

TOPICS

An OS/390 Newsletter for Release 8

August 1999

Our first issue ...

Welcome to our first issue of the *OS/390 Hot Topics Newsletter*. We will be bringing this newsletter to you twice a year, coinciding with each new release of OS/390®. We hope you find it useful and informative. And even entertaining.

That said, you know how serious a matter it is keeping your business ahead of its competitors, and how much your success depends on a smoothly running and productive system. A small leap of simple logic further tells you that a productive system depends on timely and accurate information about running and using it.

You've told us that sometimes indispensable pieces of information about the content, distribution, delivery, management or use of each release of OS/390 can end up buried beneath the enormous quantity of information we ship to you.

That's the main reason we're here, to throw a strong spotlight on information that you might not run across, or information that because of time constraints we might not be able to publish in our regular

product information, especially when it impacts your ability to keep your system up and running. Or when we can point out ways to maximize its benefits. This is our primary purpose.

But we will also use this newsletter to direct you to other information resources, such as new or improved websites that provide answers to specific questions. We will tell you about the latest improvements in the OS/390 library, whether it's content, media, or delivery. And we will point you to specific parts of books that we think you ought to know about.

The focus is on you, our customer. We will offer you what you want and need to know, and hopefully with a lighter touch than is usual in publications of this type.

And we hope you will never be bashful about telling us what you want and need to know.

Send us e-mail at:
newsletr@us.ibm.com

Regards, the Editors

Language Environment and migration

by Eric Busta

This issue of OS/390 Hot Topics addresses Language Environment and migrating from pre-Language Environment run-time environments.



Kerry Bowers

If you plan to migrate to Language Environment for OS/390 and VM (Language Environment) successfully from a non-Language Environment run-time, you need to plan and to familiarize yourself with several concepts and terms. These articles, we hope, will help you avoid stress by providing you with the information you need to plan your migration.

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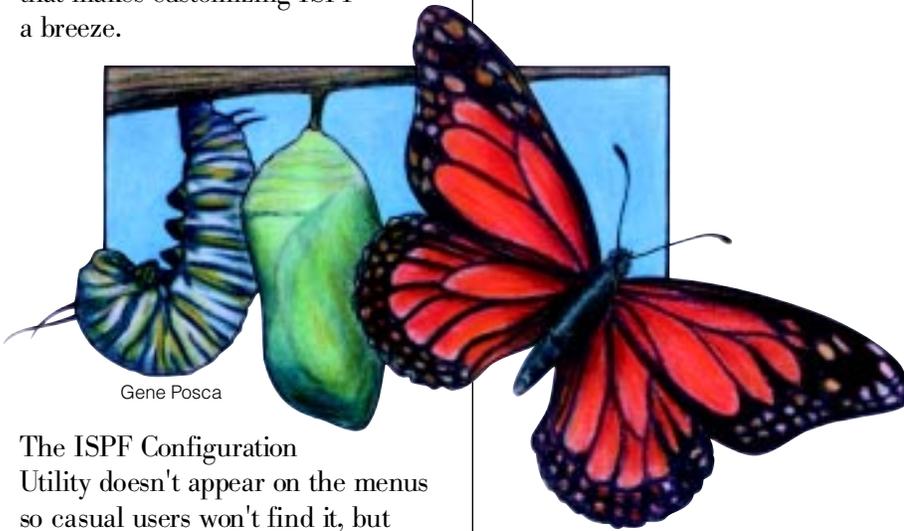
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Find out What's Hot!

Has ISPF customization got you down?

by Stan Maleitzke

Tired of redoing your customization every time you install a new release or the change team decides to add or change a customization option in a PTF? OS/390 Release 8 to the rescue! Throw out that ISRCONFIG assembler source. (Well, you might want to keep it until you convert.) Forget having to manually reassemble and relink to make changes. ISPF for OS/390 Release 8 introduces the ISPF Configuration Utility that makes customizing ISPF a breeze.



Gene Posca

The ISPF Configuration Utility doesn't appear on the menus so casual users won't find it, but enter TSO ISPCCONF on any command line and you are in a dialog with field level help galore. You can convert your old ISRCONFIG assembler source to the new keyword based format or start from scratch to build a keyword file that includes all of the options or just the ones that you change from the defaults. Other choices verify the content of the keyword file (in case you decide to edit it directly) and build your selected options into a configuration load module. All you have to do is put the load module (named ISPCFIGU) where ISPF can find it during initialization and you're ready to go.

ISPF doesn't ship an ISPCFIGU, but if ISPF doesn't find it then the defaults are used. The customization data is thus isolated from the shipped product data so you won't have to recustomize for a new release (or PTF) again. This configuration load module will be compatible across future releases so you will be able to use the same module across your entire sysplex. And we have added more things that you can customize like default profile settings. So grab your *ISPF Planning and Customizing Guide* (SC28-1298-03) and check it out.

Helping teams design the total user experience for S/390

by Dave Hans

The S/390 division is adopting a user-centered design (UCD) process to identify improvements across our product line. UCD is an industry-accepted process that places users at the center of design and development. Such strong focus on users enables companies, like IBM, to provide products that are successful because they are relevant to the marketplace and easy to use.

Understanding the total user experience – ordering, installation, customization, maintenance, and migration – is key. In selected areas, we are working directly with our customers, and have formed teams with representatives from all the software disciplines (architecture, marketing, information development, and interface design) to evaluate, design and develop solutions for everything a user sees and touches.

