MAINFRAME CAPACITY MANAGEMENT
TIME TO COME OUT OF THE SILO

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Abstract

The mainframe has traditionally adhered to its own set of procedures, processes, and reporting, as it was a mature discipline within an organization. That has often led to a silo mentality; in many cases, new technologies were not considered in its purview. These new technologies include Cloud, Hyper-Convergence computing, and Big Data.

Capacity management for the mainframe, to be successful, needs to stretch out its arms and embrace these new platforms: they are integral to the success of the enterprise. The disciplines developed for the mainframe can be used to assist in the maturing of these other areas if everyone comes at it with an open mind.

The skillsets needed by Capacity Managers these days must broaden as there are few individuals to perform that function. The landscape is continually evolving within the enterprise and we need to embrace and contribute to all areas, and not focus on just our discipline.
Principal Consultant at Metron-Athene, Inc. / Syncsort
Involved in the IT industry for 30+ years
Involved with Capacity Management for 25+ years
Presenter at conferences such as CMG, GSE, Share and regional / local User Groups
Certifications in ITIL, VMware and other disciplines
Man is still the most extraordinary computer of all.

- John F. Kennedy
Agenda

- The good aspects
- The bad aspects
- The changing Mainframe organization
- How does mainframe Capacity Management evolve?
- Summary
Time to come out of the Silo
Differing Aspects of Mainframe Capacity Management

**Good Aspects**
- Disciplined
- Well defined
- Established data acquisition process
- Established reporting process
- Proactive

**Bad Aspects**
- Well established and entrenched
- Manual processes and procedures
- Few have complete environment knowledge
- Siloed view of the environment
- Lack of importance because it is not business focused
The New World Order
How are organizations managing the mainframe capacity?

- Manual Reporting
- Automated Reporting
- Traditional SCRT Reporting
- Data Analytics of SMF/RMF data, Log files, Alert Logs
- Capacity Planning
  - Trending
  - Analytical Modeling
  - Simulation Modeling
R4HA vs Service Classes

Production LPAR
Rolling 4 Hour Average vs. Top 5 Service Classes
Reporting Period November-16

- Long-term average MSUs
- CP SW MSUs, PRDBATHI
- CP SW MSUs, PRDBATLO
- CP SW MSUs, SERVERS
- CP SW MSUs, STCHI
- CP SW MSUs, SYSSTC
- Software MSUs

Graph showing the comparison of R4HA and service classes over a period of time.
Product Usage by MSUs
Analytical Modeling
The changing Mainframe organization

- Dynamics of the Multi-tiered applications
- The Cloud and it’s affects
- Emphasis Business metrics and value
- Newer generation of individuals
The Top 5 Performance and Capacity Management Challenges

- Introduction of Cloud Applications
- New technologies for IBM z Systems
- Big Data & Analytics
- Complex Multi-Tier Applications
- The evolution of the Capacity Management staff
Dynamics of the Multi-tiered applications

[Diagram showing a network with layers labeled: Web Services, App Servers, Virtual Web Servers, Network, Firewall, Proxy, Load Balancer, Director Server, DB, Mainframe, External Cloud, Partner App, Wire Xfer <$100K, Wire Xfer >$100K]
Aligning Business and IT for Optimized Planning

- Real User Experience
- Application
- Network
- Infrastructure
Capacity Management – Enterprise Perspective

**Business Capacity**
Predict future capacity requirements from the business demand

**Service Capacity**
To manage items in the input directly to service a component capacity management, improved management.

**Component Capacity**
Capacity information of each component to monitor and to manage change in.

**Business Index**
Forecasting required capacity according to Business plan

- Revenue
- # of Users

**Response Availability**

- Maintain SLA
- L.O.B

**Workload Management**

**Service Management**

**Resource Management**

**Component Resource**
Monitor, Analyze
Optimize, Upgrade, Increase
Business Transaction vs CICS Transactions

Detriot Stores
Sales CICS Transactions vs In-Store Sales Transactions
Reporting Period November 23 through December 03

[Graph showing CICS Transaction CPU usage with dates from November 23 to December 01]
Capacity Management Manpower Reduction

Bottleneck Analysis
Tuning Forecast

Evaluate the tuning result after it was applied

Manual
- Data Preparation
- Analysis
- Tuning
- Data Preparation
- Analysis
- Reporting

Automation
- Analysis
- Tuning
- Analysis

Automation & Analytics
- Tuning
- Analysis
How mature is your Capacity Management Process?

Assess your Capacity Management Maturity Level
The impact of the Cloud on IBM z Systems

- It is already here
- Multi-Tier Applications
- IBM z Systems as a “Service”
- Dockers and Containers in zLinux
- IBM Cloud Managed Services
How does mainframe Capacity Management evolve?

- Embrace new technology along with artificial intelligence and data mining analytics
- Retool reporting showing Business and Service views for transactions
- Promote the knowledge and disciplines to less mature Capacity management areas (mentoring)
Service View Dashboard

Last Calculated: 10/4/2017 00:00:25

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Purpose of Mainframe Capacity Management

Understand your workloads and implement continuous system optimization equals “Stable IT Service” and “Cost Saving”
Summary

- Determine the maturity and automation level of processes
- Mentor others within and outside the department
- Focus on Business and Service views
- Use new technologies to analyze and present information
QUESTIONS
THANK YOU
MAINFRAME CAPACITY MANAGEMENT

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