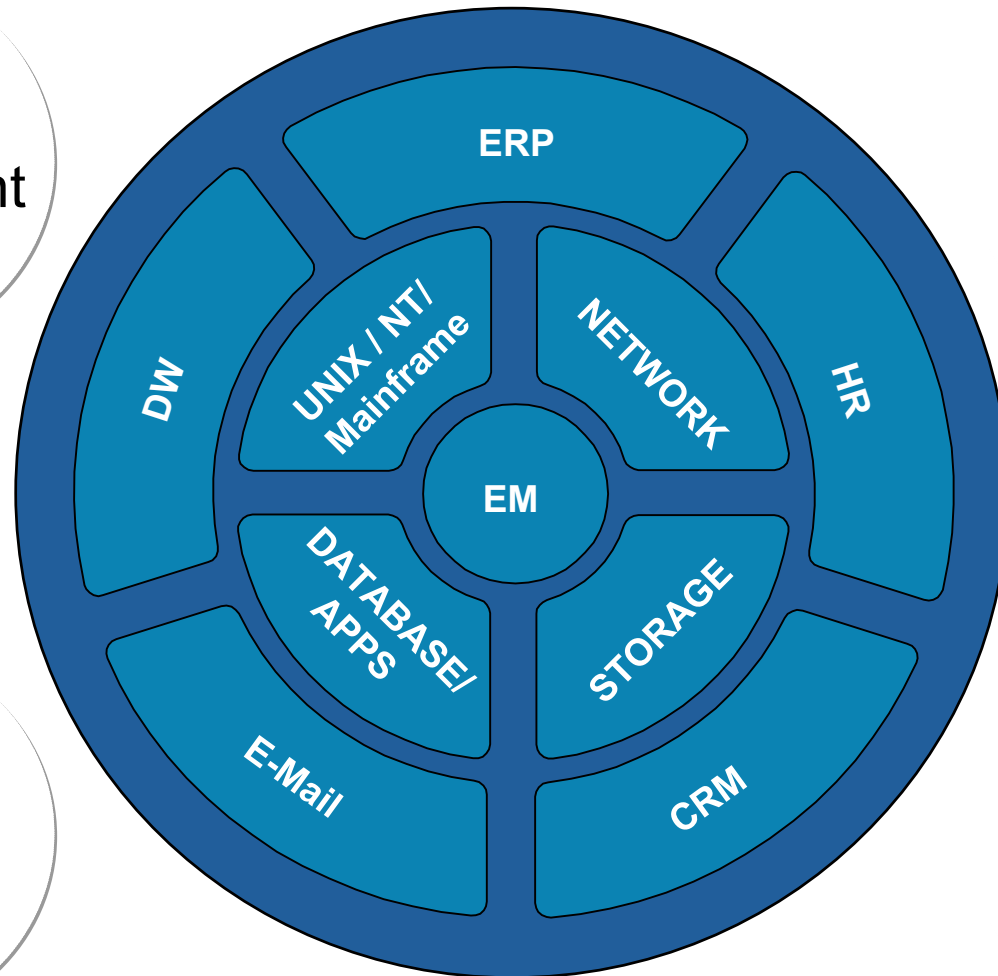
What is Enterprise Management?



Enterprise Management (EM) is...

Cost
Management

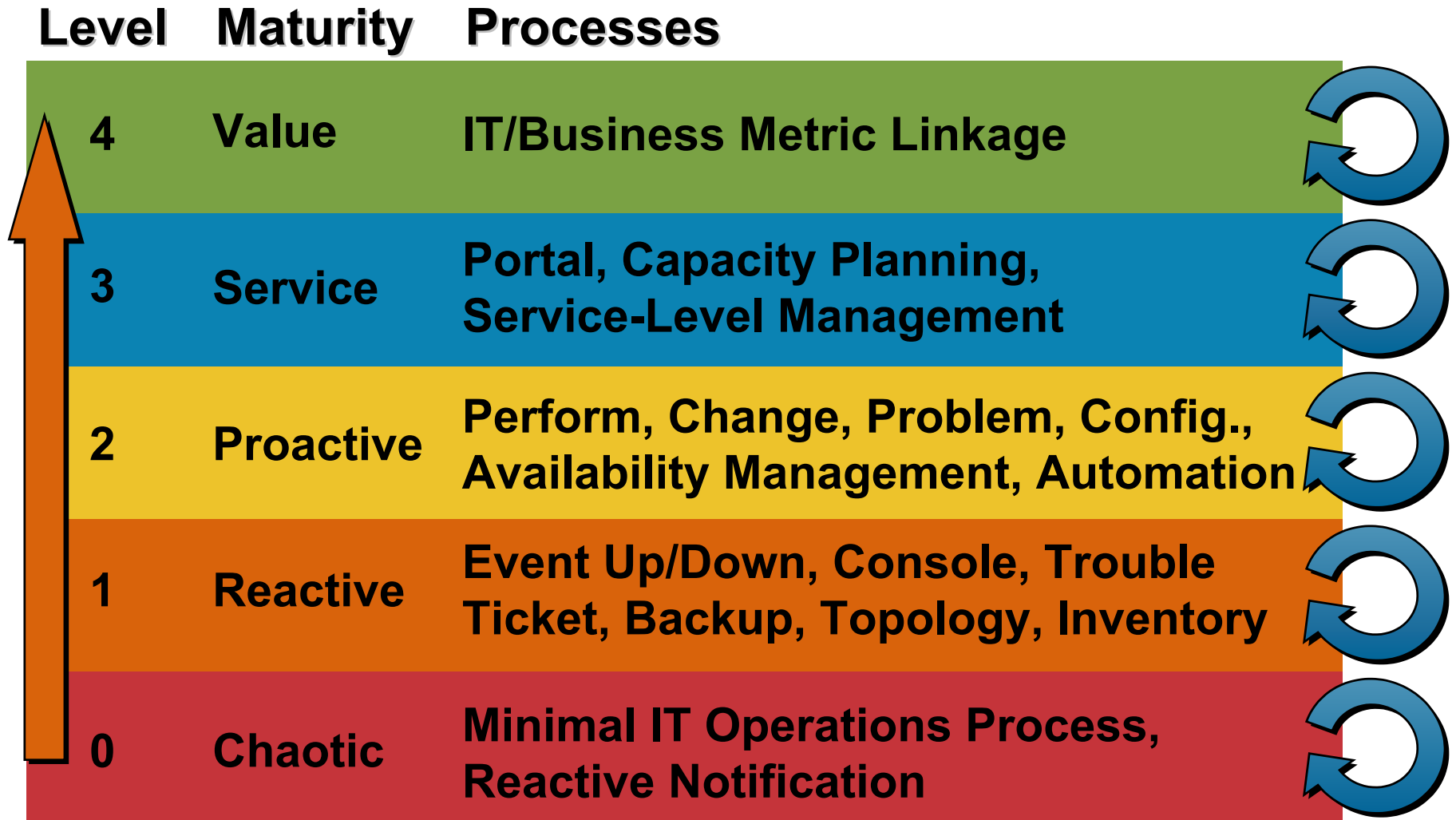
Service
Level
Management



Visibility

Control

Gartner IT Management Process Maturity



Our definitions to assist the Gartner Model.

