

Synergy/DE Quick Migration Guide

Migrating from Version 7 to Version 10.1

Migrating from Version 8 to Version 10.1

Migrating from Version 9 to Version 10.1



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Contents

Overview

Migrating from Version 7 to Version 10.1

License Manager	2
Synergy DBL	3
Workbench	25
UI Toolkit	27
Composer	35
Repository	36
ReportWriter	38
xfServer	39
xfServerPlus	40
xfNetLink Java Edition	42
xfNetLink .NET Edition	44
SQL OpenNet	46
xfODBC	47
SQL Connection	50

Migrating from Version 8 to Version 10.1

License Manager	53
Synergy DBL	54
Workbench	73
UI Toolkit	74
Composer	80
Repository	81
ReportWriter	83
xfServer	84
xfServerPlus	85

xfNetLink Java Edition	87
xfNetLink .NET Edition	89
SQL OpenNet	91
xfODBC	92
SQL Connection	94

Migrating from Version 9 to Version 10.1

License Manager	96
Synergy DBL	97
Workbench	107
UI Toolkit	108
Composer	112
Repository	113
ReportWriter	115
xfServer	116
xfServerPlus	117
xfNetLink Java Edition	118
xfNetLink .NET Edition	120
SQL OpenNet	122
xfODBC	123
SQL Connection	125
Synergy/DE Data Provider for .NET	126
Synergy DBL Integration for Visual Studio	127

Overview

This document explains the changes you may need to make to your system and code when you upgrade to Synergy/DE™ version 10.1. There are sections for users migrating to 10 from 7.x, 8.x, and 9.x.

If you are migrating from Synergy/DE version 6.1 or 6.3, see the [version 9.5.3 Quick Migration Guide](#).

If you are migrating from Synergy™ version 5.7.9 or earlier, refer to the [Updating Synergy/DE](#) manual for information about changes in version 5.1 and 5.7. Then, see the [version 8.1 Quick Migration Guide](#) for additional information; it includes a section on migrating from version 5.

Operating System Requirements

For operating system requirements, see the version 10.1 installation instructions. Additional details, including patch requirements, can be found in the “[Requirements and Considerations](#)” chapter of the *Installation Configuration Guide*.

Additional Resources

For additional information on migrating, see the product release notes, the [Updating Synergy/DE](#) manual, or your Synergy/DE account manager.

Questions or Comments

We welcome your comments and suggestions for improving this guide. Send your comments, suggestions, and queries, as well as any errors or omissions you’ve discovered, to doc@synergex.com.

Migrating from Version 7 to Version 10.1

This section is designed to help you migrate from version 7.1, 7.3, or 7.5 to version 10.1.

Some items in the Version 7 usage columns in the Required Changes tables include a version number in parentheses at the end of the entry. This indicates the version to which that item pertains. For example, if the version number is 7.1, users migrating from 7.1 to 10.1 will need to make the required change. However, users migrating from version 7.3 or 7.5 to 10.1, will not need to make the change. If no version is specified, the item applies to all version 7 users.

License Manager

Compatibility Information

- ▶ You must reconfigure all products for Synergy/DE version 10.
- ▶ License Manager server version 10 supports version 6.1 or higher clients on UNIX and version 6.3 or higher clients on Windows.
- ▶ (Windows) In version 10, License Manager server (**synd**) uses sockets to communicate instead of pipes. It will, however, still accept connections from pre-version 10 license clients using pipes. See the release notes, **REL_LM.TXT**, for complete information on this change.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you run License Manager from the License Configuration option on the Start menu... (7.1)	Use the Synergy Configuration Program instead.	The menu option has been removed.
Windows	If you use the lm -e option to configure products...	Instead, use lm -a or the Synergy Configuration Program, or run the .skf file by double-clicking on it in Windows Explorer (32-bit only).	The -e option, which prompted the user for each piece of information when configuring products, was deprecated to support Windows 8.

Synergy DBL

Compatibility Information

- ▶ Version 10 will run code compiled and linked with Synergy/DE 6.1 and higher; you do not have to recompile unless you want to debug or take advantage of performance improvements and some fixes made between version 7 and version 10; these are noted in the table below.
- ▶ If you recompile, you will need to make changes to your code due to stricter error checking in the compiler and the fact that we have strongly prototyped all system-supplied subroutines and functions. In most cases, the current compiler will find errors that earlier versions of the compiler did not. You can turn off most of the stricter error checking by compiling with the **-qrelaxed** (/RELAXED on OpenVMS) switch. For details on this switch and its options, see “[Compiler options](#)” in the “Building and Running Traditional Synergy Applications” chapter of *Synergy Tools*.
- ▶ To debug with version 10, you must recompile because the debugger cannot otherwise show source line information or provide symbolic access to variables. If you need to debug your code in version 10, but are not yet ready to take advantage of the stricter error-checking and strong prototyping, recompile with the compiler distributed as **dbl8**. Note that code compiled with **dbl8** can be run only on version 9 and higher. (See “[The dbl8 compiler](#)” in the “Building and Running Traditional Synergy Applications” chapter of *Synergy Tools* for more information.)
- ▶ The object files, object libraries, and executables generated with version 10 are not backward compatible. However, changes you make to your code to comply with the enhanced error checking and strong prototyping will compile under previous versions of Synergy, unless stated otherwise in this document. In those few instances, you can use the IFDEF compiler directive so that the code can be compiled with either version 10 or a previous version. For example, let's say you want to overload the subroutine PUTCM, which was defined like this in version 7:

```
.subroutine putcm  
data, a
```

Due to strong prototyping, the parameter *data* is now defined thus:

```
in req data, a
```

Since the IN and REQ parameter modifiers are new, code that includes them will not compile in a prior version. You can handle the situation like this:

```
.ifdef DBLV10  
    subroutine putcm  
    in req data, a  
.else  
    subroutine putcm  
    data, a  
.endc
```

- ▶ (Windows) The default installation directory for Synergy/DE is Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ Starting with version 9.5, Synergy/DE supports Microsoft .NET. Some features in previous versions of Synergy are not supported when using Synergy .NET. These include deprecated data types, syntax, APIs, and compiler options. You can see how compatible your code will be with .NET by compiling with the **-qnet** option. It will output warnings to standard error for items that your code uses that are not supported in Synergy .NET. For more information on the differences between traditional Synergy and

Synergy .NET, see the “[Moving Your Synergy Application to .NET](#)” chapter of the *Professional Series Portability Guide*. For information on developing for .NET, see the “[Developing for the .NET Framework](#)” chapter of *Getting Started with Synergy/DE*.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use the SYN_VER define in dbl.def...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. Where necessary, Synergy DBL routines have been modified to handle both letters and numbers.
All	If you use the %VERSN routine and have code that parses the returned value to perform a string comparison with an earlier version...	Review your comparison logic and change it where necessary.	Version number comparisons may not evaluate as expected because of the two-byte version in Synergy/DE 10. We recommend you review <i>all</i> version string logic in your application.
All	If you pass a variable of the wrong data type, such as an alpha variable to a routine that expects a decimal or integer variable...	Correct your code to use the correct data type. Optionally, you may be able to cast (^A, ^D, or ^I) the variable to the correct type.	<p>Passing the incorrect data type causes the compiler to generate a “Type mismatch” error.</p> <p>The compiler now strongly prototypes system-supplied functions and subroutines, which means that your call must exactly match the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required. You can reduce the occurrence of this error by using the -qrelaxed:param compiler option.</p> <p>In addition, the compiler strongly prototypes all user-defined routines in a compilation unit to ensure that calls within that unit match the routine declaration. For these routines, you can use the -qrelaxed:local compiler option to reduce the occurrence of this error.</p>

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you fail to pass required arguments to a routine...	Correct your code to pass the missing arguments.	Previously, this error would not be caught until runtime. Now, all system-supplied routines are strongly prototyped, the compiler generates a "Missing required parameter <i>name</i> in routine <i>name</i> " error.
All	If you pass more arguments to a routine than the routine defined...	Correct your code to pass the correct number of arguments. For user-defined routines, you can optionally do one of the following to correct your code: <ul style="list-style-type: none"> Change the routine declaration to include the extra arguments. Change the routine declaration to include the VARARGS modifier. 	This situation now causes the compiler to generate a "More argument values than declared parameters in routine" error. See the item above for an explanation of strong prototyping in system-supplied and user-defined routines and for the compiler options that will reduce the occurrence of this error. Note that if you use VARARGS, your code will no longer compile in versions 8.3 and earlier. For more information on VARARGS, see the Synergy DBL Language Reference Manual .
All	If your code includes external functions in which the function return type in the function declaration does not match the return type of the function itself...	Correct your code so that they match. You can now explicitly specify the type of the function return value. If it's not explicitly typed, the return type is determined by the data type of the first FRETURN statement. See FUNCTION-ENDFUNCTION in the "Synergy DBL Statements" chapter of the <i>Synergy DBL Language Reference Manual</i> for details.	Because the compiler now strongly prototypes all routines in a compilation unit, this situation now causes the compiler to generate an "External function <i>name</i> does not match prototype" error. You can reduce the occurrence of this error by using the -qrelaxed:extf compiler option.
All	If your code uses nested literals (that is, a literal that references another literal)...	Change your code to use .DEFINES instead.	Because the compiler is now multi-pass, a nested literal field is not evaluated until after the preprocessor pass. This situation now causes the compiler to generate a "Not a compile-time expression" error.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you overload any system-supplied function or subroutine...	Verify that your overloaded routine exactly matches the prototype of the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required.	<p>We now strongly prototype all system-supplied functions and subroutines. Using the -W4 compiler option (/WARNINGS=4 on OpenVMS) will show the prototype the compiler expects and your overloaded routine definition, so that you can see how they differ.</p> <p>Once you change your routine, your code may no longer compile in versions 8.3 and earlier. See “Compatibility Information” on page 3 for a suggestion on how to handle this situation.</p>
All	If you use the %SYSERR routine...	<p>Check your code to ensure that the call to %SYSERR occurs immediately after an error is detected.</p> <p>Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.</p>	<p>If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %SYSERR, then %SYSERR will return a “success” status code from the I/O operation, rather than the expected system error. The same applies to %SYN_SYSETEXT, when it is called without passing the optional argument. This change may break your code.</p> <p>This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.</p>
All	If you use the %ERROR routine...	<p>Check your code to ensure that the call to %ERROR occurs immediately after an error is detected.</p> <p>Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.</p>	<p>If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %ERROR, the <i>status</i> and <i>stc</i> arguments will return a “success” status code from the I/O operation, rather than the expected error number. This change may break your code.</p> <p>This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.</p>

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use %ISINFO to return alpha data...	Use the new %ISINFOA routine instead or use ^A to cast the return type.	%ISINFO now returns only numeric data because strong prototyping requires that there be only one return type. If you use the new %ISINFOA routine, your code will no longer compile in versions 8.3 and earlier. For backward compiler compatibility, use ^A.
All	If you use the %SYNSOCK routine...	Change your code to use the %SS_ functions instead.	Previously, the Synergy socket API routines were implemented as parameterized macros (%SS_), which invoked the %SYNSOCK routine. Now, the compiler treats the %SS_ routines the same as functions in order to support strong prototyping. Therefore, %SYNSOCK is no longer needed and has been removed from the runtime. See the “Synergy Socket API” chapter of the <i>Synergy DBL Language Reference Manual</i> . This change may break your code.
All	If your code uses END (as opposed to .END) and expects all .DEFINEs to be removed and unavailable to the next module in the source file...	Add .UNDEFINE compiler directives as necessary. For example, a .DEFINE might be used to control the initializing of a global data section: <pre>.ifdef GBL_INIT .undefine GBL_INIT global data section A ,init .else global data section A .endc</pre>	The compiler now treats END and .END the same. This means that .DEFINEs are not undefined when END is encountered and are therefore available to the next module in the source file. This could cause a “Symbol already defined” error or lead to unexpected behavior because something is defined when it should not be. This change may break your code. To retain the previous behavior, in which END and .END were treated differently, use the -qrelaxed:end compiler option.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	<p>If your code defines a field that implicitly extends a record by overlapping another field...</p> <p>For example,</p> <pre>record pbuff ,a80 page_hdr ,a5@pbuff page_text ,a85@pbuff+5</pre>	<p>Correct your code.</p> <p>In this example, you could change the size of pbuff to 90.</p>	<p>This is often the result of a coding error. It is no longer supported, and the compiler now generates a "Cannot extend record by <i>nn</i> bytes with overlay field <i>name</i>" error.</p> <p>Note that a field is permitted to extend a record as long as it does not overlap another field.</p>
All	<p>If your code .INCLUDEs named records that have overlay fields, and you get an "Ambiguous symbol" error when compiling...</p>	<p>Correct your code to remove the ambiguity. The easiest way to do this is to use the NORECORD qualifier.</p> <p>For example, instead of this:</p> <pre>.include "rec" repository, record=myRecord</pre> <p>You can do this:</p> <pre>record myRecord .include "rec" repository, norecord</pre> <p>The other option is to remove the ambiguity by renaming the duplicate symbol.</p>	<p>We changed the way in which .INCLUDE offsets are specified by the compiler. If the record is <i>named</i>, dot notation using the record, group, and field names is used. If the record is <i>unnamed</i>, a numeric offset relative to the overlay field is used. The use of the named reference could cause the compiler to generate an "Ambiguous symbol" error if you have a duplicate symbol elsewhere in your code. Using the NORECORD qualifier will ensure this does not happen. For more information, see "Including from a Repository" in the Discussion for .INCLUDE in the "Preprocessor and Compiler Directives" chapter of the <i>Synergy DBL Language Reference Manual</i>.</p>
All	<p>If your code includes a data division in which the first item is a structure <i>and</i> there is no MAIN statement...</p>	<p>Add a MAIN statement.</p>	<p>MAIN is optional <i>unless</i> the first item in the data division is a STRUCTURE statement without a corresponding ENDSTRUCTURE. The error generated by the compiler will vary.</p>

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	<p>If your code contains references to ambiguous field definitions within the data division...</p> <p>For example,</p> <pre>record red ,a3 record joe blue ,a ^size(red) red ,d2</pre> <p>A similar problem occurs when you have a structure defined in a repository, and you reference that structure as an implicit group in another repository structure and name the group the same name as the referenced structure, and then include both structures in a program.</p>	<p>Correct your code to remove the ambiguity.</p> <p>In the first example, the correction required would depend on what the code was attempting to do.</p> <p>For the repository example, you need to either rename the first structure in the .INCLUDE directive to something unique, or change the name of the group within the second structure in the repository.</p>	<p>Ambiguous field references can now be detected within the data division and cause the compiler to generate an "Ambiguous symbol" error. Previously, they could be detected only when referenced within the procedure division. To allow the old usage, use the -qrelaxed:path compiler option.</p>
All	If your code uses i8 data types as function return values on 32-bit systems...	Change your code to use a supported data type.	<p>Using an i8 (or long) data type on a 32-bit platform now causes the compiler to generate a "Type i8 cannot be return value on 32-bit platform" error.</p> <p>Previously, there was no error, and if you passed a value larger than an i4 to an i8, it was truncated.</p> <p>This change may break your code.</p>
All	If your code passes a null argument (") to ^ARGN...	Use ^ARG instead.	<p>^ARGN now returns an "Improper use of null argument" error, because a valid decimal descriptor can't have a length of 0. This change may break your code.</p>
All	If your code passes an alpha larger than 10 digits to a statement that accepts both alpha and numeric values, and you are using it in a form where a number is required (e.g., a record number on a WRITE statement)...	Use ^D to cast the alpha to a decimal.	<p>We convert the passed alpha value to an i4, which has a maximum size of 10.</p>

