



z/XDC[®]
RELEASE GUIDE

z/XDC[®] Release z1.10
for z/OS

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z/XDC® z1.10 RELEASE GUIDE

PREFACE

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(Preface)

Our snail mail address is:

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Our home page provides the following services:

- General information about z/XDC.
- E-mail links to both Marketing, Technical Support, and Customer Services.
- FTP links for uploading diagnostic information and other files to Technical Support.
- FTP links for downloading current maintenance for z/XDC.
- Links permitting existing customers to download a full set of z/XDC's documentation.
- Online product delivery.
- 24x7 self-service for temporary, short-term, license activation codes for use in D.R. tests and other emergencies.

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ADDITIONAL MANUALS

z/XDC customers may make as many copies of this manual as they feel is necessary for the legitimate use of z/XDC within their organization. Existing customers may download from our web site (www.colesoft.com) printable copies of all of z/XDC's manuals. Each manual is available in PDF format.

In addition, all manuals (except the Installation Guide) can be printed directly from within z/XDC itself. To print your own set of manuals, start an z/XDC debugging session (example: XDCCALL IEFBR14), then issue the following commands:

```
PRINT HELP USERGUIDE;SET PRINT CLOSE  
PRINT HELP COMMANDS;SET PRINT CLOSE  
PRINT HELP MESSAGES;SET PRINT CLOSE  
PRINT HELP WHATSNEW Z110;SET PRINT CLOSE
```

Alternatively, you also can print these manuals by issuing z/XDC's **READ** command to run the MANUALS member of z/XDC's script library. Example: **READ DBCOLE¹.XDCZ1A.XDCCMDS(MANUALS)**.

You also may print a **Quick Reference** for z/XDC by issuing z/XDC's **READ** command to run the QUICKREF member of z/XDC's script library. Example: **READ DBCOLE.XDCZ1A.XDCCMDS(QUICKREF)**.

For more information about using the PRINT HELP and related commands, see **HELP HELP PRINTING**.

¹The library's high level qualifier may be different at your data center. Please ask your Systems Programmer.

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INTRODUCTION

ColeSoft has pursued the goal of making z/XDC's online documentation as comprehensive as possible. Towards that end, we have devoted considerable effort to greatly expanding the amount of information online and to improving the accessibility of that information and the navigability of the Online Help database as a whole.

This manual is nothing more than a printout of a section of the Online Help database. It is provided for those people (like myself) who steadfastly prefer looking at paper instead of glass. (It's hard to write margin notes on glass.)

The information in the Online Help database has been segmented into five printed documents:

- **z/XDC[®] User Guide**
Contains comprehensive tutorials about the many features and capabilities of z/XDC.
- **z/XDC[®] Commands**
Contains the detailed syntax, usage descriptions, and examples of all of z/XDC's commands.
- **z/XDC[®] Messages**
Contains descriptions of all of the messages that can be issued by z/XDC and all of its various components.
- **z/XDC[®] z1.10 Release Guide**
Contains a history of all changes and upgrades made in the current release of z/XDC.
- **z/XDC[®] Quick Reference**
Contains brief lists of z/XDC commands, built-in equates, and other information.

There are a couple of important structural differences between the Online Help and these manuals:

- When the Help panels are displayed online, a large number of "hyperlinks" are available for easily pursuing subjects related to the current information. These hyperlinks do not exist in the printed manuals.
- The printed manuals contain comprehensive indexes to help you quickly find the specific information that you may be looking for. These indexes do not exist online.
- The PDF copies of the printed manuals can be searched using typical PC-style searching commands.
- "Release Guides" for older versions and releases of z/XDC are available online via the "HELP WHATSNEW" command.

A Roadmap

The structure of this manual follows the structure of the Online Help database. A consequence of this is that the sequence of information in this book, over all, is decidedly non-sequential. For those of you who prefer to read a manual from beginning to end, please accept my apologies. However, please let me make some suggestions.

If you are an experienced z/XDC user, then start with the **z/XDC[®] z1.10 Release Guide**. This will tell you what's new in this release of z/XDC. Online, the Release Guide can be reached by typing HELP WHATSNEW. You can then use hyperlinks to pursue the specific information that is of interest to you.

