SSA

*e*BPCS

AS/400 CPU Sizer Version 2.3.01

Release Date: April 27, 2001

For all Geographies, send completed questionnaires to:
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AS/400 Sizing Introduction

Thank you for the opportunity to provide a sizing estimate for running *e*BPCS. We will be requesting the information on the following pages in order to arrive at a system sizing estimate based on your requirements and business environment. This information will allow us to provide you with an estimate of the processor class and memory. The accuracy of the sizing estimate is dependent upon many variables such as the accuracy of the information provided by you, the customer. We recognize that it may be difficult to provide exact numbers on your environment and the actual usage of the system in a production environment. Sizing is an iterative process.

What is a session?

As you work through the sizing example the definition of what makes up an active session may not be apparent. The sizing assumes a very precise definition of an active session; the understanding of the context of the term is very important to the success of the sizing process.

For the purposes of AS/400 CPU sizing, an active session is any device, terminal, or PC window that is actively conversing with the AS/400.

If a PC has two green screen sessions up and running BPCS applications, then two active sessions can be counted. In effect one user is occupying two active threads into the AS/400 and as such is using twice as many resources and a user who have one active session.

Please contact your SSA representative for further explanation of active sessions.

AS/400 Sizing Example

Please take a few minutes to read through the following example of how to complete the attached sizing questionnaire. We hope it will expedite your collection of data for providing the necessary transaction workload done through the many *e*BPCS applications that your company will be running.
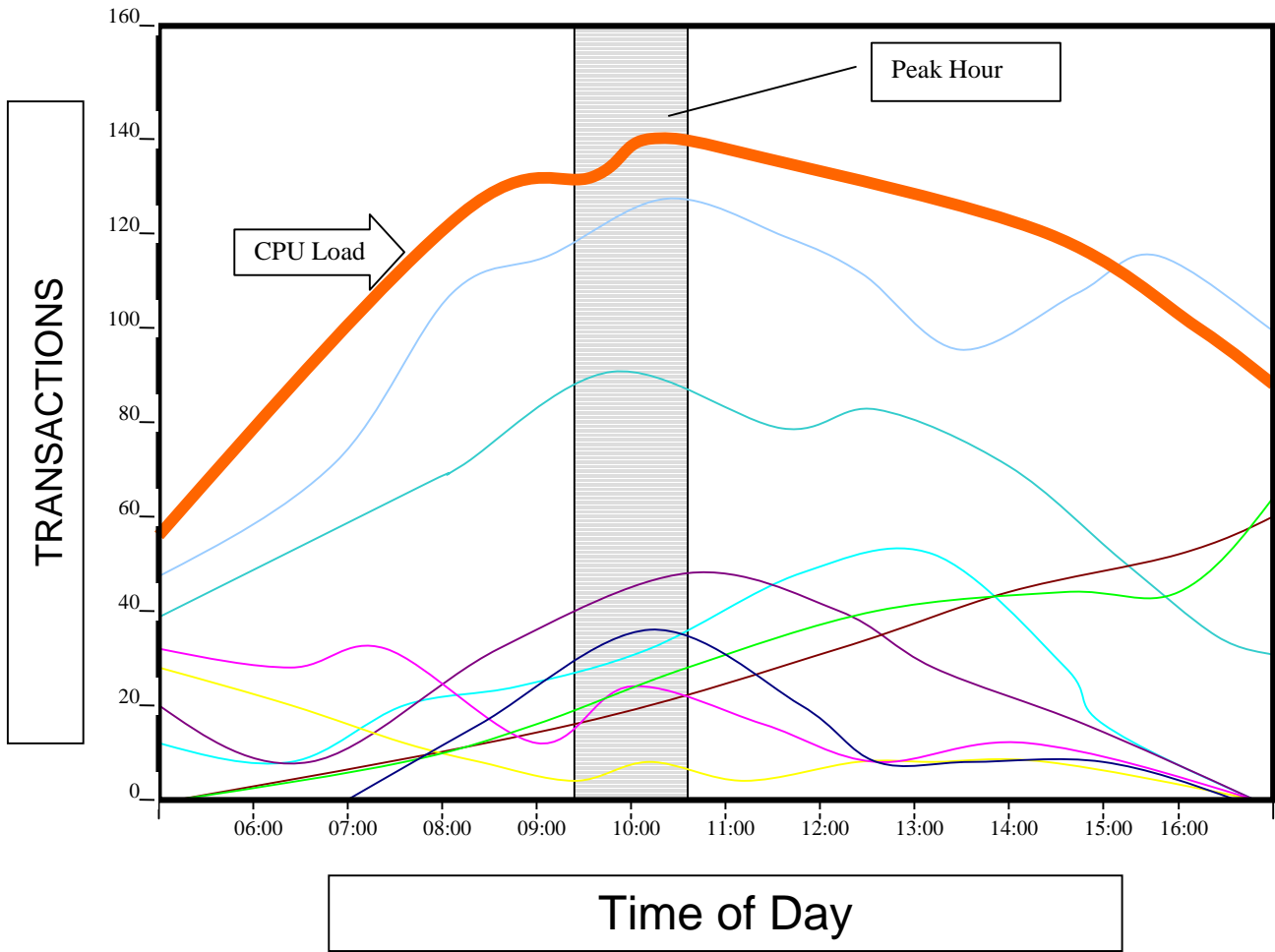
First of all, create a time line that graphs each application's workload from a starting period on through its peak time to when the workload is the least. This time line could turn out to represent a day, a week, a month, a quarter, or even a year. It will all depend upon your business environment.