Making these solutions easy to use is both our primary goal and our primary challenge. Using the UCD process to achieve the goal requires a resource commitment, and mindset change on the part of the entire team – IBM and customers included. Reducing task complexity, providing tailored information, automating actions with tools or wizard-like functions are just some of the ways we have met the challenge.

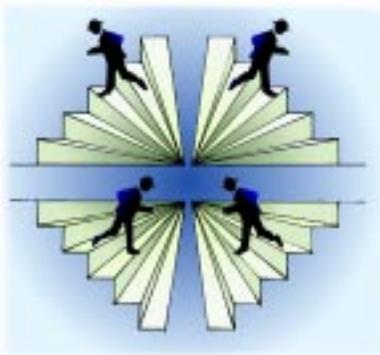
Success has not come overnight, and we still have a long way to go, but the process has led to some initial success stories. Starting from an early customer-directed problem review session, a team of IBMers and customers helped reduce the time required to plan for installing OS/390. Results from our UCD team approach included many functional enhancements to the installation task as well as a complete restructure of key installation customer information like our *OS/390 Planning for Installation Guide*.

Other UCD activities resulted in our first series of interactive tools and customer-driven Web site improvements and redesign. (You might want to check out the articles in this newsletter about ordering products from the Web, about the overhaul of the S/390 and OS/390 Web sites, and about sysplex configuration to learn about these improvements.) This is just a beginning. Look for more enhancements and ease-of-use improvements as we continue to deploy a UCD process throughout our product development process in our ongoing efforts to understand and improve the total user experience.

Parallel Sysplex configuration made easier!

by Jim Guilianelli

Nothing beats the commercial processing power of a Parallel Sysplex® cluster. But such power brings with it a certain amount of complexity. But help is coming your way, a web-based tool that allows you to create a Parallel Sysplex configuration interactively. Using this S/390 Parallel Sysplex Configuration Tool, customers provide input, then follow steps to build the Parallel Sysplex configuration.



Paul Rowntree

Order products from the Web!

by Bernice Casey

At <http://www.ibm.com/s390/os390/installation/>, you'll find an exciting new tool called "OS/390 Planning for Installation: Interactive Edition." It is an interactive tool that guides you through installation planning tasks.

You will also find information about the "OS/390 Planning and Migration Assistant" tool that creates reports of what's currently on your OS/390 system and what changes to expect when migrating to the next release.

The site also includes information about ordering OS/390, and NEW for Release 8 of OS/390 is a tool called the "Interactive Ordering Checklist." You use it to order ServerPacs for OS/390, DB2®, CICS®, IMS™, and NCP. You submit your order to IBM right on the Web and IBM will process it.

Even more convenient will be having the interactive order form already filled-out with the products that comprise your existing configuration. We're planning this for a future release.



Jodi Holmes

What is Language Environment?

by Kershaw Mehta

Language Environment is a base element of both the OS/390 and the VM/ESA operating systems and provides an essential set of run-time libraries to replace the older C, COBOL™, PL/I and Fortran language-specific run-time libraries.

At one time, common services used by high-level languages such as COBOL™ were distributed with the compiler run-time libraries. These services included facilities to drive mathematical functions, to access the date and time, and to perform data conversions. Each high-level language had its own run-time libraries.



At the request of customers, IBM combined these run-time libraries and common services into a single library and created the first release of Language Environment in 1991, which was called LE/370. Today, Language Environment has become IBM's strategic language product for all new run-time services. These services are available to the application developer from multiple high-level languages including C, C++, COBOL, PL/I, and Fortran. Even assembler programs may use these services as long as they conform to Language Environment conventions.

Why migrate?

Language Environment provides many benefits, including:

- Interlanguage communication
- Year 2000 support
- Consistent condition handling
- Increased efficiency and portability
- Performance enhancements
- Centralized diagnostics
- Ease of implementing client/server applications

Why has migrating to Language Environment become an issue, and for some a requirement?

The answers are:

1) OS/390

Because Language Environment is IBM's strategic language run-time library, it has been included as part of OS/390. In fact, about one-third of the OS/390 elements require Language Environment in LNKLST or STEPLIB to execute. To many customers, this poses a problem. Historically, many customers have placed common services like run-time libraries in LNKLST. However, language specific run-time libraries cannot coexist with the Language Environment run-time library.

System programmers have to make a choice: "Do I put Language Environment in LNKLST and have my applications STEPLIB to the older run-time libraries or, conversely, should the older run-time libraries be placed in LNKLST and use STEPLIB for my OS/390 system facilities that require Language Environment?"

Converting to Language Environment makes answering this question easier, and eliminates the need to maintain older run-time libraries.

2) Y2K

Language Environment provides date and time services that readily return 4-digit years and "windowing" support. Many customers are using this support to help them solve their Y2K problems. The Y2K migration and the Language Environment migration involve similar tasks, such as planning, creating an inventory list, compiling, link-editing and testing. Combining these efforts makes a lot of sense. For more Y2K information, see the "Y2K and Language Environment" article in this newsletter.

3) Support

Customers who are creating an inventory of their own applications for Y2K are also using this effort to inventory IBM and vendor packages for end-of-service dates. Many are finding that the OS/VS COBOL compiler and run-time is no longer serviced and the VS COBOL II compiler and run-time libraries will end service support in March 2001.