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code uses anything other than an a6 for a GETRFA or RFA qualifier variable...	Change your code to use an a6 or set system option #56.	With the introduction of GRFAs, if the size of a GETRFA or RFA argument is anything other than 6 or 10 bytes, an "Invalid record's file address" error is generated. Setting system option #56 turns off this behavior and causes all RFAs that exceed 6 bytes to be treated as 6-byte RFAs. Even if you are using an a10 , you will need to set system option #56, because a10 now indicates a GRFA and will cause a "Record not same" or "Feature not supported in this version" error when used for an RFA. This change may break your code.
All	If your code includes an ELSE statement on the same line as an ENDCASE statement...	Move it to the next line.	This coding style is no longer permitted and causes the compiler to generate an "ELSE part expected" error.
All	If your code uses the LOCAL, STATIC, or STACK qualifiers with the MAIN statement...	Remove them from your code.	MAIN no longer allows these qualifiers. Previously, although allowed, they were ignored and did not affect how your code operated. Now, the compiler generates an "Invalid MAIN declaration" error.
All	If your code uses FIRST or LAST with the I/O statements FIND, READ, or WRITE...	Use ^FIRST or ^LAST instead.	The use of these qualifiers without the caret is no longer supported and causes the compiler to generate an "xxx not found" error.
All	If your code uses short forms of identifier names, such as NOPREC for NOPRECISION...	Use the full documented identifier names.	We no longer support shortened forms of identifier names. Using them causes a compiler error.
All	If your code includes the START compiler directive without a period at the beginning...	Add the period.	All compiler directives now require a period at the beginning. Without the period, the START directive will be ignored.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code uses non-numeric variables as subscripts or in ranging operations... For example, <code>clear myvar(avar)</code> Or <code>clear myvar(offset:avar)</code>	Correct your code to use whole numbers instead.	Non-numeric variables are not allowed in subscripts or ranging operations and cause the compiler to generate a "Numeric expression required" error.
All	If your code uses implied-decimal variables for channel numbers, subscripts, or in ranging operations...	Correct your code to use whole numbers instead.	Previously, implied-decimal values were rounded to the nearest whole number. Now, they cause the compiler to generate a "Decimal or integer expression required" error.
All	If your code includes decimal fields in which the whole number portion exceeds 18...	Correct your code so that the whole number portion is 18 or less.	Although this was previously allowed, only assignment statements were guaranteed to work, and it was treated as an 18-digit field with leading zeros in the inaccessible part of the field. This now causes the compiler to generate an "invalid data size specification" warning. To allow the old usage, use the -qrelaxed compiler option.
All	If your code includes implied-decimal fields, in which the difference between the whole number part of the field and the precision part is greater than 18...	Correct your code such that the difference is 18 or less.	The compiler now generates a BIGNUM error in this condition.
All	If your code includes IF statements that are missing the body statement... For example, <code>if (condition) then nop</code> <code>else</code> <code>end</code>	Correct your code to include a body statement.	This syntax is no longer permitted and causes the compiler to generate a "Statement expected" error.
All	If your code includes a statement on the same line as a BEGIN statement...	Move it to the next line.	This coding style is no longer permitted and causes the compiler to generate a "BEGIN should be followed by end of line" error.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code has function declarations with multiple qualifiers... For example, <pre>.function myFunc, ^val reentrant</pre>	Verify that there is a comma between the qualifiers.	The comma is now required. A missing comma causes the compiler to generate an "Invalid expression" error.
All	If your code uses .IF with a compile-time expression using ^SIZE or %LEN...	Correct your code.	This is no longer supported and causes the compiler to generate a "Function <i>name</i> is not supported in .IF" error.
All	If your code uses the following syntax: <pre>record array , [10]a5 array[] (ix:1) = value</pre>	Change your code. In this example, you can add a GROUP/ENDGROUP pair around the array declaration: <pre>record group array_grp array , [10]a5 endgroup and then change the code to array_grp(ix:1) = value</pre>	This syntax is no longer supported and causes the compiler to generate an "Invalid expression" error.
All	If your code uses brackets [] to access the elements of a pseudo array...	Use parentheses () instead.	Brackets can be used only for accessing the elements of real and dynamic arrays. Using them to access the elements of a pseudo array causes the compiler to generate an "Incorrect number of dimensions" error.
All	If your code includes arrayed fields larger than 256 MB...	Change your code.	Arrayed fields larger than 256 MB are no longer supported and cause the compiler to generate a "Size of field <i>name</i> too large" error.
All	If your code uses parentheses to reference elements of a structure in a ^M reference... For example, <pre>^m(quote_lines(ix), rec)</pre>	Change your code to use brackets instead.	This syntax is no longer supported and causes the compiler to generate an "Indexing not allowed in structures" error (error number 683).
All	If your code includes parameterized macros that have empty parameter lists... For example, <pre>.define myMac() %char(8)</pre>	Remove the empty parentheses.	Empty parentheses are no longer permitted when no parameters are specified in a .DEFINE parameterized macro reference and cause the compiler to generate an "Invalid compiler directive" error.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code includes nested parameterized macros of the same name...	Change your code.	Nested use of parameterized macros with the same name will cause the compiler to generate a "name not found" error.
All	If you have inadvertent unary + operations on alpha operands... For example, <pre>xcall fred ("ABC"+ & +"DEF")</pre> Or <pre>xcall fred ("ABC" &, +"DEF")</pre>	Correct your code to remove the unnecessary unary +.	This operation is mathematically invalid and is most often the result of a coding error. It causes the compiler to generate a "Numeric operand required (unary +)" error. To allow the old usage, use the -qrelaxed compiler option.
All	If your code uses the dollar sign (\$) on function calls...	Change it to a percent sign (%).	The dollar sign is no longer supported and causes the compiler to generate an "Invalid calling convention" error. To allow the old usage, use the -qrelaxed:deprecate compiler option.
All	If your code uses \$A or \$D ...	Change the dollar sign to a caret sign (^ A , ^ D).	
All	If your code uses .DEFINE to simulate a Boolean operator... For example, <pre>.define either or . . . if var1 .either. var2 nop</pre>	Correct your code.	This syntax is no longer supported and causes the compiler to generate an "Invalid expression" error.
All	If your code uses an old form of the .PROC compiler directive that specifies the number of I/O buffers on RSTS... For example, <pre>.proc (4)</pre>	Remove the number from your code.	This is no longer supported and causes the compiler to generate an "Invalid record field" error.
All	If you have programs that do not have the .PROC statement in the primary source file...	Recompile to take advantage of a fix for this problem.	This situation may cause incorrect line numbers in a traceback.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code passes a numeric non-implied literal to a routine that declares it as n and uses ^D , ^F , or ^A on the passed argument without first determining its data type...	Make the argument type n . or use ^DATATYPE to determine the argument type before casting it.	Previously, literals were passed as decimals. Now, they are passed as integers, so the results will not be as expected.
All	If your code passes the <i>line</i> argument to MODNAME and declares it as a ...	Declare it as n instead.	Previously, <i>line</i> could be a or n ; now, only n is permitted.
All	If your code uses ^PASSED on a local variable...	Change your code.	Previously, this always evaluated to true. Now, it causes the compiler to generate an "Invalid argument" error because ^PASSED is intended for parameters only.
All	If you have files with more than 262,143 lines in them...	Split them into smaller files.	Previously, line numbers in such large files were misreported in errors. Now, the compiler generates an "Exceeded maximum number of lines in file <i>name</i> " error.
All	If you have duplicate global data sections, global commons, or global literals that are not the same size...	Change your code.	The linker will generate an error when it finds duplicate symbols that are not the same size. The exact error depends on which symbol is duplicated. (Duplicate symbols that <i>are</i> the same size will cause the linker to generate a warning.)
All	If your code includes decimal and implied-decimal variables in a single SET statement...	Correct your code to use separate SET statements for each data type.	Previously, the precision would be truncated when setting the decimal variable, without an error being reported. Now, the compiler generates a "Type mismatch between <i>type</i> and <i>type</i> " error.
All	If you use the DBLTOKENS environment variable...	None.	Starting with version 9, DBLTOKENS is no longer used by the compiler, so this environment variable has been retired.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code passes a ^VAL parameter to a ^REF argument in order to use the result of a call to a system DLL that returned a pointer...	Access the pointer using %MEM_PROC(DM_REG) instead.	Passing a ^VAL to a ^REF argument is no longer supported and will cause the compiler to generate a “^REF required for argument <i>name</i> ” error.
All	If your code includes a relative range specification that accesses characters preceding the specified field...	Correct your code to range within the bounds of the field.	Attempting to access characters that precede the specified field now causes the compiler to generate an “Invalid range specified” error. Although this type of access has been deprecated, the Synergy Runtime will continue to support it for backward compatibility. We recommend that you compile and run with -qcheck and make the necessary changes to avoid future memory access violations.
All	If you specify invalid MATCH, DIRECTION, POSITION, or LOCK I/O statement qualifiers...	Correct your code.	Invalid MATCH, DIRECTION, POSITION, and LOCK values now signal an E_OUTRNG error. This change may break your code.
All	If you .INCLUDE repository fields that are within nested groups in which all group levels have prefixes...	Modify references to those fields in your code to include the additional prefixes.	Previously, the compiler was appending only the lowest level prefix to the field, making it possible to have non-unique field names. It now concatenates the prefixes from all levels to ensure that all field names are unique.
All	If you are experiencing incorrect line numbers in the debugger...	Recompile to take advantage of a fix for this problem. (Note that you must recompile anyway to debug in version 10.)	In 8.1.3, we fixed a bug that occurred when a program .INCLUDEd two files, and the first file contained only one line.
All	If you do string concatenation on a 32-bit system where the result could be greater than 65,535 bytes...	Modify your code to trap for the error \$ERR_BIGALPHA.	Previously, we did not throw an error in this situation. This change may break your code.
All	If you use any of the definitions in object.def and were acquiring them by including activex.def ... (7.5)	Explicitly .INCLUDE object.def .	We no longer .INCLUDE object.def within activex.def because it is not needed for the ActiveX interface.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use hierarchies in the Synergy namespace API...	Modify your code to either not pass the <i>parent_id</i> argument to %NSPC_OPEN or pass it with a value of 0.	Namespace hierarchies are no longer supported. This change may break your code. In version 9, the "Synergy namespace API" was renamed the "Synergy symbol table API" to avoid confusion with namespace support for objects.
All	If you use the Synergy HTTP document transport API... (7.5)	Recompile and relink with version 10.	We moved the HTTP document transport API into the Synergy runtime. This means that you no longer need to link with synxml.elb to use this API. In making this change, we modified all HTTP API routines to be macros that invoke the F_SYNHTTP runtime routine.
All	If you use the Synergy HTTP document transport API, and you have implemented your own escape mechanism for special characters... (7.5)	Set the HTTP_NOESCAPE environment variable to any value to continue using your own escape mechanism.	The HTTP document transport API now automatically escapes certain characters in URIs. If you have implemented your own escape mechanism, this change may break your code.
Windows	If you run Synergy/DE applications such as Repository from the Start menu...	Create your own shortcuts or start applications from the command line.	The only shortcut added to the Start menu in version 10 is Workbench (for most Windows platforms; see below for an exception).
Windows	If you access the Synergy Configuration Program from the Start menu...	Access it from the Synergy Control Panel instead, which is located in Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the Synergy Configuration Program is no longer added to the Start menu.
Windows	If your code uses ^SIZE(font_specs) to allocate the font_specs structure passed to DWP_FONT, or uses the font_specs structure definition in winprint.def directly...	Initialize the new fields to an integer of size 0.	Initializing the fields to 0 will prevent randomly changing the escapement used by fonts in existing code. To do this, either pass the DM_NULL option in %MEM_PROC or use the INIT statement on the structure.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you pass more than nine arguments with %AX_CALL...	Remove the characters < and > that were used to pass the additional arguments.	%AX_CALL is no longer a macro. It now supports an unlimited number of arguments, so the <> characters are no longer required and using them causes the compiler to generate an "Invalid expression" error.
Windows	If your synergy.ini file is in the Windows directory (the default location) or the dbl directory...	Move it to another directory (outside the synergyde directory tree) and set SFWINIPATH to point to that directory.	A synergy.ini file is no longer created during installation, nor is an existing file updated. A default synergy.ini file (containing entries referencing %SYNERGYDE%) is now distributed in the dbl directory. This file is removed on an uninstallation or upgrade.
Windows	If you have previously installed and uninstalled Synergy/DE or Synergy/DE Client...	Edit your PATH to remove any extraneous references to the dbl\bin and dbl\connect directories.	Previous versions did not always remove PATH modifications during uninstallation.
Windows	If you have installed the "Files for shared installation" and have customized the setup.ini file in the synergyde\client directory... (7.5)	Make a copy of the command line (CmdLine=) in your setup.ini file before upgrading the shared machine, and then merge your changes into the new setup.ini file.	Customized setup.ini files in the synergyde\client directory will be lost when upgrading from version 7.5.
Windows	If you are using a local synergy.ini file on your Synergy/DE Clients... (7.5)	Remove the system-specific settings from the local synergy.ini file and place them in a synergy.ini file on the shared machine. Set SFWINIPATH on each client to point to the synergy.ini file on the shared machine. For each client, save the user-specific settings from that client's synergy.ini file in a file named synuser.ini and place it in the local application data directory on the client machine.	Synergy/DE now supports a "system-specific" initialization file (synergy.ini) and a "user-specific" initialization file (synuser.ini). Settings in synuser.ini override settings in synergy.ini . See "Synergy initialization files" in the "Environment Variables" chapter of <i>Environment Variables & System Options</i> for more information.
Windows	If you use the Windows printing API or the LPQUE statement... (7.1, 7.3)	Expect \$ERR_NOTAVL instead of \$ERR_FNF when the printer device is incorrect.	We changed the error value returned.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you use the Windows printing API, do not specify an extension for the metafile, and then reference the metafile later... (7.1, 7.3)	Use an .emf extension when referencing the metafile.	Previously, when no extension was specified, .spf or .ddf was added. Now, .emf is the default extension. This change may break your code.
Windows	If your code uses the DWP_ADDFILE function and your application provides the preview function...	We recommend passing the enhanced_preview flag to DWP_BEGINJOB.	Truncation of long lines may occur in the previewer if this flag is not set.
Windows	If you use the PRINT_METHOD environment variable (PRINT_METHOD= escape) and change the printer driver default values... (7.1, 7.3)	To continue using the changes to the default values, you must code them yourself within the data.	We now use the correct Windows API to send data directly to the printer. Changes you make to the printer driver default values will be ignored.
Windows	If you obtain the printer name %WPR_GETDEVICE... (7.1, 7.3)	Use the <i>extended_pr_name</i> field instead of the <i>printer</i> field.	The <i>extended_pr_name</i> field supports 256 character printer names.
Windows	If you expect a return value of 0 from the %TTSTS routine to indicate the channel is not open to a terminal or input is redirected...	Modify your code to expect a return value of 1.	In this situation, the %TTSTS routine now returns 1, as documented. This change may break your code.
Windows	If you use the PARSE routine to parse UNC path specifications...	Modify your code to reflect that the \\server\share_name portion of the UNC path specification is returned in the <i>device</i> argument.	Previously, this information was returned in the <i>directory</i> argument. This change may break your code.
Windows	If you have programs that depend on AX_INPUT never timing out... (7.1)	Specify D_FOREVER for the new <i>wait_time</i> argument.	The <i>wait_time</i> argument sets the time-out value for an ActiveX control. This change may break your code. For more information, see AX_INPUT in the "ActiveX Routines" chapter of the <i>UI Toolkit Reference Manual</i> .

