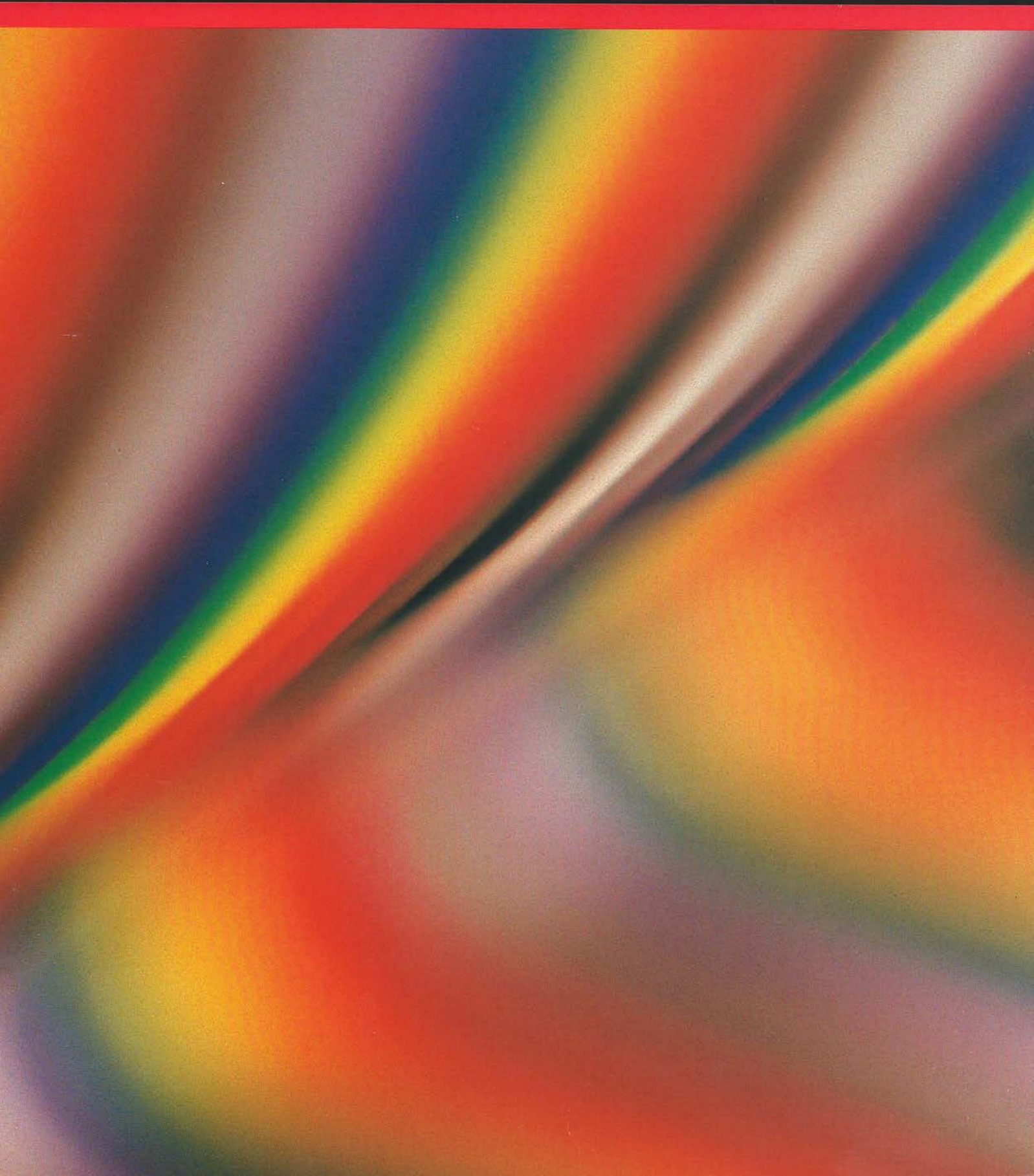


Planning for Capacity: Comparative Interactive Performance




This summary presents results from one in a series of studies at the Amdahl Performance Evaluation Center (AmPEC).

AmPEC studies measure:

- The number of real customer transactions that can be performed by a particular computing system.
- The responsiveness of the computing system at various transaction throughput levels.

Through these measurements, AmPEC studies gauge the real deliverable power of a product to achieve service commitments to end users in the customer environment.