Chaotic: No proactive management.

Examples include multiple help desks, minimal process, minimal monitoring tools, minimal standardization and process.

Reactive: Improve efficiency, speed trouble-shooting, reduce downtime, improve bottom line.

Examples include Up/Down monitoring, Consoles, Trouble Tickets, Backups, Inventory

Proactive: Increase availability, prevent problems, identify and recover from brown-outs.

Examples include Performance, Change, Problem, Configuration, Availability Management, Automation

Service: Meet SLA's, reduce time to deployment, prioritize quality of services (QOS).

Examples include Portals, Capacity Planning, Service-Level Management

Value: Deliver business value, augment competitiveness.

Example include IT/Business Metric Linkage and Service Assurance

Where does your company rank ?

<u>Component</u>	Chaotic	Reactive	Proactive	Service	Value
Network Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systems Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Database & Application Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance and Reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incident Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Forsythe Survey Results.

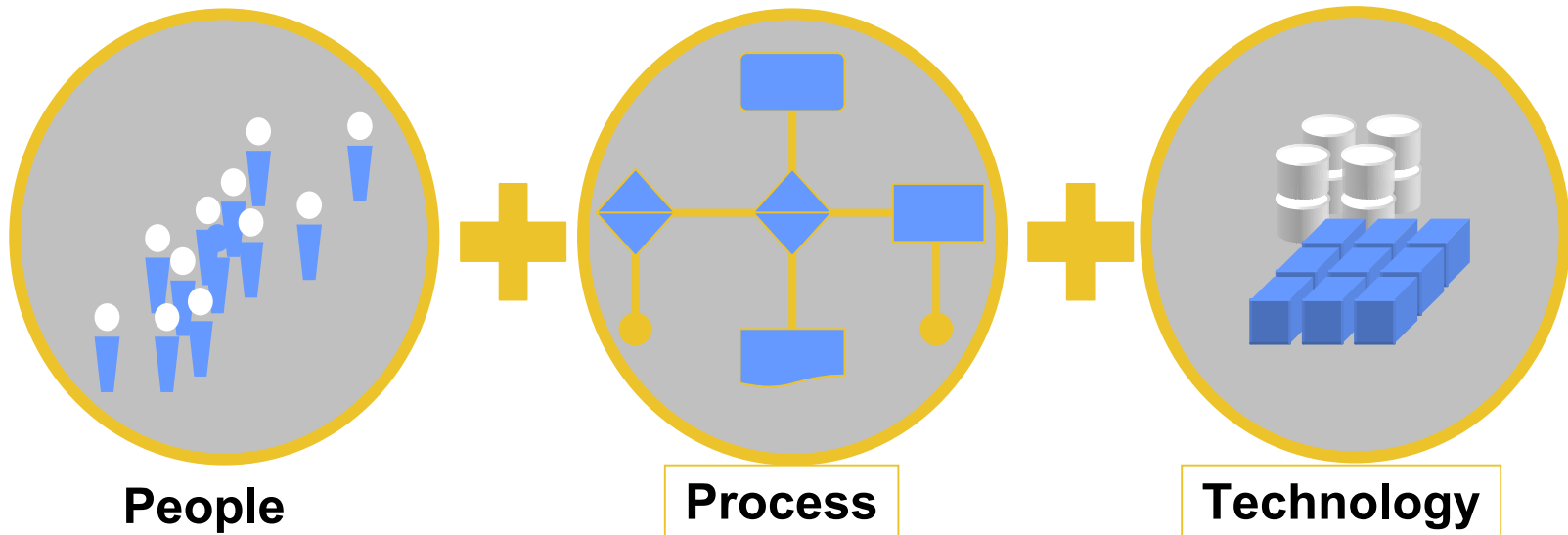
5. Where do you rank within Enterprise Management for your company in the 1

Network Management			
Chaotic		1	4%
Reactive		7	29%
Proactive		10	42%
Service		5	21%
Value		1	4%
Systems Management			
Chaotic		1	4%
Reactive		9	38%
Proactive		6	25%
Service		7	29%
Value		1	4%
Database & Application Management			
Chaotic		1	4%
Reactive		7	29%
Proactive		10	42%
Service		4	17%
Value		2	8%
Performance & Reporting			
Chaotic		3	13%
Reactive		7	29%
Proactive		9	38%
Service		5	21%
Value		0	0%
Incident Management			
Chaotic		2	8%
Reactive		11	46%
Proactive		6	25%
Service		4	17%
Value		1	4%
Other - Capacity Management			
		1	4%

EM Solution Implementation

The key to successfully implementing an Enterprise Management solution is?

Focus on creating an integrated management solution applicable to the diversity of your company

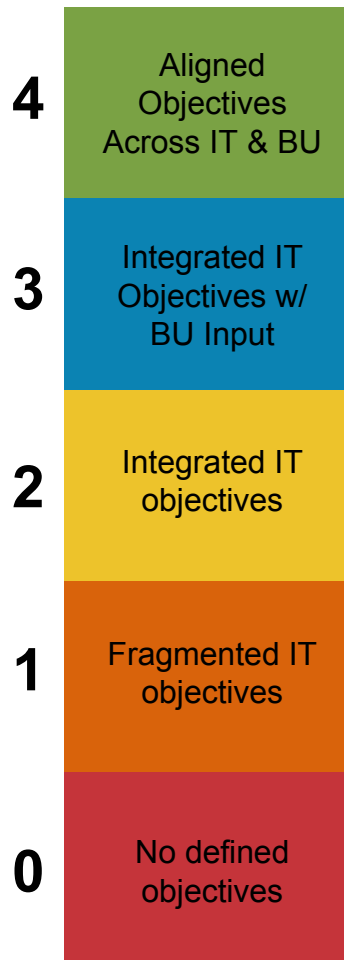


Maximum Leverage Drives IT Efficiency

Our IT Management Model

	Service Levels	Operational Processes	Management Tools	People & Skills	Measurement & Reporting	Monitoring & Management
4	Aligned Objectives Across IT & BU	Processes continuously improved	EM Framework implemented for proactive management	Required skills to support continuous improvement	Real time data available	Value: IT & BU metric linkage
3	Integrated IT Objectives w/ BU Input	Process compliance measured	EM Framework implemented for reactive management	Required skills to manage to target SLAs	Integrated data available for reporting	Service: SLM, Capacity Planning
2	Integrated IT objectives	Key processes standardized	EM Framework partially implemented	Adequate Skills for most situations	Ad hoc reporting on some systems	Proactive: Automation, holistic view
1	Fragmented IT objectives	Islands of process	Fragmented homegrown tools	Peripheral Skill Gaps	Islands of raw data available	Reactive: Islands of monitoring and management
0	No defined objectives	No documented processes	No management tools	Core Skill Gaps	No measurement or reporting	Chaotic: No monitoring & management

