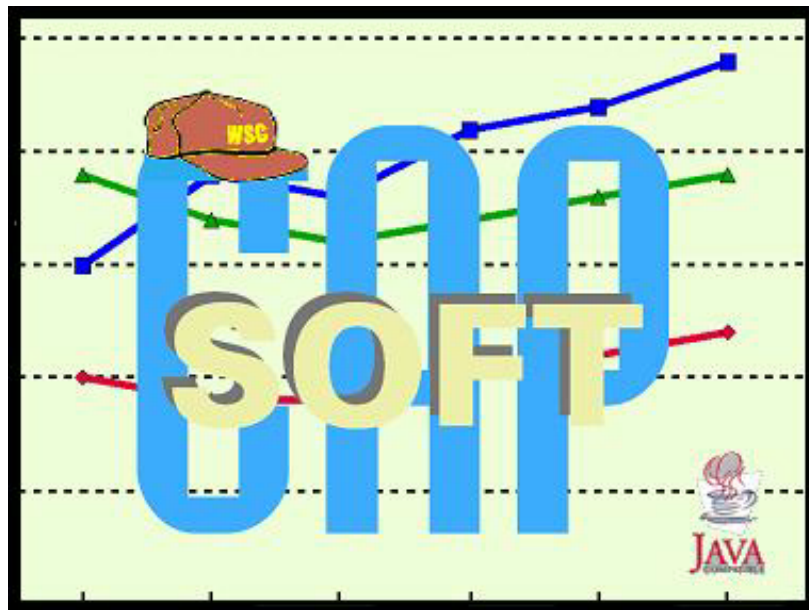


Software Migration Capacity Planning Aid User's Guide



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Introduction

Software Migration Capacity Planning

SoftCap is a PC-based productivity tool designed to assess the effect on capacity for an IBM z/Architecture or System/390 processor, when migrating to more current releases of the operating system or major subsystems. **SoftCap** assumes that hardware remains constant while software releases change.

Software Migration

For the z/OS and OS/390, input required by **SoftCap** includes the current version with the utilization for each of the following components being exploited: CICS, IMS, Batch, DB2, Web, TSO, and System. The target operating system version and migration from "Compatibility Mode" or "Goal Mode" must also be specified.

For both CICS and IMS, the current and planned release, and a high-level description of the subsystem's implementation is required. Results are shown for each software component, showing the net change in capacity and the effective change in processor utilization that can be expected. If migrating multiple components, results are also shown for the components combined.

Changing from 31-bit to 64-bit Addressing Mode

If the host is a z/Architecture processor currently running OS/390 V2.10 or later, and the target operating system is either z/OS or OS/390 V2.10, **SoftCap** can also assess the effect on capacity when changing from 31-bit to 64-bit addressing. This projection is based on current 31-bit storage contention metrics that you provide.

Getting Started

The Software Migration Capacity Planning Aid (**SoftCap**) is a PC-based productivity tool, developed and maintained by IBM's Capacity Planning Support (CPS) team.

The intent of SoftCap is to evaluate the effect on processor capacity when migrating to different software releases. It includes support for OS/390 V2.10, various release levels of z/OS, CICS, and IMS.

OS/390 V2.10 and z/OS V1.1 introduce 64-bit addressing for the z/Architecture processors. When this release of OS/390 or z/OS V1.5 or earlier is selected as the new operating system, **SoftCap** provides the ability to estimate the effect on capacity due to such a conversion. This estimate is based on current 31-bit storage contention metrics specified by the user.

Input requirements for **SoftCap** include the current OS/390 version and the utilization for each of the components (CICS, IMS, Batch, DB2, Web, TSO, System) that apply. Output is presented in table format.

Hardware and Software Requirements

SoftCap utilizes the Graphic User Interface (GUI) of the Microsoft Windows™ operating system and can be run on any IBM compatible PC running Microsoft's Windows™ XP/2000. A Pentium II class or faster processor is required. An SVGA display 800x600 or better is required.

SoftCap has been written in Java and **requires** the IBM Java Runtime Environment 1.4.2 to execute successfully. Instructions for obtaining this software are available both in the **Installation** section of this guide and on the IBM web site where **SoftCap** is located.

Approximately 42MB of hard-disk space is required for the **SoftCap** application, IBM Java Runtime Environment, and the PDF format of this user's guide.

Obtaining SoftCap

IBM Employees

SoftCap is available at:

<http://w3.ibm.com/support/americas/wsc/cpsproducts.html>

1. Click on SOFTCAP.
2. Click on Windows Download.

Alternatively, **SoftCap** is available from the tools disk on VM.