Once you have this graph or image complete, the next step is to identify a peak hour of workload where the CPU is going to be the busiest. This is the transaction workload you will be recording on the following pages.

This questionnaire is capturing the peak workload transactions generated by only those *e*BPCS applications that are active during this peak hour. All other workload transactions should not be recorded in the sizing questionnaire that are outside of this peak time. If it is recorded, it will lead to a sizing estimate that is more than necessary to handle the workload. The theory is, that if we size for the peak workload, where the CPU is going to be the busiest, then we can provide a system sizing estimate that will be able to handle this peak workload with acceptable response times. All other workloads outside of the peak workload period should then also provide acceptable response times on the same CPU.

Also, as you are recording your information on the peak workload transactions, please remember to record the number of active users performing this work. This user information is necessary for us to properly determine the amount of system memory necessary to support your application workload.

Peak Hour Graph

TRANSACTIONS

160__
140__
120__
100__
80__
60__
40__
20__
0__

Peak Hour

CPU Load

06:00   07:00   08:00   09:00   10:00   11:00   12:00   13:00   14:00   15:00   16:00

Time of Day

For the chart above, the lines going across the graph represent the *e*BPCS applications and the use of each application throughout the time line. If we were to then study the graph, we could determine how the combined application workload would effect a CPU running the application. The smooth thick line represents the CPU workload and if we were to identify a peak hour of activity, this would be represented by the vertical lines drawn.

Once the peak workload is identified, it is the transaction data and number of active sessions representing this workload that needs to be recorded on the sizing questionnaire. So, for our example, the following workloads and transactions are recorded below.

	Local	Remote	Totals	
	LAN and	WAN	Sessions	Trans
Accounts Payable - Payment - Scenario				
Active Sessions	2	2	4	
Number of Payments selected per Hour	12	12		24
Number of Manual Payments per Hour	1	0		1
Accounts Receivable Scenario				
Active Sessions	3	4	7	
Number of Customer Invoice Inquiries per Hour	10	20		30
Number of Cash or Memo Postings per Hour	20	20		40
Configurable Enterprise Accounting Scenario				
Active Sessions	3	0	3	
Number of Manual Journals Lines per Hour	6	12		18
Number of Account Inquiries per Hour	5	10		15
Goods In Scenario				
Active Sessions	10	0	10	
Number of Receipts from Suppliers per Hour	20	10		30
Number of Finished Goods from Factory per Hour	58	22		80
Order Entry - SIMPLE				
Active Sessions	8	0	8	
Number of Orders per Hour	110	0		110
Number of Order Lines per Hour	6	0		6
General Sessions (i.e., Operators, etc.)				
Active Sessions	2	0	2	
Application Development Sessions				
Active Sessions	1	0	1	
Total Active Sessions			35	