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you use the Synergy DBL profiler and want to calculate elapsed CPU time using the processor time...	Set the environment variable PROFILE_PROCESSOR_TIME.	By default, the profiler now calculates elapsed CPU time using the high-granularity system clock. Set the aforementioned environment variable to revert to the previous behavior. For more information, see PROFILE_PROCESSOR_TIME in the “Environment Variables” chapter of <i>Environment Variables & System Options</i> .
Windows	If you rely on the default Synergy runtime color definitions...	To maintain the same color scheme, define the specific colors you want the application to use in your synergy.ini file.	We removed the Synergy color and palette definitions from the distributed synergy.ini file in version 8.3. The new default colors are slightly different than they were previously. Consequently, you may notice a change in the appearance of applications that rely on the default colors.
Windows	If your code uses i1 variables to store the color values returned by the WI_PALET subfunction to W_INFO...	Change these variables to at least an i2 or d3 . (We recommend using an i4 .)	To accommodate the increased number of Synergy colors in version 8.3, the WI_PALET subfunction to W_INFO may now return values that are too large for i1 variables. This change may break your code.
Windows UNIX	If you rebuild the Synergy runtime...	Create a DLL or shared object containing your C routines and access it via the Synergy DLL API.	The makedbr and makedbs files are no longer distributed. The DLL API has been enhanced to assist you in creating C DLLs and shared objects that interact with the runtime’s C interface.
Windows UNIX	If the input file, output file, or temporary file for client/server sorting reside on different machines... (7.1)	Move these files so that they all reside on the same machine.	Synergy sort for client/server now handles all I/O on the target machine. All file specifications must include the same host name or omit the host name. This change may break your code.
Windows UNIX	If you create REV 2, 3, or 5 ISAM files...	Cease to do so.	You can no longer <i>create</i> files at these levels, though they can still be accessed with version 10. See “Converting and Patching ISAM REV 2 and 3 Files” on page 24 for conversion instructions.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you need to create ISAM files that will be recognized by Synergy/DE versions prior to 10...	Set the ISAMC_REV environment variable to 4.	The default for creating files with version 10 is REV 6, which is recognized only by version 10. REV 4 is recognized by versions back to 7.1. See ISAMC_REV in the "Environment Variables" chapter of the <i>Environment Variables & System Options</i> manual.
Windows UNIX	If you use the ismvfy , irecovr , or isutl utility with REV 2 and 3 ISAM files...	Patch or convert your files to the current revision using isutl with the -p option.	An error occurs if you use pre-REV 4 files with these utilities. We recommend that after patching your files, you use isutl instead of ismvfy and irecovr , as the latter are now just front-ends for isutl . See "Converting and Patching ISAM REV 2 and 3 Files" on page 24 for instructions.
Windows UNIX	If you use any of the following ismvfy options: -a , -f , -i , -p , -r ...	Cease to do so.	These options are no longer supported because the ismvfy and irecovr utilities are now just front-ends for isutl .
Windows UNIX	If you use the irecovr -t or -x options...		
Windows UNIX	If you rely on the default page size of 1K (1026 bytes) when creating ISAM files...	Explicitly specify the page size on creation of the file.	The default size is now 4K (4096 bytes) to target the performance of large sector drives.
Windows UNIX	If you use file pre-allocation...	Cease to do so. Depending on how you were using this feature, you may need to update your code. For example, you may need to trap for the errors "No space exists for file on device" (\$ERR_NOSPAC) or "Invalid relative record" (\$ERR_RELREC).	This functionality has been removed because file allocation on flat files has been deprecated. This change may break your code.
Windows UNIX	If you use the OPEN options ALLOC and NUMREC, or system option #15...	Cease to do so. See the above entry on pre-allocation for more information on this change.	The functionality for these options has been disabled because file allocation on flat files has been deprecated.
Windows UNIX	If you use ISAM files that are named with a trailing period and no extension (e.g., myfile.)... (7.1, 7.3)	Rename the index file to filename.ism and the data file to filename.is1 . You may also need to change the code that generated the file to remove the trailing "." or explicitly add an extension.	Opening an ISAM file with no extension now generates an E_FILSPEC error. This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you specify the LOCK:Q_NO_LOCK qualifier on an OPEN statement when opening a file in update mode... (7.5)	Be aware that existing records can no longer be updated or deleted in this case (but new records can still be stored).	You can no longer WRITE or DELETE an unlocked record. Previously, when using the Q_NO_LOCK qualifier, this was permitted and could cause file corruption. If you OPEN a file in update mode with the Q_NO_LOCK qualifier and attempt to update or delete an existing record using the WRITE or DELETE statement, you'll see a "No current record" error.
Windows UNIX	If you have any source modules that contain a global data section that doesn't have an "INIT" but does contain an .ALIGN directive, and the object file is linked into an ELB...	Recompile to take advantage of a fix for this problem.	The described scenario caused unpredictable results because the compiler erroneously emitted data over other pieces of compiler information.
Windows UNIX	If you have duplicate global data sections, global commons, or global literals that are not the same size...	Change your code.	The runtime now detects duplicate symbols when ELBs are loaded and generates a BADELB error if the size is different. The error text tells you which symbols are duplicated. (Duplicates that <i>are</i> the same size will cause a warning in debug output.) This change may break your code.
Windows UNIX	If you have duplicate static records that are not the same size...	Recompile and relink.	
Windows UNIX	If your code uses READ or READS from a relative file when the file record size is greater than the size of the data area...	Correct your code or set system option #27.	This situation now generates an "Input data size exceeds destination size" error, as documented in the <i>Synergy DBL Language Reference Manual</i> . This error can also occur when a file is opened in the default mode with RECSIZ set. This change may break your code.
Windows UNIX	If you call the COPY routine and specify a destination file that another process might have open...	Modify your code to handle a possible "File in use" error.	A "File in use" error is now returned if a COPY is performed on an open file. This change may break your code.
Windows UNIX	If you use %DLL_SUBR...	Change your code to use %DLL_CALL instead.	%DLL_SUBR has been removed. This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you use %DATETIME and the resolution on your system for milliseconds is not six digits...	Review your code to see if it needs to be modified.	%DATETIME has been changed to fill with zeroes instead of spaces if the system resolution for milliseconds is not six digits.
Windows UNIX	If your code uses the FILENAME option of the SDMS_ISINFO routine in the Synergy Database API...	Recompile your program with the new sdms.h header file.	Failure to recompile will result in a DE_INVOPT error. This change may break your code.
UNIX	If your code uses the FORK subroutine or the optional <i>fork</i> argument of the %HTTP_SERVER_RECEIVE function...	Change your code to reopen any files needed by the child process.	As a result of a change we made to fix random I/O failures, the FORK subroutine and the <i>fork</i> argument to the %HTTP_SERVER_RECEIVE function now close all channels opened by the parent in the forked child process. This change may break your code.
UNIX	If you pass Windows-style commands that contain “\” to the UNIX shell...	Use “\\” instead.	The SHELL subroutine now correctly handles shell environment variables (\$DBLDIR). This change may break your code.
UNIX	If you use %TNMBR...	Examine your code to ensure the value returned by %TNMBR is not being used for static data.	On some UNIX systems, %TNMBR was returning the wrong value. This change may break your code , as it may change the terminal numbers returned on a particular system.
UNIX	If you use the JBWAIT environment variable...	None.	XCALL RUNJB no longer waits 2 seconds (or the value of JBWAIT). Hence, the JBWAIT environment variable is no longer necessary and has therefore been retired.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
UNIX	If your application takes advantage of the fact that file locking between channels within the same process is not enforced...	Set the INTRAFILELOCKS environment variable to 0 (zero).	<p>We changed the default behavior for file locks within a process; it is now the same as the behavior for file locks between processes. This change may break your code.</p> <p>You can revert to the previous behavior by setting INTRAFILELOCKS to 0. We do not recommend this, although it does permit you to continue executing version 8.1.7 and earlier applications that violate these new locking rules.</p> <p>For more information, see INTRAFILELOCKS in the "Environment Variables" chapter of <i>Environment Variables & System Options</i>.</p>
UNIX OpenVMS	If you need to use 8-bit characters (128-255)... (7.1, 7.3)	Define a LOCALE or set the LANG environment variable for your operating system.	<p>The correct uppercase and lowercase characters in the 8-bit range (international characters) are now read from the system LOCALE. Should you want to revert to the previous behavior, where A-Z and a-z with the 8th bit set were considered characters (though they rarely matched actual international characters), set the SYNERGY_NOLOCALE environment variable.</p> <p>For more information, see SYNERGY_NOLOCALE in the "Environment Variables" chapter of <i>Environment Variables & System Options</i>.</p>
OpenVMS	If the audit server is not running on your machine...	Start the audit server and leave it running.	If the audit server is not running, when you compile you'll see the internal C++ runtime error "Create_Exclusive_Lock_1". This error occurs because the compiler uses the C++ runtime. Even though the message looks serious, it does not affect the compilation of your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
OpenVMS	If your code uses a lowercase logical to define the location of a repository in a .INCLUDE statement...	Change the logical to uppercase in the .INCLUDE statement or add a second define in which the logical is lowercase and quoted (which preserves the case). For example, <pre>\$ define MYRPS "<path>" \$ define "myrps" "<path>"</pre>	Prior to version 9, the compiler automatically uppercased the logical used for the repository location in a .INCLUDE statement. This ensured that it matched the logical definition, since DCL uppercases the command line by default. In version 9, the compiler does not uppercase the logical in the .INCLUDE statement. Consequently, if this logical is lowercase in your code, the compiler generates a <i>"Logical is not defined"</i> error. This change was made in anticipation of future support for ODS-5 case-sensitive filenames.
OpenVMS	If your code has embedded characters (e.g., CR, LF, ESC, NULL) in a quoted literal... For example, <pre>record crlf ,a2 , "<cr><lf>"</pre>	Use string arithmetic and %CHAR to pass the value that corresponds to the ASCII character. For example, <pre>record crlf ,a2 ,%char(13)+ & %char(10)</pre>	Embedded non-printing characters are not supported by the version 9 compiler. The results of using them may be unpredictable, such as getting a space instead of the desired character.

Upcoming Changes

Access to ISAM Revision 2 and 3 files will be removed in a future release. As of Synergy/DE 10, new Revision 2, 3, and 5 files can no longer be created. Although you can still access them in 10.1, we plan to remove support for these revisions in a future release. See below for instructions on converting REV 2 and REV 3 files.

Converting and Patching ISAM REV 2 and 3 Files

For future compatibility, and for use with the **isutl** utility, you will need to convert your REV 2 and 3 files to REV 4 or higher. Conversion will also improve performance. If your application requires pre-version 10 compatibility, we recommend you convert files to REV 4; otherwise, we recommend you convert them to REV 6, which is supported only on version 10 and higher. We strongly recommend you do this now because access to REV 2 and 3 files will be removed in a future version.

We recommend that you use **isutl** with the **-p** option to patch or convert files. For information on **isutl** see **isutl** in the "Synergy DBMS" chapter of *Synergy Tools*; for details on patching and converting, see ["Patching an ISAM file to another version"](#) in the same chapter.

Workbench

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you have version 7 Synergy projects...	Convert the projects to version 10.1 by opening them in Workbench.	Workbench version 10.1 uses SlickEdit version 15, and therefore requires that all existing Synergy projects be converted. Most projects are converted automatically when they are opened, but see the next item.
Windows	If you have any of the following project types with the specified configurations that were created in version 7.3.1: Synergy/DE Java;Release Synergy/DE COM;Release Synergy/DE COM;Global...	Recreate the projects in version 10.1.	Certain projects from version 7.3.1 cannot be converted. If you open them in Workbench 10.1, they will not be recognized as Synergy projects.
Windows	If you have customized project templates created in version 7.1...	Recreate the templates in version 10.1.	Version 7.1 project templates cannot be converted.
Windows	If you have written your own macros...	After installing, reload them into Workbench. For each macro, at the Workbench command line enter the following: <code>load macro_name.e</code>	Macros cannot be converted.
Windows	If you create Synergy/DE projects and count on the -X compiler option being used by default...	Modify the compilation command line for that project type to include -X .	The -X option is no longer included by default because when used in conjunction with strong prototyping, it can mask problems. This affects <i>new</i> projects only. For instructions on modifying the command line for a project type, see “Customizing commands for a project type” in the “Developing Your Application in Workbench” chapter of the <i>Getting Started with Synergy/DE</i> manual.
Windows	If your code uses the format <code>%VAR%</code> to refer to an environment variable in a project open command...	Use the format <code>%(VAR)</code> instead.	SlickEdit now requires a different format.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you rely on SlickEdit to create user1 and user2 menu commands for all projects when they are created...	Create the user-defined tool entries manually by entering a new tool name of "user 1" and "user 2" in the Tool name field of the Project Properties dialog.	SlickEdit no longer performs this function automatically.
Windows	If you open Workbench projects in Composer...	Instead, launch Composer from Workbench to modify a specific script file, then return to Workbench.	Composer no longer supports Workbench projects. However, Workbench can pass Composer the name of a script file to open.