However, IBM will continue to provide service support for the execution of programs compiled with OS/VS COBOL and VS COBOL II compilers as long as these programs are using the Language Environment version of the COBOL library routines.

Language Environment release history and FMIDs

by Kershaw Mehta

The following chart shows the the current releases of Language Environment. Since Language Environment is now an exclusive base element of OS/390, it is no longer available as a stand-alone product. This means that new releases of Language Environment will be available only as part of new OS/390 releases. Language Environment for MVS and VM 1.5 is the last supported release for MVS/SP that can be ordered separately.

In addition, once a product becomes an exclusive element of OS/390, individual product release numbers are dropped, and the OS/390 release numbering scheme is used to describe the element. For example, the release of Language Environment that comes with OS/390 V2R4 is officially known as OS/390 V2R4 Language Environment, and we reflect this naming convention in our publications.

However, customers and IBMers continue to use individual release numbers when discussing Language Environment. (Old habits are hard to break!) This chart provides a helpful mapping, including base FMIDs that programmers can use to identify the individual Language Environment releases.

Note: The expiration dates for OS/390 service support are based on the current service policy. No formal announcements have been made regarding these dates.

Version and Release	LE Release	LE FMIDs	GA	Service Expiration Date
MVS/SP V5	V1R5	HMWL510	09-29-95	not announced
OS/390 V1R1	V1R5	HMWL510	03-29-96	01-31-2001
OS/390 V1R2	V1R6	HMWL610	09-27-96	01-31-2001
OS/390 V1R3	V1R7	HMWL710	03-28-97	01-31-2001 or later
OS/390 V2R4	V1R8	HMWL810	09-26-97	01-31-2001
OS/390 V2R5	V1R8	HMWL810	03-27-98	04-30-2001
OS/390 V2R6	V1R9	HMWL910	09-25-98	10-31-2001
OS/390 V2R7	V2R7	HLE6607	03-26-99	04-30-2001
OS/390 V2R8	V2R8	HLE6608	09-24-99	10-31-2002

Six basic steps for migrating to Language Environment

by Eric Busta

While migrating to Language Environment may look daunting, careful thought and planning before you begin will help a lot. Use the following six steps to find your way through the migration process.

1. Educate yourself

Ensure that you and other programmers who will be involved in the migration effort are familiar with the features of Language Environment. You should be aware of the difference between your current run-time environment and the environment that Language Environment provides.

Formal education is also available to help you. Visit the *Assistance Center* on the Language Environment Web site at

<http://www.ibm.com/s390/le/> for specific educational offerings.

2. Take inventory

Take an inventory of the applications, vendor products, and tools you intend to run with Language Environment. The information you will need includes:

- a. The version and release of the compiler that generated the program
- b. The run-time options used and how they were specified
- c. Which COBOL programs were compiled with RES and which were compiled with NORES
- d. Which programs are used with CICS, IMS, DB2, or other subsystems
- e. The control statements used
- f. The storage used

The **Edge Portfolio Analyzer** can help you with items a and b above. The Edge Portfolio Analyzer is a migration tool that analyzes existing application load libraries and provides information about an application including which compiler, which release of a compiler, and which linkage editor options were used to produce it. It also generates JCL that you can use to re-link with the Language Environment run-time library. To find out more about the Edge Portfolio Analyzer visit the Language Environment Web site at <http://www.ibm.com/s390/le/> Then go to the Assistance Center and click on Tools. If you find that you are missing some of your source libraries, the **Source Recovery Company** can help you. They provide a service to recover your source code from the load modules. Check the **Source Recovery Company** out at <http://www.source-recovery.com>

Verify that the vendor products you are using support Language Environment. “Language Environment-Enabled Vendor Tools and Application Packages”, an appendix to the *Language Environment Run-Time Migration Guide*, contains a list of IBM and non-IBM products, and lists whether or not each product is Language Environment enabled. You can also find that information at <http://www.ibm.com/s390/le/> Click on *Library* and then click on *Language Environment-Enabled Vendor Tools and Applications*.

3. Prioritize programs

Determine the effort required to migrate each program and the order in which you expect to migrate. For example, migrate applications that contain interlanguage communication after you have migrated any applications that contain only C, C++, COBOL, Fortran, or PL/I.

4. Install Language Environment

Change the Language Environment default run-time options to meet the requirements of your computing environment. See the article in this newsletter about recommended run-time options or see the “Run-Time Option Summary and Recommendations” section in the *Language Environment for OS/390 & VM Migration Guide*, SC28-1944, for the help you need to change the run-time options to match your environment’s needs.

Assess your storage requirements which may be larger for Language Environment than for your current environment. This is where tuning the run-time options comes into play. Virtual storage requirements for placing library routines above or below the 16MB line may also increase.

IBM recommends that you begin a transition to Language Environment by using a STEPLIB approach. Using STEPLIB allows you to phase in one region (for CICS™ or IMS™), batch (group of applications), or user (TSO) at a time. Gradually, as the majority of your applications use Language Environment, you can place Language Environment into the LNKLST.

5. Perform regression tests

Run your applications in parallel using both your current run-time library and the Language Environment run-time library to confirm that the results are the same. You can temporarily add Language Environment to the LNKLST to accomplish this task.

