Capacity Management Is Still Relevant

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Introduction

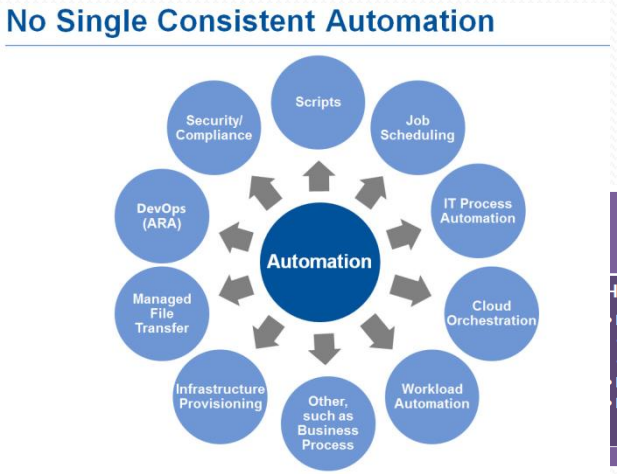
This presentation will examine the relevance of capacity management in context of changing and increasingly complex technologies from the perspectives of process, people, tools/technology and data.

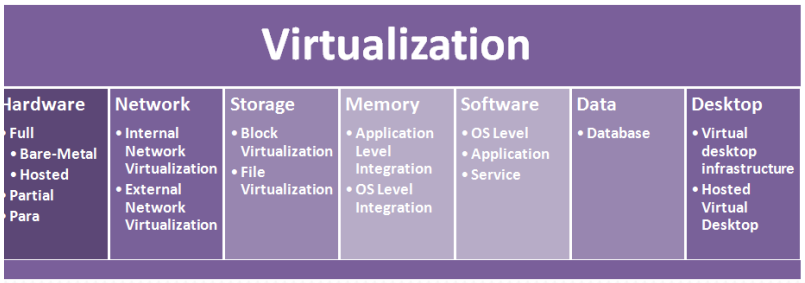
In today's fast-paced and complex world of IT there definitely is still relevance for Capacity Management.

Innovative, disruptive changes are an ongoing new norm that necessitate an iterative consideration of the relevance of the capacity management discipline and how best to apply and adapt to those changes.

Bimodal IT

Hybrid IT





The scale and complexity of the infrastructure environments and applications have changed and will most likely continue to increase.

	INFRASTRUCTURE ENVIRONMENTS	APPLICATIONS
SCALE	• Cloud Computing • Increased virtualization and types of virtualization • Big Data	• Cloud Containers • Big Data (Hadoop) • BYOD • IOT
COMPLEXITY	• Multi-Platforms • Re-Platforming projects • Multi-Core technologies • On-Prem / Hosted / Cloud (public, private) • Appliances	• DevOps • Security • Multi-methodology (Agile, Waterfall) • Microservices • Open Source

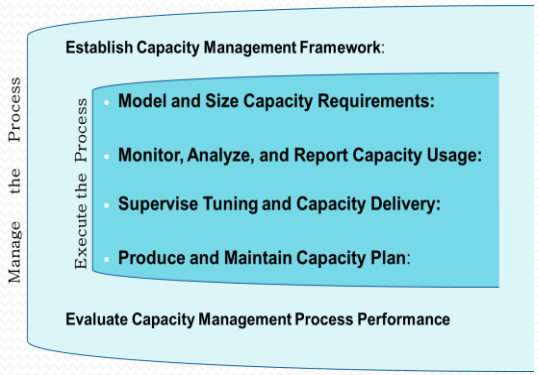
"Careful capacity and performance planning and governance are especially necessary in virtualized and cloud environments to avoid the consequences of virtual machine sprawl across the infrastructure, as well as the numbers of cloud instances." [1]

The impact of these changes necessitate adaptability of the Capacity Management tools, skills, organizational relationships.