UI Toolkit

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code uses the <i>version</i> argument to U_VERSION...	Be aware that it now returns A.1.1 to represent version 10.1.1 and you may need to change your code.	U_VERSION now returns a value with an initial letter so that existing string comparisons will continue to evaluate as expected. You may want to use the optional argument <i>version_full</i> , added in 9.5.3, which returns 10.1.1 in version 10. (The <i>version</i> argument is also optional now.)
All	If your code passes SYN_VER to U_ABOUT, U_CHECKVERSION, U_MINVERSION, or U_PARSEVERSION...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. These four U_ routines were modified to handle version strings containing either digits or letters to avoid breaking existing code.
All	If your code uses buffers to store version numbers...	Check them to ensure they can handle a two-byte version number.	Some existing version strings (see above) now use letters to represent version 10 and higher to avoid breaking existing code. We recommend you review <i>all</i> version string logic in your application.
All	If your code passes a d1 for the <i>v</i> argument to U_PARSEVERSION...	Change the argument to an integer.	The return value may be truncated if a d1 is used in version 10.
All	If you overload any system-supplied function or subroutine...	Verify that your overloaded routine exactly matches the prototype of the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required.	We now strongly prototype all system-supplied functions and subroutines. Using the -W4 compiler option (/WARNINGS=4 on OpenVMS) will show the prototype the compiler expects and your overloaded routine definition, so that you can see how they differ. Once you change your routine, your code may no longer compile in versions 8.3 and earlier . See "Compatibility Information" on page 3 for a suggestion on how to handle this situation.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you undefine <code>TOOLS_INIT</code> in your code...	Remove the <code>.UNDEFINE</code> .	<code>TOOLS_INIT</code> is now undefined in tools.def . If you also undefine it in your code, the compiler generates an "Identifier not defined" error. Once you remove the <code>.UNDEFINE</code> , your code may not work properly in versions 8.3 and earlier . See "Compatibility Information" on page 3 for a suggestion on how to handle this situation.
All	If your code passes the <i>field_id</i> and <i>selection_id</i> arguments to <code>IB_END</code> ...	Remove these arguments.	These arguments have not been supported (and have had no affect on the operation of your code) since Toolkit version 3.3. Their use now causes the compiler to generate a "More argument values than declared parameters in routine" error.
All	If you link against tklib.olb ...	Link against tklib.elb (Windows and UNIX) or tklib_sh.exe (OpenVMS) instead.	We ceased distribution of tklib.olb in version 8.3. We also no longer distribute the files chninf.dbl , chninf.def , and fkey.dbl because they were used only with tklib.olb . This change may break your code.
All	If your code uses chninf.def to find the highest channel number that Toolkit can use...	Change your code to use the new <code>D_CHANNEL_MAX</code> subfunction to <code>%E_INFO</code> .	We ceased distribution of chninf.def in version 8.3. This change may break your code.
All	If an input field specification in a window script or call to <code>IB_FIELD</code> is too wide for the window...	Revise your input field specification by shortening the field to fit within the window or specifying a view length.	Toolkit generates an error when the display length is too long. Previously, the display was truncated. This change may break your code.
All	If your code uses <code>IB_FIELD</code> with <code>D_OFF</code> followed by <code>D_FLD_PROMPT</code> or uses <code>D_OFF</code> followed by <code>D_FLD_PROMPTLEN</code> ...	Be aware that both text and runtime prompts will be canceled.	This makes the behavior of <code>IB_FIELD</code> consistent with window scripts, where "noprompt" is used to cancel either type of prompt. Previously, <code>D_OFF</code> followed by <code>D_FLD_PROMPT</code> canceled only text prompts, and <code>D_OFF</code> followed by <code>D_FLD_PROMPTLEN</code> canceled only runtime prompts. This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If an input field specification in a window script or call to <code>IB_FIELD</code> has more than nine decimal places...	Revise your input field specification to use no more than nine decimal places.	Toolkit supports only nine decimal places in implied-decimal fields. When a number greater than nine is specified, Toolkit generates an error message. Previously, it may have displayed the field incorrectly. This change may break your code.
All	If your code uses the left or right square bracket character as a field delimiter in the routines <code>I_DISABLE</code> , <code>I_DISPLAY</code> , <code>I_ENABLE</code> , <code>I_INIT</code> , or <code>I_SETDEL</code> ...	Use a different delimiter character.	Toolkit now permits you to create fields that reference specific elements in repository arrayed fields. To do this, you must use square brackets; consequently, these routines no longer recognize square brackets as delimiters in field lists. This change may break your code.
All	If you are using the <code>D_FLD_SIZE</code> qualifier for <code>I_FLDMOD</code> to specify the input length for alpha or decimal data types... (7.1)	Use <code>D_FLD_INPLEN</code> instead.	Previously, this qualifier affected the input length for all data types except integer, for which it affected the storage length. Now, <code>D_FLD_SIZE</code> is for the storage length, <code>D_FLD_INPLEN</code> is for the input length, and <code>D_FLD_DSPLEN</code> is for the display length. This change may break your code. For more information, see I_FLDMOD in the “Input Routines” chapter of the <i>UI Toolkit Reference Manual</i> .
All	If your code passes a null string for the <code>I_FORCE new_data</code> argument and depends on there being a space in the field...	Change your code to pass a space instead.	Previously, a null string in the <i>new_data</i> argument was interpreted as a space (" "); now, it is interpreted as a null string (""). This change results from a feature that enables you to clear the force buffer and cancel a pending <code>I_FORCE</code> call by passing a null string. This change may break your code.
All	If your code passes a value other than 0 or 1 for the <i>no_place</i> argument to <code>MB_COLUMN</code> ...	Change your code to pass a value of 1.	The name of this argument has changed from <i>no_place</i> to <i>option</i> , and it now is used to determine both column loading and placement options. Previously, any value greater than 0 would cause the column to be loaded without placing it; now, you must pass 1 to get that behavior. This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your Toolkit application includes a customized version of any of the user-replaceable list subroutines (these are the subroutines that begin with USR_L)...	Remove any references to those routines and to the lstprv.def file.	We ceased distribution of the user-replaceable list subroutines in version 8.3 and of lstprv.def in 9.5.3. If your application includes a customized version of any of these routines, Toolkit will simply ignore it and call the corresponding default routine (e.g., it will call L_DATA instead of USR_LDATA). We also no longer distribute the files lstusr.dbl , lstprv.dbl , and lstbuf.def . This change may break your code.
All	If your application exceeds the maximum number of entry lists or menu column rows in the MB_ routines...	Correct your code.	Previously, the maximums (9 for lists and 20 for rows) were not enforced. Exceeding the maximums could cause unpredictable results, but there was no error. Now a "Too many lists" or "Too many rows" error is returned. This change may break your code.
All	If your code creates blank menu entry names...	Correct your code so that all menu entries are named.	Passing a blank menu entry to MB_ENTRY causes a fatal error.
All	If you use the g_werr record in gblctl.def ...	Define your own record to use with the W_RETERR function.	We removed the gblctl.def file from the distribution. This change may break your code. For information on W_RETERR, see "Error Processing in the Windowing System" in the "Synergy Windowing API" chapter of the <i>Synergy DBL Language Reference Manual</i> .
All	If your code uses definitions from lstprv.def or gblctl.def ...	Remove the .INCLUDEs for those files and change your code to make calls to routines that provide the same information. For example, if your code references glst_scriid, which was previously available in lstprv.def , instead call L_STATUS with D_LCTRID; and glst_hdred and glst_ftrid may be replaced with the L_STATUS subfunctions D_LHDRID and D_LFTRID, respectively.	The lstprv.def and gblctl.def files are no longer distributed.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your application accesses the <code>gs_dec</code> member of <code>fldinf.def...</code>	Recompile your code.	To support a change in the maximum size of decimal and implied-decimal fields in Toolkit, we changed <code>gs_dec</code> from a d1 to an i1 .
All	If you have code that calls <code>U_SELDFLT...</code>	Update your code to call <code>S_SELDFLT</code> instead.	We removed the <code>U_SELDFLT</code> routine, which was renamed to <code>S_SELDFLT</code> in Toolkit version 3.0. This change may break your code.
All	If your code uses the <code>ctrl_record</code> argument to <code>U_REND...</code> (7.1, 7.3)	Change the variable definition in your code to an a425 .	We increased the size of this variable. Previously, it was an a404 .
Windows	If you use the Synergy Control Panel...	Look for the Synergy UI Toolkit Control Panel instead.	We changed the name of this utility to avoid confusion with the new Synergy Control Panel. (See next item.)
Windows	If you access the Synergy Control Panel from the Start menu...	Access the Synergy UI Toolkit Control Panel from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for this utility is no longer added to the Start menu. You can also access the Synergy UI Toolkit Control Panel from within Workbench (Synergy/DE > Utilities > Synergy UI Toolkit Control Panel).
Windows	If you access Proto, Script, Composer, or the ActiveX Diagnostic utility from the Start menu...	Access these programs from the command line instead, or add your own shortcuts to the Start menu.	Shortcuts for these UI Toolkit utilities are no longer added to the Start menu. You can also access Script, Composer, and the ActiveX Diagnostic utility from within Workbench.
Windows	If you link against tklib.elb...	Update your code as necessary if you see new errors such as "Invalid subscript" or "Index out of bounds" when you compile or run with version 10.1.	Tklib.elb is now built with the -qstrict compiler option, which means it performs checks similar to those done with <code>DTK_BOUNDS=2</code> . This change may break your code. We strongly recommend that you fix your code to correct any problems you find; however, if you have a critical situation where you cannot fix your code, you can use tklib_nostrict.elb , which is not built with the -qstrict compiler option. (But see "Upcoming Changes" on page 34.)

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you specify color palette entry 16 for a list header or footer...	Specify color palette entry 1 to retain the current look.	Previously, color palette entry 16 did not work properly, which caused the default (1) to be used instead. We fixed entry 16, which could cause a change in the appearance of your application.
Windows	If you use the ActiveX list control and have non-static headers or footers...	Adjust the position of the text as necessary.	Text is now centered in the column by default. Previously, it was left-justified.
Windows	In an ActiveX control, if your code uses %M_SIGNAL in an event method triggered by WM_KEYDOWN for a key that will be translated into a character...	User WM_CHAR to trigger the event method instead.	Using %M_SIGNAL in response to a keydown event causes the keypress to remain in the message queue, which could cause duplicate characters.
Windows	If you depend on the U_EDITREND, U_SAVELOG, or U_SAVESETTINGS routines or on the D_SAVEFONT subfunction to %U_WNDFONT to write to synergy.ini ...	You must now explicitly specify that you want to write to synergy.ini using the new options for these routines.	Synergy/DE now supports a “system-specific” initialization file (synergy.ini) and a “user-specific” initialization file (synuser.ini). Settings in synuser.ini override settings in synergy.ini . The default behavior for these routines is to write to the synuser.ini file. This change may break your code. See “ Synergy initialization files ” in the “Environment Variables” chapter of <i>Environment Variables & System Options</i> for more information.
Windows	If you use the %U_PRINTQUERY function... (7.1, 7.3)	Use the <i>extprinterid</i> field instead of the <i>printerid</i> field.	The <i>extprinterid</i> field now supports 256 character printer names.
Windows	If you specify a height for a selection window associated with a set of radio buttons...	Be aware that the appearance of your radio buttons may change. You may need to clear the height setting in order to restore them to their previous appearance.	Previously, the height setting was ignored. Now, it is used to determine the arrangement of radio buttons.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you depend on an input method being applied to the subsequent field or button when a menu entry is signaled from a method during L_INPUT processing and the user action moves context to the subsequent field...	Change your code. Or, to revert to the previous behavior, set the RETAIN_CONTEXT_CHANGE_ON_SIGNAL environment variable or the g_retaincontext global variable.	We corrected a problem that caused a method to be applied to the following field when the user moved context to that field. If your application depended on this behavior, this change may break your code.
Windows	If your code unconditionally signals a menu (via M_SIGNAL) in a click event for an ActiveX list... (7.1)	Test whether the D_LSTCLK_ONLINE flag is set.	The D_LSTCLK_ONLINE flag tells you that the user clicked on the line used to resize the columns. If you don't test for this, the drag resize of the column will be ignored. This change may break your code. For more information, see %UWNDEVENTS_METHOD in the "Utility Routines" chapter of the <i>UI Toolkit Reference Manual</i> .
Windows	If you rely on Toolkit to change the cursor from an hourglass back to a normal cursor... (7.1, 7.3)	Add code to change the cursor.	Setting the cursor to an hourglass will cause it to remain an hourglass until it is reset.
Windows	If you override cell color and font for an ActiveX list control and then call L_RESTART...	Reapply the overrides after the call to L_RESTART, if you want to retain them.	Cell color and font overrides are now reset to the default after a call to L_RESTART.
Windows	If you rely on the default Synergy runtime color definitions...	To maintain the same color scheme, define the specific colors you want the application to use in your synergy.ini file.	We removed the Synergy color and palette definitions from the distributed synergy.ini file in version 8.3. The new default colors are slightly different than they were previously. Consequently, you may notice a change in the appearance of applications that rely on the default colors.
Windows	If your code uses i1 variables to store the color values returned by U_REND and the WI_PALET subfunction to W_INFO...	Change these variables to at least an i2 or d3 . (We recommend using an i4 .)	To accommodate the increased number of Synergy colors in version 8.3, U_REND and the WI_PALET subfunction to W_INFO may now return values that are too large for i1 variables. This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If your application uses tabbed dialogs...	You may want to use the g_tabfacecolor global variable in tkctl.def to control which color palette entry will be applied to a window when it is added to a tabbed dialog.	Due to changes we made to the color palette in 8.3, on a Windows system with themes enabled, you may notice a change in the appearance of your application when a window is added to a tabbed dialog.
Windows	If your application has tab sets with the tabs on the bottom or side...	Move the tabs to the top of the tab set.	Tabs are supported only at the top of the tab set on systems that support Windows themes. This change may break your code.
UNIX OpenVMS	If your application has an input window with more than 31 fields, and the 32nd field has an arrive method...	Recompile the window script to take advantage of a fix for this problem.	We corrected a problem that caused the arrive method on the thirty-second field to sometimes fail to be invoked.
UNIX OpenVMS	If you have an application with a check box with field-level renditions specified...	Set the new D_INPPRCRND state for E_STATE to D_OFF if you want to retain the current look of the prompt.	In 9.3, we added the D_INPPRCRND state to E_STATE. By default, this state is set to D_ON on UNIX and OpenVMS, which causes Toolkit to use field-level renditions for check box prompts. Previously Toolkit used renditions for the part of the window that the prompt occupied.

Upcoming Changes

(Windows) The file **tklib_nostrict.elb** was originally distributed in version 9.5.3 and will be removed from the distribution in a future version. The purpose of **tklib_nostrict.elb** is to help users make the transition to the new **tklib.elb** introduced in 9.5.3, which is built with the **-qstrict** compiler option.

Composer

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you access Composer from the Start menu...	Start it from within Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Composer and most other Synergy/DE applications are no longer added to the Start menu.
Windows	If you open Workbench projects in Composer...	Instead, launch Composer from Workbench to modify a specific script file, and then return to Workbench.	Composer no longer supports Workbench projects. However, Workbench can pass Composer the name of a script file to open.
Windows	If you use Composer to write colors or fonts to the synergy.ini file...	Be aware that colors and fonts will now be written to the [COLORS] and [FONTS] sections of synuser.ini —not synergy.ini .	Synergy/DE now supports a “system-specific” initialization file (synergy.ini) and a “user-specific” initialization file (synuser.ini). Settings in synuser.ini override settings in synergy.ini . Colors and fonts are treated as user-specific settings. See “Synergy initialization files” in the “Environment Variables & System Options” chapter of <i>Environment Variables & System Options</i> for more information.
Windows	If you have a composer.ini file from version 7 that you want to continue using...	Run the synckini utility to determine the location of synuser.ini . Then, move your composer.ini file to the same directory.	Composer treats composer.ini as a user-specific initialization file and searches for it in the Synergex subdirectory of your local application data directory. (Note that Composer no longer uses SFWINIPATH to locate composer.ini .)