1. Logon to your VM userid.
2. Issue one of the following commands:

```
OMNIDISK CPSTOOLS GET SOFTCAP PACKAGE  
TOOLS SENDTO WSCVM TOOLS CPSTOOLS GET SOFTCAP PACKAGE
```

IBM Business Partners

SoftCap is available at:

<http://partners.boulder.ibm.com/src/atmastr.nsf/Webindex/PRS1762>

1. Sign on to **PartnerWorld** with your assigned IBM id and password.
2. In the **GEO** drop-down list, accept the selected **GEO**.
3. In the **Product** drop-down list, select **zSeries**.
4. Click **Go**.
5. On the **blue left-hand NAV bar**, click on **Selling Hardware**.
6. On the **blue left-hand NAV bar**, click on **Tools**.
7. Scroll down the page until **TOOL** appears. Continue scrolling until **See ALL x documents** appear, and click on this link. (**x** is the number of documents.)
8. Click on **EDIT**, then **FIND**.
9. Specify the tool name to locate on the page.

Installing SoftCap

NOTE: The IBM Java Runtime Environment version 1.4.2 is now required. Please use the **cpsjava.exe** file in order to update your system to this level. **After your system has been updated to the IBM Java Runtime Environment version 1.4.2**, IBM employees will only need to obtain the **SoftCZIP.exe** and the **SoftCBP.exe** file for the IBM Business Partners, when there are updates to the tool itself.

Download the **cpsjava.exe** file to a temporary location on your PC. Execute **cpsjava.exe** using **RUN** under the Windows **START** button, or by executing it from a **MS-DOS** prompt. The installation files will be extracted and **SETUP** will be automatically invoked. Simply respond to the **InstallShield** prompts. Upon completion, the extracted install materials are automatically purged. **As a reminder**, if you already have the **IBM 1.4.2 Java Runtime Environment** installed, please use either the **SOFTCZIP.exe** or **SOFTCBP.exe** file, instead.

Note: The IBM Java™ Runtime Environment provided herewith shall only be used with the SoftCap tool.

IBM Employees

SoftCap uses an **InstallShield™** process for installation onto the Windows platform. Once the file, **softczip.exe**, has been placed on the PC drive, you can begin the installation process by performing one of the following actions.

- Use **My Computer** or **Windows Explorer** to access the correct drive and directory where the file is installed. Click on **softczip.exe** to begin installation.
- Click on **Start, Run**. Either input the location where **softczip.exe** is installed or click on **Browse** to select the drive and directory where it is installed, select the file, and click on **Open**. Click on **OK** to begin installation.
- From the **MS-DOS** command prompt, issue **softczip** from the drive and directory where the file is installed.

Familiar InstallShield™ panels will prompt you through the installation. If there are any special installation considerations, they will be noted in documentation on the web site, from which the tool was obtained.

IBM Business Partners

SoftCap uses an InstallShield™ process for installation onto the Windows platform. Once the file, **softcbp.exe**, has been placed on the PC drive, you can begin the installation process by performing one of the following actions.

- Use **My Computer** or **Windows Explorer** to access the correct drive and directory where the file is installed. Click on **softcbp.exe** to begin installation.
- Click on **Start, Run**. Either input the location where **softcbp.exe** is installed or click on **Browse** to select the drive and directory where it is installed, select the file, and click on **Open**. Click on **OK** to begin installation.
- From the **MS-DOS** command prompt, issue **softcbp** from the drive and directory where the file is installed.

Familiar InstallShield™ panels will prompt you through the installation. If there are any special installation considerations, they will be noted in documentation on the web site, from which the tool was obtained.

Registration

A user registration process has been implemented to assist in monitoring the distribution and use of **SoftCap**. Registration is required for continued usage. **You must be connected to the internet to register.**

Until your registration process is completed, a registration form will appear each time **SoftCap** is started. **SoftCap** may be used up to three times without completing and successfully submitting the registration information. After that, the registration process must be completed before the function of the tool can be accessed.

Fill in the requested fields (e.g., name, company name, geographical location, and e-mail address), and click the **Register (Internet)** button. **The primary value of providing a valid e-mail address lies in our (CPSTools) ability to notify you of any critical news relating to SoftCap's usage and/or updates.** Use of the e-mail address will be limited to this purpose only.

There may be cases where a firewall will prevent direct internet registration. In this situation, (internet registration has failed at least once) you should click the **Register (e-mail)** button. This will:

1. attempt to initiate a properly addressed e-mail for you, and
2. invoke a dialog box with instructions to copy the encoded registration information into the e-mail note.

Send the e-mail as addressed with the encoded registration information and wait for an e-mail response (generally within 24 hours on normal work days). Once received, start **SoftCap** again, click the **Register (e-mail)** button, and continue with the dialog box

instructions, indicating that you are to copy the contents of the returned note and click the **Complete Registration** button.

Registration is only required once, the first time that **SoftCap** is installed and attempted to be used. Once registered, you have unlimited access to the tool. Occasionally, as major versions of **SoftCap** become available, your registration will automatically be renewed.

