ID 1244

IT Management:
A convergence of people, process and technology

Laury Behrens
Director of Enterprise Management

(Recognition to Forsythe Consulting Organization, SevenSpace, InterPromUSA and HP)

What is Enterprise Management?

[Diagram showing various components such as ERP, CRM, Network, Storage, Data, IT, Maintenance, E-Sale]
Enterprise Management (EM) is:

- Cost Management
- Service Level Management
- Visibility
- Control

Gartner IT Management Process Maturity:

<table>
<thead>
<tr>
<th>Level</th>
<th>Maturity</th>
<th>Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Value</td>
<td>IT/Business Metric Linkage</td>
</tr>
<tr>
<td>3</td>
<td>Service</td>
<td>Portal, Capacity Planning, Service-Level Management</td>
</tr>
<tr>
<td>2</td>
<td>Proactive</td>
<td>Perform, Change, Problem, Config., Availability Management, Automation</td>
</tr>
<tr>
<td>1</td>
<td>Reactive</td>
<td>Event Up/Down, Console, Trouble Ticket, Backup, Topology, Inventory</td>
</tr>
<tr>
<td>0</td>
<td>Chaotic</td>
<td>Minimal IT Operations Process, Reactive Notification</td>
</tr>
</tbody>
</table>
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 Maturity Model

<table>
<thead>
<tr>
<th>Service Levels</th>
<th>Operational Processes</th>
<th>Management Tools</th>
<th>People &amp; Skills</th>
<th>Measurement &amp; Reporting</th>
<th>Monitoring &amp; Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Integrated IT objectives</td>
<td>Process compliance measured</td>
<td>EM Framework implemented for reactive management</td>
<td>Required skills to manage to target SLAs</td>
<td>Integrated data available for reporting</td>
</tr>
<tr>
<td>3</td>
<td>Integrated IT objectives</td>
<td>Key processes standardized</td>
<td>EM Framework partially implemented</td>
<td>Adequate Skills for most situations</td>
<td>Ad hoc reporting on some systems</td>
</tr>
<tr>
<td>2</td>
<td>Fragmented IT objectives</td>
<td>Islands of raw data available</td>
<td>Reactive: Islands of monitoring and management</td>
<td>Reactive: Islands of monitoring and management</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Fragmented IT objectives</td>
<td>Islands of raw data available</td>
<td>Reactive: Islands of monitoring and management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Fragmented IT objectives</td>
<td>Islands of raw data available</td>
<td>Reactive: Islands of monitoring and management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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. (Copyright itSMF, 2001)
Management Tools

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

- **Home-Grown** via scripts or built-in alarms
- **HW vendors** such as Compaq Insight Manager or CiscoWorks
- **Application vendors** such as Oracle Enterprise Manager
- **SW vendors** like OpenView, Tivoli, 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. (BSMF, 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. (BSMF, 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.
In order to depict our score-card evaluation each case study uses the below issue/gap analysis template to highlight existing environment, the associated impacts, a comprehensive criticality and proposed activities.

<table>
<thead>
<tr>
<th>Issue/Gap</th>
<th>Impact</th>
<th>Criticality</th>
<th>Potential Solutions</th>
</tr>
</thead>
</table>

*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
Select and maintain only a subset of current tools and implement to full capacity.

Determine tool gaps and implement based on complete enterprise management strategy, not team specific.

4.2

Large variation of vendor technologies purchased and deployed to manage IT environment.

Select and configure a storage management tool to assist in Tier-3 and Tier-2 data management support.

4.3

Data management is currently a manual process and no storage management tools are in place for the NT and Unix environments.

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.

4.4

Management tools used by Tier-3 and Tier-2 are not currently utilized by the Tier-1 or Tier-2. Tier-2 & Tier-3 do not utilize HP Tier-3 mgmt console.

Complete tool design and implementation of tools with ability to share management tools across all HP and remote support teams, Tier-0, Tier-1, Tier-2, Tier-3.

4.5

Regional and HQ enterprise management roles are not coordinated and integrated.

Direct all events into a single enterprise management portal where all support teams have access to use the data simultaneously to proactively monitor and troubleshoot.
### Issue/Gap

| 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. | Event management is disparate and non-uniform between HQ and regions. No common way to view how IT is affecting overall business applications. | High Management Tools | 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. |
| 4.6 | Trend, capacity, outage reports are not capable of supporting the current service level agreements in place. | Lack of a cohesive solution across all IT functions is causes the inability to accurately manage SLAs, forecast capacity and budget future needs. | Medium Management Tools | Develop solution that will automate and maintain reports over time and allow for ease of viewing from all IT support teams. |
| 4.7 | Time and prioritization of skills, technology training on tools and the technology transfer between Tier-3, Tier-2 and Tier-1 support. | Lack of success for individual teams' goals. Minimal use of current enterprise management tools. | Medium People & Skills | 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. |