6. Move into production

When your testing shows that an entire application receives the expected results, you can move the entire application over to production. You can either provide a STEPLIB Data Definition statement or add Language Environment to the LNKLST.

Note: Some folks have all the luck. Some people will breeze through migration with few if any pitfalls. The rest of us should read the “Migration Tips” article on page 9.

A note on VSAM catalogs:

VSAM catalogs cannot be processed by MVS or OS/390 once the system date goes beyond 1999; therefore, you must convert these catalogs to an ICF structure before the end of 1999.

Y2K and Language Environment

by Michael C. Zagorski

With the 21st century fast approaching, many businesses are working feverishly to make their applications Y2K ready.

Product Readiness Definition:

IBM considers a product ready, if the product, when used in accordance with its associated documentation, is capable of correctly processing, providing and/or receiving date data within and between the 20th and 21st centuries, provided that all other products (for example, hardware, software and firmware) used with the product, properly exchange accurate date data with it. Any statements concerning the Year 2000 readiness of any IBM products contained in this presentation are Year 2000 Readiness Disclosures, subject to the Year 2000 Information and Readiness Disclosure Act of 1998.

The intent of this article is to clarify some questions that have come up with Language Environment and Y2K and also to explain how Language Environment will help you get your applications working in the next century.

A question that has come up in recent months is "Will running with Language Environment make an application Y2K compliant?" The answer to this is NO! Language Environment does not automatically make your applications Y2K ready. The only way to make a non-Y2K ready application Y2K ready is to change the application.

The first step in making your application Y2K ready is to determine if it has date-dependent logic. This does not mean that any application that has a date will have

problems. For example, an application that prints out a report with the current date in the format mm/dd/yy will not be a problem. People will know that a print date of 01/04/00 is a date in the 21st century. A program that utilizes a date in this manner will run fine next year. This is just one example of an application that will not be a problem.

So what is the problem? The most fundamental Y2K bug is when an application uses a 2-digit year in a calculation. For example, let's assume a program is trying to find out how long a person has been an employee. Let's assume a person joined the company on 06/01/89. If the program ran on 06/01/99, using 2-digit years, the program would compute:

```
years = current_date - start_date
years = 99 - 89
years = 10
```

This person has been with the company 10 years. Now let's see what happens when this same program runs on 06/01/00, the program would compute:

```
years = curr_start - start_date
years = 00 - 89
years = -89
```

This person would be employed for -89 years?? Hence, a Y2K bug. If a 4-digit year were used, you would have:

```
years = curr_start - start_date
years = 2000 - 1989
years = 11
```

The person has been employed for 11 years.

To reiterate, Language Environment does NOT provide this solution; the application needs to change.

So what does Language Environment provide?

Language Environment provides the framework that will allow you to reach your Y2K readiness more efficiently and effectively. The framework is actually a set of date/time callable services that will process 2- or 4-digit years and can be called from any member language (COBOL, PL/I, C/C++, and HLASM). In addition, Language Environment provides the capability for applications to take advantage of a technique known as windowing.

Windowing allows an application to continue using 2-digit years by assuming a certain range of dates is in the 20th century and any date outside this range is in the 21st century. If for some reason you can't make the switch to 4-digit years, then the windowing technique is for you.

For a complete list of the services available via Language Environment, along with a detailed description and example, refer to the *Language Environment for OS/390 & VM Programming Reference (SC28-1940)*.

**Web addresses
that may be helpful to
you can be found on
back cover**

How do the compilers fit into this solution?

The latest COBOL, PL/I, and C/C++ compilers require Language Environment and are all Y2K ready. This means that applications compiled using these compilers must be link-edited with Language Environment. In addition, these applications must use the Language Environment run-time library during execution. The compilers themselves are actually “Y2K don't care”. A compiler does not care if you are using 2- or 4-digit years and it does not care if you have erroneous date logic. Since these latest compilers require Language Environment, you can take advantage of the date/time callable services mentioned above. This will allow you to solve your Y2K problems.

From a Y2K perspective, you don't need to recompile all your applications with the latest compiler just to become Y2K ready. Nor do you need to run with Language Environment. You can make a pre-Language Environment application Y2K ready, but it isn't as convenient. IBM does recommend moving to Language Environment and the Language Environment-enabled compilers since these products are the strategic solutions offered by IBM and they provide the best path for your Y2K effort. Additionally, be aware that the pre-Language Environment compilers and/or run-times that are still in service will be out of service in the near future.

Migration tips

by Eric Busta

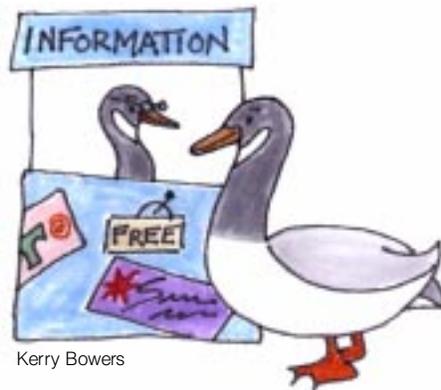
Migrating to Language Environment will go smoother if you plan the effort. Prerequisite products and functions not yet available in Language Environment might delay the process. Planning can avoid such delays. Consider the following while planning for your migration.

• Pre-Language Environment library use.

Once an application has been link-edited with Language Environment, the application will no longer run with pre-Language Environment libraries.

• Storage problems.

Language Environment will use more storage than older run-time libraries both above and below the 16 megabyte line.