Executing SoftCap

SoftCap execution can be initiated from the program icon. Alternatively, **SoftCap** can be started from an MS-DOS command prompt by accessing the drive/directory where the tool is installed and typing **softcap**.

The **SoftCap** application is controlled through a variety of standard GUI controls, including menu bar, tool bar, push buttons, entry fields, check boxes, and radio buttons. Each of the specific controls is covered in the section where each application window is discussed.

Help Facility

An online help facility has been implemented in **SoftCap**. It can be accessed by clicking on **Help** on the menu bar, the **Help (?)** Icon on the tool bar, or pressing F1.

Output

SoftCap results are displayed in table format showing each software component, the net change in capacity, and the expected effective change in processor utilization. The contents can be copied to the Windows Clipboard/Clipbook Viewer or your preferred Word Processor. If the latter is used, select a uniform font (Courier New) so the data will align properly. When using the Clipboard/Clipbook Viewer, depending on the Windows platform you are using, select either the **Display** or **View** menu bar and **OEM Text** so the data will align properly.

Exiting SoftCap

Exiting from **SoftCap** is available from the **Migrate Systems Environment Window** only. Clicking on **FILE** on the menu-bar and **EXIT**. Alternatively, you can click on the **EXIT** icon on the tool bar.

Documentation

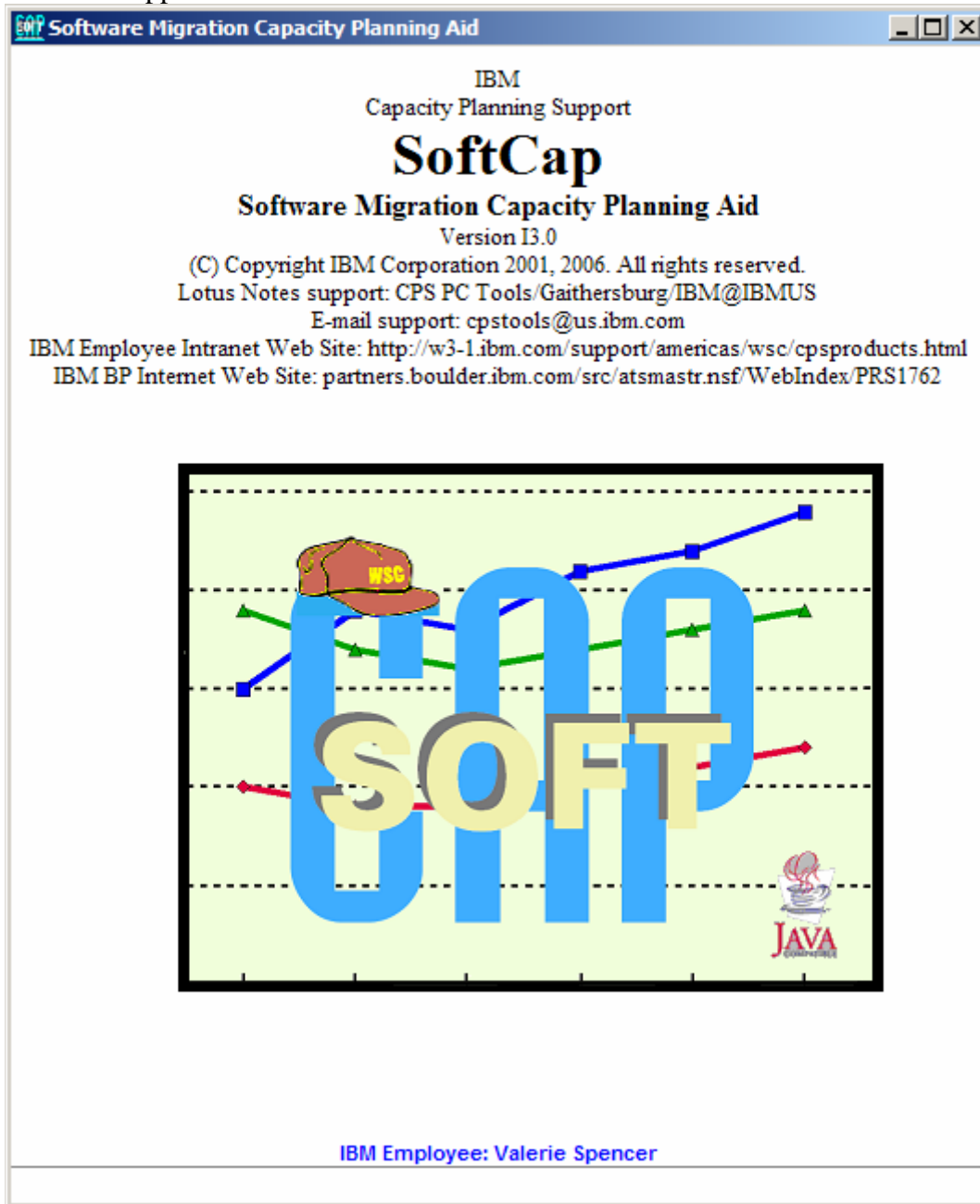
This user's guide is in Adobe™ PDF format. During the installation process, it is loaded in your **SoftCap** installation directory, and an ICON to display it is created in the **SoftCap** program folder. The document can be printed while it is being displayed.