For new users, turn to the **z/XDC[®] User Guide**, and examine its Table of Contents carefully. You will see that there are about two dozen major topics arranged alphabetically: Addressing, Attentions, Breakpoints, ..., Virtmem, XDCCALL. Information within topics is presented more or less sequentially. The following **User Guide** topics are of particular interest:

- Perhaps the first topic that should be read is named "**DEBUGGING**". This and its subtopics give comprehensive information about whether and to what extent you may have to modify your program in order to use z/XDC.
- Another topic that should be read early on is named "**XDCCALL**". XDCCALL is a utility program that can be used to start a debugging session for your program.
- If you plan to debug programs that run as batch jobs or system tasks, then read the "**CDF**" topic. "Cross Domain Facility" is the component of z/XDC that permits user terminals to connect to debugging sessions for background jobs.

For z/XDC command information, turn to the **z/XDC[®] Commands** manual. Start with the basic commands. The DISPLAY, FORMAT, and LIST commands display storage and important program related structures. The AT and TRAP commands set

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breakpoints. You can use the TRACE command to step execution through your program slowly. The ZAP command allows you to change storage and registers.

If you wish to play with z/XDC's terminal and user interfaces, read the "FULLSCREEN" section of the **User Guide**. Also, try the PROFILE command for displaying and changing a very large number of session parameters.

Generally, the best approach is to plan your reading using the Table of Contents. And of course, if you can't find the information that you are looking for, call us. There's no charge, and we will be glad to help! Our number is 800-XDC-5150 (USA: 928-771-2003). If the information that you want is in the book, we will explain what you want to know and tell you where to find complete information. If it is not, then we will add it for our next release.

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Online Help Panels

Help Whatsnew

XDC's Change History: For detailed information, type S at the left, then press ENTER. The information presented will be the most useful to experienced XDC users who want a concise summary of what has changed and a road map of where to look for more specific information.

- z/XDC z1.10 - (05/09) Major changes:
- Support for 75 new machine instructions introduced by IBM's new System z10 processor.
 - Licensed Features Support: Support for licensing (or not) specific Features within z/XDC.
- z/XDC z1.9 - (10/07) Major changes:
- Support for using REXX to write user-written z/XDC commands.
 - Decimal floating point and binary floating point display support.
 - z/OS R1.9 support.
- z/XDC z1.8 - (10/06) Major changes:
- Support for debugging SRB mode programs
 - Support for executing z/XDC as an FRR
- z/XDC z1.7 - (02/06) Beta release for z1.8
- z/XDC z1.6 - (11/04) Major changes:
- Support for HL-ASM R1.5's ADATA
 - Support for z/OS R1.6's ALRF
 - Protected-storage protection support
- z/XDC z1.3 - (05/04) Autocloning, complete program object support, etc.
- z/XDC z1.2 - (10/03) Z/Architecture support (64-bit addressing, etc.)
- XDC/SE S2.0 - (12/00) Incremental changes implemented via maintenance.
- XDC/SE S2.0 - (08/00) New release: Source Level Debugging Support!
- XDC/SE S1.0 - (11/98) New version! PDS/E support! XMS Support! Etc.
- XDC X3.3 - (10/97) Incremental fixes and additions
- XDC X3.2 - (12/96) Incremental fixes and additions
- XDC X3.1 - (04/95) Beta-test release of X3.2
- XDC X3.0 - (06/94) MVS/ESA support

Help Whatsnew Z110

z/XDC z1.10 includes all maintenance fixes to z1.9 and the following additional changes. For detailed information, you can select the following topics directly, or you can use HELP *NEXT to proceed sequentially. Use HELP *FORWARD to skip.

ADDRESSES - Some improvements have been made in the syntax of address expressions.

BUILTIMEQUATES - A new built-in equate has been created.

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COMMANDS	- Several z/XDC commands have been either added, deleted or changed.
DDNAMES	- Support for some new ddnames has been added.
FEATURES	- z/XDC as been split up into a base product and individually Licensable Features.
ONLINEHELP	- New topics in the Online Help.
SCRIPTS	- Several z/XDC command scripts have been either added, deleted or changed.
STARTUPPANEL	- Some improvements have been made to z/XDC's Startup Panel in ISPF.
Z10PROCESSOR	- IBM's new z10 processor introduced around 75 new machine instructions.
MISCELLANEOUS	- This is a list of minor changes.
INCOMPATIBILITIES	- Changes in this release of z/XDC that are incompatible with prior releases.