• OEM vendor compatibility.

Both system and application OEM vendor products must be Language Environment compliant. Contact your vendors to verify that their products are Language Environment compliant. For information on compatible vendor tools, see <http://www.ibm.com/s390/le/library/library.html> and select Language Environment Enabled Vendor Tools and Application Packages in Bookmanager format.

• Differences in Abend Codes.

Language Environment alters the abend processing that you are familiar with and issues a new set of abend codes. See *Language Environment for OS/390 & VM Debugging Guide and Run-Time Messages*.

• Tuning problems.

After establishing Language Environment, tune your system to run at the same performance level as before. Tuning involves setting run-time options. Keep in mind that Language Environment ignores some language-specific run-time options such as VS COBOL II's MIXRES. Look at *Language Environment Migration Guide* to see how pre-Language Environment runtime options are handled.

To learn about your tuning options see:

- *Language Environment for OS/390 & VM Run-Time Migration Guide*
- *Language Environment for OS/390 Customization Guide*
- Customization information for other products

• Language Environment maintenance.

If Unix System Services is inactive, you cannot apply Language Environment maintenance.

• The need to re-compile or re-link.

In some instances, load modules created with old compilers and run-times will not run with Language Environment without re-compiling or relinking. For details, see the *Language Environment for OS/390 & VM Run-Time Migration Guide* and the language-specific migration guides.

Where to get help on your migration

by Eric Busta

Are you up for a migration? Well, help is not far away. The following list shows several services that can help you get on track with your migration.

Web sites

<http://www.ibm.com/s390/le>

The Language Environment home page contains articles, FAQs, release history, and additional links, including one

to all the Language Environment publications.

This site is a must-read for anyone planning on migrating to Language Environment!

<http://www.ibm.com/software/ad/cobol>

The COBOL home page contains several publications, including the COBOL newsletters.

<http://www.ibm.com/software/year2000>

This is the primary home page for IBM Y2K issues.

User presentations

Many presentations have been given by both IBMers and customers regarding their migration to Language Environment at user conferences such as SHARE. Several of these presentations can be retrieved from the Language Environment home page (See Conferences). A few of these presentations, given by IBMers, are:

- **Language Environment & OS/390 - What it Means to Your Systems Programmers and Application Developers.** This presentation gives an overview of Language Environment, including the six basic migration steps and pointers to documentation.

- **COBOL Migration is an OS/390 Issue.** This presentation is a must-read for COBOL shops and programmers.

- **What's New in Language Environment.** This presentation highlights the new features and functions provided with Language Environment including those that will ease migration.

- **Performance Tips and Techniques for COBOL and Language Environment.** This presentation provides examples of performance

improvements and run-time options for speed and efficiency.

- **How to Solve Abends Using Language Environment Dumps.** This is a walk-through of a CEEDUMP and how the information can be used to debug the problem. Debuggers, set your sights here!

- **Running CICS COBOL on Language Environment.** This provides a good overview of the differences between running COBOL programs under Language Environment and a pre-Language Environment. It also provides a list of APARs to improve CICS performance.

- **High Level Language and Language Environment Condition Handling.** This presentation describes how to use Language Environment services for condition handling in HLL applications.

If you haven't attended a recent user conference on IBM S/390 software, we highly recommend attending the next SHARE to see some of these presentations first hand, and to talk to customers who have undergone the Language Environment migration effort. Don't miss out on this opportunity!

Migration services

IBM VisualAge Service Group

This group has consultants with much experience in the design and use of

Language Environment.

Visit them at

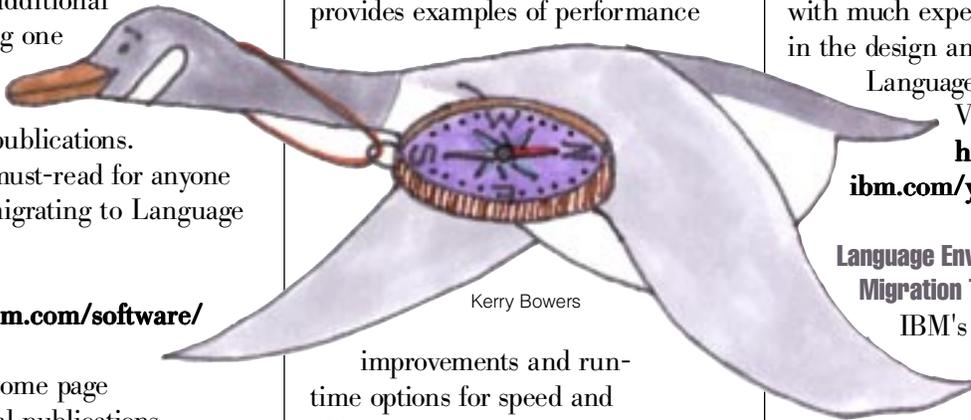
<http://www.software.ibm.com/year2000/serv2.html>.

Language Environment Migration Team

IBM's Language Environment Migration Team is ready to assist you in migrating to Language Environment. You can give IBM's migration team feedback at <http://www.ibm.com/s390/le/> and clicking on Contact LE.