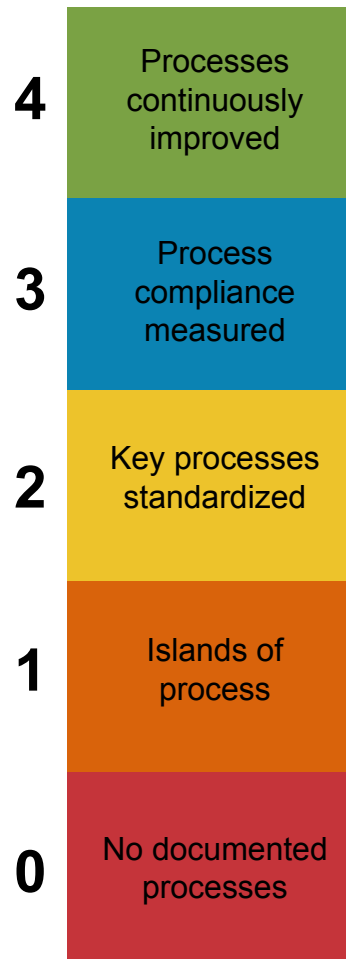
Service Levels



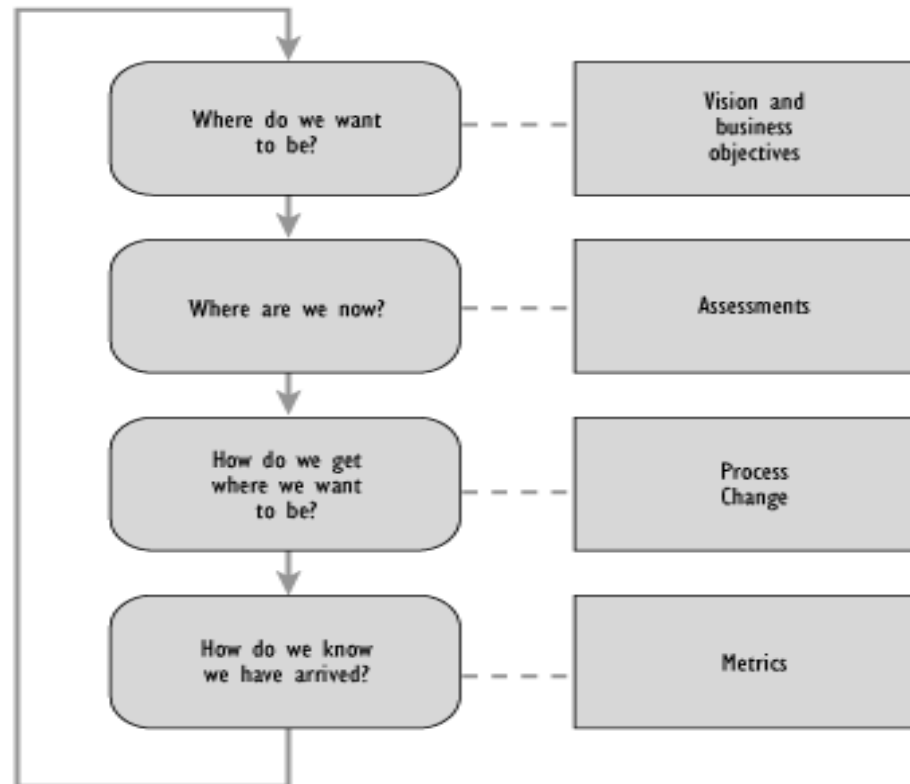
To maintain and gradually improve business aligned IT service quality through a constant cycle of agreeing, monitoring, reporting and reviewing IT service achievements.

All targets contained within a service level agreement should be capable of being monitored and managed (*itSMF, 2001*)

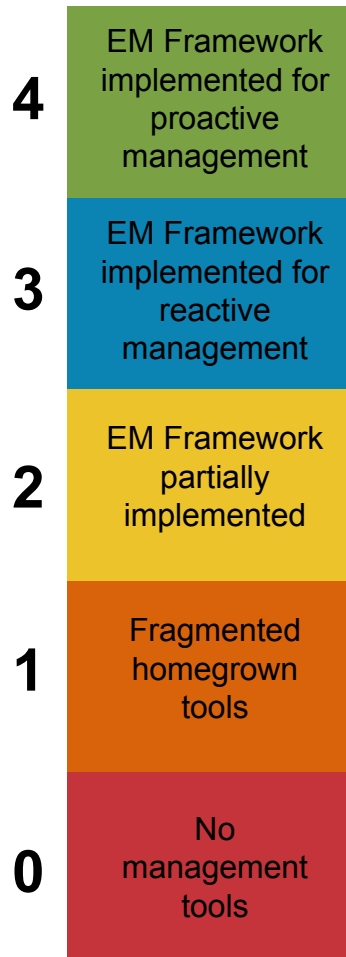
Operational Process



Process improvement is an iterative activity.
(itSMF, 2001)



Management Tools

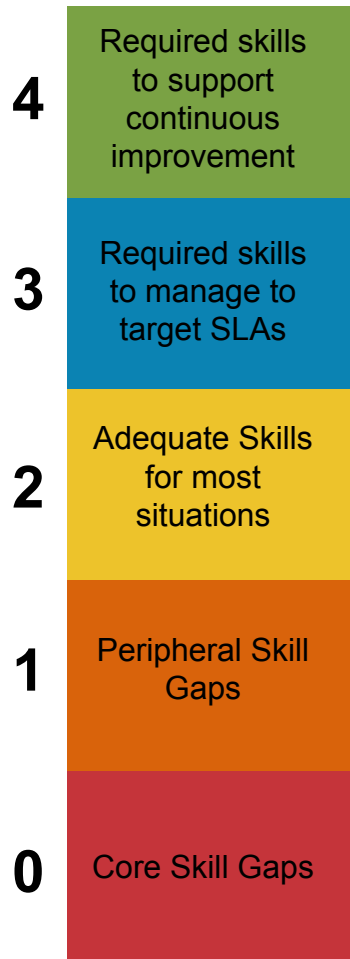


Management tools are technology enablers that assist in the management of IT elements.

Examples are:

- Home-Grown via scripts or build in alarms
- HW vendors such as Compaq Insight Manger or CiscoWorks
- Application vendors such as Oracle Enterprise Manger
- SW vendors like OpenView, Tivolie, Micromuse, CA, NetIQ, etc.