Repository

Compatibility Information

- Repositories created in version 7 need to be converted to be used with version 10. When a version 7 repository is opened for modification, you will be prompted to convert it. Once a repository has been converted, it cannot be accessed by pre-version 10 Repository or other Synergy/DE programs and tools (Composer, Workbench, the compiler, etc.).
- If you have customized Repository's window library, you must reapply your customizations and rescript it.
- SDL (Synergy Data Language) files do not need to be converted.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use the Repository subroutine library and use the repository version (ci_ver in ddinfo.def) in a string comparison...	Check your code to ensure that the version comparison works as expected.	The string now starts with "1". Deployed applications could break because the string comparison logic will not evaluate as expected. For example, 9.5.3 will evaluate as higher than 10.1.1. We recommend you modify your code to use U_PARSEVERSION. This change may break your code.
All	If you have your own copies of any of the record definitions contained within ddinfo.def ...	Check ddinfo.def for details of changes made and make the corresponding changes to your own copies.	We have modified the ddinfo.def file used by the Repository Subroutine Library.
All	If you use rpsutl.dbr and test the status of .new files to determine if the load succeeded... (7.1)	Test the exit status from rpsutl.dbr instead.	If an error occurs during the load process, rpsutl.dbr will now delete any repository files it created. This change may break your code.
All	If you use templates... (7.1, 7.3)	Generate your repository to a schema and then reload it.	This is required to ensure that all current template attribute values have been properly propagated to their descendants.
All	If you create aliases in your repository via schema...	Run the Verify Repository utility to update an alias counter maintained with each structure.	We added UI support for defining alias structures. For more information, see "Defining Aliases" in the "Repository" chapter of the <i>Repository User's Guide</i> .

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use the DD_ALIAS routine in the Repository subroutine library...	Change your code to pass a numeric value instead of an alpha for the <i>#names</i> argument.	The seventh argument (<i>#names</i>) was changed from alpha to numeric. (Note that it was always documented as d3 , but the underlying code was an a .)
Windows	If you access the Repository application from the Start menu...	Start it from within Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Repository and most other Synergy/DE applications are no longer added to the Start menu.

Upcoming Changes

In an upcoming version of Synergy/DE, we are planning to remove the Repository object library (OLB) file **ddlib.olb**. It has been replaced with the executable library (ELB) file **ddlib.elb**. (The OLB file will be available on the Synergex web site.)

You should be linking against the ELB file instead of the OLB file for the following reasons:

- ▶ An ELB will reduce the size of your application if you link multiple programs against the library.
- ▶ Linking against an ELB is more reliable than rebuilding the OLB and making a custom ELB.
- ▶ An ELB provides more compatibility when multiple Synergy applications from different companies coexist on one system.
- ▶ In most cases, you can upgrade to newer versions of Synergy/DE without recompiling and relinking your applications.

ReportWriter

Compatibility Information

No conversion or rescripting is required. ReportWriter can read Repository files from version 7, as well as those converted to version 10 format.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you access ReportWriter from the Start menu...	Start it from the command line instead or create your own shortcut.	Shortcuts for ReportWriter, and most other Synergy/DE applications, are no longer added to the Start menu.
OpenVMS	If you are migrating from a version between 7.1.1 and 7.1.3b...	Relink any application that is linked against SYNRPT.EXE .	In versions 7.1.1 to 7.1.3b, the SYNRPT.EXE shared image did not link against a vector table. This change may break your code.

xfServer

Compatibility Information

- xfServer 10 supports clients running Synergy/DE version 6.1 and higher, but some features require a higher version of the client. See the xfServer release notes, **REL_SRV.TXT**, for details.
- (Windows) xfServer is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you access xfServer data on the xfServerPlus port...	Reconfigure one of these services to run on a different port.	xfServer data access on the xfServerPlus port is no longer supported. This change may break your code.
All	If you reference one remote file specification from another when the first file specification is on Windows...	Cease to do so.	This is no longer permitted because of the potential for data corruption.
All	If you use the BEGPOR and ENDPORT environment variables with synxfpng ...	Instead use the -p option in combination with -r to ping a range of ports.	The BEGPOR and ENDPORT environment variables have been deprecated.
Windows	If the RUSER environment variable is set in both the registry and the environment...	Be aware that RUSER set in the environment now has precedence over RUSER set in the registry.	When RUSER is set in the Synrc node in the registry, as is required to configure xfServerPlus for remote data access, it is read into the environment when rsynd starts up, and it is therefore considered to be set in the environment. This change may break your code.
Windows	If RUSER is set to the user name "SSPI" and no password is specified...	Change the user name.	To support Windows authentication security, RUSER recognizes "SSPI" as a special value.
Windows	If you create files without specifying a path...	Set the environment variable RSFILPATH to specify a location for files without a path.	If RSFILPATH is not set, the files are put in the directory that contains documents common to all users on the specific operating system. For example, on Windows XP, they are put in C:\Documents and Settings\ All Users\Shared Documents. See RSFILPATH in the "Environment Variables" chapter of <i>Environment Variables & System Options</i> .

xfServerPlus

Compatibility Information

- xfServerPlus 10 can receive routine calls from version 7.1 and higher xfNetLink clients. but some features require a higher version of the client. See the xfServerPlus release notes, **REL_XFPL.TXT**, for details.
- Synergy Method Catalog (SMC) files must be converted for use with xfServerPlus and Workbench 10, as well as with version 10 utilities such as the Method Definition Utility (MDU) and **smc_elb.exe**. See the “SMC conversion utility” section of the xfServerPlus release notes (**REL_XFPL.TXT**) for instructions.
- (Windows) xfServerPlus is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you access xfServer data on the xfServerPlus port...	Reconfigure one of these services to run on a different port.	xfServer data access on the xfServerPlus port is no longer supported. This change may break your code.
All	If you use the default port 2330... (7.1)	You must explicitly specify 2330 as the port, or use the new default, 2356.	We changed the default port from 2330 to 2356 so that it would not conflict with the default port for xfServer.
All	If you use the “Add new interfaces” option in the Import function of the Method Definition Utility... (7.5)	Use the “Update interfaces” option instead and then choose the new interfaces you want to add.	The MDU now has an Update interfaces option, which updates existing interfaces, in addition to adding new interfaces.
All	If you use the Reports feature in the Method Definition Utility...	Run the Export Methods option to generate an XML file, and then view the file in an XML viewer.	We removed the Reports feature.
Windows	If you set SFWINIPATH on your xfServerPlus machine... (7.1, 7.3)	Be aware that db s will now read the synergy.ini file.	The service runtime (db s.exe) will use the synergy.ini file when SFWINIPATH is set. If SFWINIPATH is not set, db s ignores synergy.ini . This change may break your code.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If the RUSER environment variable is set in both the registry and the environment...	Be aware that RUSER set in the environment now has precedence over RUSER set in the registry.	When RUSER is set in the Synrc node in the registry, as is required to configure xfServerPlus for remote data access, it is read into the environment when rsynd starts up, and it is therefore considered to be set in the environment. This change may break your code.
Windows UNIX	If you use the xfServerPlus log file...	Expect to see multiple log files.	By default, xfServerPlus now generates a separate log file for each session. You can set the XFPL_SINGLELOGFILE option to ON in the xfpl.ini file to continue producing a single file.
UNIX	If you start xfServerPlus with a password...	Encode the -u password with setruser .	To improve xfServerPlus security, a clear text password is no longer permitted when starting xfServerPlus. This change may break your code if you start xfServerPlus with a script.
UNIX	If you start xfServerPlus without a password...	The user starting xfServerPlus must be root or signed on as the user specified with -u .	This is the documented behavior, but it was not previously enforced. This change may break your code if you start xfServerPlus with a script.
OpenVMS	If you run xfServerPlus on OpenVMS...	The xfServerPlus account must have the SHARE privilege.	Without this privilege, xfServerPlus will not run. This change may break your code.

xfNetLink Java Edition

Compatibility Information

- (Windows) xfNetLink Java is now always installed in the default location, Program Files\Synergex\xfNLJava. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- (UNIX, OpenVMS) We changed the name of the default xfNetLink Java installation directory from xfNetLnk to xfNLJava.
- xfNetLink Java 9.5.1a and higher is not supported on SCO OpenServer (system code 003) and HP Tru64 UNIX (system code 021) because these platforms do not support Java 1.5, which is the minimum supported JDK version.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you do not include the Xerces parser files (xercesImpl.jar and xml-apis.jar) and the directory where xfNetLink Java was installed in your classpath...	Update your classpath to include them.	Additional functionality added in versions 7.5 and 8.1.7 requires that you include the Xerces parser files and the installation directory in the classpath. See “Setting the Classpath” in the <i>“Creating Java Class Wrappers”</i> chapter of the <i>xfNetLink & xfServerPlus User’s Guide</i> .
All	If you are using a version of the JDK prior to 1.5...	Upgrade to JDK version 1.5.	xfNetLink Java requires a Java Virtual Machine compatible with JDK version 1.5 or higher.
All	If your application requires JRE v1.2 through 1.4 compatibility...	Use the genjava -c version option and specify 1.2 for the version.	By default, classes are generated with JRE 1.5 compatibility. The genjava -c version option enables you to specify that classes be created with 1.2 compatibility, which means they will be compatible with JRE 1.2 through 1.4. The compatibility level determines not only what xfNetLink Java features are available, but also a number of default type mappings; consequently, this change may break your code if you regenerate classes for an existing application.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If your code includes date and time fields in repository structures passed as parameters...	Update your code to use the Calendar class. ^a	Date and time fields are now mapped to the Calendar class instead of the Date class. This change may break your code if you regenerate classes for an existing application.
All	If you have User fields in repository structures passed as parameters where the subtype is Date and the User data field contains either ^CLASS^= YYYYMMDDHHMISS or YYYYMMDDHHMISSUUUUU ...	Update your client code to use the Calendar class.	This type of User field now maps to the Calendar class. Previously, such fields were converted to Strings. This change may break your code if you regenerate classes for an existing application.
All	If you have binary fields within structures that are passed as parameters...	Update your client code to use a byte array instead of a String. ^a	Binary fields are now mapped to byte arrays; previously, they were converted to Strings. This change may break your code if you regenerate classes for an existing application.
All	If your code includes decimal or implied-decimal parameters or return values...	Update your code as necessary to account for changes to the default type mappings for these data types. Or, you can use type coercion to coerce these data types to the old mappings.	The mapping for decimal and implied-decimal data types changed. See "Appendix B: Data Type Mapping" in the <i>xfNetLink & xfServerPlus User's Guide</i> for details. This change may break your code if you regenerate classes for an existing application.
All	If your code includes any of the following methods: getxfMinport() getxfMaxport() setxfMinport() setxfMaxport()...	Remove them or comment them out.	These methods have been deprecated. They should be used only when running in debug mode (using the debugInit() and debugStart() methods) through a firewall, requiring a valid range of ports.

a. This version 10 change applies to class wrappers generated with JRE 1.5 compatibility, which is the default in version 10. If you use the **genjava -c** option (or the "Generate classes as version" option in Workbench) to generate classes with JRE 1.2 compatibility, those classes will be generated as they were in version 9.5.1 and earlier, and the described feature will not be available, which means you will not need to make this change to your code.

xfNetLink .NET Edition

Compatibility Information

- xfNetLink .NET is now always installed in the default location, Program Files\Synergex\xfNLNET. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- Version 7 assemblies must be rebuilt to be used with version 10.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you access the xfNetLink .NET Configuration Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfNetLink .NET Configuration Utility is no longer added to the Start menu. You can also access this utility from within Workbench.
Windows	If you are using Visual Studio 2005 or earlier...	Upgrade to 2008 or higher.	The minimum supported version is now 2008.
Windows	If you use version 1.0 or 1.1 of the .NET Framework...	Upgrade to version 2.0 or higher. Then edit the AssemblyInfo.cs file to remove the attributes <code>AssemblyDelaySign</code> and <code>AssemblyKeyFile</code> . Or, you can delete the AssemblyInfo file; xfNetLink will create a new one the next time you run gens .	.NET Framework 2.0 is now the minimum supported version. In .NET Framework versions 1.0 and 1.1, these two attributes were included in the AssemblyInfo file. In version 2, they are specified on the compiler command line. Because the AssemblyInfo file is not overwritten, you must either delete these attributes from the file or delete the file so that it is recreated.
Windows	If you have fields in Repository that are flagged as read-only, and you generate structure members as properties, and you need to be able to set those properties in your client code...	Clear the read-only fields in Repository before you generate classes.	Starting with version 9.1.3, fields flagged as read-only in Repository are generated as read-only in the C# classes when structure members are generated as properties. These properties will have a "get" method, but no "set" method. This change may break your code if you regenerate classes for an existing application. Note that the read-only flag is not honored when you generate structure members as public fields.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If your application passes structures that contain fields defined as binary data type in the repository...	To continue to have these fields converted to strings in the generated C# classes, run gens with the -nb option; else, they will be converted to byte arrays.	A field in a structure that is defined as a binary data type in the repository is now converted to a byte array in the generated C# code instead of a string. This change may break your code if you regenerate classes for an existing application.
Windows	If your Synergy assembly includes methods that pass structures as parameters...	Add a reference to xfnl.net.dll in your Visual Studio project.	This requirement results from two new features added in 8.3, the gens -i option and the generation of a C# interface for every generated class.
Windows	If you use the port number range feature (minport and maxport)...	Cease to do so.	This feature has been deprecated. Minport and maxport are ignored when set in the configuration file or passed with the connect() method, unless you are running in debug mode. If you attempt to modify these settings with the xfNetLink .NET Configuration utility, you will be prompted to remove them from your config file.
Windows	If you use client-side logging...	Expect to see multiple log files.	By default, xfNetLink .NET now generates a separate log file for each class that instantiates a connection to xfServerPlus. You can set "single log file" to "on" in the application configuration file to continue producing a single file.