An Overview of the Study and Results




Planning for Capacity: Comparative Interactive Performance is a study of Amdahl's 5890-300E and 5990-700 Dual Processors, and the 5890-600E 4-way Multi-processor. The study includes performance data for each of the measured processors in IMS, CICS, and TSO environments.

As guidelines to planning for capacity, the study presents data on:

- DB2 applications. AmPEC integrated DB2 into its IMS and CICS workloads. Application profiles are presented as well as capacity and performance results.
- Workload composition. Each interactive environment contains at least two distinct workloads. AmPEC provides details about these workloads to help in customer-specific workload comparisons.
- Response time. The study shows the relation between response time and transactions per second. Processor utilization is also noted.


AmPEC Goals and Procedures



AmPEC, the Amdahl Performance Evaluation Center, focused the study on comparative throughput in terms of transactions per second in MVS/SP™ 2.2.0 interactive environments. To ensure valid comparisons, AmPEC followed constant procedures and maintained constant workloads.

AmPEC developed the workloads using sophisticated techniques to simulate IMS, CICS, and TSO interactive environments. The maximum attainable throughput of each processor is determined by increasing the arrival rate of transactions until stated response time service level objectives are exceeded or processor saturation occurs.

Throughput and Ratio Definitions



AmPEC studies measure capacity primarily in terms of external throughput. The external throughput rate (ETR) is the number of transactions completed in a given amount of elapsed time, and hence it is a measure of deliverable performance and capacity as seen by the end user. A maximum ETR is obtained for each environment and workload on each processor measured.

A comparison of maximum ETRs between two processors for a specific environment and workload is an external throughput rate ratio (ETRR). The figures that follow show external throughput data in terms of ETRRs.

Relative Processor Performance

Figure 1 shows the relative throughput capabilities in the IMS environment for the processors measured using the DL/I Update, DB2 Update, and DB2 Inquiry Workloads.

Figure 2 shows the relative throughput capabilities in the CICS environment for the processors measured using the Inquiry and Update Workloads.

The 5890-300E serves as a base of 1.00 in all environments with all workloads.

Figure 1. **Relative Throughput—IMS**



Figure 2. **Relative Throughput—CICS**

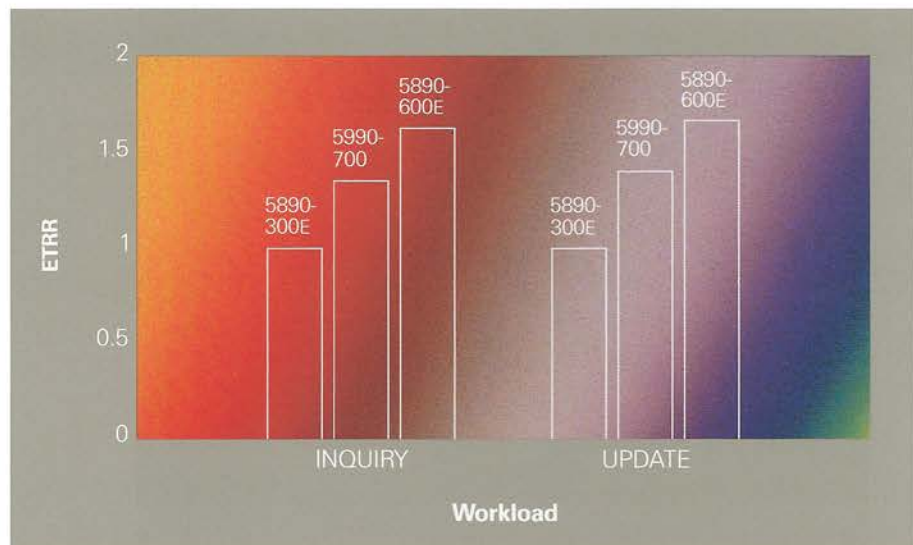
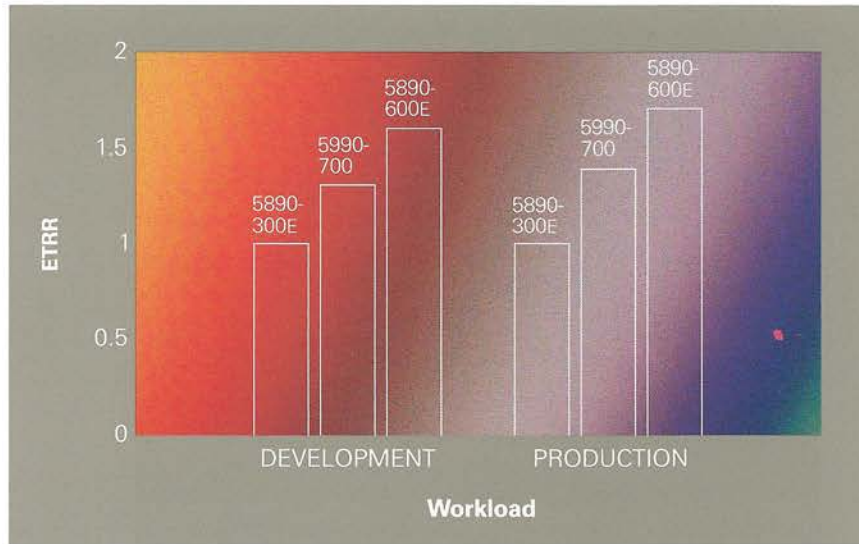