### Potential Solutions

<p>| Management Tools | Management Tools | People &amp; Skills |
| ERP | EDI | NETWORK |
| DATABASE | APPS | STORAGE |
| Mill Scheduling | Bus Intelligence | UNIX / NT/ Mainframe |
| 1.) CORE TOOL SET SELECTION – Fault Management |
| NT UNIX Citrix Applications Database Storage Network Monitoring | 4.) Service Views – Link IT with Business |</p>
<table>
<thead>
<tr>
<th>Level</th>
<th>Service Levels</th>
<th>Operational Processes</th>
<th>Management Tools</th>
<th>People &amp; Skills</th>
<th>Measurement &amp; Reporting</th>
<th>Monitoring &amp; Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 5</td>
<td>Aligned Objectives Across IT &amp; BU</td>
<td>Processes continuously improved</td>
<td>EM Framework implemented for proactive management</td>
<td>Required skills to support continuous improvement</td>
<td>Real time data available</td>
<td>Value: IT &amp; BU metric linkage</td>
</tr>
<tr>
<td>Level 4</td>
<td>Integrated IT Objectives w/ BU Input</td>
<td>Process compliance measured</td>
<td>EM Framework implemented for reactive management</td>
<td>Required skills to manage to target SLAs</td>
<td>Integrated data available for reporting</td>
<td>Service: SLM, Capacity Planning</td>
</tr>
<tr>
<td>Level 3</td>
<td>Integrated IT objectives</td>
<td>Key processes standardized</td>
<td>EM Framework partially implemented</td>
<td>Adequate Skills for most situations</td>
<td>Ad hoc reporting on some systems</td>
<td>Proactive: Automation, holistic view</td>
</tr>
<tr>
<td>Level 2</td>
<td>Fragmented IT objectives</td>
<td>Islands of process</td>
<td>Fragmented homegrown tools</td>
<td>Peripheral Skill Gaps</td>
<td>Islands of raw data available</td>
<td>Reactive: Islands of monitoring and management</td>
</tr>
<tr>
<td>Level 1</td>
<td>No defined objectives</td>
<td>No documented processes</td>
<td>No management tools</td>
<td>Core Skill Gaps</td>
<td>No measurement or reporting</td>
<td>Chaotic: No monitoring &amp; management</td>
</tr>
</tbody>
</table>

Case 2: Application Service Provider

- Minimal management tools
- New business, new teams, minimal process
- Business 100% reliant on IT
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
Level 4 | 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
Level 3 | 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
Level 2 | Fragmented IT objectives | Islands of process | Fragmented homegrown tools | Peripheral Skill Gaps | Islands of raw data available | Reactive: Islands of monitoring and management
Level 1 | No defined objectives | No documented processes | No management tools | Core Skill Gaps | No measurement or reporting | Chaotic: No monitoring & management

**Benefits/Claims**
- CiscoWorks
- Oracle Enterprise Manager
- NetIQ
- Trending
- Candle (Web transaction monitoring tools)
Define a complete enterprise management strategy, not team specific. Determine tool gaps and select tool set that fills management and monitoring requirements. Provide one central console with capability to integrate current monitoring solutions.

<table>
<thead>
<tr>
<th>Issue/Gap</th>
<th>Impact</th>
<th>Criticality</th>
<th>Potential Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Missing pro-active management of critical applications, systems and network that support client-interfacing business.</td>
<td>• 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.</td>
<td>High Management Tools</td>
<td>Define a complete enterprise management strategy, not team specific. Determine tool gaps and select tool set that fills management and monitoring requirements. Provide one central console with capability to integrate current monitoring solutions.</td>
</tr>
<tr>
<td>2.2 IT support teams work in silos with limited communication.</td>
<td>• IT teams not fully aware of business impacts due to IT.</td>
<td>Medium Operational Process</td>
<td>Re-organization or creation of virtual teams that provide guidance and decisions while merging IT process around the business instead of technology.</td>
</tr>
</tbody>
</table>
| 2.3 Minimal service level management and reporting                       | • 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 | High Monitoring & Management | 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. |
| 2.4 Tool integration into a centralize management console with both change and asset management | • Inability to link IT events to assist.  
• Business is impacted due to informal change management policy. | Medium Operational Process | Follow IT Infrastructure Library (ITIL) best practices and begin implementing change and asset management into the enterprise management solution. |

**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
Findings & Conclusions:

IT Management: Is a convergence of people, process and technology
The Importance of “Process”
why technology alone is not the solution?

Situation
- Undefined processes
- Poor process linkages
- Vague processes
- Unclear roles & responsibilities

Outcome
- Multiple reworks, false starts, periodic work stoppages
- Communication breakdowns, duplicate work efforts
- Inconsistent service delivery, Poor customer satisfaction
- Accountability failure, impedes fixing broken processes

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