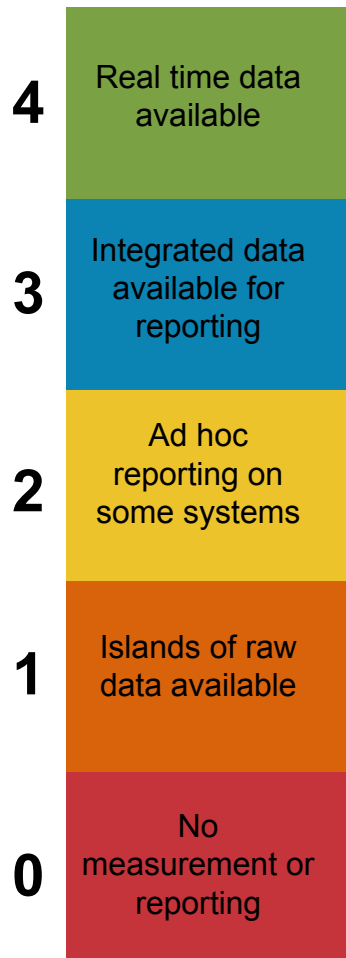
People & Skills



People and their skills are central to the achievement of benefits from IT investments.
(Tony Murphy: Achieving Business value from technology)

- Technical design and implement IT solutions
- Communication of IT solutions and their linkage into business vision
- Operational use and support of IT implementations
- Teaming work within existing organization, virtual and cross-functional teams.

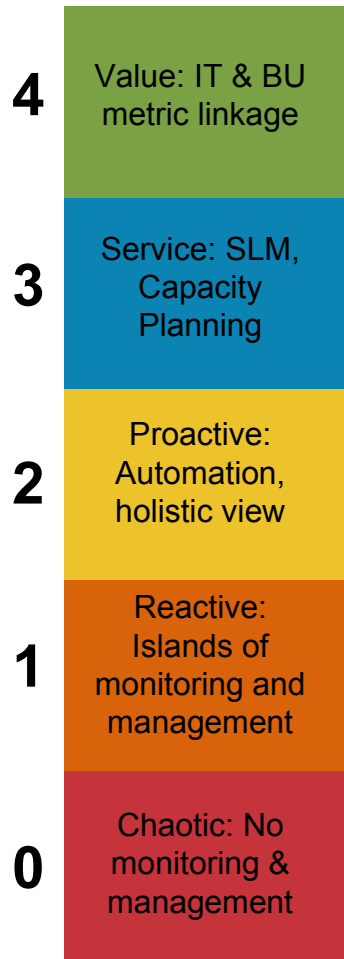
Measurement & Reporting



Ensure that IT processing and capacity provisioned match the evolving demands of the business in a cost effective and timely manner. (*itSMF, 2001*)

- Business Capacity Management to ensure that the future business requirements for IT services are considered, planned and implemented in a timely fashion.
- Resource Capacity Management the management of the IT infrastructure components and ensuring all finite resources are monitored and managed.
- Service Capacity Management to focus on managing the performance of the IT services provided to the customer.

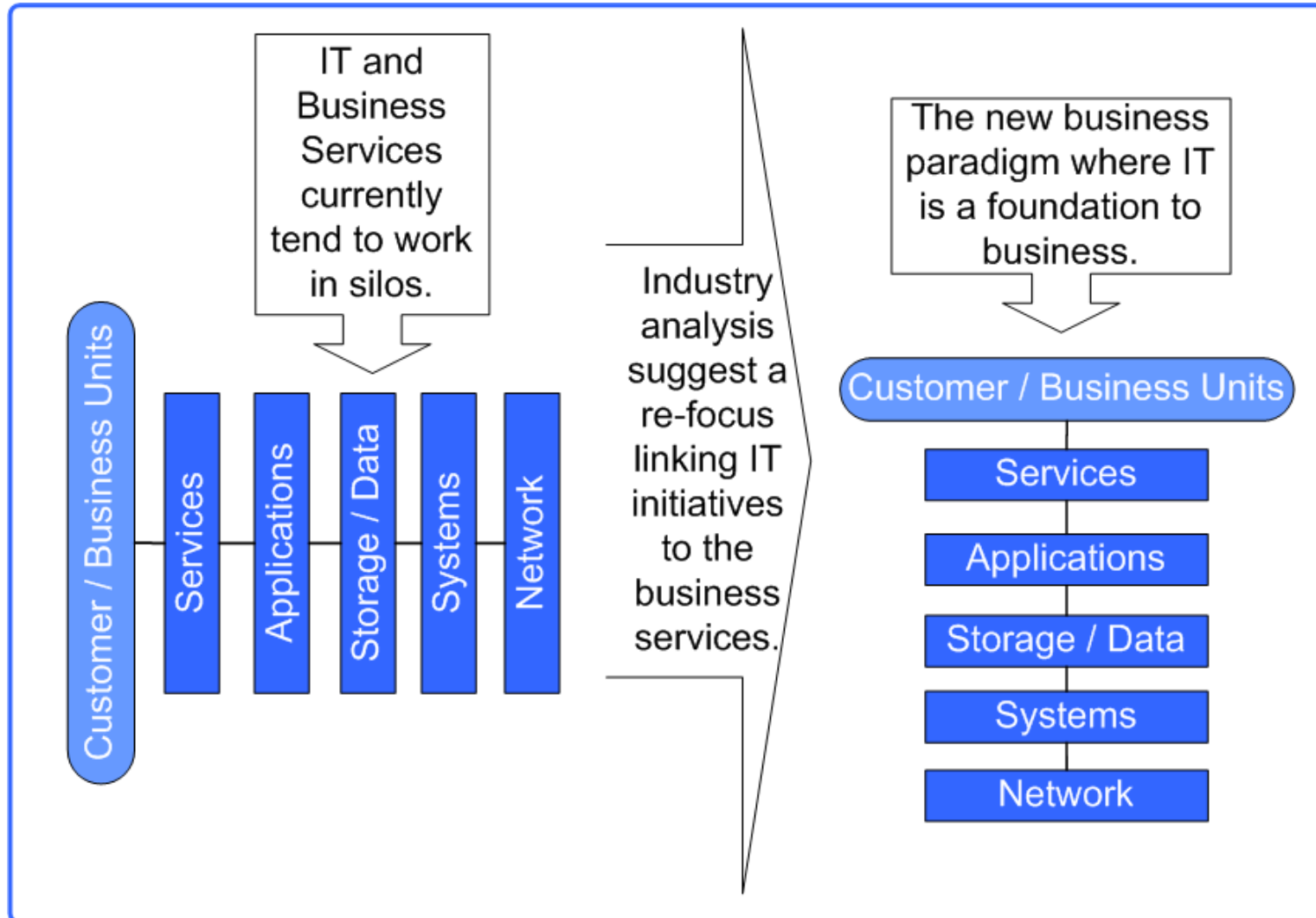
Monitoring & Management



Ensures that IT services are available when the customer needs them. (itSMF, 2001)





- Optimize availability by monitoring and reporting on all key elements of availability.
- Define availability requirements in business terms.
- Collect, analyze and maintain availability data and reporting on that data ensuring services levels are met.
- Predicting and designing for expected levels of availability and security.

Link Business to IT with Enterprise Management



Issue/Gap Analysis

In order to depict our score-card evaluation, each case study uses the issue/gap analysis template to highlight existing environment, the associated impacts, a comprehensive criticality and proposed activities

Issue/Gap	Impact	Criticality	Potential Solutions
			

Issue or gap, either relative to best practices or as the cause of current problems

Impact of issue/gap, if left unresolved, either with the current level of infrastructure load or upon business growth

High/medium/low designation of the criticality of the impact, relative to other identified issues and gaps*

Proposed activities that reduce or eliminate the associated issue/gap

*NOTE: Gaps/Issues were ranked based on the following definitions:

High – Directly impacts companies ability to continuously provide highly available systems to the business.