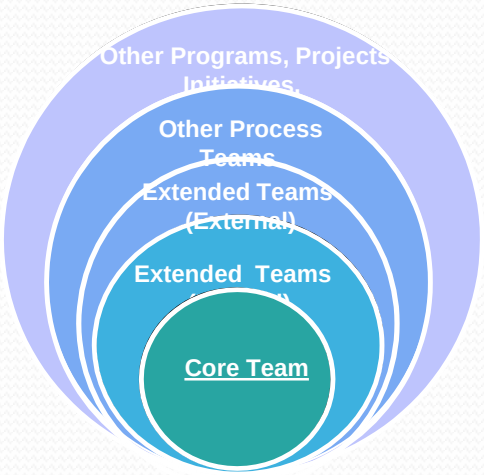
Changes	Impact
Re-platform / Mult-platform (hybrid IT) • Internal / External • Private / Public • Mainframe / Midrange • Physical / Virtual • Converged Infrastructure	Shift in: • Core technical skills • Cross-technology 'virtual' teams • Technology centric tools to cross-platform tools • Buy, Lease, Rent, Pay as you Go, IaaS • Chargeback models, infrastructure-wide investment planning
Move to Cloud • Self Service • External Service Provider • Auto-scaling	Shift in • Who generates/manages /tracks supply & demand • Availability / access to capacity data • Shortened procurement cycles • Shortened, more frequent provisioning cycles
Cheaper, Faster, Leaner Development • Agile Methodologies – Continuous Delivery • Automated Provisioning & Self Service • DevOps	Shifts in • When performance testing is done • How capacity sizing is done • Shortened, more frequent release cycles • Planning to fast paced changes in demand

Changing and increasingly complexity must be addressed from the perspectives of process, people, tools/technology.

