How to Drive Business Value with Capacity Management

18 July 2017
Your Presenter

- Jim Smith
The Building Blocks

Executive Buy-in

Benefits realization
Assessment
Roles and responsibilities
Strategy
Toolset exploitation
Charge/Show Back model
Demand Management
Reporting
Assessment Feedback

- Maturity Level
- GAP Analysis
- Roadmap
- RACI
- Balance Strategy & Operations
- Toolset Exploitation
- Cost Avoidance & Benefits
IT Service Optimization

Input → Output

Data
- Discover and manage

Analytics
- Analyze and transform

Decision support
- Contextualize to influence

People
- Chaotic
- Reactive
- Proactive
- Service
- Value

Process

Tools

Copyright © 2017 TeamQuest, A HelpSystems Company. All Rights Reserved.
IT Maturity Questions

**Level 1: Chaotic**
- Ad hoc
- Notifications via user calls
- No centralized help desk
- No infrastructure management

**Level 2: Reactive**
- Component view
- Firefighting
- Alert & event monitoring
- Formalized incident reporting
- Siloed responsibility for technology

**Level 3: Proactive**
- Workload view
- Predict, prevent performance problems
- Trending
- Availability management
- Standardized toolset across technologies

**Level 4: Service**
- Service view
- Monitor & report on services
- Service level agreements
- Scenario-based capacity planning
- Influence usage through chargeback

**Level 5: Value**
- Business process view
- Link IT services to business processes
- Report in business terms
- Measure process efficiency & effectiveness
- Weigh costs against benefits & risks
- Continuous service improvement
Actual Maturity Level

53% Actually assess at the Chaotic Level

53% Believe they are at the Service Level

42% Actually assess at the Service Level

56% Believe they are at the Service Level
Use "Introducing the Gartner IT Infrastructure and Operations Maturity Model" (G00147962) for guidance.

Each step along the way represents increased business value.

Investment made in People, Process, Technology.

1. Reactive: Real-Time Monitoring
2. Committed: Historical Analysis
3. Proactive: Resource Capacity Planning
4. Service Aligned: IT Service Capacity Planning

Where are you?
Defining a Capacity Management Roadmap
GAP Analysis

- Value of capacity management questioned
- Communications within teams not aligned
- Capacity processes not documented
- Scope of capacity management not fully understood
- Capacity policy not supported by all concerned parties
- Roles and responsibilities (RACI) not created
- No visibility of future infrastructure (demand)
- No standardized format / template for monthly reporting
- No analysis from monthly capacity reports
- No virtual team established (capacity champions)
- Teams bypassing capacity management processes
- Weak CMDB (configuration management database)
- OLAs not aligned to capacity management
# Roadmap

<table>
<thead>
<tr>
<th>Assessment of policies, processes, and SLAs</th>
<th>Reporting at various levels</th>
<th>Planning and strategy</th>
<th>Cost avoidance</th>
<th>Demand Management</th>
<th>Continuous Service Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Review current reports</td>
<td>• Create capacity dashboard</td>
<td>• Address risk assessment</td>
<td>• Review cost savings initiatives</td>
<td>• Gather and analyze infrastructure demand</td>
<td>• Re-assess progress</td>
</tr>
<tr>
<td>• Establish virtual operational team</td>
<td>• Amend monthly capacity reports</td>
<td>• Create capacity plan</td>
<td>• Backup strategy</td>
<td>• Create visibility of project demand</td>
<td>• Re-position</td>
</tr>
<tr>
<td>• Identify all data sources</td>
<td>• Validate data from service providers</td>
<td>• (Ops &amp; Strategic)</td>
<td>• Archiving/data solutions</td>
<td>• Attach cost to infrastructure required</td>
<td>• Roadmap creation</td>
</tr>
<tr>
<td>• RACI based upon policy and processes</td>
<td>• Identify gaps in reporting</td>
<td>• Assess reliability and availability improvements</td>
<td>• Storage reclamation</td>
<td>• Communication of yearly achievements</td>
<td>• Demand Management</td>
</tr>
<tr>
<td>• Review SLA/OLA with service providers</td>
<td>• Review events, incidents etc.</td>
<td>• Understand sources of capacity demand</td>
<td>• Review all POCs and clean up</td>
<td>• Review capacity plan</td>
<td>• Continuous Service Improvement</td>
</tr>
<tr>
<td>• Presentation to stakeholders</td>
<td>• Exploit toolsets in environments</td>
<td>• Create a draft demand calendar</td>
<td>• Virtualization targets</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Mature reporting</td>
<td>• Align planning and operational growth</td>
<td>• Consolidation targets</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Timeframes are dependent on resources allocated and priorities attached to each subset.
Assessment of maturity of capacity management processes and review or create policies, SLAs, & OLAs

Define reports and dashboards for capacity management

Review/create capacity risk management report forum

Timeline

Q1

Establish and contract a virtual team across company

Q2

Review existing toolsets, data source validation, and address gaps

Q3

Create demand calendar, ensure alignment with ITIL.