Help Whatsnew Z110 Addresses

The syntax of address expressions has been improved in the following ways:

Entry Label Names

An "entry label" is an ESD symbol that is not a csect or common block name. It is a name that occur on Assembler EXTRN, WXTRN or ALIAS statement.

In address expressions, a three-part name consists of a module name, followed by an ESD symbol, followed by an Assembler statement label (modulename.esdsymbol.labelname). Previously, whenever part-3 (labelname) was present, part-2 (esdsymbol) could not be an entry label; it had to be a csect name or a common block name.

This restriction has been relaxed. It now is legal to use entry labels as the middle part of three-part names. When you do this, z/XDC determines the csect in which the entry label occurs and uses that csect's map to resolve the given labelname.

For example, the following two statements are equivalent (when ESDLABEL is contained within MYCSECT):

```
FORMAT MYMODULE.MYCSECT.TOPLOOP
FORMAT MYMODULE.ESDLABEL.TOPLOOP
```

When part-3 of a three-part name is omitted, then part-2 will continue to reference its particular location within the load module. Example: The following are **not** equivalent:

```
FORMAT MYMODULE.MYCSECT
FORMAT MYMODULE.ESDLABEL
```

For more information, see HELP ADDRESSING SYMBOLIC MODULES.

Mixed-Case Names

A change has been made to make it easier to match names within maps that contain

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mixed-case names (such as some Binder maps, especially Binder maps for program objects containing C programs). The change is this:

- When a name occurs in a map exactly once (ie. no variations of that name occur that differ only in case), then you can reference that name without having to match its case.
- When multiple instances of a name occur that differ only in case, then you do have to exactly match the name's case in order to distinguish which of those instances you are trying to reference. However, if you fail to match the case of one of those instances, then an error message (DBC033E) is issued that lists up to three variants for the name you tried to match.

For more information, see HELP ADDRESSING SYMBOLIC MIXEDCASE.

Quoted Names

Using the Assembler's ALIAS statement, it is now possible to create csect names and entry point names that violate normal syntax rules. In order to cope with this, z/XDC now permits names to be given enclosed by single quotes ('). The following parsing rules apply:

- If a quoted string is intended to include quotes as a part of the name, then those quotes need to be doubled up. (Example: 'don''t')
- Everything else enclosed within matching quotes is ignored with respect to syntax.
- The quoting of names does not affect mixed-case matching. (See above.)
- For compound names (names separated by dots), each element in the name may be (but does not have to be) enclosed with quotes. The entire compound name, however, must not be so enclosed. Examples:

- These work:
'modulename'.'csectname'.'labelname'
modulename.'csectname'.labelname
(etc.)
- This doesn't work:
'modulename.csectname.labelname'

For more information, see HELP ADDRESSING SYMBOLIC QUOTED.

Subscripted Names

z/XDC has for a long time had support for using subscripts to reference specific instances of names that are duplicated within a map. However, z/XDC has never permitted using a the subscript "(1)" to reference unduplicated names. That restriction has now been relaxed. **.PSATOLD(1)** for example is now legal.

For more information, see HELP ADDRESSING SYMBOLIC DUPLICATES.

Help Whatsnew Z110 Builtinequates

The following built-in equate is new in z/XDC z1.10:

@CDP

This built-in equate labels the Current Display Pointer location for whichever

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working window or watch window it is displayed or referenced. For more information, see HELP EQUATES BUILTIN INTERNAL.

Help Whatsnew Z110 COmmands

The following commands are either new to z/XDC z1.10, changed in z/XDC z1.10 or deleted from z/XDC z1.10.

DMAP

When the **asm/XDC Feature** is **not** licensed, the DMAP command cannot be used to load ADATA maps and SYM data maps of Assembler Programs.

EWHERE

This is a new command that functions identically to the **WHERE** command, except that **EWHERE** follows the **error level** PSW's (EPSW's) execution address (instead of the retry level PSW). For more information, see HELP COMMANDS EWHERE.

Generally, the **WHERE** and **EWHERE** commands will produce similar displays **except** when the retry level and error level environments are different. Then the **WHERE** command will show the **retry level** resume address, while the **EWHERE** command will show the **error level** abend address. For more information, see HELP EXECUTIONLEVELS.