Medium – Increases companies IT management and operating costs if not completed and has the potential to affect the availability of systems for the business.

Low – Has been identified as a gap within companies existing environment, but provides no direct impact to system availability and does not significantly impact companies operating costs.

Case 1: Manufacturing Client

- Abundant management tools
- Great individual team process and documentation
(One of the best we've ever seen – but all manual)
- Technical and geographical silos

	Service Levels	Operational Processes	Management Tools	People & Skills	Measurement & Reporting	Monitoring & Management
Level 5	Aligned Objectives Across IT & BU	Processes continuously improved	EM Framework implemented for proactive management	Required skills to support continuous improvement	Real time data available	Value: IT & BU metric linkage
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NT Monitoring

NetIQ AppManager

Compaq Insight Manager

UNIX Monitoring

TNG CA Unicenter / BMC

HP EMS

HP Predictive Maintenance

MeasureWare

Citrix Monitoring

RMS

Database

Oracle OEM

Reorg tools (CA / Qwest in evaluation)

NetIQ AppManager for SQL

OneWorld Server Administration WorkBench

Network Monitoring - Internal

OpenView Network Node Manager

Packeteer Packetshaper

CiscoWorks 2000

Visual UpTime

SolarWins

Network Monitoring - External

NetSolve - WAN

Sprint - Firewall

Trending

Performance Monitoring Cube (AppManager / PacketShaper)

MeasureWare

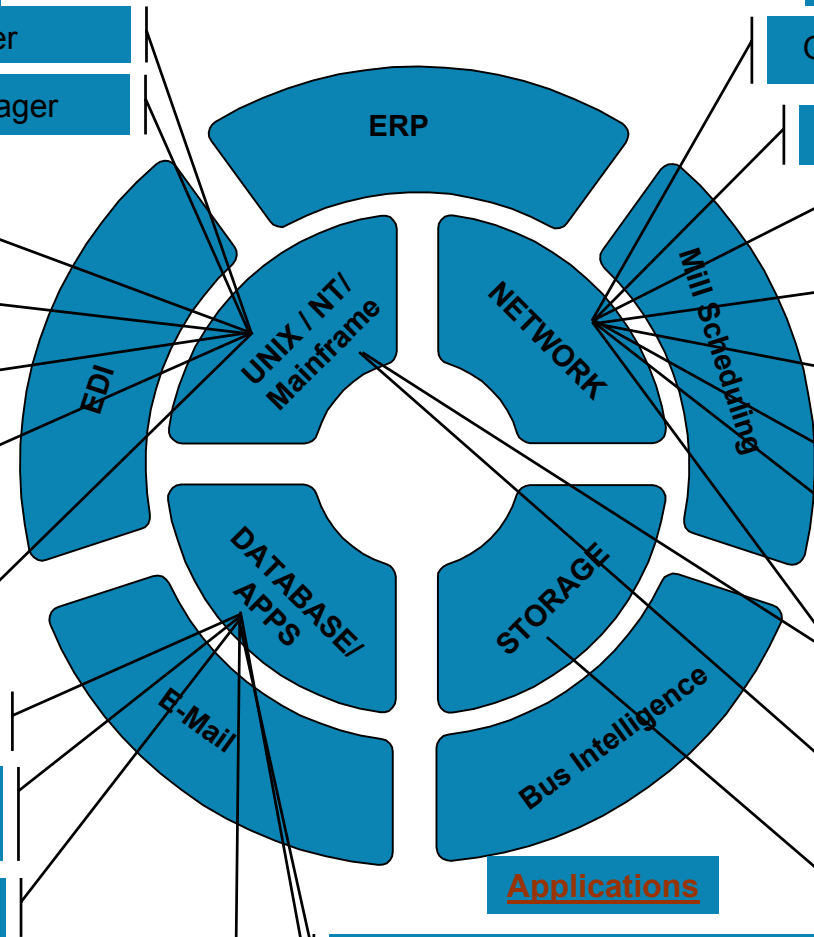
Storage

HP Performance Adviser XP

Applications

BMC Patrol

NetIQ AppManager for MQ Series



Issue/Gap	Impact	Criticality	Potential Solutions
<p>4.1 Large variation of vendor technologies purchased and deployed to manage IT environment.</p>	<ul style="list-style-type: none"> Expensive to maintain both from a software maintenance cost and resource time needed to learn, configure and maintain the tool sets. 	<p>Medium People & Skills</p>	<p>Select and maintain only a sub-set of current tools and implement to full capacity. Determine tool gaps and implement based on complete enterprise management strategy, not team specific.</p>
<p>4.2 Data management is currently a manual process and no storage management tools are in place for the NT and Unix environments.</p>	<ul style="list-style-type: none"> Current data management of user/home directory occurs at the costly Tier-3 support time and resources. SAN architecture does not have the appropriate visibility and control into the data. 	<p>Medium Operational Process</p>	<p>Select and configure a storage management tool to assist in Tier-3 and Tier-2 data management support.</p>
<p>4.3 Management tools used by Tier-3 and Tier-2 are not currently utilized by the Tier-1 or Tier-0. Tier-2 & Tier-3 do not utilize HQ Tier-3 mgmt console.</p>	<ul style="list-style-type: none"> Reallocation of trouble resolution to Tier-2 will be prolonged and limited. Trouble-shooting limited due to inconsistent approach. 	<p>Medium Operational Process</p>	<p>Complete tool design and implementation of tools with ability to share management tools across all HQ and remote support teams, Tier-0, Tier-1, Tier-2, Tier3.</p>
<p>4.4 Regional and HQ enterprise management roles are not coordinated and integrated.</p>	<ul style="list-style-type: none"> As business grows more outages will occur due to a non-cohesive management solution. Too much time spent correlating fault data during the IT trouble-shooting process. 	<p>High Monitoring & Management</p>	<p>Direct all events into a single enterprise management portal where all support teams have access to use the data simultaneously to proactively monitor and trouble-shoot.</p>

Issue/Gap	Impact	Criticality	Potential Solutions
<p>4.5 No correlation of fault events. Although many tools have been implemented, there is no way to correlate which pieces of IT are affecting a services.</p>	<ul style="list-style-type: none"> ▪ Event management is disparate and non-uniform between HQ and regions. No common way to view how IT is affecting overall business applications. 	<p>High</p> <p>Management Tools</p>	<p>Design an enterprise management solution that allows for event correlation to proactively diagnose root-cause. Used by all Tier-0, Tier-1, Tier-2 & Tier-3 personnel to share fault and performance data simultaneously.</p>
<p>4.6 Trend, capacity, outage reports are not capable of supporting the current service level agreements in place.</p>	<ul style="list-style-type: none"> ▪ Lack of a cohesive solution across all IT functions is causes the inability to accurately manage SLAs, forecast capacity and budget future needs. ▪ Manual process today is very time consuming. 	<p>Medium</p> <p>Management Tools</p>	<p>Develop solution that will automate and maintain reports over time and allow for ease of viewing from all IT support teams.</p>
<p>4.7 Time and prioritization of skills, technology training on tools and the technology transfer between Tier-3, Tier-2 and Tier-1 support.</p>	<ul style="list-style-type: none"> ▪ Lack of success for individual teams' goals. ▪ Minimal use of current enterprise management tools. 	<p>Medium</p> <p>People & Skills</p>	<p>Need to create project to “catch-up” on all current deployments. Add larger support/management transfer into all future projects to ensure people, process and technology are in place to support and manage every solutions.</p>