Figure 3 shows the relative throughput capabilities in the TSO environment for the processors measured using the Development and Production Workloads.

Figure 3. **Relative Throughput—TSO**



All the results summarized here were developed through measurements of workloads created by Amdahl personnel. AmPEC workloads approximate true production workloads. Estimation of relative performance for a given customer depends on the customer's specific application operating environment.

To receive a copy of the complete report *Planning for Capacity: Comparative Interactive Performance* (publication number MM001474), please contact your local Amdahl representative.

AmPEC Publications

Interactive

Planning for Capacity: Comparative Interactive Performance
AmPEC Technical Report (MM001474)

Detailed performance data on 5890-300E, 5890-600E, and 5990-700 processors in TSO, IMS, and CICS environments

Planning for Capacity: Comparative Interactive Performance
Executive Summary (MM001478)

A summary of the technical report

Multiple Domain Feature

Planning for Capacity: Multiple Domains
AmPEC Technical Report (MM001335)

Detailed performance data on 580 Series Model 5890-300

Planning for Capacity: Multiple Domains
Executive Summary (MM001336)

A summary of the technical report

TSO

Planning for Capacity: TSO
AmPEC Technical Report (M1195)

Detailed performance data on 580 Series Models 5850, 5860, 5867, and 5870

Planning for Capacity: TSO
Executive Summary (MM001213)

A summary of the technical report

Planning for Capacity: TSO, Volume 2
AmPEC Technical Report (MM001304)

Detailed performance data on 580 Series Models 5870 and 5890-300

Planning for Capacity: TSO, Volume 2
Executive Summary (MM001317)

A summary of the technical report

Planning for Capacity: TSO Processor and Auxiliary Storage Options
AmPEC Technical Report (MM001355)

Detailed performance comparisons of the 580 Series Model 5890-300E with main storage, expanded storage, and 6680 EDAS

Planning for Capacity: TSO Processor and Auxiliary Storage Options
Executive Summary (MM001356)

A summary of the technical report

CICS

Planning for Capacity: CICS
AmPEC Technical Report (M1196)

Detailed performance data on 580 Series Models 5850, 5860, 5867, and 5870

Planning for Capacity: CICS
Executive Summary (MM001214)

A summary of the technical report

Planning for Capacity: CICS, Volume 2
AmPEC Technical Report (MM001312)

Detailed performance data on 580 Series Models 5870, 5890-200, and 5890-300

Planning for Capacity: CICS, Volume 2
Executive Summary (MM001325)

A summary of the technical report

IMS

Planning for Capacity: IMS
AmPEC Technical Report (M1197)

Detailed performance data on 580 Series Models 5840, 5850, 5860, 5867, and 5870

Planning for Capacity: IMS
Executive Summary (MM001215)

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Planning for Capacity: IMS, Volume 2
AmPEC Technical Report (MM001305)

Detailed performance data on 580 Series Models 5870, 5890-200, and 5890-300

Planning for Capacity: IMS, Volume 2
Executive Summary (MM001334)

A summary of the technical report

VM/CMS

Planning for Capacity: VM/CMS
AmPEC Technical Report (MM001255)

Detailed performance data on 580 Series Models 5840, 5850, 5860, 5868, and 5880

Planning for Capacity: VM/CMS
Executive Summary (MM001256)

A summary of the technical report

Planning for Capacity: VM/CMS, Volume 2
AmPEC Technical Report (MM001393)

Detailed performance data on 580 Series Models 5880, 5890-300E, and 5890-300E with MDF

Planning for Capacity: VM/CMS, Volume 2
Executive Summary (MM001394)

A summary of the technical report

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