FORMAT

WHERE

EWHERE

When z/XDC's **c/XDC Feature** is licensed, the FORMAT command (and friends) can be used to display source code images of C and C++ programs loaded into storage. For more information, see HELP DEBUGGING C.

LIST CAP

This command has been changed to **LIST CAPS**.

LIST CAPS

LIST SESSIONS

The report produced by the LIST CAPS command has been enhanced in support of multiple Licensed Features. It now shows the license status of each Feature, the CAP Quota for all Licensed Features, and which particular users are currently using which Features. For more information, see HELP COMMANDS LIST SESSIONS.

LIST CRW0

LIST CRH0

LIST CR0

LIST ECRW0

LIST ECRH0

LIST ECR0

Support has been added for displaying the following new flags in Control Register 0:

- **CRW0 bit number 31**: This flag was intended by IBM for a purpose that never was implemented. It was left on by mistake in z/OS R1.9.

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- **CRW0 bit number 41:** This is the Enhanced DAT Enablement Control flag. For more information, see IBM's **Principles of Operation** (SA22-7832-06 and newer). Also see HELP COMMANDS LIST CONTROLREGISTERS INDIVIDUAL.

LIST DUMP

This is a new command that displays the current setting of the SET DUMP command (also a new command, see below). For more information, see HELP COMMANDS LIST DUMP.

LIST STATISTICS

For various reasons, z/XDC's internal storage GETMAIN/FREEMAIN management has been reorganized and centralized. One consequence of this is that the statistics accumulated for and reported by the LIST STATISTICS command are now more comprehensive than previously. For more information, see HELP COMMANDS LIST STATISTICS.

LIST SUBPOOLS

This command has been changed in three ways:

- (1) - New aliases have been created for existing operands. Examples:
 - REGION and PRIVATE are aliases for LOCAL.
 - COMMON is a new alias for GLOBAL.
 - CURRENTTASK and CURRENTTCB are new alias for omitting the first operand.
- (2) - New support has been added for a second operand that controls whether the command produces:
 - A detailed display (as it has always done in the past).
 - Or a summary display (now the command's default).In the summary display, descriptions of the individual storage blocks (allocated or freed) are not produced.
- (3) - In all displays, size totals are now displayed as appropriate.

For more information, see HELP COMMANDS LIST SUBPOOLS.

LIST XDC

LIST MAINTENANCE

The report produced by the LIST XDC command has been enhanced in support of multiple Licensed Features. It now shows the license status of each Feature, and the CAP Quota for all Licensed Features, For more information, see HELP COMMANDS LIST XDC.

MAP

When the **asm/XDC Feature** is **not** licensed, the MAP command cannot be used to load ADATA maps and SYM data maps of Assembler Programs.

PROFILE RESET

This command loads the factory default values for all profiled settings. The factory default setting for the **SET UPCASE/ASIS** command has been changed from UPCASE to **ASIS**. See below (SET ASIS) for more information.

SET ASIS

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SET UPCASE

These commands no longer have any affect upon the resolution of names used in address expressions. Csect names, entry point names, label names, etc. now are treated in a case-sensitive or insensitive way depending solely upon whether or not the maps that contain those names contain multiple instances of the names that differ only by case. For more information, see HELP ADDRESSING SYMBOLIC MIXEDCASE.

The SET UPCASE/ASIS commands now affect only the treatment of text strings.

For:

- The **PROFILE RESET** command,
- The factory distributed **XDC PROFILE**,
- The factory distributed **WIDE PROFILE**,
- Newly created profiles,

z/XDC's factory default setting for this value has been changed from UPCASE to **ASIS**.

SET DUMP

When z/XDC calls certain external services, it, of course, internally establishes abend protection so that abend failures in the called services do not bring down z/XDC itself. Normally, such abend protection has the side effect of suppressing dumps of the abend; however, sometimes such dump suppression is not desirable. When that is the case, this new **SET DUMP** command can be used to cause a system dump to be produced prior to the abend being suppressed. For more information, see HELP COMMANDS SET DUMP.