The Source Recovery Company

This company can recover COBOL, CICS, DB2, IMS, BMS and the 370 Assembler source statements for applications running under MVS, VSE or VM operating systems. To find out more information about the Source Recovery Company visit <http://www.source-recovery.com/>



Kerry Bowers

The Language Environment Customer Forum

Talk with other Language Environment customers, or communicate directly with the Language Environment developers, by visiting the Language Environment Customer Forum. To find out how to connect to an IBM forum, visit TalkLink at <http://www.ibm.link.ibm.com/>

Language Environment Web site

The Language Environment Web site contains a wealth of information that can assist you in your migration efforts. Visit the Language Environment Web site at <http://www.ibm.com/s390/le/>

Tools

• EDGE Portfolio Analyzer, IBM Product # 5620-AZM

For more information see "Six Basic Steps for Migrating to Language Environment" in this newsletter.

• The High Level Assembler Toolkit, IBM Product # 5696-234

This program is installed in many sites because it is part of OS/390. It provides a disassembler to allow load modules to be converted to assembler source code. This is a great option if you have lost source code of mission critical programs. This Toolkit also includes a debugger for assembler programs.

• CICS Application Migration Aid, IBM Product # 5695-091

Converts CICS COBOL and assembler programs from macro-level to command-level CICS.

• COBOL and CICS/VS Command Level Conversion Aid (CCCA), IBM Product # 5648-B05

Converts COBOL programs from OS/VS COBOL or VS COBOL II to COBOL/370 or COBOL for MVS & VM.

• COBOL Structuring Facility, IBM Product # 5696-737

Re-engineers unstructured COBOL programs into structured COBOL.

APARs

IBM is making a special effort to improve Language Environment performance and usability through APARs. These can be found at our home page. Click on Assistance Center.

Here are a few APARs that address migration issues:

• **PQ00380** - Fixes performance degradation for COBOL programs running in a COBOL reusable environment setup with ILBOSTP0, IGZERRE, or the RTEREUS run-time option.

• **PQ06268 - TRAP(ON,NOSPIE)** support allows users to indicate Language Environment should not enable its ESPIE routine so users may have their own ESPIE. Language Environment condition handling will still occur via an ESTAE routine.

• **PN91402** - Performance improvement for C and C++ routines which use the printf() or scanf() family of functions.

• **PQ04515** - Below the line storage reduction for C and C++ routines using posix threads.

• **PQ04036** - Storage reduction when using IMS LRR or threads in Unix System Services.

• **II11316** - How to link Language Environment applications to enable them to run on all systems with your environment.

• **II10425** - How to STEPLIB the Language Environment libraries for various OS/390 elements which require Language Environment.

• **II10573** -How to get a system dump (SYSMDUMP) in various environments.

• **PQ04514, PQ04657, PQ10072, PQ10074** - C/C++ performance enhancement using the new HEAPPOOLS option.

• **II08960, II08908, II08909, II11025** - Language Environment and CICS cross-dependency APARs.

• **PQ06948, PQ04447** - COBOL DISPLAY data greater than 64K.

• **PN92353** - Parameters passed to COBOL programs handled incorrectly without trailing slash.

• **PQ22683** - Support for regional level Language Environment run-time options for CICS and IMS with LRR (CEEWROPT).

• **PQ11742** - COBOL static call performance degradation.

Language Environment: LNKLST or STEPLIB?

by Eric Busta

An important migration question is how to phase Language Environment into production mode. There are generally two methods. One is adding Language Environment to the LNKLST; the other is using a STEPLIB approach. When you use the LNKLST approach, Language Environment's run-time services are available to all of your applications. STEPLIB is a much more gradual process. When you use STEPLIB DD statements, you phase in one region (CICS or IMS), batch (group of applications), or user (TSO), at a time.

Although using STEPLIB means you need to change JCL, a gradual conversion can be easier

than moving all of your applications at one time. The drawback is that it slows down performance. Programs will run slower and virtual storage use will be higher.

STEPLIB and IMS programs

When using STEPLIB on IMS/DC online to access the Language Environment run-time services, any Language Environment library routines that you have preloaded will not be loaded into read-only storage. An application with an error can overwrite nonapplication storage, so preloaded run-time routines can become corrupted and eventually cause abends when used. At refresh time, these preloaded routines marked reentrant are not refreshed

unless loaded from the LPA or the LNKLST. For a STEPLIB example, see "Decide How to Phase Language Environment into Production Mode" in the *COBOL for OS/390 & VM Compiler and Run-Time Migration Guide*.

Prevention: the above problems can be prevented with the following methods.

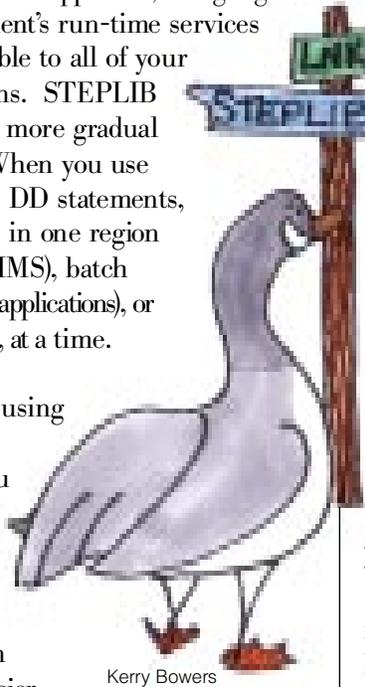
- Install Language Environment into the LNKLST
- Do not preload any run-time routines (this will slow performance)

Minimizing Impact:

- Certify Language Environment as quickly as possible so that you can install Language Environment in the LNKLST sooner.
- Watch for different applications abending in the same region. In this case, follow the recovery procedure.