This is the information that SSA will use to provide a system sizing estimate since the sizing tool is based on measuring the peak workload transactions. Even though you may be running additional *e*BPCS applications, these individual workloads are not present during the peak time of the day and should therefore not be recorded on the sizing questionnaire.

Appendix A - Return this sheet to your SSA representative
General Customer Information

Company Name:	
Street Address:	
City, State, Zip	
Country:	
Customer Contact:	
Phone Number:	
Email:	
Fax Number:	
Company Industry:	
Type of Business:	

IBM Sales Contact Name:	
IBM Sales Contact Email:	
IBM Sales Contact Phone:	
IBM OMSYS Number:	

IBM Business Partner:	
Email/Phone Number:	

SSA Sales Contact Name:	
SSA Sales Contact Email:	
SSA Sales Contact Phone:	

Special Instructions:	

Appendix A - Return this sheet to your SSA representative

Disclaimer and Signature of Understanding

The *e*BPCS Sizing utilities have been developed as an estimation tool to approximate system resource requirements for the implementation of *e*BPCS. These utilities assume a working knowledge of *e*BPCS and are intended for use by SSA Sales support staff or SSA Affiliates and Partners.

The *e*BPCS Sizing utilities do not compute the total disk storage requirements for *e*BPCS. The sizing utilities will estimate the minimum DASD arms needed to run *e*BPCS based on the workloads entered. Any additional requirements for growth, mirroring, journal management, RAID, licensed programs or other customer software must be added to the totals resulting from these computations.

The CPU Sizer utility computes a estimation of an AS/400 model based on simulated workloads created by peak-hour activities. It does account for growth.

We, the undersigned fully understand that any estimations produced by these sizing utilities only represent a guideline towards estimating the resources required to run *e*BPCS. SSA Inc. accepts no responsibility for any erroneous estimations produced as a result of incorrect or misleading information provided in reply to the questions posed. We also understand that any estimations made will be based on the resources required to run *e*BPCS products only and that it is not the responsibility of SSA Inc. to provide advice on the hardware requirements for any other software products.

Please sign below to indicate acceptance:

Name (Please Print)	Position in Company	Signature

NOTE: If the Sizing Questionnaire is returned to SSA via an electronic format, **please print, sign and return a copy of this page via FAX or Postal mail.**

NOTE: The sizing utilities are not intended to be used as a final system capacity planner. Additional capacity for growth and margin of error should be included in any final configuration.

NOTE: Throughout this document the generic term 'file' is used to refer specifically to Unix/Informix tables and AS/400 database files.

Appendix A - Return this sheet to your SSA representative

AS/400 CPU Sizing Questions

The following hardware information is required to size an AS/400. This should reflect your current system requirements in terms of screens that will be attached to an active AS/400.

- **Which BPCS Product will be used**,

     Version: ____eBPCS   ____V6.0.02   ____V6.0.04

     Mixed Mode or Client / Server: _____MM   _____CS

- **Do you currently have an AS/400?**   _____Yes   _____No

  - **If yes, what is the**: Model _____Processor _____ Memory ____ MB

- **Do you currently have BPCS Installed?**   _____Yes   _____ No

  - **If yes, what is the**: Version _____

- **Which hour is being measured as the peak hour?**

  - **From:_____to_____**

Appendix A - Return this sheet to your SSA representative

Application Based Requirements Questions

It is necessary to identify the **hour of PEAK Business Load** to be processed by the system. Refer to the AS/400 sizing example in Section 1 for a detailed description of PEAK Business Load.

The Numbers of Active sessions should reflect the numbers of User Sessions Active processing the above Peak transaction load.