Q4

Cost avoidance strategy and benefits realization. Create a capacity plan.
Toolset Exploitation

Capacity Planner
- Projects
- Demand calendar
- Architecture designs
- Unknown demand
- Trends
- Thresholds
- Reduce timeframes
- Improve availability

Environments
- Networks
- Mainframe
- Open Systems
- Storage
- Databases
- EUC
- Datacentre
- Thresholds

Services
- Configuration
- Alerting
- SLAs
- Availability
- Monitoring
- Licensing

Reporting
- Monthly capacity reports
- Risk
- Licensing
- Cloud
- Incidents
- Monitoring
- Trending

Evaluation Criteria
- Manager of managers
- Infrastructure monitoring
- Off-shelf application plugins
- Availability reporting
- Service level management
- Integration with service desk
- Custom agents for integration and applications
Toolset Drives Maturity

Driver

Chaotic

Reactive

Proactive

Service

Value

Data

Analytics

Decision support

Identify and manage

Analyze and transform

Contextualize to influence
<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Identify capacity metrics for collection</td>
</tr>
<tr>
<td>18</td>
<td>Identify if appropriate tools are available for these metrics</td>
</tr>
<tr>
<td>19</td>
<td>Motivate/Procur and obtain approval for respective tools</td>
</tr>
<tr>
<td>20</td>
<td>Maintain tools and procedures</td>
</tr>
<tr>
<td>21</td>
<td>Run data collection and monitor metrics</td>
</tr>
<tr>
<td>22</td>
<td>Validate data collection</td>
</tr>
<tr>
<td>23</td>
<td>Summarise historic data</td>
</tr>
<tr>
<td>24</td>
<td>Define monitoring and reporting guidelines</td>
</tr>
<tr>
<td>25</td>
<td>Report on capacity and performance</td>
</tr>
<tr>
<td>26</td>
<td>Analyse current system data and reports</td>
</tr>
<tr>
<td>27</td>
<td>Conduct and attend capacity risk forum</td>
</tr>
<tr>
<td>28</td>
<td>Identify and resolve capacity issues/risks</td>
</tr>
<tr>
<td>29</td>
<td>Communicate to service level management</td>
</tr>
<tr>
<td>30</td>
<td>Gather an collect baseline data</td>
</tr>
<tr>
<td>31</td>
<td>Apply calibration (if applicable)</td>
</tr>
<tr>
<td>32</td>
<td>Analyse baseline data for relevant peak periods</td>
</tr>
<tr>
<td>33</td>
<td>Apply legacy and seasonal growth to baseline</td>
</tr>
<tr>
<td>34</td>
<td>Apply new initiative requirements to baseline</td>
</tr>
<tr>
<td>35</td>
<td>Verify growth with assumptions</td>
</tr>
<tr>
<td>36</td>
<td>Document external factors affecting growth</td>
</tr>
<tr>
<td>37</td>
<td>Analyze resource constraints and potential hot spots</td>
</tr>
<tr>
<td>38</td>
<td>Define minimum requirements</td>
</tr>
<tr>
<td>39</td>
<td>Ascertain tuning or optimisation potential</td>
</tr>
</tbody>
</table>
Strategic vs. Operational
Industry Standard vs. New ITIL Methodology

Operational
- Application sizing
- Real-time monitoring
- Performance tuning
- Reclamation targets
- Gathering data

Strategic
- Replacement strategy
- Lifecycle management
- Dashboard creation
- Budget cycle input
- Capacity procurement
- Monthly MANCO reports

Capacity Planner (Analyst)
- Service providers
- Networks team
- End user computing team
- Storage team
- Open systems
- Applications

Capacity Manager–EUC
- Networks–Mainframe
- Storage–DBA

• Service providers
• Network team
• End user computing team
• Mainframe team
• Open systems & storage team
• Clients
ITIL Service Strategy: People Process

Operational
20%

VS

Strategic
80%
Value Add

Meetings & Toolsets

Collect Data
Where?

Analysis
What?