1.) CORE TOOL SET SELECTION – Fault Management

- NT Monitoring – Net IQ
- UNIX Monitoring – BMC
- Citrix Monitoring - RMS
- Applications – BMC / Net IQ
- Database – BMC / Net IQ
- Storage – TBD
- Network Monitoring – Internal Packeteer, Visual Uptime, HP Node Mgr.
- Network Monitoring - External

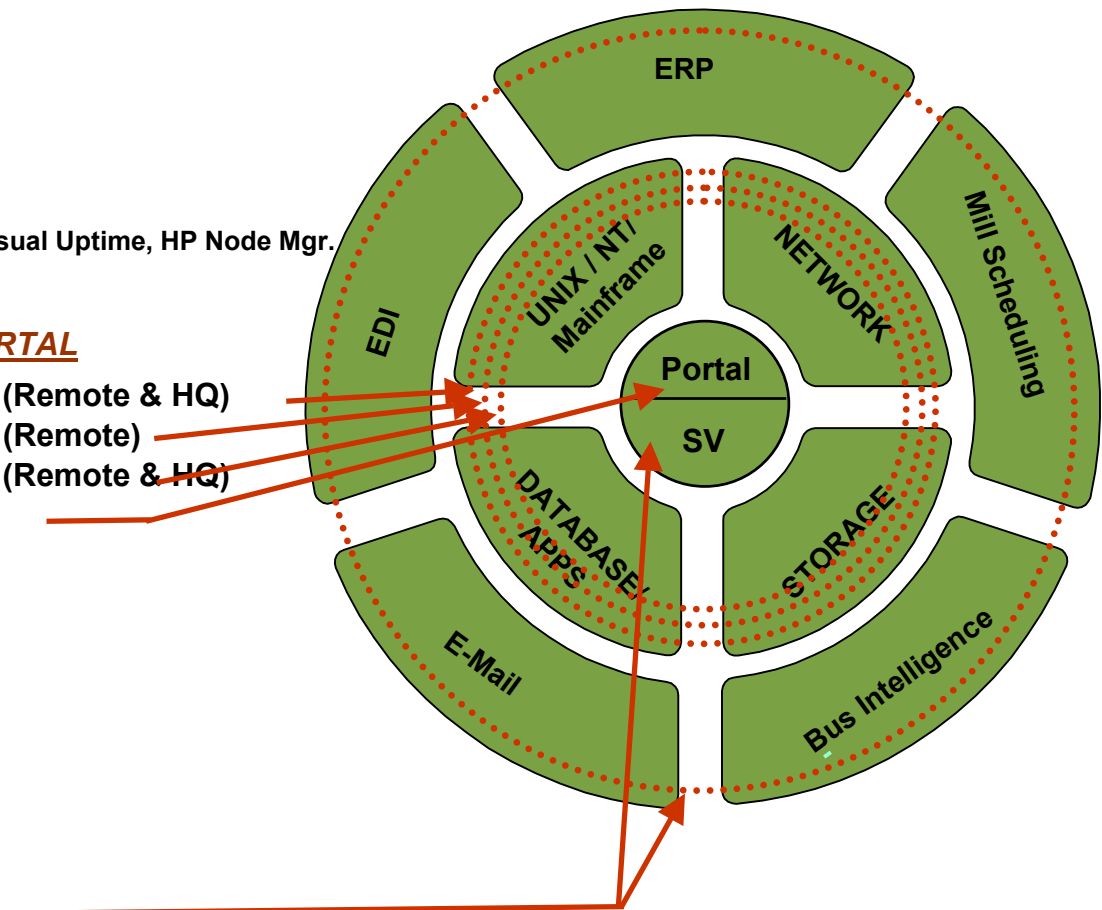
2.) CORE TOOL SET CONFIGURATION & PORTAL

- Tools Deployed & Configured for – Tier-3 (Remote & HQ)
- Tools Deployed & Configured for – Tier-2 (Remote)
- Tools Deployed & Configured for – Tier-1 (Remote & HQ)
- Portal Views Build – Tier-3, Tier-2, Tier1

3.) SLA Management

- NT
- UNIX
- Citrix
- Applications
- Database
- Storage
- Network Monitoring

4.) Service Views – Link IT with Business



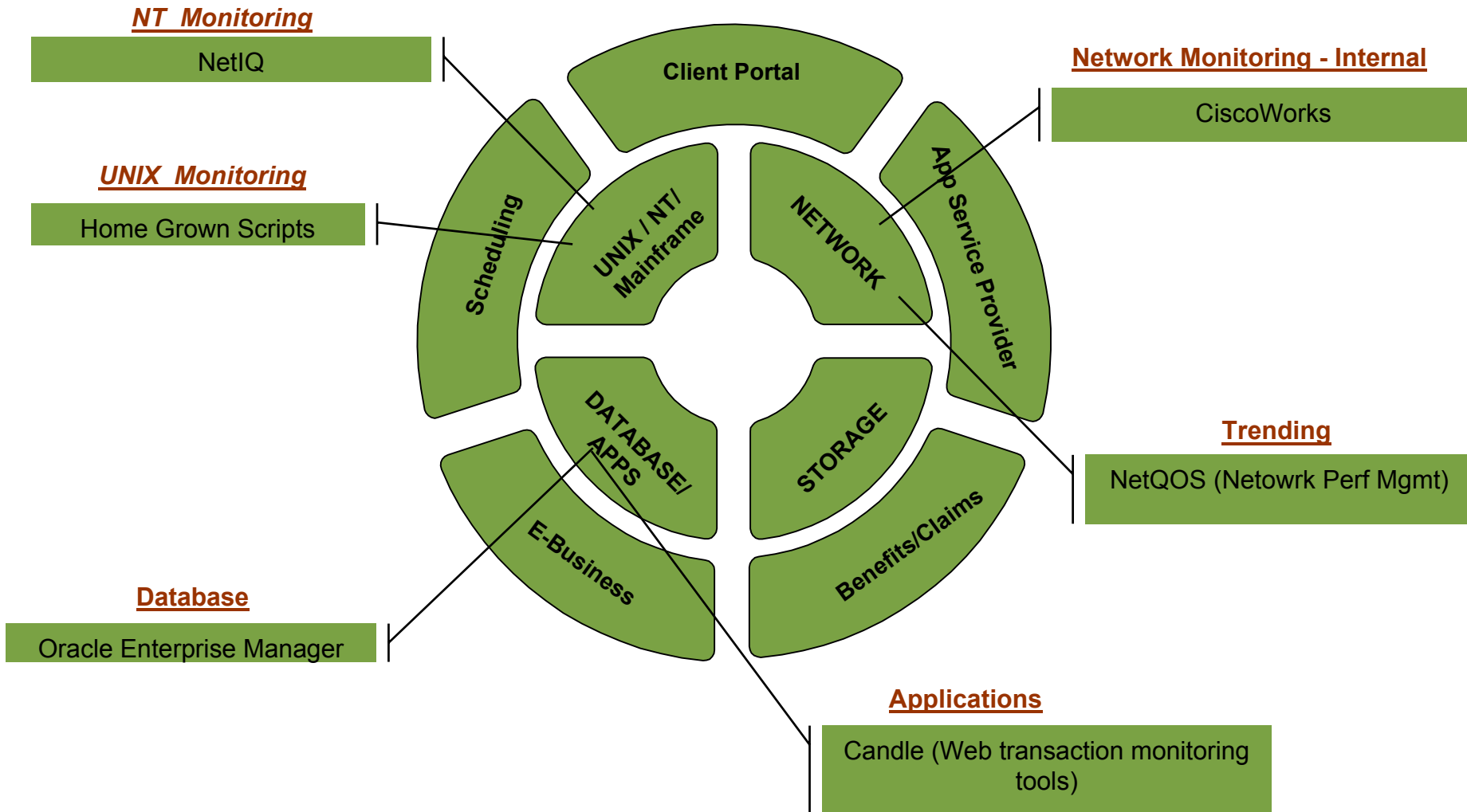
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Case 2: Application Service Provider