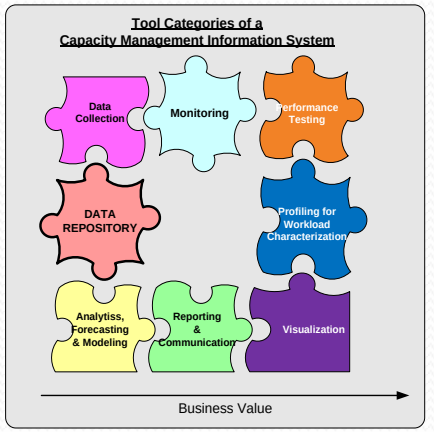
- Process Framework



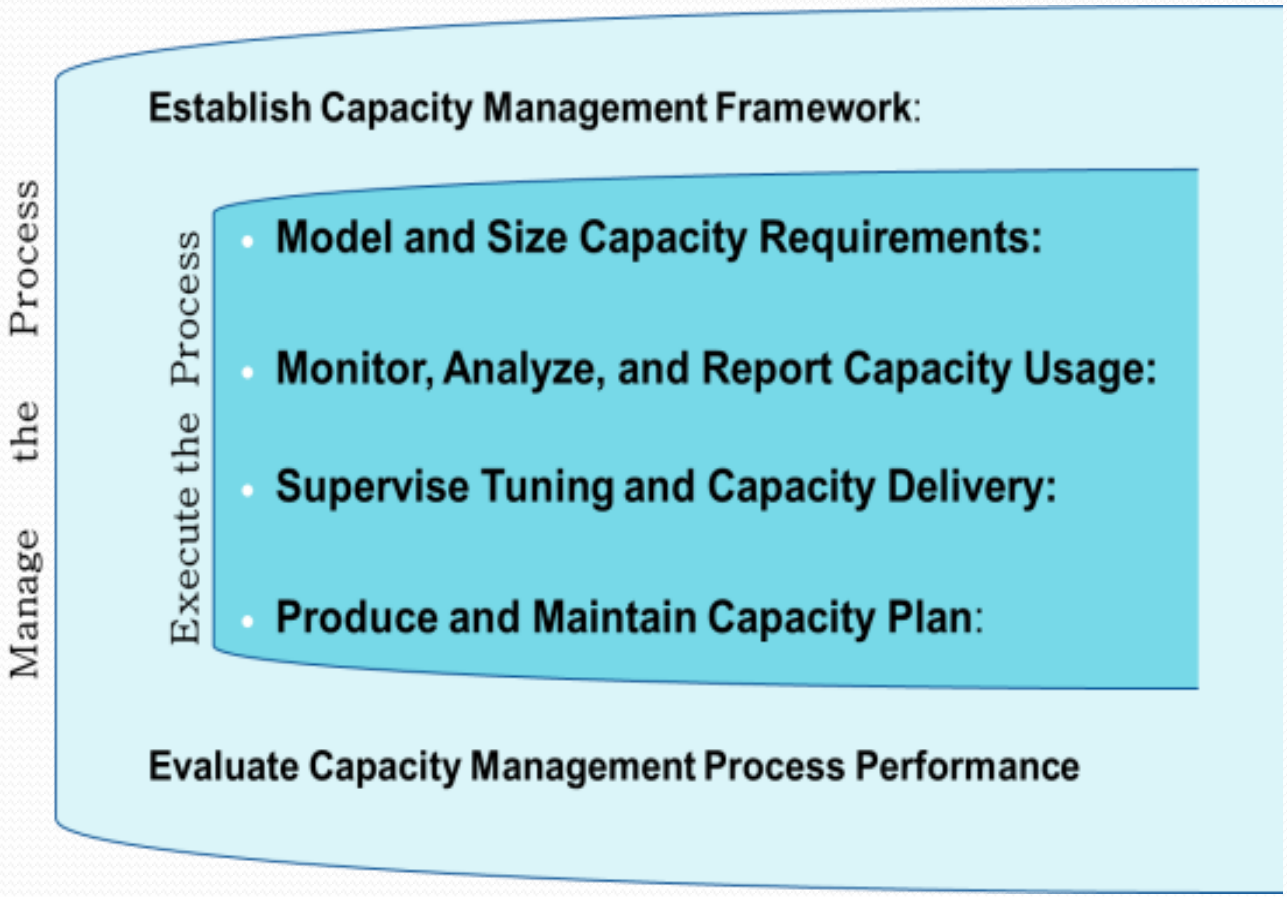
- Organization Model and Staffing



- Tools / Technology and Data



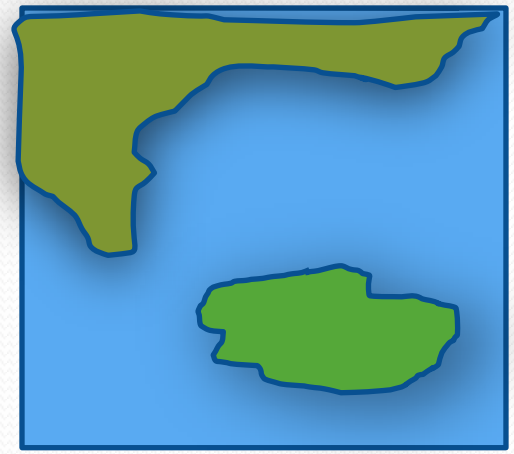
The IT Infrastructure Library (ITIL) Capacity Management process and its six key Activities is still relevant.



Best Practice or Instinct?

IT resources have never been available without limits, but today there is immense pressure to ensure that infrastructure costs are optimised while the business expects any request for new IT services to be delivered as rapidly as possible, often immediately. [1]

Capacity Management cannot survive as an isolated, detached, and solely technical discipline.



No man is an island, Entire of itself, Every man is a piece of the continent, A part of the main. (excerpt from John Donne)

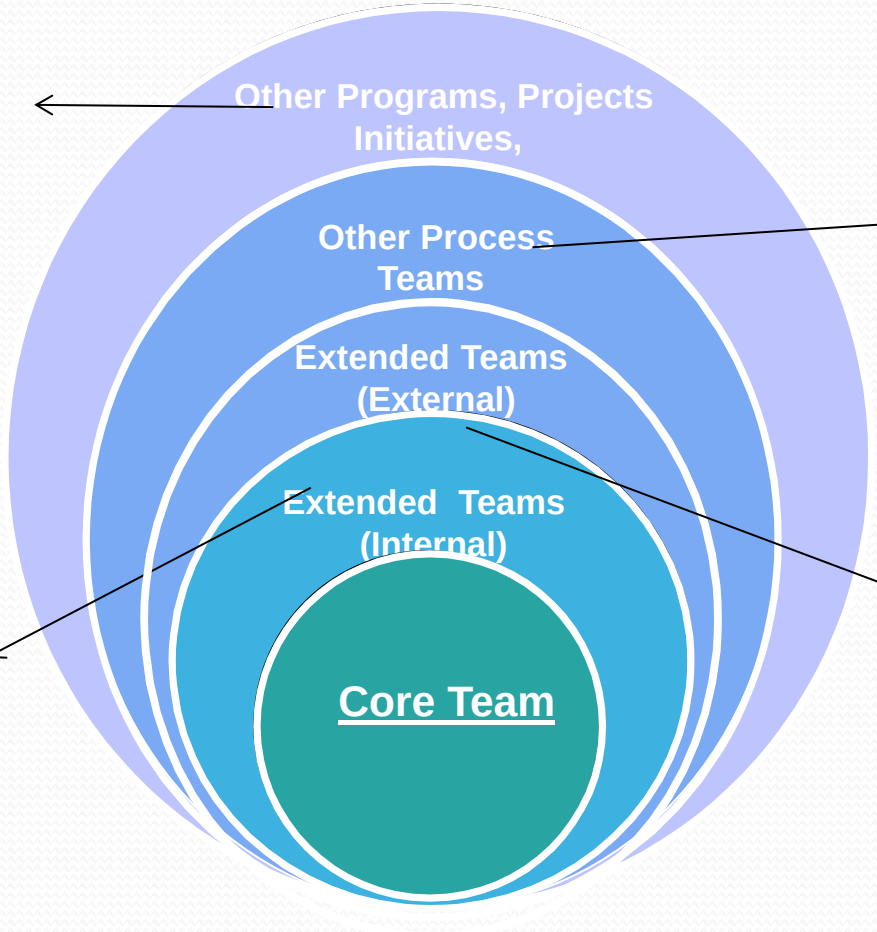
- Capacity Management must reach out to share insight and embrace new viewpoints using a broader set of data.