Recovery Procedure: If different applications abend in the same region, stop the region and restart it by issuing the following IMS commands.

1. Determine the region number by issuing: /DISPLAY ACTIVE
2. Stop the region by issuing: /STOP REGION region#
3. Restart the region by issuing: /START REGION region-name



Language Environment run-time options

by Eric Busta

What do sports cars, musical instruments, and Language Environment have in common? They need to be tuned to perform at their best.

An important part of tuning Language Environment run-time services is to adjust the run-time options. Below you'll find some important run-time options that you will need to consider when migrating. Shown with these options are the recommended settings for CICS environments.

For a full list of all run-time options and their recommended settings, please see *Language Environment for OS/390 & VM Run-Time Migration Guide* and *Language Environment for OS/390 Customization Guide* for detailed descriptions about using the suboptions.

ALL31(ON) -

Allows AMODE(31) programs to run above the line.

ALL31(OFF) -

Required for AMODE(24) programs. ALL31(OFF) causes needless 'below the line' storage utilization and performance degradation (for AMODE switching between application and Language Environment, which always runs above the line) for AMODE(31) programs.

ABTERMENC(ABEND) -

Required for abnormal termination.

ANYHEAP(4K,4080,ANY,KEEP) -

Improves storage utilization by ensuring a clean fit in 4K pages once 16 byte CICS Storage Account Area is included. Using KEEP may cause CICS short on storage.

BELOWHEAP(4K,4080,FREE) -

Same as ANYHEAP

ERRCOUNT(0) - Turns off condition counting (PL/I ONERROR, C signals)

HEAP(4K,4080,ANYWHERE,KEEP,4K,4080) -

Same as ANYHEAP

LIBSTACK -

Prior to release 7 use

LIBSTACK(512,1008,FREE) -

After release 7 use

LIBSTACK(32,4080,FREE) -

Same as ANYHEAP, used primarily by PL/I

STACK(4K,4080,ANYWHERE,FREE) -

Same as ANYHEAP

STORAGE(00,NONE,NONE,0K) -

The second parm is used to initialize storage on heap free; not usually needed except in storage on heap free; not usually needed except in security issues. the third parm needs to be 00 for PL/I applications that don't clear auto variables.

TERMTHACT(MSG) -

Will minimize the wrapping of CESE queue

THREADHEAP(4K,4080,ANYWHERE,KEEP) -

Same as ANYHEAP

TRAP(ON, NOSPIE) -

Required for COBOL and PL/I ON conditions to be recognized

Recommendation:

Probably the most important of the run-time options are those that have to do with storage values. Only through testing, and using the storage report (produced by RPTSTG(ON)), or the use of other performance monitors, will you be able to customize these settings to your installation.

Language Environment continues to improve performance. On occasion this may change our recommended settings. Please refer to the *Language Environment for OS/390 & VM Run-Time Migration Guide* for our most current recommendations.

S/390 and OS/390 Websites overhauled by "human factors"

by Florence Krupa

If you haven't checked us out lately, take a look at our S/390® and OS/390 websites:

<http://www.s390.ibm.com> and

<http://www.s390.ibm.com/os390/>

We took these sites to our 'human factors' shop and asked for a complete overhaul. What we got was more consolidated and concise information, and more consistency in the way information is displayed and retrieved. And extensive contact with customers like you helped us validate our decisions. You'll find it easier to navigate through the pages and locate information about S/390 and OS/390 elements and features.



Paul Rowntree

Some topics we've made more visible, such as the list of vendor products that support OS/390, and the minimum level of IBM products that run on specific OS/390 releases. These products help you solve specific problems or maximize the overall management and running of your system. We've also added a topic called 'How to buy.' This will provide helpful information about products that you are considering purchasing, and the status of your order.

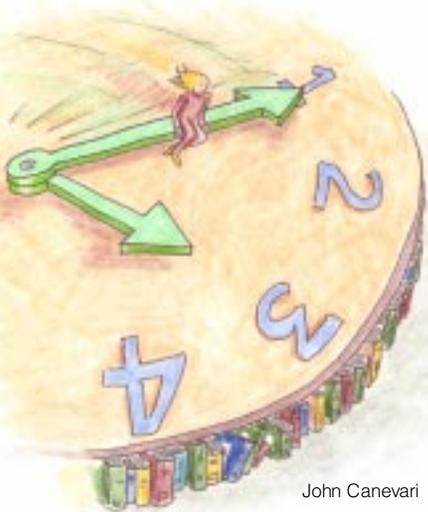
Save time with the SoftCopy Librarian

by Jim Steipp

You can save hours managing your BookManager® repositories with the SoftCopy Librarian. And, it just got better. We have made significant improvements in Version 3.2 of the SoftCopy Librarian (SCL, program number 5648-032), now available from the SoftCopy Librarian Web site at:

<ftp://ftp.software.ibm.com/ps/products/ibmreader/tools/>

(If you can't get to our FTP site, you can install Version 3.1 from the June 1999 Online Library Collections.) Version 3.2 of the SoftCopy Librarian creates descriptor files automatically for non-IBM CDs. Previously, you had to create these manually. Also, the method for defining host repositories that use OS/390 sequential data sets has been significantly enhanced.