- Minimal management tools
- New business, new teams, minimal process
- Business 100% reliant on IT

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Issue/Gap	Impact	Criticality	Potential Solutions
<p>2.1 Missing pro-active management of critical applications, systems and network that support client-interfacing business.</p>	<ul style="list-style-type: none"> ■ Business dependence on IT is critical yet current environment has large gaps in the monitoring and management of the IT infrastructure. Availability is not predictable. 	<p>High</p> <p>Management Tools</p>	<p>Define a complete enterprise management strategy, not team specific.</p> <p>Determine tool gaps and select tool set that fills management and monitoring requirements.</p> <p>Provide one central console with capability to integrate current monitoring solutions.</p>
<p>2.2 IT support teams work in silos with limited communication.</p>	<ul style="list-style-type: none"> ■ IT teams not fully aware of business impacts due to IT. 	<p>Medium</p> <p>Operational Process</p>	<p>Re-organization or creation of virtual teams that provide guidance and decisions while merging IT process around the business instead of technology</p>
<p>2.3 Minimal service level management and reporting</p>	<ul style="list-style-type: none"> ■ Existing management tools are incapable of providing views into IT and service impact. ■ Lack of reporting to Customer Service Level Agreement compliance. ■ IT's impact to the business impact not being measured or monitored 	<p>High</p> <p>Monitoring & Management</p>	<p>Build service views that link to client service level agreement. Provide support personnel the information and ability to prioritize support based on service level compliance.</p>
<p>2.4 Tool integration into a centralize management console with both change and asset management</p>	<ul style="list-style-type: none"> ■ Inability to link IT events to assist. ■ Business is impacted due to informal change management policy. 	<p>Medium</p> <p>Operational Process</p>	<p>Follow IT Infrastructure Library (ITIL) best practices and begin implementing change and asset management into the enterprise management solution.</p>

Network Monitoring – HPOV & CiscoWorks

1.) CORE TOOL SET INTEGRATION – Performance & Fault Management

NT & App Monitoring – Net IQ
UNIX & App Monitoring – HPOV
UNIX Database – HPOV
UNIX Scheduling – HPOV
Network Monitoring – HPOV & CiscoWorks
CRM – Onyx link into HPOV
Service Views – HPOV
UNIX Reporting – HPOV
Notification - TelAlert

2.) CORE TOOL SET ENHANCED MANAGEMENT – Service Views, Performance & Fault Cont.

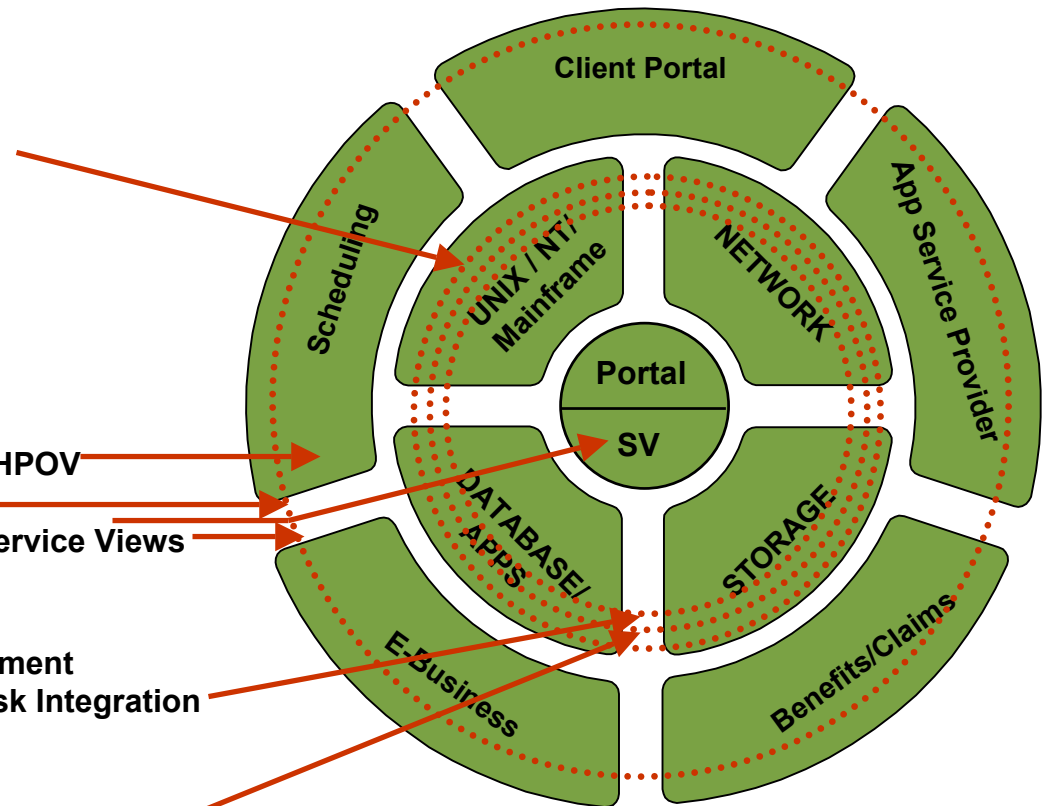
Advanced Job Scheduling Management using HPOV
Network Management link to Service Views
Advanced Application Management linked to Service Views