Help Whatsnew Z110 Ddnames

Support for the following ddnames has been either added or changed. Select the hyperlinks for more detailed information. For complete information about all ddnames related to z/XDC, see HELP DDNAMES.

xxxFPTnn: This ddname, when present, allows you to specify the number of FRR Proxy Tasks are to be created by the xxxCALL/xxxCALLA program. (The default is 3 tasks.) For more information, see HELP DEBUGGING FRR. (Note, this support was introduced in z/XDC release z1.9 via Z19-0711G.)

xxxSDUMP: When z/XDC fails due to an unexpected abend, then this ddname causes z/XDC to attempt to take a dump by issuing the SDUMPX macro (instead of relying upon RTM to do it). That's old news.

The new news is that the restriction, that z/XDC must be running authorized in order for this to work, has been lifted. Now when a //xxxSDUMP allocation is present, and z/XDC fails, an SDUMP will be requested regardless of whether z/XDC is running authorized or nonauthorized.

Help Whatsnew Z110 Features

z/XDC has been split up into a base component and individually Licensable Features. The base component is called the **z/XDC Engine**. It's also called **base/XDC**.

The Licensable Features are:

- **asm/XDC**: Support for loading ADATA and SYM data maps of Assembler programs (a Legacy Feature)

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- Certain planned extensions to z/XDC, not yet released.

For more information, see HELP SUPPORT FEATURES.

Help Whatsnew Z110 Onlinehelp

As with any new release, the Online Help has been extensively updated to document the changes in this release. But in addition, the following topics have either been added or extensively revised, so particular mention is appropriate.

HELP ADDRESSING SYNTAX BASETERM

This topic and its various subtopics have been rewritten, and several examples have been added to improve (hopefully) their discussions of the base term of address expressions.

HELP ADDRESSING SYNTAX BASETERM REGISTERSANDPSWS

This is a new topic that discusses more thoroughly how to use PSWs and general registers, access registers and control registers in address expressions.

HELP COMMANDS LIST PGMS REPORT

A table has been added to this topic that explicitly documents the meanings of the numerous attribute mnemonics that are displayed by the LIST PGMS command.

HELP DEBUGGING AMODE64

This is a new, single topic that brings together a lot of information about 64-bit wide registers, addresses, etc. and about debugging 64-bit programs in z/XDC in general.

HELP MAPS

HELP COMMANDS DMAP

HELP COMMANDS MAP

These topics have been substantially rewritten to include discussions of the effects that the asm/XDC Licensed Feature has upon the mapping process.

HELP REXX

Several improvements have been made to this topic and its subtopics:

- A new subtopic (SAMPLEEXECS) has been written listing and briefly describing the several sample REXX execs that are distributed with z/XDC.
- Another new subtopic (XDCCOMMANDS) has been written discussing the issues regarding issuing z/XDC commands from user written REXX execs.
- Documentation has been written for a previously undocumented built-in function named XDCDUMP.
- Documentation has been written for a new sample exec named RXTSTENV.

For an overview of the changes made to Online Help for REXX, issue the command, **LIST HELP REXX 3**.

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HELP SUPPORT FEATURES

This is a new topic that discusses the Licensable Features that are available for z/XDC.

HELP SUPPORT MAINTENANCE

This is a new topic that describes the process of downloading and APPLY'ing maintenance to z/XDC. (This information has always been in z/XDC's Installation Guide. Putting it here simply makes it more convenient to find.)

HELP SUPPORT SUPPORTEDOS

This is a new topic that declares z/XDC's Statement of Support. It indicates the z/OS operating systems in which and the IBM processors on which z/XDC is expected to run.

HELP XDCCALL ENVIRONMENT

Information has been added about debugging AMODE(64) programs with xxxCALL (and friends).

Help Whatsnew Z110 Scripts

The following changes have been made to the command scripts that are distributed with z/XDC. (Command scripts are executed via the **READ** command.)

The HOOK Script

The **HOOK** script has been rewritten. It now examines the environment to determine dynamically whether it needs to create an ESTAEX or an FRR for running z/XDC. If the script detects any of the following, then it creates an FRR:

- The code is running in SRB mode.
- The code already has an FRR established.
- The code is holding locks (any kind).

If none of the above conditions are true, then the script will create an ESTAEX instead of an FRR.

For more information, see **HELP SCRIPTS HOOK**.

(Note, this support was introduced in z/XDC release z1.9 via Z19-0804A.)

The MAKEAUTH Script

The **MAKEAUTH** script can be used by one authorized debugging session to make another, existing debugging session also authorized. For more information, see **HELP SCRIPTS MAKEAUTH**.