Note: The online help implemented in **SoftCap** is basically the same information that is contained in this user's guide, without the figures.

Using SoftCap

Logo Window

When **SoftCap** is initiated, the logo window appears displaying the **Version** and technical support contact information.



Migrate Operating System Environment Window

Component	Utilization (%)
Migrate CICS	21.0
Migrate IMS	21.0
Batch	13.0
DB2	15.0
Web	10.0
TSO	9.0
System	11.0
Total Processor	100.0

This window is the initial screen for your software migration study. From this window new studies are started or **SoftCap** can be terminated. You can access the help menu from this screen by selecting Help on the menu bar or clicking on the Help icon on the tool bar.

This window allows selection of the current operating system. OS/390 V2.10 and all available releases of z/OS are available for selection.

Current

The following inputs are required in defining the current environment.

1. SCP.

Select OS/390 V2.10 or one of the various releases of z/OS in the drop-down list.

2. Identify whether the current processor is z/Architecture.

The “Host is z/Architecture” check box **is automatically checked and grayed out** when the SCP in the **Future Software Environment** is z/OS 1.6 or later. If the SCP in both environments is z/OS V1.5 or earlier, the option of selecting the check box is available.

3. Hardware Addressing Mode.

31-Bit Addressing is available when the SCP in **both** environments is z/OS V1.5 or earlier **and** the “Host is z/Architecture” check box **is not** checked. If

the “Host is z/Architecture” check box is checked, the 64-Bit radio button is **automatically enabled and grayed out**.

4. Workload Manager (WLM).

Compatibility mode is **only** allowed when the SCP is z/OS 1.2 or earlier. If the SCP is z/OS 1.3 or later, the WLM **must** be Goal Mode. If the latter is the case, the radio button for **Goal will automatically be enabled and grayed out**.

NOTES:

1. When the SCP is OS/390 V2.10 in both the Current and Future Software Environments, SoftCap can show the effect of migrating from 31-bit to 64-bit addressing mode on a z/Architecture machine.
2. SoftCap allows the current and future SCPs to be the same for z/OS V1.2 or earlier to show the effect of migrating from Compatibility to Goal Mode.
3. SoftCap assumes that the processor is the same for both the current and future operating system.
4. SoftCap will automatically check and gray out the “Host is z/Architecture” check box when the SCP is z/OS 1.6 or later.
5. SoftCap will automatically enable and gray out the radio button when the SCP is z/OS V1.3 or later.
6. If you have a Miseseries workload, enter it in the associated transaction processor field. For example, if MQSeries is used with CICS, then enter the % of MQSeries in the CICS field along with the amount of CICS work.

If the **current** host is a **z/Architecture processor** running **OS/390 V2.10**, and the **future operating system is z/OS V1.5 or earlier**, **SoftCap** can also assess the effect on capacity when changing from 31-bit to 64-bit addressing. This estimate is based on current 31-bit storage contention metrics specified by the user. To see these results, click in the “Host is z/Architecture processor” check box in the **Current** window and **64-bit Addressing** radio button in the **Addressing Mode** group box in the **Future** window. All releases of z/OS, when running on z/Architecture must in 64-bit addressing mode.

Processor Utilization by Component

The current processor utilization for each of the following components **CICS**, **IMS**, **Batch**, **DB2**, **Web**, **TSO** and **System** are to be entered in the respective fields. The total processor utilization cannot exceed 100%.

To input, position the cursor in a field and input the utilization percentage. Press the tab key to advance the cursor to the next field. This information will appear on subsequent windows that estimate the impact on capacity due to migrating to the new software specified, and/or changing to Goal Mode or converting to 64-bit addressing mode.

Future

The following inputs are required in defining the future environment.

1. SCP.
Select either OS/390 V2.10 or one of the various releases of z/OS in the drop-down list. If the release of the selected SCP is earlier than the one selected as the current SCP, **SoftCap** will issue an error message.
2. General Purpose CPs
Beginning with z/OS 1.8, **SoftCap** will provide capacity deltas that are sensitive to the processor N-way. Only the portion of the delta from z/OS V1.7 to z/OS 1.8 and future z/OS releases will reflect this sensitivity. The drop-down list will only be enabled when the future SCP is z/OS V1.8.
3. Hardware Addressing Mode (current SCP must be OS/390 V2.10).
Select either the 31-bit Addressing or 64-bit Addressing radio button. The latter is automatically enabled if 64-bit Addressing was defined in the current environment and automatically disabled if the **Host is z/Architecture processor** check box is not enabled.
4. Workload Manager (WLM) (current SCP must be z/OS V1.2 or earlier).
Select either the **Compatibility** or **Goal Mode** (default) radio button.

