

Service Capacity Management for resilient applications

A CA Capacity Management Story for APM,

By Robert Limbrey, EMEA Presales

Snap Poll: Capacity Management is...



a. useless



b. not interesting



c. very complicated



d. Useful and relevant



THIS IS THE AGE OF THE
APPLICATION ECONOMY

AND IT'S ALL ABOUT THE
USERS

User

Software

Hardware

Data Center

And it's the **IT Supply Chain** that makes it happen

Each link in the IT supply chain is crucial
... and depends on the link before



So:

**healthy,
resilient,
cost-effective**

IT supply chain management...
starts with the application...

Capacity Management: A Balancing Act



Find the balance between cost-efficiency and resilience

Without capacity insight, IT cannot accurately maintain the headroom needed to meet business demands, leading to:

- Under- or over-provisioned environments
- Performance degradations
- Increased risk
- Wasted resources
- Increased costs

So, right-sizing the IT supply chain starts with the application:



Right-sized apps



Right-sized IT



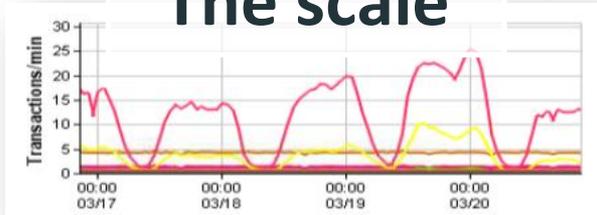
Right-sized Data
Centers

Proactively delivering
a **resilient** and **cost-
efficient** service

Right-sizing is predicated by demand

... and APM is monitoring demand

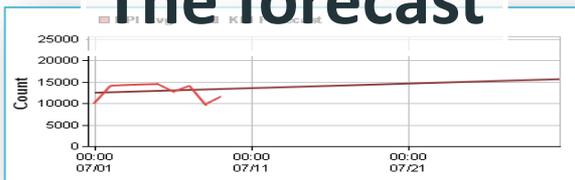
The scale



The shape

Workload Name	Count
Shop - View Item	4.20
Shop - Add Item To Cart	1.30
Shop - Landing Page	1.10
Account - Sign On	0.50
Account - Edit Account	0.20
Account - List Orders	0.20

The forecast



... and to right-size?

Understand how demand relates to capacity consumption

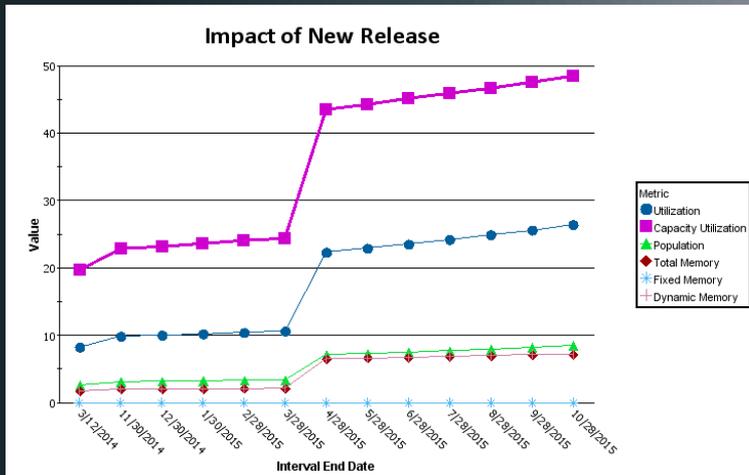


APM Application Headroom Report				
Host	Metric	@ 95 th Percentile	Capacity	Headroom
coe-rex	CPU	1306/s » 100%	<div style="width: 100%;"><div style="width: 100%;"></div></div>	0
dod-na-uim-p05_3.0mock	CPU	1306/s » 100%	<div style="width: 100%;"><div style="width: 100%;"></div></div>	0
dod-na-uim-p06_3.0mock	CPU	1306/s » 58%	<div style="width: 58%;"><div style="width: 58%;"></div></div>	502
dod-na-nsft-p01	Memory	1306/s » 33%	<div style="width: 33%;"><div style="width: 33%;"></div></div>	2490
dod-na-uim-p06_3.0mock	Memory	1306/s » 30%	<div style="width: 30%;"><div style="width: 30%;"></div></div>	2995
dod-na-cptymgr-p01-vpm	Memory	1306/s » 23.6%	<div style="width: 23.6%;"><div style="width: 23.6%;"></div></div>	5174
dod-na-cptymgr-p02-ccr	Memory	1306/s » 18%	<div style="width: 18%;"><div style="width: 18%;"></div></div>	6210
dod-na-aim-p05	Memory	1306/s » 13.6%	<div style="width: 13.6%;"><div style="width: 13.6%;"></div></div>	8660
dod-na-pam-p02	Memory	1306/s » 16.6%	<div style="width: 16.6%;"><div style="width: 16.6%;"></div></div>	8711
dod-na-cptymgr-p01-vpm	CPU	1306/s » 25.2%	<div style="width: 25.2%;"><div style="width: 25.2%;"></div></div>	9133