"… capacity and performance management is best developed with a focus on the exchange of information between processes and teams." [2]

Capacity Management organizations have to adapt to changes in the organization both internally and externally.

Other Programs, Projects and Initiatives:

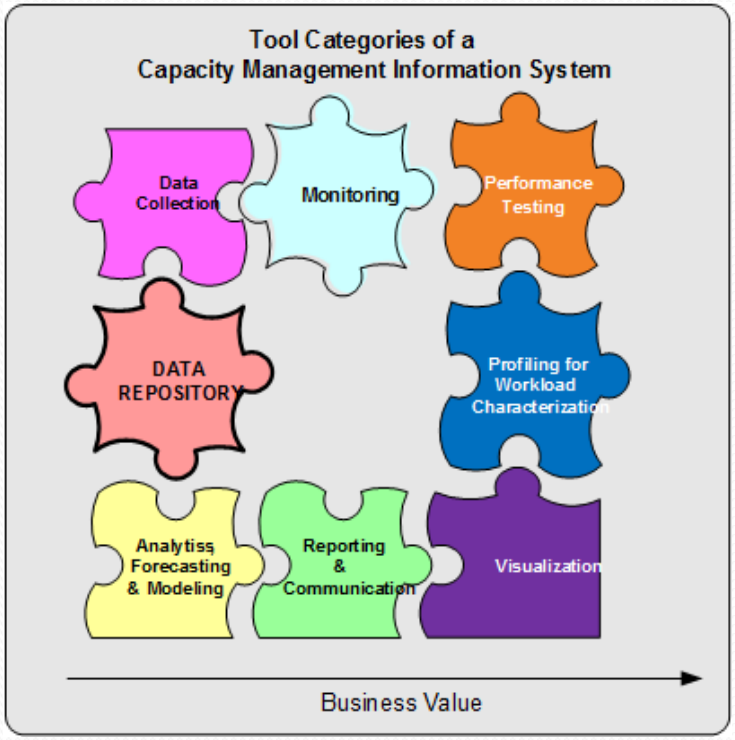
Other Processes
- Asset Mgmt.
- Availability Mgmt.
- Change Mgmt.
- Configuration Mgmt.
- Demand Mgmt.
- Event Mgmt.
- Incident Mgmt.
- Problem Mgmt.
- Release Mgmt
- Security Mgmt.
- Service Catalog Mgmt.
- Service Level Mgmt.
- Service Portfolio Mgmt.



Extended Teams within the organization
- Architecture
- Engineering
- Operations
- Application DBAs
- Demand Managers
- Service Managers
- Chargeback
- Finance

- Cloud Service Providers
- SaaS Tools Providers
- Managed Services Providers

Tools abound with increasing maturity and automation capabilities.



A 'best practices' tools architecture provides the framework and guidelines to align a ***suite of tools*** for implementation and flexibility to support the process and organizational goals and standards. .