With the release of the z900 processors and OS/390 v2.10, support for 64-bit Addressing Mode environments was introduced. When z/OS V1.5 or earlier is selected as the future SCP, the **Host is z/Architecture processor** check box and 31-bit Addressing are selected in the **Current Software Environment**, **SoftCap** provides the ability to estimate the affect on capacity due to such a conversion.

For more information on Migrating to 64-bit mode, please refer to **Flash 10086**. The **View Flash** pushbutton is available for immediate access to information on this support or it can be accessed, as follows:

- **IBM Employees:**
<http://w3.ibm.com/support/techdocs>
- **Business Partners:**
<http://www.ibm.com/support/techdocs>

Metrics for projecting 64-bit Addressing Mode

NOTE: 31-bit must be the Addressing Mode in the Current Software Environment for this feature to be enabled.

When migrating from 31-bit to 64-bit Addressing, two metrics in the **Metrics for projecting 64-bit Addressing Mode** box are enabled.

- **31-bit Demand Paging Rate to/from ES**
This control is a drop-down list that specifies a page rate (pages per second, or pps) of any value from zero to 60,000, in increments of 500 pps. The default setting is 500 pps.
- **RSM Services Intensity**
This control is a drop-down list with three possible settings:
 - **Low**
Time spent in RSM is less than average for this workload.
 - **Medium (default setting)**
Time spent in RSM is average for this workload. In the absence of an in-depth understanding about how storage is used in your environment, **Medium** should be selected.
 - **High**
Time spent in RSM is greater than average for this workload.

The information on processor utilization is available from postprocessing SMF records or by running RMF (or equivalent product) Workload Activity Report.

NOTE: The results are dependent on workload selection.

To view the migration results for the SCP, click on **View Results**. If you are only interested in results for a CICS or IMS software migration, click on either **Migrate CICS** or **Migrate IMS**.

Controls

Menu Bar

- **File** - displays the following drop-down menu
 - **New** - Initiates a new **SoftCap** session. **Any existing data will be lost!**
 - **Exit** - Terminates the **SoftCap** application.
- **Help** - displays the following drop-down menu.
 - **General Help** (invokes online help for the displayed window)
 - **Using Help**
 - **Keyboard Actions**
 - **Product Information**

Push Buttons

- **View Results**

Displays the results of the **Capacity Summary**, **Capacity by Component**, and **Storage Impact** calculated from the input data.
- **Migrate CICS**

Displays the window to further define CICS activity.
- **Migrate IMS**

Displays the window to further define IMS activity.

Projecting 64-bit Addressing Mode Capacity

The 31-bit Demand Paging Rate is based on the information that you obtain from your current RMF reports. This entry field is enabled when z/OS V1.5 or earlier is the selected SCP, the **Host is z/Architecture processor** check box and 31-bit Addressing are selected in the **Current Software Environment** and **64-bit Addressing** radio button in the **Future Software Environment**.

NOTE: 64-bit addressing mode requires a z/Architecture processor.

Migrate CICS Environment Window

This window is accessible from the **Migrate Operating Systems Environment** window by clicking on **Migrate CICS**. It describes the current and future CICS releases along with the distribution of the CICS work, which is found in the SMF record type 110.

Activity	Weight	Relative Percent	CPU Utilization
Single Region	2.0	50.0%	10.5%
MRO	2.0	50.0%	10.5%
TOR	12.0	37.5%	7.9%
AOR	3.0	9.4%	2.0%
FOR	1.0	3.1%	0.7%
Totals		100.0%	21.0%

Utilization Attributed to CICS: 21.0 %
Overall Processor Utilization: 100.0 %

Buttons: Return, Delete, Migrate IMS, View Results, Cancel

Select the **Current** CICS release from the drop-down list. Select a later release from the **Future** drop-down list.

Distribution of CICS Work

- **Single Region**

Specify the weight that represents this activity.

- **MRO**

Specify the weight that represents this activity. Additionally, a weight **must** be specified for at least one of its components; **TOR**, **AOR**, **FOR**.

Note: A weight value **must** be specified for either Single Region, MRO or both.

SoftCap will calculate the **Relative Percent** for Single Region and MRO from the specified weight values for each activity. The total relative percent will always equal 100%.

The **CICS Utilization** field will already contain a value, if input was provided on the **Migrate Operating System Environment** window. However, it can be modified on this window.

The total **Overall Processor Utilization** cannot exceed 100%. If it does, **SoftCap** will issue an error message.