SQL OpenNet

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL OpenNet is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you rely on the installation program to register and start SQL OpenNet... (7.1, 7.3)	Use the Synergy Configuration Program instead to register, start, and stop SQL OpenNet.	The SynSQL service is no longer registered and started by the installation program.
Windows	If you use vtxnet2...	Change the start-up command line in the opennet.srv file to specify vtxnet2 .	We changed the default SQL OpenNet server from vtxnet2 to vtxnetd . This change may break your code.

xfODBC

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ You must re-create your system catalogs for use with version 10 by running the **dbcreate** utility with the **-c** option (or by using the “Clear and re-create” option in the DBA program). (For information on preserving views when you re-create a system catalog, see [“Preserving views”](#) in the “Creating a System Catalog” chapter of the *xfODBC User’s Guide*.)
- ▶ (Windows) xfODBC is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you set OJNESTON and have SQL92 outer joins with ON clauses for table qualifiers specified after all table qualifiers... (7.5) For example, <pre>FROM... LEFT JOIN vendors v LEFT JOIN plants p ON o.or_vendor = v.vend_key ON o.or_item = p.in_itemid}</pre>	Discontinue setting OJNESTON, and put each ON clause immediately follows its table qualifier: <pre>FROM... LEFT JOIN vendors v ON o.or_vendor = v.vend_key LEFT JOIN plants p ON o.or_item = p.in_itemid}</pre>	We removed support for the OJNESTON option; attempting to set it now causes an “Unknown option” error. xfODBC no longer supports this type of query.
All	If you set SODBC_NONULL... (7.3.3, 7.5)	Set the “Null allowed” value to Yes or No for each field in Repository.	SODBC_NONULL has been deprecated. We strongly recommend you use the Repository setting instead.
All	If you do not set SODBC_NONULL... (7.3.3, 7.5)	If you don’t want the default behavior (see Comments), set the “Null allowed” value to Yes or No for each field in Repository.	The dbcreate utility now uses the Repository “Null allowed” field to determine how to set the “Null allowed” property for system catalog columns. For more information, including details on the default behavior, see “Preventing null updates and interpreting spaces, zeros, and null values” in the “Preliminary Steps” chapter of the <i>xfODBC User’s Guide</i> .

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use SQL_REAL for the CAST and CONVERT functions...	Use SQL_FLOAT instead.	xfODBC no longer supports SQL_REAL.
All	If you use xfODBC Driver DSNs... (7.1)	Create new DSNs for use with for xfODBC.	xfODBC cannot use DSNs created for xfODBC Driver. This change may break your code. For details on creating new DSNs, see "Setting Up Access with DSNs" in the "Configuring Data Access" chapter of the <i>xfODBC User's Guide</i> .
All	If you use the SODBC_NOROLL or VORTEX_ODBC_DATETIME environment variables... (7.1)	Cease to do so.	These xfODBC Driver environment variables are not used by xfODBC.
All	If your code uses multi-dimensional arrays... (7.1)	Rewrite your queries to use the current array name format.	We changed the way multi-dimensional arrays are named. This change may break your code.
All	If you use the Repository Converter (sodbccnv)... (7.1)	Use the dbcreate utility instead.	The sodbccnv utility has been replaced with dbcreate .
All	If you rely on the default display formats for date/time, dates, or times... (7.1)	Modify your code to use the new defaults or use the TO_CHAR scalar function to change the default format.	The default formats have changed. The new defaults are as follows: YYYY-MM-DD HH:MI:SS (date/time) YYYY-MM-DD (dates) HH:MI:SS (times) See "Appendix B: SQL Support" in the <i>xfODBC User's Guide</i> for details.
All	If you want the column names in the system catalog to consist solely of the field names... (7.1, 7.3)	Set the environment variable SODBC_NOGROUPNAME.	By default, if the field is part of a group in the repository, the column name created in the system catalog will include the group name as a prefix to the field name.
All	If your data includes unsigned fields that contain negative values...	Change the fields to signed fields by selecting the "Negative allowed" option in Repository. Or, you can set the SODBC_NOUNSIGNED environment variable to revert to the previous behavior.	The dbcreate utility and xfODBC driver now distinguish between signed and unsigned fields. This prevents negative values from being stored in non-negative fields, which enables xfODBC to work better with ADO.NET and Microsoft Access.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you access the xfODBC DBA Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfODBC DBA Utility is no longer added to the Start menu.
Windows	If you use the ODBC API to call SQLDriverConnect to open a connection from a heavily threaded environment...	Use the SQL_DRIVER_NOPROMPT option.	Using SQL_DRIVER_NOPROMPT prevents a login box from appearing, which may cause vtx4.dll to hang.
UNIX	If you use the CONNECT environment variable...	Use CONNECTDIR instead.	We replaced CONNECT and CONNEXTEXE with CONNECTDIR so that all platforms use the same setting. This change may break your code.
OpenVMS	If you use the CONNEXTEXE logical...		
OpenVMS	If you have created your own XFODBCUSR.EXE file... (7.3, 7.5)	Rename the file XFODBCUSR_SO.EXE and set the logical XFODBCUSR_SO (instead of XFODBCUSR) to point to it.	We changed the name of the XFODBCUSR.EXE file (and the corresponding logical) to XFODBCUSR_SO.EXE . This change may break your code.

SQL Connection

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL Connection is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you use the %SSC_BLOB routine...	Use the new routine %SSC_LARGECOL instead.	The new routine and option improve SQL Connection's ability to get and put large binary column data and large character column data. See %SSC_LARGECOL in the "Database Functions" chapter of the <i>SQL Connection Reference Manual</i> for details.
All	If you use the SSQL_BLOBCOL option for %SSC_OPEN...	Instead, use the new SSQL_LARGECOL option for %SSC_OPEN for gets and the SSQL_LARGECOL option for %SSC_EXECUTE for puts.	
All	If you use a driver keyword (such as rdb or sybase) in a connect string...	Change the connect string to use a driver name instead: <ul style="list-style-type: none"> ■ VTX0 for Oracle on UNIX or OpenVMS ■ VTX1 for Oracle Rdb ■ VTX2 for Sybase ■ VTX4 for Synergy database ■ VTX5 for Informix ■ VTX11 for ODBC-compliant databases ■ VTX14 for MySQL 	We deprecated all database driver keywords on all platforms.
All	If your program .INCLUDEs the ssql.def file...	Update your program to .INCLUDE ssql.def from the connect directory using CONNECTDIR.	We moved ssql.def from the \synsqlx directory to the \connect directory.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
All	If you don't want to use encryption...	Remove the -k option from the vtxnetd or vtxnet2 command line and remove the key_connect setting from the net.ini file.	By default, the database user name and password and the host user name and password are encrypted. For more information, see "The vtxnetd and vtxnet2 Programs" in the "Configuring Connectivity Series" chapter of the <i>Installation Configuration Guide</i> and "Setting connect string defaults and encryption in net.ini" in the "Preparing Your Environment" chapter of the <i>SQL Connection Reference Manual</i> .
All	If your code uses numeric fields for dates... (7.1, 7.3)	Change your code to use ^A to access the fields as alpha fields. Or, in your database, overlay the fields with alpha fields, and then access data with the overlay fields. Or, change your code to handle Julian day values.	When numeric date fields are bound or defined, they are treated as Julian days, which are calculated using a default time base of -1721378. (Formerly, they were treated as alpha fields with YYYYMMDD formats.) This change may break your code. Note that you can use SSQL_OLD_ZONEDATE, an %SSC_CMD option, and SSQL_OUTDATE, an %SSC_EXECIO option, to disable the new date behavior for <i>retrieved</i> dates. These options do not, however, affect dates written to the database. In addition, using SSQL_OLD_ZONEDATE can cause increased CPU time and memory use.
All	If you rely on the default format for dates returned into defined alpha variables... (7.1)	Change your code to handle the new default format or use SET OPTION DATETIME to change the default format.	The format for dates returned into defined alpha variables has changed from DD-MON-RR to DD-MON-YYYY. This change may break your code. See "Appendix B: SQL Support" in the <i>xfODBC User's Guide</i> for details.
All	If you have created a net.ini file...	Add the settings from your net.ini file to the distributed net.ini file.	We now distribute a net.ini file in the connect\synodbc\lib directory. If you have a net.ini file in that same directory, it will be overwritten when version 10 is installed.
Windows	If you select the database driver during installation or specify it with the Synergy Configuration Program...	Specify the driver name in your connect string.	No default drivers are set or can be selected; you must now specify the specific driver name in the connect string.

Platform	Version 7 usage	Change required for 10.1	Explanation/Comments
Windows	If you use VTX0, VTX12, oracle, or sqlserver in a connect string...	Change the connect string to use one of the following driver names instead: <ul style="list-style-type: none"> ■ VTX0_9 for Oracle 9 ■ VTX0_10 for Oracle 10 ■ VTX0_11 for Oracle 11 ■ VTX12_ODBC for SQL Server 2005 ■ VTX12_SQLNATIVE for SQL Server 2005 or 2008 with SQL Native Client 	You can no longer use these keywords (VTX0, VTX12, oracle, sqlserver) in a connect string. In addition, we removed the database driver options from the Connectivity Series tab in the Synergy Configuration Program. This change may break your code.
UNIX	If you use connect strings that include a UNIX SQL OpenNet Server... (7.1)	Alter the connect string to include the driver's program name.	See the "Configuring Connectivity Series" chapter in the <i>Installation Configuration Guide</i> and the SQL Connection Reference Manual for details on connect strings.
UNIX	If you execute sqlunixbld and makessqlsrv to add client support... (7.1)	Cease to do so.	Client support is now pre-built.
UNIX	If you use the CONNECT environment variable...	Use CONNECTDIR instead.	We replaced CONNECT and CONNEXTE with CONNECTDIR so that all platforms use the same setting. This change may break your code.
OpenVMS	If you use the CONNEXTE logical...		
OpenVMS	If you use connect strings... (7.1, 7.3)	Change the <i>driver_name</i> argument (now just called <i>driver</i>) to a valid driver.	The <i>driver</i> argument for connect strings is no longer just a placeholder. Now, it must be set to the name of the database driver. For a list of database driver names, see "Building Connect Strings" in the "Creating SQL Connection Programs" chapter of the <i>SQL Connection Reference Manual</i> .
OpenVMS	If you use Oracle or Oracle Rdb natively...	Rebuild your database driver using BUILD_SSQL_DB.COM .	We have moved to a shared image model for database drivers on OpenVMS. This change may break your code. For instructions on building a database driver, see "Configuring and Building SQL OpenNet for SQL Connection" in the OpenVMS section of the "Configuring Connectivity Series" chapter of the <i>Installation Configuration Guide</i> .

Migrating from Version 8 to Version 10.1

This section is designed to help you migrate from version 8.1 or 8.3 to version 10.1.

Some items in the Version 8 usage columns in the Required Changes tables include a version number in parentheses at the end of the entry. This indicates the version to which that item pertains. For example, if the version number is 8.1, users migrating from 8.1 to 10.1 will need to make the required change. However, users migrating from version 8.3 to 10.1 will not need to make the change. If no version is specified, the item applies to all version 8 users.

License Manager

Compatibility Information

- ▶ You must reconfigure all products for Synergy/DE version 10.
- ▶ License Manager server version 10 supports version 6.1 or higher clients on UNIX and version 6.3 or higher clients on Windows.
- ▶ (Windows) In version 10, License Manager server (**synd**) uses sockets to communicate instead of pipes. It will, however, still accept connections from pre-version 10 license clients using pipes. See the release notes, **REL_LM.TXT**, for complete information on this change.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you use the lm -e option to configure products...	Instead, use lm -a or the Synergy Configuration Program, or run the .skf file by double-clicking on it in Windows Explorer (32-bit only).	The -e option, which prompted the user for each piece of information when configuring products, was deprecated to support Windows 8.

Synergy DBL

Compatibility Information

- ▶ Version 10 will run code compiled and linked with Synergy/DE 6.1 and higher; you do not have to recompile unless you want to debug or take advantage of performance improvements and some fixes made between version 8 and version 10; these are noted in the table below.
- ▶ If you recompile, you will need to make changes to your code due to stricter error checking in the compiler and the fact that we have strongly prototyped all system-supplied subroutines and functions. In most cases, the current compiler will find errors that earlier versions of the compiler did not. You can turn off most of the stricter error checking by compiling with the **-qrelaxed** (/RELAXED on OpenVMS) switch. For details on this switch and its options, see “[Compiler options](#)” in the “Building and Running Traditional Synergy Applications” chapter of *Synergy Tools*.
- ▶ To debug with version 10, you must recompile because the debugger cannot otherwise show source line information or provide symbolic access to variables. If you need to debug your code in version 10, but are not yet ready to take advantage of the stricter error-checking and strong prototyping, recompile with the compiler distributed as **dbl8**. Note that code compiled with **dbl8** can be run only on version 9 and higher. (See “[The dbl8 compiler](#)” in the “Building and Running Traditional Synergy Applications” chapter of *Synergy Tools* for more information.)
- ▶ The object files, object libraries, and executables generated with version 10 are not backward compatible. However, changes you make to your code to comply with the enhanced error checking and strong prototyping will compile under previous versions of Synergy, unless stated otherwise in this document. In those few instances, you can use the IFDEF compiler directive so that the code can be compiled with either version 10 or a previous version. For example, let's say you want to overload the subroutine PUTCM, which was defined like this in version 8:

```
.subroutine putcm  
data, a
```

Due to strong prototyping, the parameter *data* is now defined thus:

```
in req data, a
```

Since the IN and REQ parameter modifiers are new, code that includes them will not compile in a prior version. You can handle the situation like this:

```
.ifdef DBLV10  
    subroutine putcm  
    in req data, a  
.else  
    subroutine putcm  
    data, a  
.endc
```

- ▶ (Windows) The default installation directory for Synergy/DE is Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ Starting with version 9.5, Synergy/DE supports Microsoft .NET. Some features in previous versions of Synergy are not supported when using Synergy .NET. These include deprecated data types, syntax, APIs, and compiler options. You can see how compatible your code will be with .NET by compiling with the **-qnet** option. It will output warnings to standard error for items that your code uses that are not supported in Synergy .NET. For more information on the differences between traditional Synergy and