The TIOTMAP Script

The **TIOTMAP** script has been written that generates equates that label up to 999 DD entries in the current task's Task I/O Table (TIOT). For more information, see **HELP**

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SCRIPTS TIOTMAP.

Help Whatsnew Z110 Startuppnel

A few changes have been made to z/XDC's Startup Panel in ISPF:

- A new field has been added by which you can redirect RENT and REFR load modules to being loaded into key-8 storage (instead of key-0).
- The ISPF HELP panels (for the Startup Panel) have been completely reorganized, rewritten and expanded.
- The Commands DSN field has been moved and renamed to **Script DSN**.

Help Whatsnew Z110 Z10processor

In March of 2008, IBM introduced a new processor named the System z10. With this new machine, IBM introduced 75 new machine instructions to the z/System architecture. Support has been added to z/XDC for recognizing, displaying and handling all of the new instructions.

Note, the new machine instructions are documented in the sixth edition of IBM's "z/Architecture Principles of Operation" (SA22-7832-06).

Help Whatsnew Z110 Miscellaneous

Several additional random changes have been made to z/XDC in this release. Most of them are listed here. For detailed information, you can select the following topics directly, or you can use HELP *NEXT to proceed sequentially. Use HELP *FORWARD to skip.

CONTROLREGISTERDISPLAYS
FRRPROXYTASKSMOVED
HD0C4FIXED
LICENSECONTROLDATA
PROBLEMSTATEPC
REXXENVIRONMENT
#XDCISMACRO

Help Whatsnew Z110 Miscellaneous Controlregisterdisplays

IBM has implemented new flag settings in control register 0 (bits 31 and 34). So we've changed the LIST CR0, LIST CRWH0 and LIST CRW0 commands to display the new flags.

In the LIST CRW1 command, the word (**partial**) was being displayed when it shouldn't have.

Help Whatsnew Z110 Miscellaneous Frrproxytasksmoved

The FRR proxy tasks, created by xxxCALLA in response to a //xxxFPTnn DD DUMMY allocation, have been moved. Previously, they were ATTACH'd as subtasks of the xxxCALLA task. Now, they are attached as subtasks of the user program's, task.

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(Help Whatsnew Z110 Miscellaneous Frrproxytasksmoved)

The primary reason for this move is that it removes one of the reasons for having a //xxxJSTEP DD DUMMY allocation. (See HELP MULTITASK SCOPE for more information.)

Help Whatsnew Z110 Miscellaneous Hd0c4fixed

Support has been added to XDC's Deferred Breakpoints/Hooks processor for setting hooks into load modules and program objects being loaded into store-protected storage. See HELP BREAKPOINTS DEFERRED for more information. (Note, this support was introduced in z/XDC release z1.9 via Z19-0804B.)

Help Whatsnew Z110 Miscellaneous Licensecontroldata

The default license expiration warning period has been changed from 21 days to **37 days**. (This setting continues to be overridable by the Installer Programmer at any time.)

Help Whatsnew Z110 Miscellaneous Problemstatepc

Support has been added for debugging PC routines that run in problem state and user key. For more information, see HELP DEBUGGING PCROUTINES. (Note, this support was introduced in z/XDC release z1.9 via Z19-0711D.)

Help Whatsnew Z110 Miscellaneous REXXenvironment

z/XDC's REXX interface continues not to support executing XDC commands "sent to the REXX Environment" (for example, via REXX's ADDRESS instruction). However, how the interface handles such attempts has changed:

- Previously, z/XDC would echo the attempted command and follow it with a rather opaque unnumbered message. Now, z/XDC still echos the attempted command, but then it frames it with a more descriptive, numbered message (DBC414E).
- Previously, the command attempt would complete with RC=0. Now, it completes with RC=8.

A new sample REXX exec, named **RXTSTENV**, has been written to illustrate what happens to attempts to issue z/XDC commands via the environment.

For more information, see HELP REXX ENVIRONMENT.

Help Whatsnew Z110 Miscellaneous #xdcismacro

A new macro has been written named **#XDCIS**. It generates a short inline routine that scans a TIOT (either the current TIOT or a given TIOT) looking for a ddname of the form **XDCISxxx**. If found, then the **xxx** value is extracted, padded on the right with five blanks, and stored into a caller provided answer area.