Controls

Menu Bar

- **Help** - displays the following drop-down menu.
 - **General Help** (invokes online help for the displayed window)
 - **Using Help**
 - **Keyboard Actions**
 - **Product Information**

Push Buttons

- **Return**
Displays the previous window.
- **Delete**
Deletes the input currently displayed on the window **only after** viewing the results of the migration. **SoftCap** will prompt you prior to performing the action.
- **Migrate IMS**
Displays the window to further define IMS activity. **Note:** This push button is only active when the **Migrate IMS Environment** window was displayed from the **Migrate Operating System Environment** window.
- **View Results**
Displays the results of the **Capacity Summary**, **Capacity by Component**, and **Storage Impact** calculated from the input data.
- **Cancel**
Discards any input that was entered on the window during this session. **SoftCap** will prompt you prior to performing the action.

Migrate IMS Environment Window

This window is accessible from the **Migrate Operating Systems Environment** window by clicking on **Migrate IMS**. It describes the current and future IMS releases along with the distribution of IMS activity.

SoftCap - Migrate IMS Environment

Help

Current Future

Distribution of IMS Activity

Fast Path %

Full Function %

Shared Message Queues

IMS Utilization %

Overall Processor Utilization %

Select the **Current** IMS environment from the drop-down list. Select a later release from the **Future** drop-down list.

Distribution of IMS Activity

- **Fast Path**

IMS functions for applications that require good response characteristics and that may have large transaction volumes. Programs have rapid access to main-storage databases (to the field level), and to direct-access data entry databases.

Input the utilization percentage for this IMS activity. Press the tab key to advance to the next input field.

- **Full Function**

Hierarchic databases that are accessed through Data Language I (DL/I) call language and can be processed by all four types of application programs: IFP, MPPs, BMPs, and batch. Full-function databases include HDAM, HIDAM, HSAM, HISAM, SHSAM, and SHISAM.

Input the utilization percentage for this IMS activity. Press the tab key to advance to the next input field.

- **Shared Message Queues**

IMS V6 introduced shared message queues. With shared queues, the message queues are moved to list structures in the coupling facilities where they are available to any IMS in the shared queues group. A terminal is connected to one IMS system. Then input messages from the terminal are placed in the shared queues. They are accessible from any IMS using those queues. This means that another IMS, not the one to which the terminal is connected, may process the input message.

Additional information is available in the “*IMS in a Parallel Sysplex*” presentation, which is available at:

<http://www-3.ibm.com/software/data/ims/presentations/three/imsp/s/>.

The total utilization for both the **Fast Path** and **Full Function** activity combined **must** total 100%. If it doesn't, **SoftCap** will issue an error message after **View Results** is pressed.

The **IMS Utilization** field will already contain a value, if input was provided on the **Migrate Operating System Environment** window. However, it can be modified on this window.

The total **Overall Processor Utilization** cannot exceed 100%. If it does, **SoftCap** will issue an error message.

Controls

Menu Bar

- **Help** - displays the following drop-down menu.
 - **General Help** (invokes online help for the displayed window)
 - **Using Help**
 - **Keyboard Actions**
 - **Product Information**

Push Buttons

- **Return**
Displays the previous window.
- **Delete**
Deletes the input currently displayed on the window **only after** viewing the results of the migration. **SoftCap** will prompt you prior to performing the action.
- **Migrate CICS**
Displays the window to further define CICS activity. **Note:** This push button is only active when the **Migrate IMS Environment** window was displayed from the **Migrate Operating System Environment** window.

- **View Results**
Displays the results of the **Capacity Summary**, **Capacity by Component**, and **Storage Impact** calculated from the input data.
- **Cancel**
Discards any input that was entered on the window during this session. **SoftCap** will prompt you prior to performing the action.