Noise Reduction

Level of Maturity

Recommendation
Why?

Chaotic
Reactive
Proactive
Service
Value

Copyright © 2017 TeamQuest, A HelpSystems Company. All Rights Reserved.
Artifacts of monitoring as a discipline in their organization
Creating Value and Realizing Savings
Opportunities for Cost Optimization

- Duplication and redundancy
- Dormant or outdated assets
- Wasteful consumption or demand
- Portfolio Management
- Lifecycle Management
- Capacity Management
Why Capacity Management?

Resilience
- Proactive mitigation of risks
- Replacement of man. processes
- Informed risk exposure

Efficiency
- Defeat over-/under provision.
- Reclaim unused resources
- Automated and unified tools and processes

Agility
- Clarity about current positions
- Confid. in forecasting ability
- Max. exploitation of opportunities
Drivers of Excess Demand and Consumption

• Self-service provisioning
• Vendor estimates/recommendations taken at “face value”
• Lack of sizing guidelines and reviews
• Public cloud services treated like traditional on-premises resources
• Virtual machines rarely returned or deleted after end of life
Managing Consumption and Demand

- Use of standard configurations (S-M-L)
- Assess feasibility, challenge assumptions
- Increased customer engagement and active demand management
Demand Process

Identify business unit owners
Create monthly forum for discussion
Document each business unit’s requirements
Translate business requirements into IT requirements
Map demand to Supply
Initiate recl. strat. or procurement strategy
Present demand report monthly

Projections
Business Growth
- Projection: 5%
- Projection: 12%
- Projection: 15%
- Projection: 17%

Probability Rating
- Quarter 1: 80%
- Quarter 2: 60%
- Quarter 3: 50%
- Quarter 4: 30%

- Be present at monthly business meeting(s)
- Translate business into IT infrastructure requirements
- Present KNOWN Growth, cater for unknown growth
- Understand 3–6 months demand (IT & business)
- Highlight demand at risk and dependencies

Demand Calendar
Managing Consumption and Demand

- Discovery of unused or over-provisioned assets
- Reclamation of resources supported by a formal policy
- Close the feedback-loop to improve future estimates

Proactive -> Investment -> Reactive
Process Flow for Reclamation

**Identify**
- Surveyor to identify targets based on 3-month analysis of performance metrics.
- Delete or resize virtual machine VM Targets

**Verify**
- Server owner notified of pending action to server
- Opportunity to provide updates on infrastructure

**CAB**
- IT executive to ensure due process was followed
- Target list must be attached to approval email

**Reclaim**
- Approval from CAB and all potential parties informed of change

**CMDB**
- IT team action change request and ensure that CMDB is updated

**Monitor**
- IT team

**SME Approval**

**Change Advisory Board**

**Capacity Team**
- Report on quarterly reclamation
- Provide infrastructure charge-out model
Managing Consumption and Demand

- **Activity-based costing**: Allocating cost in relationship to actual consumption will make consumers more thoughtful about how they request resources.
- If charge-back is too hard to sell, start with show-back...
### Chargeback / Showback reporting