If you have written a program that LOADs into storage z/XDC's primary load module via the hardcoded name **XDC**, and if you now have another copy of z/XDC (perhaps a newer release) that has been given a different 3-character name (a **clone** name), and you now want your program to use that clone name instead of "XDC", then you've got a problem: You will have to go to your source code, change the hardcoded name,

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(Help Whatsnew Z110 Miscellaneous #xdcismacro)

reassemble, and rerun. This **#XDCIS** macro offers one way out of that problem.

You can add to your job a dummy allocation named **XDCISxxx**. For example, if you need to have your program LOAD a release of z/XDC that has been named Z1A, then you can add the following DD card to your job's JCL:

```
//XDCISZ1A DD DUMMY
```

Then you can code the **#XDCIS** macro to scan that job's Task I/O Table (TIOT). It will find the **XDCISZ1A** ddname, and it will extract from that ddname the value **Z1A**, and it will store that value into an 8-character buffer with the remaining 5 characters blanked out. Then your LOAD macro can use the extracted name (instead of a hardcoded **CL8'XDC'**) when loading z/XDC's primary load module. For more information, see **HELP XDCCLONES #XDCIS**.

Note, when no **XDCISxxx** ddname is found, the **#XDCIS** macro defaults to storing **CL8'XDC'** into the provided answer area.

Help Whatsnew Z110 Incompatibilities

Several changes have been made that are incompatible with prior releases of z/XDC. For detailed information, you can select the following topics directly, or you can use **HELP *NEXT** to proceed sequentially. Use **HELP *FORWARD** to skip.

BUILTINFUNCTIONS	- Changes to the ~ALET() and ~XALET() built-in functions.
DEFAULTS	- Changes to various of z/XDC's default actions, values and settings.
REXXENVIRONMENT	- Changes z/XDC's REXX Environment support behavior.
SUBPOOLUSAGE	- Changes to z/XDC's usage of storage subpools.
SVCREQUIRED	- Installation of z/XDC's Service SVC is no longer optional.
USEREXITS	- Changes affecting user written z/XDC exits.
XDCCALL	- Changes affecting the XDCCALL[A]/XDCCMD[A] program.

Help Whatsnew Z110 Incompatibilities Builtinfunctions

The following changes have been made to the types of operands supported for the **~ALET()** and **~XALET()** built-in functions:

- A pure **RWn** (8-byte wide register) is no longer supported as an operand of the **~ALET()** and **~XALET()** built-in functions.

Address expressions based on **RWn** [example: **ALET(RW2!)**] are still supported.

- When a pure **1-7 digit** hex number is given as the operand of an **~ALET()** function, it is now interpreted as an address, not as an **ALET**.

A pure **8 digit** hex number continues to be interpreted as an **ALET**.

For more information, see **HELP FUNCTIONS ALET**.

Help Whatsnew Z110 Incompatibilities Defaults

The following changes have been made to various of z/XDC's default actions, values and settings.

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(Help Whatsnew Z110 Incompatibilities Defaults)

SET UPCASE/ASIS Setting

The default for this setting has been changed from UPCASE to **ASIS**. This is because changes have been made to the scope of this setting. Previously, the UPCASE/ASIS setting would affect the resolution of address expressions. That is no longer the case. (See HELP ADDRESSING SYMBOLIC MIXEDCASE for details.)

Now, the UPCASE/ASIS setting only affects **text strings**. See HELP COMMANDS SET ASIS for more information.

Existing, saved profiles will not be affected by this change to the default setting. Only the default profiles provided by ColeSoft (**XDC** and **WIDE**) and the factory default profile created by the **PROFILE RESET** command are affected.

Help Whatsnew Z110 Incompatibilities REXXenvironment

z/XDC's REXX interface continues not to support executing XDC commands "sent to the REXX Environment" (for example, via REXX's ADDRESS instruction). However, attempts to do so now end with **RC=8** (instead of RC=0). For more information, see HELP REXX ENVIRONMENT.

Help Whatsnew Z110 Incompatibilities SUBpoolusage

The subpools that z/XDC uses for its internal control blocks and data areas have been changed. Previously, z/XDC used subpool 47 for permanent data and subpool 48 for transient data. Now, z/XDC uses subpool **57** for its permanent data, and subpools **58** and **59** for transient data.

Further, in order to facilitate debugging multi-key programs, when z/XDC runs privileged, it takes steps to create subpools 57 and 59 in key-9 storage.