Results Window

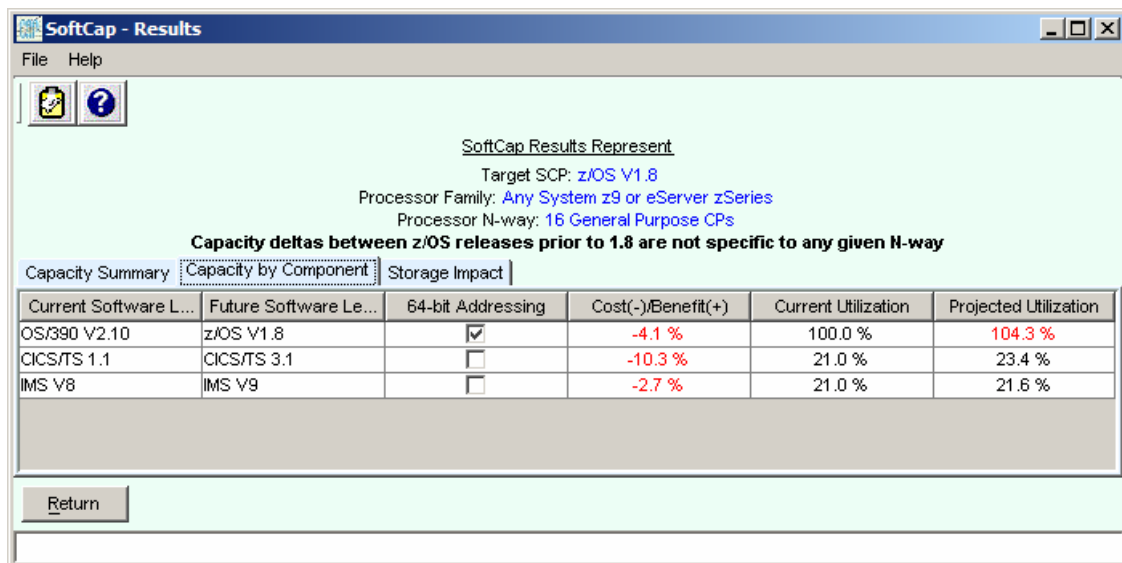
Displaying Migration Results

To display the Results windows, press **View Results** on either the **Migrate Operating System Environment**, **Define CICS Environment**, or **Migrate IMS Environment** window. The following details are displayed in tabular format.

- Capacity summary,
- benefit(+) or cost(-) of the software migration on capacity,
- current processor utilization,
- processor utilization after migration,
- capacity by component, and
- storage impact.

The **Results** window contains the **Capacity Summary**, **Capacity by Component**, and **Storage Impact** tabs.

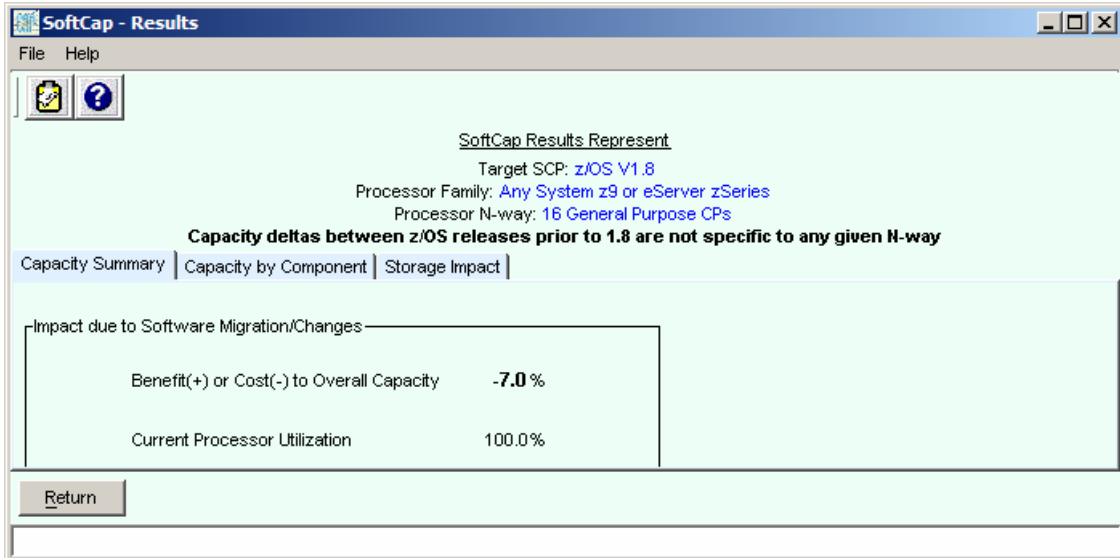
The **Capacity by Component** tab is active and displays the summary for each component of this software migration. **SoftCap** calculates the Cost or Benefit of Overall Capacity in percentage format. The **Current** and **Projected** processor utilization are also displayed.



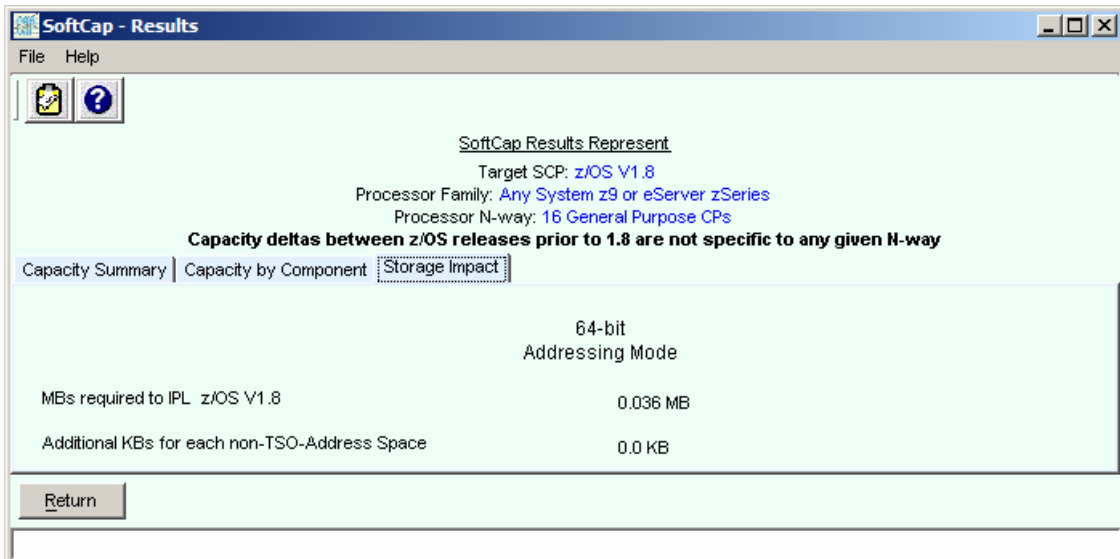
The screenshot shows the 'SoftCap - Results' window with the 'Capacity by Component' tab selected. It displays a table with columns for 'Current Software Level', 'Future Software Level', '64-bit Addressing', 'Cost(-)/Benefit(+)', 'Current Utilization', and 'Projected Utilization'. The data rows are for OS/390 V2.10, CICS/TS 1.1, and IMS V8. A 'Return' button is visible at the bottom left of the window.