1 Max Per Page: 10

Average 95th Percentile Headroom

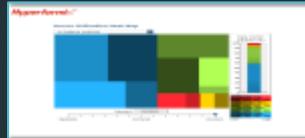
Do you understand the **impact** of change?



What is the impact of: new release, new business, new channels, new projects ...?

Scenarios for a wide range of IT Initiatives

Hardware Refresh



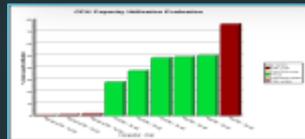
Compare from a library of >6000 infrastructure components

Virtualization



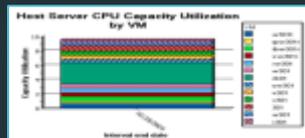
Compare different hypervisor or cloud platforms

Software Upgrade



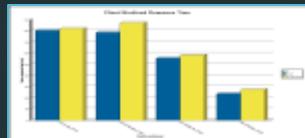
Evaluate scalability of new release

Reconfiguration



Appraise alternative architectures and configurations

Outsourcing



Right-size the IT supply chain

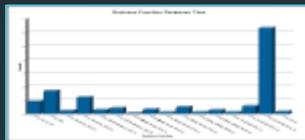
Capacity Management supports a wide range of Business Initiatives too

New Channels



Calculate performance through alternative delivery channels

Better Performance



Assess alternative methods of improving performance

Increased demand



Predict impact of variable growth forecasts

Lower Cost



Locate and liberate underused investments

Increased Agility



Quickly assess alternative business service strategies

The process of change in the IT supply chain



VM Sizing Action - All Clusters 2014-03-14 09:26 - 2014-11-14 10:26 UTC

VM	OS	vCPU Config.	vCPUs Resize	CPU Util	vRAM Config.	vRAM Resize	MEM Util	Storage Config	Storage Util				
adabhav01	winnestandardguest	1	2 ↑	99%	2	1 ↓	25%	35GB	86%	pi	156%	56%	Create Change Rec
adabhcrm03	windows7server64guest	4	8 ↑	97%	4	3 ↓	48%	54GB	80%	pi	156%	56%	Create Change Rec
acobhsql01	windows7server64guest	2	4 ↑	90%	12	8 ↓	53%	1760GB	99%	pi	156%	56%	Create Change Rec
adabhsql07	windows7server64guest	4	4	70%	16	5 ↓	24%	639GB	91%	pi	156%	56%	Create Change Rec
acobhmbx001	winlonghorn64guest	2	2 ↓	69%	6	4 ↓	48%	1031GB	98%	pi	156%	56%	Create Change Rec
adabhmoss01	winneterpriseguest	4	4 ↓	65%	4	3 ↓	47%	65GB	94%	pi	156%	56%	Create Change Rec
adabhnimmhub01	windows7server64guest	2	2 ↓	64%	8	2 ↓	18%	240GB	95%	pi	156%	56%	Create Change Rec
adabhht01	winlonghorn64guest	1	1	62%	4	2 ↓	34%	54GB	67%	pi	156%	56%	Create Change Rec
acrbh-i-ctx01	windows7server64guest	2	2 ↓	61%	8	3 ↓	22%	88GB	75%	pi	156%	56%	Create Change Rec
adabhfp01	winnestandardguest	1	1	60%	2	2	76%	1968GB	94%	pi	156%	56%	Create Change Rec

Raise Ticket

Entity: acobhmbx001

Resized vCPU

Resized vRAM

1 2 3 4 5

Max Per Page:

Predictive Reliability – How It Works

Baseline application resource utilization



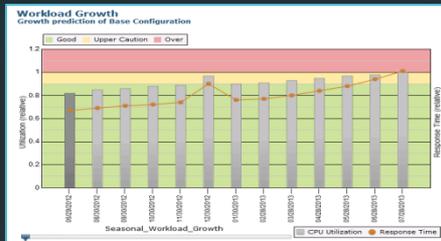
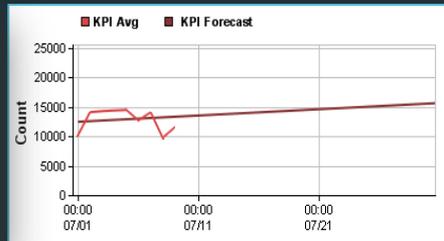
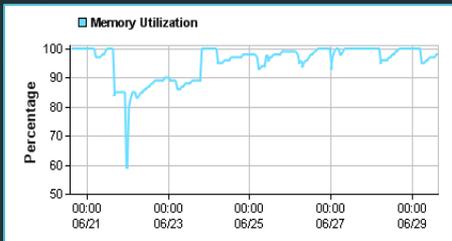
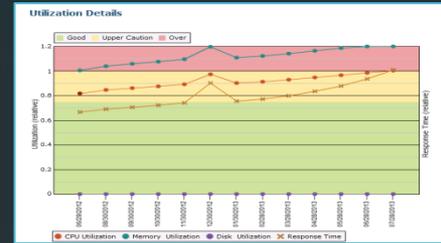
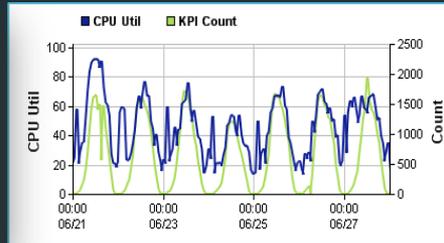
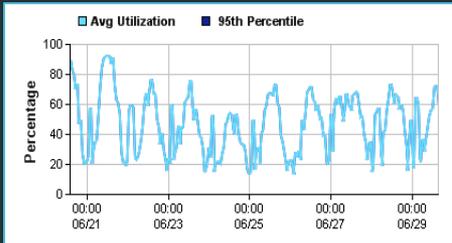
Profile & correlate workload volumes



Use simulation to calculate right-size for future scenarios



Quantified need for investment and change



Net Benefit Report



Customer Saved: \$4.8M

Comprising:

- Cost Avoidance: \$1.8M
- Power Reduction: \$0.8M
- Maintenance Costs: \$0.8M
- Operational Support: \$1.2M

Capacity Management and APM

APM provides:

- the rich set of data
- the application configuration
- the reliable platform



That **Capacity Management** needs:

- for profiling
- for planning
- for right-sizing

... through a wide range
of change projects

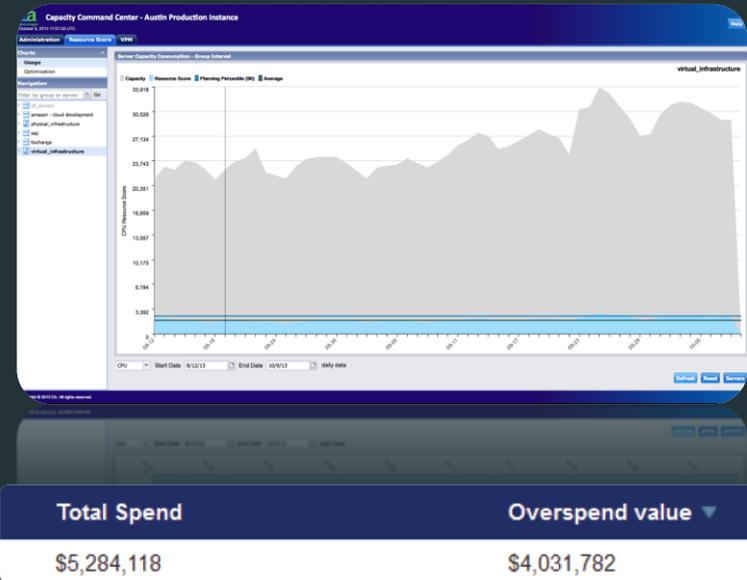
CA Capacity Management Proof of Value (PoV)...

The CA Capacity Management Proof of Value package will demonstrate the key benefits of how the solution helps:

- **REDUCE** IT spend,
- **IDENTIFY** consolidation/virtualization opportunities and
- Accurately identify and **PREDICT** future infrastructure needs
- **in half the time that a traditional PoC would take.**

How it works:

- ✓ Provide data backup (APM, VMware only)
- ✓ 3 days to deliver PoV results
- ✓ CA PoV results presentation
- ✓ CA removes client data from PoV system



"We couldn't believe how under-utilized our virtual environment actually was. We can now have a better understanding of how to avoid overspending and reclaim infrastructure that can support our future initiatives." – Data Center Manager, Large Managed Service Provider, March 2014