Synergy .NET, see the “[Moving Your Synergy Application to .NET](#)” chapter of the *Professional Series Portability Guide*. For information on developing for .NET, see the “[Developing for the .NET Framework](#)” chapter of *Getting Started with Synergy/DE*.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use the SYN_VER define in dbl.def ...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. Where necessary, Synergy DBL routines have been modified to handle both letters and numbers.
All	If you use the %VERSN routine and have code that parses the returned value to perform a string comparison with an earlier version...	Review your comparison logic and change it where necessary.	Version number comparisons may not evaluate as expected because of the two-byte version in Synergy/DE 10. We recommend you review <i>all</i> version string logic in your application.
All	If you pass a variable of the wrong data type, such as an alpha variable to a routine that expects a decimal or integer variable...	Correct your code to use the correct data type. Optionally, you may be able to cast (^A, ^D, or ^I) the variable to the correct type.	Passing the incorrect data type causes the compiler to generate a “Type mismatch” error. The compiler now strongly prototypes system-supplied functions and subroutines, which means that your call must exactly match the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required. You can reduce the occurrence of this error by using the -qrelaxed:param compiler option. In addition, the compiler strongly prototypes all user-defined routines in a compilation unit to ensure that calls within that unit match the routine declaration. For these routines, you can use the -qrelaxed:local compiler option to reduce the occurrence of this error.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you fail to pass required arguments to a routine...	Correct your code to pass the missing arguments.	Previously, this error would not be caught until runtime. Now, all system-supplied routines are strongly prototyped, the compiler generates a "Missing required parameter <i>name</i> in routine <i>name</i> " error.
All	If you pass more arguments to a routine than the routine defined...	Correct your code to pass the correct number of arguments. For user-defined routines, you can optionally do one of the following to correct your code: <ul style="list-style-type: none"> Change the routine declaration to include the extra arguments. Change the routine declaration to include the VARARGS modifier. 	This situation now causes the compiler to generate a "More argument values than declared parameters in routine" error. See the item above for an explanation of strong prototyping in system-supplied and user-defined routines and for the compiler options that will reduce the occurrence of this error. Note that if you use VARARGS, your code will no longer compile in versions 8.3 and earlier. For more information on VARARGS, see the Synergy DBL Language Reference Manual .
All	If your code includes external functions in which the function return type in the function declaration does not match the return type of the function itself...	Correct your code so that they match. You can now explicitly specify the type of the function return value. If it's not explicitly typed, the return type is determined by the data type of the first FRETURN statement. See FUNCTION-ENDFUNCTION in the "Synergy DBL Statements" chapter of the <i>Synergy DBL Language Reference Manual</i> for details.	Because the compiler now strongly prototypes all routines in a compilation unit, this situation causes the compiler to generate an "External function <i>name</i> does not match prototype" error. You can reduce the occurrence of this error by using the -qrelaxed:extf compiler option.
All	If your code uses nested literals (that is, a literal that references another literal)...	Change your code to use .DEFINES instead.	Because the compiler is now multi-pass, a nested literal field is not evaluated until after the preprocessor pass. This situation now causes the compiler to generate a "Not a compile-time expression" error.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you overload any system-supplied function or subroutine...	Verify that your overloaded routine exactly matches the prototype of the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required.	<p>We now strongly prototype all system-supplied functions and subroutines. Using the -W4 compiler option (/WARNINGS=4 on OpenVMS) will show the prototype the compiler expects and your overloaded routine definition, so that you can see how they differ.</p> <p>Once you change your routine, your code may no longer compile in versions 8.3 and earlier. See “Compatibility Information” on page 54 for a suggestion on how to handle this situation.</p>
All	If you use the %SYSERR routine...	<p>Check your code to ensure that the call to %SYSERR occurs immediately after an error is detected.</p> <p>Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.</p>	<p>If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %SYSERR, then %SYSERR will return a “success” status code from the I/O operation, rather than the expected system error. The same applies to %SYN_SYSErrTXT, when it is called without passing the optional argument. This change may break your code.</p> <p>This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.</p>
All	If you use the %ERROR routine...	<p>Check your code to ensure that the call to %ERROR occurs immediately after an error is detected.</p> <p>Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.</p>	<p>If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %ERROR, the <i>status</i> and <i>stc</i> arguments will return a “success” status code from the I/O operation, rather than the expected error number. This change may break your code.</p> <p>This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.</p>

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use %ISINFO to return alpha data...	Use the new %ISINFOA routine instead or use ^A to cast the return type.	%ISINFO now returns only numeric data because strong prototyping requires that there be only one return type. If you use the new %ISINFOA routine, your code will no longer compile in versions 8.3 and earlier. For backward compiler compatibility, use ^A.
All	If you use the %SYNSOCK routine...	Change your code to use the %SS_ functions instead.	Previously, the Synergy socket API routines were implemented as parameterized macros (%SS_), which invoked the %SYNSOCK routine. Now, the compiler treats the %SS_ routines the same as functions in order to support strong prototyping. Therefore, %SYNSOCK is no longer needed and has been removed from the runtime. See the “Synergy Socket API” chapter of the <i>Synergy DBL Language Reference Manual</i> . This change may break your code.
All	If your code defines a field that implicitly extends a record by overlapping another field... For example, <pre>record pbuff , a80 page_hdr , a5@pbuff page_text , a85@pbuff+5</pre>	Correct your code. In this example, you could change the size of <i>pbuff</i> to 90.	This is often the result of a coding error. It is no longer supported, and the compiler now generates a “Cannot extend record by <i>nn</i> bytes with overlay field <i>name</i> ” error. Note that a field is permitted to extend a record as long as it does not overlap another field.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code uses END (as opposed to .END) and expects all .DEFINEs to be removed and unavailable to the next module in the source file...	<p>Add .UNDEFINE compiler directives as necessary.</p> <p>For example, a .DEFINE might be used to control the initializing of a global data section:</p> <pre>.ifdef GBL_INIT .undefine GBL_INIT global data section A ,init .else global data section A .endc</pre>	<p>The compiler now treats END and .END the same. This means that .DEFINEs are not undefined when END is encountered and are therefore available to the next module in the source file. This could cause a “Symbol already defined” error or lead to unexpected behavior because something is defined when it should not be. This change may break your code.</p> <p>To retain the previous behavior, in which END and .END were treated differently, use the -qrelaxed:end compiler option.</p>
All	If your code .INCLUDEs named records that have overlay fields, and you get an “Ambiguous symbol” error when compiling...	<p>Correct your code to remove the ambiguity. The easiest way to do this is to use the NORECORD qualifier.</p> <p>For example, instead of this:</p> <pre>.include "rec" repository, record=myRecord</pre> <p>You can do this:</p> <pre>record myRecord .include "rec" repository, norecord</pre> <p>The other option is to remove the ambiguity by renaming the duplicate symbol.</p>	<p>We changed the way in which .INCLUDE offsets are specified by the compiler. If the record is <i>named</i>, dot notation using the record, group, and field names is used. If the record is <i>unnamed</i>, a numeric offset relative to the overlay field is used. The use of the named reference could cause the compiler to generate an “Ambiguous symbol” error if you have a duplicate symbol elsewhere in your code. Using the NORECORD qualifier will ensure this does not happen. For more information, see “Including from a Repository” in the Discussion for .INCLUDE in the “Preprocessor and Compiler Directives” chapter of the <i>Synergy DBL Language Reference Manual</i>.</p>
All	If your code includes a data division in which the first item is a structure <i>and</i> there is no MAIN statement...	Add a MAIN statement.	<p>MAIN is optional <i>unless</i> the first item in the data division is a STRUCTURE statement without a corresponding ENDSTRUCTURE. The error generated by the compiler will vary.</p>

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	<p>If your code contains references to ambiguous field definitions within the data division...</p> <p>For example,</p> <pre>record red ,a3 record joe blue ,a ^size(red) red ,d2</pre> <p>A similar problem occurs when you have a structure defined in a repository, and you reference that structure as an implicit group in another repository structure and name the group the same name as the referenced structure, and then include both structures in a program.</p>	<p>Correct your code to remove the ambiguity.</p> <p>In the first example, the correction required would depend on what the code was attempting to do.</p> <p>For the repository example, you need to either rename the first structure in the .INCLUDE directive to something unique, or change the name of the group within the second structure in the repository.</p>	<p>Ambiguous field references can now be detected within the data division and cause the compiler to generate an "Ambiguous symbol" error. Previously, they could be detected only when referenced within the procedure division. To allow the old usage, use the -qrelaxed:path compiler option.</p>
All	If your code uses i8 data types as function return values on 32-bit systems...	Change your code to use a supported data type.	<p>Using an i8 (or long) data type on a 32-bit platform causes the compiler to generate a "Type i8 cannot be return value on 32-bit platform" error.</p> <p>Previously, there was no error, and if you passed a value larger than an i4 to an i8, it was truncated.</p> <p>This change may break your code.</p>
All	If your code passes a null argument (") to ^ARGN...	Use ^ARG instead.	<p>^ARGN now returns an "Improper use of null argument" error, because a valid decimal descriptor can't have a length of 0. This change may break your code.</p>
All	If your code passes an alpha larger than 10 digits to a statement that accepts both alpha and numeric values, and you are using it in a form where a number is required (e.g., a record number on a WRITE statement)...	Use ^D to cast the alpha to a decimal.	<p>We convert the passed alpha value to an i4, which has a maximum size of 10.</p>

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code uses anything other than an a6 for a GETRFA or RFA qualifier variable...	Change your code to use an a6 or set system option #56.	With the introduction of GRFAs, if the size of a GETRFA or RFA argument is anything other than 6 or 10 bytes, an "Invalid record's file address" error is generated. Setting system option #56 turns off this behavior and causes all RFAs that exceed 6 bytes to be treated as 6-byte RFAs. Even if you are using an a10 , you will need to set system option #56, because a10 now indicates a GRFA and will cause a "Record not same" or "Feature not supported in this version" error when used for an RFA. This change may break your code.
All	If your code includes an ELSE statement on the same line as an ENDCASE statement...	Move it to the next line.	This coding style is no longer permitted and causes the compiler to generate an "ELSE part expected" error.
All	If your code uses the LOCAL, STATIC, or STACK qualifiers with the MAIN statement...	Remove them from your code.	MAIN no longer allows these qualifiers. Previously, although allowed, they were ignored and did not affect how your code operated. Now, the compiler generates an "Invalid MAIN declaration" error.
All	If your code uses FIRST or LAST with the I/O statements FIND, READ, or WRITE...	Use ^FIRST or ^LAST instead.	The use of these qualifiers without the caret is no longer supported and causes the compiler to generate an "xxx not found" error.
All	If your code uses short forms of identifier names, such as NOPREC for NOPRECISION...	Use the full documented identifier names.	We no longer support shortened forms of identifier names. Using them causes a compiler error.
All	If your code includes the START compiler directive without a period at the beginning...	Add the period.	All compiler directives now require a period at the beginning. Without the period, the START directive will be ignored.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code uses non-numeric variables as subscripts or in ranging operations... For example, <code>clear myvar(avar)</code> Or <code>clear myvar(offset:avar)</code>	Correct your code to use whole numbers instead.	Non-numeric variables are not allowed in subscripts or ranging operations and cause the compiler to generate a "Numeric expression required" error.
All	If your code uses implied-decimal variables for channel numbers, subscripts, or in ranging operations...	Correct your code to use whole numbers instead.	Previously, implied-decimal values were rounded to the nearest whole number. Now, they cause the compiler to generate a "Decimal or integer expression required" error.
All	If your code includes decimal fields in which the whole number portion exceeds 18...	Correct your code so that the whole number portion is 18 or less.	Although this was previously allowed, only assignment statements were guaranteed to work, and it was treated as an 18-digit field with leading zeros in the inaccessible part of the field. This now causes the compiler to generate an "invalid data size specification" warning. To allow the old usage, use the -qrelaxed compiler option.
All	If your code includes implied-decimal fields, in which the difference between the whole number part of the field and the precision part is greater than 18... (8.1)	Correct your code such that the difference is 18 or less.	The compiler now generates a BIGNUM error in this condition.
All	If your code includes IF statements that are missing the body statement... For example, <code>if (condition) then nop</code> <code>else</code> <code>end</code>	Correct your code to include a body statement.	This syntax is no longer permitted and causes the compiler to generate a "Statement expected" error.
All	If your code uses .IF with a compile-time expression using ^SIZE or %LEN...	Correct your code.	This is no longer supported and causes the compiler to generate a "Function name is not supported in .IF" error.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	<p>If your code includes a statement on the same line as a BEGIN statement...</p> <p>For example,</p> <pre>begin some_command end</pre> <p>Or</p> <pre>begin & some_command end</pre>	<p>Move it to the next line. Or, in the case of the second example, just remove the continuation character.</p>	<p>This coding style is no longer permitted and causes the compiler to generate a "BEGIN should be followed by end of line" error.</p>
All	<p>If your code has function declarations with multiple qualifiers...</p> <p>For example,</p> <pre>.function myFunc, ^val reentrant</pre>	<p>Verify that there is a comma between the qualifiers.</p>	<p>The comma is now required. A missing comma causes the compiler to generate an "Invalid expression" error.</p>
All	<p>If your code uses the following syntax...</p> <pre>record array , [10]a5 array[] (ix:1) = value</pre>	<p>Change your code. In this example, you can add a GROUP/ENDGROUP pair around the array declaration:</p> <pre>record group array_grp array , [10]a5 endgroup</pre> <p>and then change the code to</p> <pre>array_grp (ix:1) = value</pre>	<p>This syntax is no longer supported and causes the compiler to generate an "Invalid expression" error.</p>
All	<p>If your code uses brackets [] to access the elements of a pseudo array...</p>	<p>Use parentheses () instead.</p>	<p>Brackets can be used only for accessing the elements of real and dynamic arrays. Using them to access the elements of a pseudo array causes the compiler to generate an "Incorrect number of dimensions" error.</p>
All	<p>If your code includes arrayed fields larger than 256 MB...</p>	<p>Change your code.</p>	<p>Arrayed fields larger than 256 MB are no longer supported and cause the compiler to generate a "Size of field <i>name</i> too large" error.</p>
All	<p>If your code uses parentheses to reference elements of a structure in a ^M reference...</p> <p>For example,</p> <pre>^m(quote_lines(ix), rec)</pre>	<p>Change your code to use brackets instead.</p>	<p>This syntax is no longer supported and causes the compiler to generate an "Indexing not allowed in structures" error (error number 683).</p>