3.) Configuration Management

ITIL Foundations Training w/ Discovery Assessment
Configuration Management – HPOV Service Desk Integration

4.) Change Management

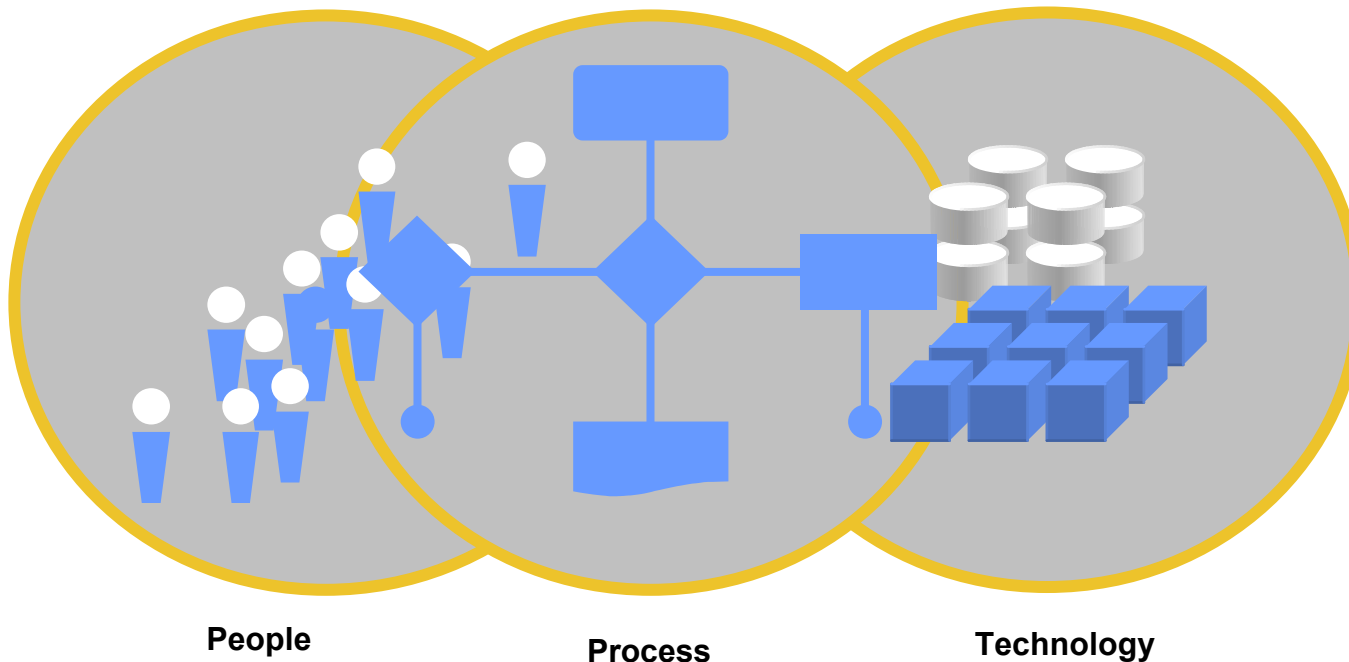
Change Management – HPOV Service Desk Integration



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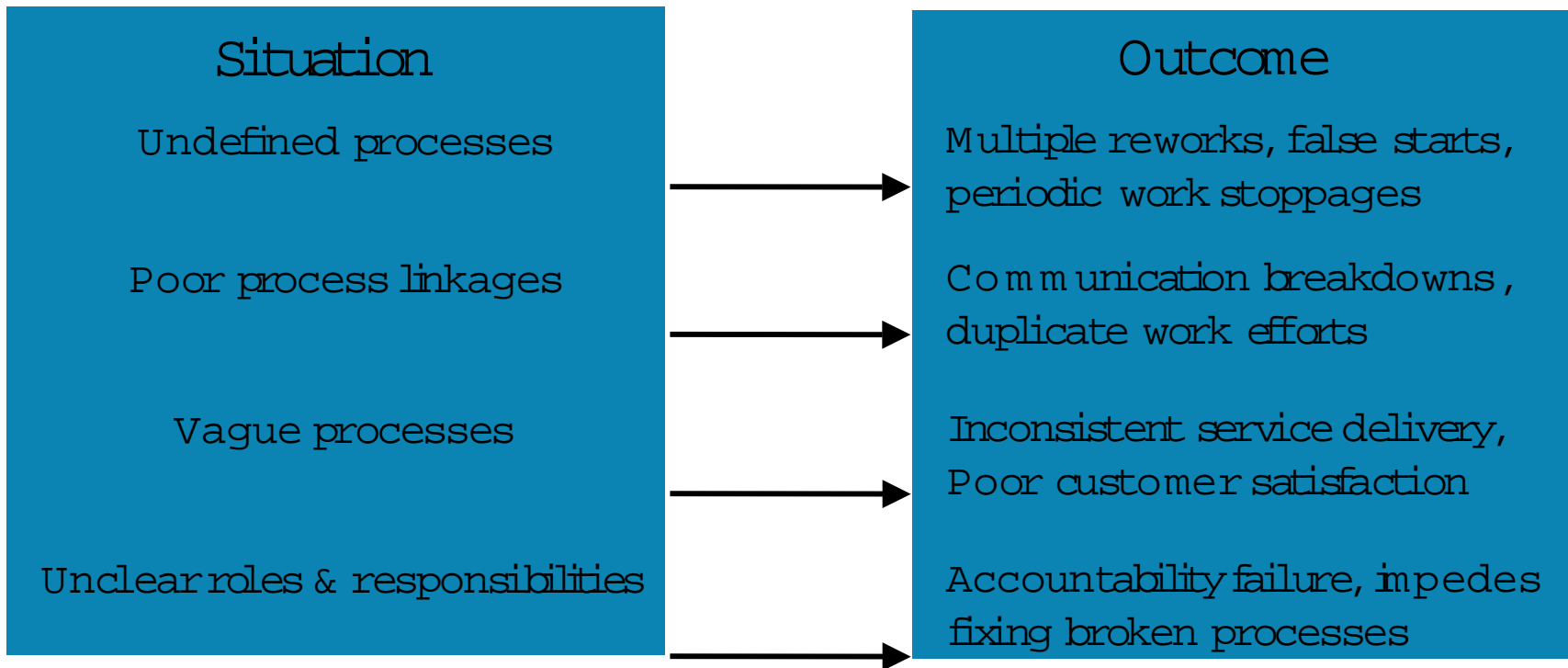
Findings & Conclusions:

IT Management: Is a convergence of people, process and technology



The Importance of "Process"

Why technology alone is not the solution ...



if you can't measure it, you can't improve it! (*OpenView*)

Build Your Enterprise Management Solution to be...



- An enabler of value creation bridging the gap between technology and business.
- A guardian of the value chain communicating results to the end users
- A solution supporting change bring people, process and technology together in planned ways with measurable results.

Not a ...

- Shelf-ware Software Investment with no ROI
- Chaotic IT Department