PLEASE NOTE: any remote devices or transactions should be considered WAN.

Please enter all requested information, both numbers of sessions and transaction volumes.

The detailed descriptions for all the workloads are in Appendix B.

	Local	Remote	Totals	
	LAN and 5250	WAN	Sessions	Trans.
Accounts Payable - Invoice – Scenario				
Active Sessions				
Number of Invoices Entered per Hour				
Accounts Payable - Payment – Scenario				
Active Sessions				
Number of Payments selected per Hour				
Number of Manual Payments per Hour				
Accounts Receivable Scenario				
Active Sessions				
Number of Customer Invoice Inquiries per Hour				
Number of Cash or Memo Postings per Hour				
Configurable Enterprise Accounting Scenario				
Active Sessions				
Number of Manual Journals Lines per Hour				
Number of Account Inquiries per Hour				
Goods In Scenario				
Active Sessions				
Number of Receipts from Suppliers per Hour				
Number of Finished Goods from Factory per Hour				
Inventory Control Scenario				
Active Sessions				
Number of Stock Transfers between Locations per Hour				
Number of Stock Adjustment Transactions per Hour				
Manufacturing Data Management Scenario				
Active Sessions				
Number of New Item Masters created per Hour				
Number of BOMs revised per Hour				
Miscellaneous (*e*BPCS) Scenario				
Active Sessions				

Appendix A - Return this sheet to your SSA representative

Application Based Requirements Questions, Cont.

	Local	Remote	Totals	
	LAN and 5250	WAN	Sessions	Trans.
Production Planning Scenario				
Active Sessions				
Number of MRP Maintenance Transactions per Hour				
Purchasing Scenario				
Active Sessions				
Number of P.O. Create or Maintenance Transactions per Hour				
Sales Administration Scenario				
Active Sessions				
Number of Customer Inquiries per Hour				
Number of Sales History Inquiries per Hour				
Shop Floor Control Scenario				
Active Sessions				
Number of Manually raised Shop Orders per Hour				
Order Entry Scenario – SIMPLE				
Active Sessions				
Number of Orders per Hour				
Number of Order Lines per Peak hour for all orders				
Order Entry Scenario - MULTI-CURRENCY				
Active Sessions				
Number of Orders per Hour				
Total number of Order Lines for all orders per Peak hour				
Order Entry Scenario – COMPLEX				
Active Sessions				
Number of Orders per Hour				
Total number of Order Lines for all orders per Peak hour				
EDI Order – SIMPLE				
Active Sessions				
Number of Orders per Hour				
Total number of Order Lines for all orders per Peak hour				
EDI Order - MULTI-CURRENCY				
Active Sessions				
Number of Orders per Hour				
Total number of Order Lines for all orders per Peak hour				
EDI Order – COMPLEX				
Active Sessions				
Number of Orders per Hour				
Total number of Order Lines for all orders per Peak hour				

Appendix A - Return this sheet to your SSA representative

Application Based Requirements Questions, Cont.

	Local	Remote	Totals	
	LAN and 5250	WAN	Sessions	Trans.
Operator Sessions (ie. Backups, System Admin)				
Active Sessions				
Application Development Sessions				
Active Sessions				
Total Active Sessions				
Total Transactions				

Projected Growth

Growth is assumed to be the current workload plus 2 periods of 10 % per annum growth.
If this is not representative of your installation, please quote the figure you wish to use:

Growth rate if not 10% per annum _____ %

Appendix A - Return this sheet to your SSA representative

***e*BPCS Sizing Questionnaire - Disk Requirements**

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1.   **What current business system applications are being run and their size in Mb.**

               _____

               _____

               _____

               _____

2.   **What is the size of the data in the current production system in Mb?**

               _____

3.   **What is the total current disk capacity and the utilization percentage ?**

               _____

4.   **How many months of on-line history need to be maintained?**

               _____

5.   **Number of Customers Orders (average) per day?**_____

6.   **Number of Customer order (maximum) per day?**   _____

7.   **Do you wish to use either of the following facilities?**

        DASD Mirroring   _____Yes _____No

        RAID   _____Yes _____No

Appendix B - Workload Definitions

These definitions describe which transactions were included in the measured workload. The questions in the questionnaire should be answered only for the transaction expressed not for each of those described below.