This underscores the need and complexity for cross-organizational relationships, workflows, sharing and integration of data – amidst continuous change in toolsets with vendors moving toward continuous release.

Many of the core capacity management activities and tasks can and should be automated.

"… the heavy dependence on Excel spreadsheets and the judgement calls of over-stretched IT staff in their spare time is probably not the best answer. A well-managed, more robust approach to capacity planning is critical." [3]

… and Data, often overlooked or assumed, is changing: it is a 'big data' topic that underscores Capacity Management value.

- What are the data requirements?
- What types of metrics are needed?
- What will the Volume, Veracity, and Variability of the data be?
- What will the source of the data be?
- Who has access to the data?
- Who owns the data and manages the data?
- How is the data accessed, presented, organized, enriched, visualized?
- When does the data need to be available for analysis, alerting, reporting?
- Will the data be used as an input / feed to other processes and workflows?
- What insights will be gleaned from the data?

Value is dependent on the

- Accuracy
- Reliability
- Timeliness
- Connectedness
- Analysis

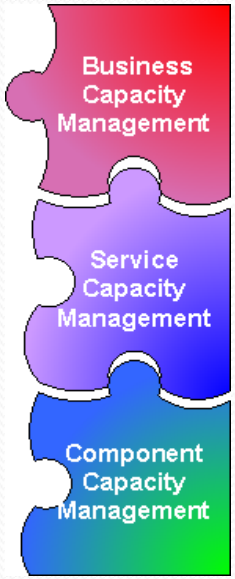
of the Data and resulting Insight

Wherever possible a shift to software defined, policy-based approaches needs to be embraced.

★ *Good* policy will open the path to insight

★ *Better* policy moves beyond generalized to specified insights based on a rich set of technical and business attributes

★ *Best* policy is reliable as a trusted source for specific automated action



Teamwork is crucial to defining, adjusting, and sharing policy – an opportunity to link **infrastructure** with **applications** with **business** impact and value

And now for a few real-life examples of how Capacity Management clear is still relevant based on my new role as Director of Capacity & Forecast Engineering.

- Key / Unique strengths
- Areas of opportunity

Key / Unique Strengths

- Strong linkage with Capacity teams and Application teams fosters a richer and shared understanding of the business application portfolio and capacity demand
- Annual Plan – the Capacity team produces an actual Capacity Growth Forecast that is directly linked to the Request based system and billing/chargeback!
- Centralized core and extended teams cover a wide complement of the Capacity Management ITIL key activities
- Genuine desire to improve, innovate, and make a difference
- High quality working environment that encourages teaming and communication

Areas of opportunity: a starter list

PROCESS	ORGANIZATION	TOOLS / TECHNOLOGY and DATA
Focus on capacity planning using a mix of forecasting techniques • Historical trending of allocation and utilization • Business driver metrics • Monthly rolling plan vs. actual	Organizational alignment of teams: • Cross-organizational • Cross-technology • Service-centric	Data flow architecture for evolving variety of tools/data sources
Focus on linkage with Demand Management: Balance organic/BAU with continuous project based capacity demand	Develop talent/skills to keep pace with scale and scope challenges , changing tools and technologies, soft skills	Visualization and interactive reporting
Demonstrate and communicate tangible business value: • Measure and market successes • Drive results from predictive & prescription insight	Ability to adapt quickly to changing demands: Instill an appropriate 'sense of urgency'	Rationalization of tool suite by functionality with transition & training plans
Establish boundaries for ownership and accountability of workflows, data flows, reporting, analysis, actions		Persevere to achieve Gold/Trusted source of data
Cross-team governance (policy/ rules based)		API based integration and Automation

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References

1. **Capacity planning in an age of agile and on-demand IT** Capabilities are still far from ideal (*Freeform Dynamics Ltd,* July 2016)
2. **12 Key Tasks to Govern the IT Infrastructure Capacity and Performance Management Process** (Ian Head, Gartner G00295580, 9 February 2016)
3. **Key Research to Implement an IT Infrastructure Capacity and Performance Management Planning Process** (Ian Head, Gartner G00280975, 18 November 2015)
4. http://devops.com/2014/10/28/capacity-planning-isnt-dead-supply/ (By Ericka Chickowski on October 28, 2014)
5. **Advance to a Proactive I&O Organization in Four Steps** (John Rivard, Ed Holub, Gartner G00292151, 22 December 2015)