Current Software L...	Future Software Le...	64-bit Addressing	Cost(-)/Benefit(+)	Current Utilization	Projected Utilization
OS/390 V2.10	z/OS V1.8	<input checked="" type="checkbox"/>	-4.1 %	100.0 %	104.3 %
CICS/TS 1.1	CICS/TS 3.1	<input type="checkbox"/>	-10.3 %	21.0 %	23.4 %
IMS V8	IMS V9	<input type="checkbox"/>	-2.7 %	21.0 %	21.6 %

The **Capacity Summary** tab is displayed on the **Results** window **only** after a migration has been done for two components. If a CICS or IMS migration or both were performed, then the **Capacity Summary** tab will also be displayed.



Click on the **Storage Impact** tab to see the impact on storage as a result of this migration.



Saving Migration Results

The results of the migration that are displayed can be copied to the clipboard by either:

- selecting **File** and **Copy to the Clipboard** or
- pressing the **Copy to the Clipboard** icon on the tool bar.

The contents can be pasted in either the Windows Clipboard/Clipbook Viewer or your preferred Word Processor. If the latter is used, select a uniform font (Courier New) so the data will align properly. When using the Clipboard/Clipbook Viewer, depending on the Windows platform you are using, select either the **Display** or **View** menu bar and **OEM Text** so that the data will align properly.

NOTE: **SoftCap** does not have the capability to save the input in a file to be used in a future study.

Support

Problems and Suggestions

Efforts have been made to make **SoftCap** a useful and intuitive application. Should you detect problems or want to make suggestions, please e-mail cpstools@us.ibm.com.

Specify "**SoftCap**" as the subject. Describe the problem or suggestion as thoroughly as possible. Please include your name, your location, and telephone number should additional information is needed. All comments and suggestions are welcomed and will be considered.

Maintaining Currency

As capacity information for new software releases becomes available, **SoftCap** will be updated. It is your responsibility to verify that you are always working with the most current version of the tool. Please check the IBM web site frequently for updates.

SoftCap Terms and Definitions

31-bit Addressing Mode – 2 gigabyte addressability for central storage and virtual storage.

Demand Paging Rate – The rate at which Real Storage Manager (RSM) finds real storage frames that haven't been referenced for the longest period and moves (page) this to expanded storage.

64-bit Addressing Mode – The ability to support up to 2 exabytes of central storage, thereby eliminating the overhead of paging between central and expanded storage.

Compatibility Mode – A mode of processing, in which the IEAIPSxx and IEAICSxx parmlib members determine system resource management.

Goal Mode – A mode of processing where the active service policy determines system resource management.

RSM Services Intensity - This metric provides an indication of how much Real Storage Management (RSM) activity is representative for the workload. Such activity includes services such as GETMAIN, FREEMAIN, PAGE FAULT, PAGE FIX, and FREE. In 64-bit addressing mode, this metric is used to project the additional RSM processing time due to invoking 64-bit addressing mode. There are three settings: low, medium (default), and high.

When the demand page rate is set to zero, the zSeries processor 64-bit capacity projections will reflect only the path length increases in RSM. As the page rate metric increases, the path length cost is offset. At some point, the advantage will overcome the additional RSM cost, and the benefit of running in 64-bit mode to eliminate paging becomes apparent.

Appendix A. Related Publications

The publications listed contain detailed information about the subjects covered in this user's guide.

<http://www.redbooks.ibm.com>

- **SG24-5352**
IMS Primer
- **SG24-5976**
OS/390 Version 2 Release 10 Implementation

<http://www.ibm.com/support/techdocs>

- **Flash 10086**
Software Capacity Planning: Migration to 64 bit Mode

<http://www.ibm.com/software/ts/cics>

- **GC33-0155**
IBM CICS Family: General Information

<http://www.ibm.com/software/data/ims>

- **SC27-8735**
IMS/ESA V7 Glossary