Note: If you are migrating from a previous version of the SoftCopy Librarian to Version 3.2 and you have host repositories in sequential data sets, you may want to review the information in the *SoftCopy Librarian User's Guide (GC23-3414-02)* describing the new default settings and the effect they might have on your repository definitions.

About the SoftCopy Librarian

For those of you who are unfamiliar with the SoftCopy Librarian, it makes transferring BookManager books, bookshelves, and indexes to a repository easier and faster and makes managing your repository a snap.

You can define one or more repositories on an OS/390 host, accessible through FTP, or on a PC or LAN hard drive, accessible using Copy commands. The SoftCopy Librarian runs on a Windows 95® or later, or a Windows NT 4.0 or later, workstation.

Using the SoftCopy Librarian, you define a repository for the bookshelves and books that you want to manage and create a catalog for the repository. When you want to transfer bookshelves and books from a CD or from the hard drive on your workstation to your repository, the SoftCopy Librarian compares what you want to transfer with the catalog. The SoftCopy Librarian then lists the items that you do not have in your repository and the items that have changed since the last time you transferred bookshelves and books to the repository.

After you have transferred bookshelves to your repository, the SoftCopy Librarian also helps you maintain it. It lists everything that is currently in your repository and lets you delete items that have been replaced or that are no longer needed.

For more information, see "Part 3. Managing BookManager Softcopy" in *Installing, Managing, and Using the Online Library (GC31-8311-10)* booklet that is packaged with all Online Library Collections.

Check it out!

CD Collections to contain "Try-and-Buy" for Build/NT

by Jim Steipp

The September 1999 editions of the IBM Online Library CD collections will contain a try-and-buy version of BookManager Build for Windows NT®. The try and buy will give you the opportunity to test drive this product before you decide whether to purchase it. The product is being enhanced and the price is being reduced to under \$300, one-third the previous cost.

Set up your own OS/390 message database

by Jim Steipp

You can now set up your own OS/390 message database to help you find message explanations quickly when you want them. With the advent of larger hard drives on the newer workstations and laptops, it is now practical to create, on your workstation or laptop, a messages database of your own.



It's easy; install the Messages and Codes Bookshelf along with a BookManager Reader from the *OS/390 Collection (SK2T-6700)* on your workstation or laptop. Using the reader, you can quickly and easily locate any OS/390 message that you might need. This database only costs you space, less than 60MB on your hard drive. The real pay-back for you is the ability to locate system messages in books you might not look in, books that don't say "messages" in their title.

This tip was submitted by Adolph Kahan of AK Consultants (akahan@interlog.com).

If you want to invest a little more, \$100 and another 70MB, you can add the messages for IBM products that run on OS/390 (CICS, DB2, and many others) to your personal messages database. Install the messages bookshelf you want from the *Messages and Codes Collection (SK2T-2068)* on your workstation or laptop. This collection also gives you an extra bonus, messages for VM/ESA[®], VSE/ESA[®], and MVS.

Do you have a hint or tip to share?

by Jim Steipp

If you have a hint or tip about OS/390 documentation or softcopy that you would like to share with other OS/390 documentation users, send an e-mail with your hint or tip to jfsteipp@us.ibm.com. We are also interested in any amusing or instructive anecdotes you might be willing to share in relation to MVS or OS/390.

If you would like to be acknowledged, please be sure to include your name and company and if you would like to hear from other users include your e-mail address. We will not publish your name, company, or e-mail address unless you specifically give us permission, in writing, in the note that contains your submission.

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The URLy bird gets the info

by Kevin Godbey

Because you've often told us that the sheer quantity of information on the Web sometimes prevents you from easily finding what you need, we plan to provide you, with each new issue of this newsletter, a list of web addresses we think will be helpful to you.

Defining the standard

IBM sets the standard for business computing software, hardware, storage and communications products. See how at this address ...

<http://www.s390.ibm.com/products/>

Having a Y2K panic attack?

Check out ...

<http://www.s390.ibm.com/stories/year2000/>

Want some BIG help migrating to your next level of OS/390?

Check these out ...

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<http://www.s390.ibm.com/pma/>
Planning for Installation Interactive
<http://www.s390.ibm.com/os390/installation/iav2r7/>

Service Update Facility
<http://www.s390.ibm.com/suf/>

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Seriously, we don't expect you to type in that address! Here's what you do.

Go to:

<http://www2.ibm.link.ibm.com/>
Choose the link IBMLink™ And then choose the link Announcements

Here's some cool 'e' stuff! Check out: The Clipper Group's report "S/390—Driving e-business with Efficiency Rather than Emotion". It nicely summarizes key points on the value of S/390 as a webserver.

<http://www.s390.ibm.com/ftp/marketing/position/clipper.pdf>

If you need a Webserver available 99.999% of the time, take a look at "Five Nines/Five Minutes—Achieving Near Continuous Availability" for some expert advice.

<http://www.s390.ibm.com/marketing/390avail.html>

Or how about some basic e-business 'blocking and tackling' for general information about how S/390 can make your business.... an e-business!

<http://www.s390.ibm.com/nc/library.html>



Jodi Holmes

By the way..... for ANY info that you need for S/390... Start HERE!!

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Can't find the site you need?

Go here to e-mail us ...we'll help you find it!

<http://www.s390.ibm.com/os390/webqs.html>

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TOPICS

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