Help Whatsnew Z110 Incompatibilities SVCrequired

Installation of z/XDC's **System Interface** is no longer optional. Now, when a debugging session is started, z/XDC checks for the presence and usability of its Service SVC (one of the System Interface's components). If z/XDC discovers either that the SVC is not present or that it is present but not usable, then z/XDC will refuse to continue with the debugging session. Instead, the abend (or 0C1 for breakpoints) will be percolated.

I had to do this because keeping track of what would and would not work when the System Interface was absent, and dual-pathing the code has simply become too much of a burden to be worthwhile continuing.

For more information about z/XDC's System Interface, see HELP MESSAGES DBC514.

Help Whatsnew Z110 Incompatibilities Userexits

The following changes affect user written z/XDC exits.

DBCPARM Block (#DBCPARM Macro) Changes

The value that must be stored into the **DBCPVRSN** field has been changed. Previously,

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(Help Whatsnew Z110 Incompatibilities Userexits)

that field needed to be set to the value of the &XDCVRSN symbol. However, with the advent of release z1.10, that symbol now generates a nine-character string (instead of 8), and unfortunately the DBCPVRSN field may be only 8 bytes long.

From now on, the DBCPVRSN field needs to be filled from the **&XDCVRS8** symbol. That symbol will be guaranteed to be set to an 8-character value regardless of z/XDC's release name.

Here is some suggested logic for dealing with this:

```
#DBCVRSN ,          DEFINE XDC EQUATES AND SYMBOLS
GBLC  &XDCVRSN      FOR z1.9  AND OLDER
GBLC  &XDCVRS8      FOR z1.10 AND NEWER
...
MVC   DBCPVRSN,=CL8'&XDCVRS8'
CLI   DBCPVRSN,C' '   (WILL BE BLANK WHEN VALUE IS NOT SET)
JNE   PVRSNOK
MVC   DBCPVRSN,=CL8'&XDCVRSN'   (USE OLDER VALUE)
PVRSNOK DS    0H
```

SPTEMP and XDCSPID# Equates

These equates represent the temporary and permanent data subpools that z/XDC uses:

- The value of the XDCSPID# equate has changed from 47 to **57**.
- The SPTEMP equate no longer exists. It has been replaced by **SPTEMP9** whose value is 59.

&XDCVRSN and &XDCRLSE Symbols

Because z/XDC current release's name is longer than in prior releases, the lengths of the character strings created by the **&XDCVRSN** and **&XDCRLSE** symbols have grown from 8 and 4 characters (respectively) to **9** and **5**. This may create a problem for Assembler code that uses them in a context where the length change would cause errors.

To help relieve such problems, the **#DBCVRSN** macro now provides two new symbols: **&XDCVRS8** and **&XDCRLS4**. These symbols are guaranteed to define 8-byte and 4-byte character strings regardless of z/XDC's current release name.

If you have Assembler code that makes use of the &XDCVRSN and &XDCRLSE symbols, then consider whether or not you need to change some or all of that code to use the &XDCVRS8 and &XDCRLS4 symbols instead.

Help Whatsnew Z110 Incompatibilities Xdcall

The following changes affect the XDCCALL program.

FRR Proxy tasks

The FRR debugging proxy tasks have been moved from being subtasks of the XDCCALL task to being subtasks of the task in which the user program runs. For more information, see HELP DEBUGGING FRR.

Initial Register Save Area

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(Help Whatsnew Z110 Incompatibilities Xdcall)

For AMODE(64) programs, R13 no longer points to an F7SA save area. Instead, it now points to the same save area buffer that is pointed to by **TCBFSA**. (This is consistent with what the System's ATTACH and ATTACHX services set up.)

Note that the save area buffer pointed to by TCBFSA is **144** bytes long, so it is large enough to be used either as an old style 72-byte save area or as a 144-byte **format-4 (F4SA)** save area. For more information, see HELP XDCCALL ENVIRONMENT.

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Please note that this index is sorted according to the ASCII collating sequence, not EBCDIC. In particular, this means that digits sort in front of (not behind) alphabets, and that only some special characters sort in front of alphabets. Others sort behind alphabets.

The word processing program that is used here supports only two levels of index entries: main topics and sub-topics. When a sub-topic entry says "**see major topics**", this indicates that you should look for the same index entry among the main topics.

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