Accounts Payable Invoice scenario:
- Vendor Alpha Lookup
- Invoice Entry

Accounts Payable Payments scenario:
- Payable Inquiry
- Payment Selection
- Cash Requirements Report
- Make Payments
- Manual Payments
- Bank Statement Posting
- Payments Inquiry

Accounts Receivable scenario:
- Customer Inquiry
- Cash and Memo posting

CEA scenario:
This represents users of the Client Server CEA product. It does not refer to all financial products.
(see ACP & ACR workloads above) The CEA workload profile assumes that an Active User Session will process a mixture of transactions, similar to the following:

- Enter Manual Journals with multiple lines per Journal
- Perform Account inquiries
- Perform FRW Builds and Downloads which create extract files of Financial data from the AS/400 for download to the client.

Goods In Scenario:
- Receive Raw Material/Packaging items from suppliers
- Review Purchase Order details
- Approve batches of lot-controlled material received
- Receive Finished Goods into Distribution Center from factory

Inventory Control scenario:
- Perform stock adjustment inventory transactions
- Move stock between locations
- Review inventory balances by item, facility, warehouse and Lot/location and transaction history

Manufacturing Data Management scenario:
- Review Bills of Material
- Create New Item Masters
- Revise Bill of Material
- Create new Routing

Miscellaneous (*e*BPCS) scenario:
This workload should be used to represent any user that does not fall into any of the other specified categories. It was measured using a mix of the following transactions:

- Review Costed Bills of Material
- Review inventory balances by item, facility, warehouse and Lot/location and transaction history
- Forward and backward Lot Trace
- Review Bills of Material
- Review Production Planning data, switch to pegged demand
- Review Master Schedule Detail
- Review Re-supply Planning data, switch to pegged demand

Production Planning scenario:
- Amend Due date/Quantities on Planned Orders
- Select Planned Orders for Release
- Release and Print selected Planned orders to create shop orders
- Review Capacity loading
- Review Production Planning data, switch to pegged demand
- Review Master Schedule Detail
- Review Re-supply Planning data, switch to pegged demand

Purchasing scenario:
- Create Purchase Orders manually
- Print manually created Purchase Orders
- Select, Release and Consolidate planned purchase orders
- Automatically release scheduled orders (i.e. those with contracts)
- Review Purchase Order details
- Print scheduled purchase orders

Sales Administration scenario:
- Review planned re-supply orders
- Review Customer account details
- Review Customer Sales history
- Review Customer/Item x-reference information
- Review Customer Order Details

Shop Floor Control scenario:
- Manually raise shop orders
- Print released shop orders
- Reprint Shop Orders
- Enter labor tickets
- Post labor tickets

- Enter labor tickets which allows components to be issued automatically
- Post labor tickets and automatically issue components to shop orders
- Manually issue components to shop orders
- Receive end products on shop orders
- Review shop order transactions

Simple Order Entry Scenario:
A mix of multi-line orders, Customer Lookup on each Order and Item Lookup on each item. Each line has a single promotion associated with it.

Multi-Currency Order Entry Scenario:
As above, with the addition of Multi-Currency

Complex Order Entry Scenario:
As in Simple Order Entry but with COMPLEX promotions

Simple EDI Order Scenario:
A mix of multi-line orders being entered electronically. The workload assumes the order is being posted using the standard *e*BPCS order posting logic. Each line has a single promotion associated with it.

Multi-Currency EDI Order Scenario:
As above, with the addition of Multi-Currency

Complex EDI Order Scenario:
As in Simple Order Entry but with COMPLEX promotions

Application Development sessions:
This represents the number of people performing development tasks. This can be program writing, debugging, testing etc.

Operator Sessions:
This represents the number of AS/400 Operations people who will be constantly active during the peak hour.