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Description - Service/Appl.</th>
<th>Allocated GB</th>
<th>Used GB</th>
<th>Free GB</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>USD per GB (un-utilized value) Monthly</th>
<th>USD per GB (un-utilized value) Per Annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXDBN-SH-G-C</td>
<td>Node G - NoSQL FX</td>
<td>900</td>
<td>6</td>
<td>894</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>$764,10</td>
<td>$9,169.23</td>
</tr>
<tr>
<td>VMJDEP1-SH-E</td>
<td>JDE Deployment Server</td>
<td>932</td>
<td>187</td>
<td>745</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>19%</td>
<td>20%</td>
<td>$636,75</td>
<td>$7,641.03</td>
</tr>
<tr>
<td>VM0000I5ACC-E</td>
<td>IIS R Acceptance</td>
<td>466</td>
<td>5</td>
<td>461</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>$394,02</td>
<td>$4,728.21</td>
</tr>
<tr>
<td>VM0000I54-SH-C</td>
<td>IIS Prod 4</td>
<td>466</td>
<td>10</td>
<td>456</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
<td>$389,74</td>
<td>$4,676.92</td>
</tr>
<tr>
<td>VMJDEAPP3-SH-D</td>
<td>JDE App Server</td>
<td>698</td>
<td>258</td>
<td>440</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>37%</td>
<td>37%</td>
<td>$376,07</td>
<td>$4,512.82</td>
</tr>
<tr>
<td>VM00000CS1-C</td>
<td>BCX node - virt</td>
<td>466</td>
<td>47</td>
<td>419</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
<td>$358,12</td>
<td>$4,297.44</td>
</tr>
<tr>
<td>VMDEVL1-ES-C</td>
<td>Dev - Ssafe</td>
<td>800</td>
<td>392</td>
<td>408</td>
<td>49%</td>
<td>49%</td>
<td>49%</td>
<td>47%</td>
<td>49%</td>
<td>$348,72</td>
<td>$4,184.62</td>
</tr>
<tr>
<td>VM00000IS1-RT-D</td>
<td>IIS Prod RT</td>
<td>466</td>
<td>79</td>
<td>387</td>
<td>12%</td>
<td>13%</td>
<td>16%</td>
<td>17%</td>
<td>17%</td>
<td>$330,77</td>
<td>$3,969.23</td>
</tr>
<tr>
<td>STMP007SQLDEV1-D</td>
<td>SQLServer STMP</td>
<td>348</td>
<td>14</td>
<td>334</td>
<td>3%</td>
<td>3%</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
<td>$285,47</td>
<td>$3,425.64</td>
</tr>
<tr>
<td>S030311S-JAS-2-C</td>
<td>JAS Print Server</td>
<td>466</td>
<td>163</td>
<td>303</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>36%</td>
<td>35%</td>
<td>$258,97</td>
<td>$3,107.69</td>
</tr>
<tr>
<td>VM0000I54-SH-2-C</td>
<td>IIS Prod 4 F/O</td>
<td>466</td>
<td>163</td>
<td>303</td>
<td>36%</td>
<td>36%</td>
<td>36%</td>
<td>36%</td>
<td>35%</td>
<td>$258,97</td>
<td>$3,107.69</td>
</tr>
<tr>
<td>S0200030667-SH-E</td>
<td>App Node RT</td>
<td>388</td>
<td>85</td>
<td>303</td>
<td>21%</td>
<td>21%</td>
<td>20%</td>
<td>20%</td>
<td>22%</td>
<td>$258,97</td>
<td>$3,107.69</td>
</tr>
<tr>
<td>S0200434422-SH-D</td>
<td>App Node RT</td>
<td>400</td>
<td>108</td>
<td>292</td>
<td>26%</td>
<td>27%</td>
<td>27%</td>
<td>26%</td>
<td>27%</td>
<td>$249,57</td>
<td>$2,994.87</td>
</tr>
<tr>
<td>S030043233-NFTS-D</td>
<td>App Node RT</td>
<td>466</td>
<td>187</td>
<td>279</td>
<td>44%</td>
<td>44%</td>
<td>42%</td>
<td>44%</td>
<td>40%</td>
<td>$238,46</td>
<td>$2,861.54</td>
</tr>
<tr>
<td>VM0001SQL2-2-E</td>
<td>SQLServer Acceptance</td>
<td>466</td>
<td>205</td>
<td>261</td>
<td>43%</td>
<td>57%</td>
<td>42%</td>
<td>43%</td>
<td>44%</td>
<td>$223,08</td>
<td>$2,676.92</td>
</tr>
<tr>
<td>S036055060-SH-BU-C</td>
<td>App Node BU</td>
<td>500</td>
<td>270</td>
<td>230</td>
<td>53%</td>
<td>53%</td>
<td>54%</td>
<td>54%</td>
<td>54%</td>
<td>$196,58</td>
<td>$2,358.97</td>
</tr>
<tr>
<td>S03311044-D</td>
<td>App Node RT - BB</td>
<td>550</td>
<td>347</td>
<td>203</td>
<td>61%</td>
<td>61%</td>
<td>62%</td>
<td>62%</td>
<td>63%</td>
<td>$173,50</td>
<td>$2,082.05</td>
</tr>
<tr>
<td>VM0000E-JAS-JS-C</td>
<td>Java Runtime</td>
<td>200</td>
<td>28</td>
<td>172</td>
<td>12%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>14%</td>
<td>$147,01</td>
<td>$1,764.10</td>
</tr>
</tbody>
</table>
Implementation Plan: Approach and Approval

1. Organizational thinking
2. Assessment
3. Agreement of the GAP
4. Defining the roadmap
5. Mandate to implement
In Summary

- Management buy-in
- Do an assessment
- People, process, and technology
- Strategic, not operational
- Short-term demand (3–6 months)
- Charge-out or show-back
- Reporting and benefits
- Be assertive
- More analysis and less noise