Capacity Planning Tools

Overview

- **zTPM***: Tivoli Performance Modeler
- **zPSG**: Processor Selection Guide for IBM System z
- **zMCAT**: Migration Capacity Analysis Tool for IBM System z
- **zSoftCap***: Software Migration Capacity Planning Aid
- **zSCON**: OEM Server Consolidation onto System z
- **zPCR***: Processor Capacity Reference for IBM System z
- **zBNA***: IBM System z Batch Network Analyzer Tool

* Select tools available to customers
Model input from RMF or CMF reports
– Uses simulation techniques to model the impact of changes on individual workload performance.

‘What if scenarios’:
• Change workload volumes or hardware configuration
• Combine multiple system images onto a single processor
• Workload growth
• Change LPAR definitions – faster/slower processors, light/fully loaded
• Comparisons of transaction response time or batch throughput between the measured system and the proposed system

– Summary charts of current LPAR and workload utilizations
– Simulation results presented in the form of graphs

Note: An external version of zTPM is also available for sale to customers from the IBM Software Division as the Tivoli Performance Modeler for z/OS (5698-A18).
Processor Selection Guide for IBM System z

• A tool that provides capacity sizing approximations for System z processors to host new software products

• Based on high-level characterization of typical transactions. For each application, characterize:
  ▪ The average transaction or the average user
  ▪ Selecting features of the software that will be exploited.
  ▪ The frequency of their use.

• Capacity is given in terms of:
  ▪ The expected utilization, or
  ▪ In terms of the transaction rate, or
  ▪ Number of users that might be supported at a given utilization (Saturation Design Point).

Summary report documenting inputs and assumptions. Results are presented in tables and graphs which can be captured for notes, presentations, or handouts.

• Application environments currently supported:
  √ WebSphere Application Server for z/OS and Linux
  √ WebSphere Portal Server for z/OS and Linux
  √ Business Process Manager for z/OS and Linux
  √ WebSphere Enterprise Service Bus for z/OS and Linux
  √ WebSphere Message Broker for z/OS and Linux
  √ WebSphere MQ for z/OS and Linux
  √ WebSphere Operational Decision Management Decision Server for z/OS and Linux
  √ Apache Webserver for Linux
  √ DB2 Data Warehouse for z/OS (restricted access)
  √ DB2 Transaction for z/OS
IBM System z Migration Capacity Analysis Tool

A PC workstation based analysis tool to compare the performance of both online and batch production workloads before and after a hardware migration.

- Based on SMF data collected before and after migration.
- These results can be compared to the expected results from a zPCR study
- Graphs and reports in HTML and JPGs
**Software Migration Capacity Planning Aid for System z**

Evaluate capacity effects expected due to software upgrades

- z/OS releases, projects capacity for . . .
  - CICS, IMS, batch, DB2, TSO, Web and System work
- CICS upgrade release
- IMS upgrade release
- z/VSE

zSoftCap assumes that hardware remains constant while software releases change

**zSoftCap** is available at:
Techdocs: [http://www-03.ibm.com/support/techdocs](http://www-03.ibm.com/support/techdocs)
Search zSoftCap, or document PRS268
Server Consolidation onto System z

Characterize System z Capacity Requirement to Support OEM server workloads

- Migrate multiple OEM Server workloads onto System z
- Implement each as a guest under z/VM, or with native Linux partitions
- Capacity data for 25,000+ OEM servers included

Note: zSCON is implemented as a 1-2-3 spreadsheet application.
• **Capacity Planning** for any specific LPAR configuration
  • Specify LPAR host processor with general Purpose CPs, zAAPs, zIIPs, IFLs, and ICFs
  • Define each partition
    • Name, SCP/workload, DED/SHR, Number of Logical CPs, Weight and Capping assignment
  • Results capacity for each partition and overall LPAR host capacity
  • Partition configuration may be imported directly into zPCR via RMF or EDF

**zPCR** is available at:
Techdocs: [http://www-03.ibm.com/support/techdocs](http://www-03.ibm.com/support/techdocs)
Search zPCR, or document PRS1381
IBM System z Batch Network Analyzer Tool

Project batch processing times for a new processor

• Runs against extracted SMF data
• Analyzes SMF data to determine how long jobs might run on a proposed processor.
• Powerful filtering capability
• Identify jobs with large single task processor components.
• Reports CPU time for individual jobs on current processor and expected times on alternate processors
• Support for “Life of a Dataset”, finds all jobs which touch a given dataset
• Can be used to find bottleneck jobs, ways to improve the performance of the batch window.
• Support for new zEDC hardware compression feature

zBNA is available at:
Techdocs: http://www-03.ibm.com/support/techdocs
Search zBNA, or document PRS5132