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code includes parameterized macros that have empty parameter lists... For example, <code>.define myMac() %char(8)</code>	Remove the empty parentheses.	Empty parentheses are no longer permitted when no parameters are specified in a .DEFINE parameterized macro reference and cause the compiler to generate an "Invalid compiler directive" error.
All	If your code includes nested parameterized macros of the same name...	Change your code.	Nested use of parameterized macros with the same name now causes the compiler to generate a "name not found" error.
All	If you have inadvertent unary + operations on alpha operands... For example, <code>xcall fred ("ABC"+ & "DEF")</code> Or <code>xcall fred ("ABC" &, "DEF")</code>	Correct your code to remove the unnecessary unary +.	This operation is mathematically invalid and is most often the result of a coding error. It causes the compiler to generate a "Numeric operand required (unary +)" error. To allow the old usage, use the -qrelaxed compiler option.
All	If your code uses the dollar sign (\$) on function calls...	Change it to a percent sign (%).	The dollar sign is no longer supported and causes the compiler to generate an "Invalid calling convention" error. To allow the old usage, use the -qrelaxed:deprecate compiler option.
All	If your code uses \$A or \$D ...	Change the dollar sign to a caret sign (^ A , ^ D).	
All	If your code uses .DEFINE to simulate a Boolean operator... For example, <code>.define either or . . . if var1 .either. var2 nop</code>	Correct your code.	This syntax is no longer supported and causes the compiler to generate an "Invalid expression" error.
All	If your code uses an old form of the .PROC compiler directive that specifies the number of I/O buffers on RSTS... For example, <code>.proc (4)</code>	Remove the number from your code.	This is no longer supported and causes the compiler to generate an "Invalid record field" error.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you have programs that do not have the .PROC statement in the primary source file... (8.1)	Recompile to take advantage of a fix for this problem.	This situation may cause incorrect line numbers in a traceback.
All	If your code passes a numeric non-implied literal to a routine that declares it as n and uses ^D , ^F , or ^A on the passed argument without first determining its data type...	Make the argument type n . or use ^DATATYPE to determine the argument type before casting it.	Previously, literals were passed as decimals. Now, they are passed as integers, so the results will not be as expected.
All	If your code passes the <i>line</i> argument to MODNAME and declares it as a ...	Declare it as n instead.	Previously, <i>line</i> could be a or n ; now, only n is permitted.
All	If your code uses ^PASSED on a local variable...	Change your code.	Previously, this always evaluated to true. Now, it causes the compiler to generate an "Invalid argument" error because ^PASSED is intended for parameters only.
All	If you have files with more than 262,143 lines in them...	Split them into smaller files.	Previously, line numbers in such large files were misreported in errors. Now, the compiler generates an "Exceeded maximum number of lines in file <i>name</i> " error.
All	If you have duplicate global data sections, global commons, or global literals that are not the same size...	Change your code.	The linker will generate an error when it finds duplicate symbols that are not the same size. The exact error depends on which symbol is duplicated. (Duplicate symbols that <i>are</i> the same size will cause the linker to generate a warning.)
All	If your code includes decimal and implied-decimal variables in a single SET statement...	Correct your code to use separate SET statements for each data type.	Previously, the precision would be truncated when setting the decimal variable, without an error being reported. Now, the compiler generates a "Type mismatch between <i>type</i> and <i>type</i> " error.
All	If you use the DBLTOKENS environment variable...	None.	Starting with version 9, DBLTOKENS is no longer used by the compiler, so this environment variable has been retired.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code passes a ^VAL parameter to a ^REF argument in order to use the result of a call to a system DLL that returned a pointer...	Access the pointer using %MEM_PROC(DM_REG) instead.	Passing a ^VAL to a ^REF argument is no longer supported and will cause the compiler to generate a “^REF required for argument <i>name</i> ” error.
All	If your code includes a relative range specification that accesses characters preceding the specified field...	Correct your code to range within the bounds of the field.	Attempting to access characters that precede the specified field now causes the compiler to generate an “Invalid range specified” error. Although this type of access has been deprecated, the Synergy Runtime will continue to support it for backward compatibility. We recommend that you compile and run with -qcheck and make the necessary changes to avoid future memory access violations.
All	If your program is built with version 8.3.1 through 8.3.1b and uses integer FOR loops using literal range values (FROM-THRU-STEP)... (8.3)	Recompile to take advantage of a fix for this problem.	In versions 8.3.1 through 8.3.1b, the compiler did not properly optimize FOR loops that used literal range values, which resulted in a significant performance degradation for those loops.
All	If you are experiencing incorrect line numbers in the debugger... (8.1)	Recompile to take advantage of a fix for this problem. (Note that you must recompile anyway to debug in version 10.)	In 8.1.3, we fixed a bug that occurred when a program .INCLUDEd two files, and the first file contained only one line.
All	If you do string concatenation on a 32-bit system where the result could be greater than 65,535 bytes... (8.1)	Modify your code to trap for the error \$ERR_BIGALPHA.	Previously, we did not generate an error in this situation. This change may break your code.
All	If you use the Synergy HTTP document transport API, and you have implemented your own escape mechanism for special characters... (8.1)	Set the HTTP_NOESCAPE environment variable to any value to continue using your own escape mechanism.	The HTTP document transport API now automatically escapes certain characters in URIs. If you have implemented your own escape mechanism, this change may break your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use the COPY subroutine to transfer OpenVMS indexed files to or from a remote system...	Cease to do so. You'll now get an "Invalid operation" error when attempting this.	This action was causing indexed files to lose their attributes, so we have disabled the use of COPY to transfer a file with a .ism extension to or from an OpenVMS system.
Windows	If you run Synergy/DE applications such as Repository from the Start menu...	Create your own shortcuts or start applications from the command line.	The only shortcut added to the Start menu in version 10 is Workbench (for most Windows platforms; see below for an exception).
Windows	If you access the Synergy Configuration Program from the Start menu...	Access it from the Synergy Control Panel instead, which is located in Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the Synergy Configuration Program is no longer added to the Start menu.
Windows	If you use OpenSSL with the HTTP document transport API...	Upgrade your OpenSSL to version 1.0.1c.	The minimum supported version has changed. For more information on OpenSSL, see "OpenSSL Requirements" in the "Requirements and Considerations" chapter of the <i>Installation Configuration Guide</i> . This change may break your code.
Windows	If your code uses ^SIZE(font_specs) to allocate the font_specs structure passed to DWP_FONT, or uses the font_specs structure definition in winprint.def directly...	Initialize the new fields to an integer of size 0.	Initializing the fields to 0 will prevent randomly changing the escapement used by fonts in existing code. To do this, either pass the DM_NULL option in %MEM_PROC or use the INIT statement on the structure.
Windows	If you pass more than nine arguments with %AX_CALL...	Remove the characters < and > that were used to pass the additional arguments.	%AX_CALL is no longer a macro. It now supports an unlimited number of arguments, so the <> characters are no longer required and using them causes the compiler to generate an "Invalid expression" error.
Windows	If your code uses the DWP_ADDFILE function and your application provides the preview function... (8.1)	We recommend passing the enhanced_preview flag to DWP_BEGINJOB.	Truncation of long lines may occur in the previewer if this flag is not set.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you rely on the default Synergy runtime color definitions... (8.1)	To maintain the same color scheme, define the specific colors you want the application to use in your synergy.ini file.	We removed the Synergy color and palette definitions from the distributed synergy.ini file in version 8.3. The new default colors are slightly different than they were previously. Consequently, you may notice a change in the appearance of applications that rely on the default colors.
Windows	If your code uses i1 variables to store the color values returned by the WI_PALET subfunction to W_INFO... (8.1)	Change these variables to at least an i2 or a d3 . (We recommend using an i4 .)	To accommodate the increased number of Synergy colors that were added in version 8.3, the WI_PALET subfunction to W_INFO may now return values that are too large for i1 variables. This change may break your code.
Windows UNIX	If you rebuild the Synergy runtime...	Create a DLL or shared object containing your C routines and access it via the Synergy DLL API.	The makedbr and makedbs files are no longer distributed. The DLL API has been enhanced to assist you in creating C DLLs and shared objects that interact with the runtime's C interface.
Windows UNIX	If you create REV 2, 3, or 5 ISAM files...	Cease to do so.	You can no longer <i>create</i> files at these levels, though they can still be accessed with version 10. See "Converting and Patching ISAM REV 2 and 3 Files" on page 72 for conversion instructions.
Windows UNIX	If you need to create ISAM files that will be recognized by Synergy/DE versions prior to 10...	Set the ISAMC_REV environment variable to 4.	The default for creating files with version 10 is REV 6, which is recognized only by version 10. REV 4 is recognized by versions back to 7.1. See ISAMC_REV in the "Environment Variables" chapter of the <i>Environment Variables & System Options</i> manual.
Windows UNIX	If you use the ismvfy , irecovr , or isutl utility with REV 2 and 3 ISAM files...	Patch or convert your files to the current revision using isutl with the -p option.	An error occurs if you use pre-REV 4 files with these utilities. We recommend that after patching your files, you use isutl instead of ismvfy and irecovr , as the latter are now just front-ends for isutl . See "Converting and Patching ISAM REV 2 and 3 Files" on page 72 for instructions.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you use any of the following ismvfy options: -a, -f, -i, -p, -r...	Cease to do so.	These options are no longer supported because the ismvfy and irecovr utilities are now just front-ends for isutl .
Windows UNIX	If you use the irecovr -t or -x options...		
Windows UNIX	If you rely on the default page size of 1K (1026 bytes) when creating ISAM files...	Explicitly specify the page size on creation of the file.	The default size is now 4K (4096 bytes) to target the performance of large sector drives.
Windows UNIX	If you use file pre-allocation...	Cease to do so. Depending on how you were using this feature, you may need to update your code. For example, you may need to trap for the errors "No space exists for file on device" (\$ERR_NOSPAC) or "Invalid relative record" (\$ERR_RELREC).	This functionality has been removed because file allocation on flat files has been deprecated. This change may break your code.
Windows UNIX	If you use the OPEN options ALLOC and NUMREC, or system option #15...	Cease to do so. See the above entry on pre-allocation for more information on this change.	The functionality for these options has been disabled because file allocation on flat files has been deprecated.
Windows UNIX	If you specify the LOCK:Q_NO_LOCK qualifier on an OPEN statement when opening a file in update mode...	Be aware that existing records can no longer be updated or deleted in this case (but new records can still be stored).	You can no longer WRITE or DELETE an unlocked record. Previously, when using the Q_NO_LOCK qualifier, this was permitted and could cause file corruption. If you OPEN a file in update mode with the Q_NO_LOCK qualifier and attempt to update or delete an existing record using the WRITE or DELETE statement, you'll see a "No current record" error.
Windows UNIX	If you have any source modules that contain a global data section that doesn't have an "INIT" but does contain an .ALIGN directive, and the object file is linked into an ELB... (8.1)	Recompile to take advantage of a fix for this problem.	The described scenario caused unpredictable results because the compiler erroneously emitted data over other pieces of compiler information.
Windows UNIX	If you call the COPY routine and specify a destination file that another process might have open... (8.1)	Modify your code to handle a possible "File in use" error.	A "File in use" error is now returned if a COPY is performed on an open file. This change may break your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you have duplicate global data sections, global commons, or global literals that are not the same size...	Change your code.	The runtime will now detect duplicate symbols when ELBs are loaded and generate a BADELB error if the size is different. The error text tells you which symbols are duplicated. (Duplicates that <i>are</i> the same size will cause a warning in debug output.) This change may break your code.
Windows UNIX	If you have duplicate static records that are not the same size...	Recompile and relink.	
Windows UNIX	If your code uses READ or READS from a relative file when the file record size is greater than the size of the data area...	Correct your code or set system option #27.	This situation now generates an "Input data size exceeds destination size" error, as documented in the <i>Synergy DBL Language Reference Manual</i> . This error can also occur when a file is opened in the default mode with RECSIZ set. This change may break your code.
Windows UNIX	If you use %DLL_SUBR... (8.1)	Change your code to use %DLL_CALL instead.	%DLL_SUBR has been removed. This change may break your code.
Windows UNIX	If you use %DATETIME and the resolution on your system for milliseconds is not six digits... (8.1)	Review your code to see if it needs to be modified.	%DATETIME has been changed to fill with zeroes instead of spaces if the system resolution for milliseconds is not six digits.
UNIX	If you specify a base address for the shared memory segment when using the synbackup utility... (8.3)	Disable the utility using synbackup -d and then re-enable it using synbackup -c . Also, cease to use the -a option for specifying a base address.	This procedure will eliminate any E_BACKUPMODE errors due to an invalid base address. We removed support for the -a option, which enabled you to specify a base address for the memory segment, because there were reported E_BACKUPMODE errors resulting from an invalid base address. Synbackup now always selects its base address.
UNIX	If your code uses the FORK subroutine or the optional <i>fork</i> argument of the %HTTP_SERVER_RECEIVE function...	Change your code to reopen any files needed by the child process.	As a result of a change we made to fix random I/O failures, the FORK subroutine and the <i>fork</i> argument to the %HTTP_SERVER_RECEIVE function now close all channels opened by the parent in the forked child process. This change may break your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
UNIX	If you pass Windows-style commands that contain “\\” to the UNIX shell... (8.1)	Use “\\\\” instead.	The SHELL subroutine now correctly handles shell environment variables (\$DBLDIR). This change may break your code.
UNIX	If you use %TNMBR... (8.1)	Examine your code to ensure the value returned by %TNMBR is not being used for static data.	On some UNIX systems, %TNMBR was returning the wrong value. This change may break your code , as it may change the terminal numbers returned on a particular system.
UNIX	If you use the JBWAIT environment variable... (8.1)	None.	XCALL RUNJB no longer waits 2 seconds (or the value of JBWAIT). Hence, the JBWAIT environment variable is no longer necessary and has therefore been retired.
UNIX	If your application takes advantage of the fact that file locking between channels within the same process is not enforced... (8.1)	Set the INTRAFILELOCKS environment variable to 0 (zero).	We changed the default behavior for file locks within a process; it is now the same as the behavior for file locks between processes. This change may break your code. You can revert to the previous behavior by setting INTRAFILELOCKS to 0. We do not recommend this, although it does permit you to continue executing version 8.1.7 and earlier applications that violate these new locking rules. For more information, see INTRAFILELOCKS in the “Environment Variables” chapter of <i>Environment Variables & System Options</i> .
OpenVMS	If the audit server is not running on your machine...	Start the audit server and leave it running.	If the audit server is not running, when you compile you’ll see the internal C++ runtime error “Create_Exclusive_Lock_1”. This error occurs because the compiler uses the C++ runtime. Even though the message looks serious, it does not affect the compilation of your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
OpenVMS	If your code uses a lowercase logical to define the location of a repository in a .INCLUDE statement...	Change the logical to uppercase in the .INCLUDE statement or add a second define in which the logical is lowercase and quoted (which preserves the case). For example, <pre>\$ define MYRPS "<path>" \$ define "myrps" "<path>"</pre>	In version 8, the compiler automatically uppercased the logical used for the repository location in a .INCLUDE statement. This ensured that it matched the logical definition, since DCL uppercases the command line by default. Now, the compiler does not uppercase the logical in the .INCLUDE statement. Consequently, if this logical is lowercase in your code, the compiler generates a <i>"Logical is not defined"</i> error. This change was made in anticipation of future support for ODS-5 case-sensitive filenames.
OpenVMS	If your code has embedded characters (e.g., CR, LF, ESC, NULL) in a quoted literal... For example, <pre>record crlf ,a2 , "<cr><lf>"</pre>	Use string arithmetic and %CHAR to pass the value that corresponds to the ASCII character. For example, <pre>record crlf ,a2 ,%char(13)+ & %char(10)</pre>	Embedded non-printing characters are not supported. The results of using them may be unpredictable, such as getting a space instead of the desired character.
OpenVMS	If you use the .ALIGN PAGE compiler directive...	Be aware that it now aligns on a 4096 boundary on OpenVMS I64 and an 8192 boundary on OpenVMS Alpha.	N/A

Upcoming Changes

Access to ISAM Revision 2 and 3 files will be removed in a future release. As of Synergy/DE 10, new Revision 2, 3, and 5 files can no longer be created. Although you can still access them in 10.1, we plan to remove support for these revisions in a future release. See below for instructions on converting REV 2 and REV 3 files.

Converting and Patching ISAM REV 2 and 3 Files

For future compatibility, and for use with the **isutl** utility, you will need to convert your REV 2 and 3 files to REV 4 or higher. Conversion will also improve performance. If your application requires pre-version 10 compatibility, we recommend you convert files to REV 4; otherwise, we recommend you convert them to REV 6, which is supported only on version 10 and higher. We strongly recommend you do this now because access to REV 2 and 3 files will be removed in a future version.

We recommend that you use **isutl** with the **-p** option to patch or convert files. For information on **isutl** see **isutl** in the "Synergy DBMS" chapter of *Synergy Tools*; for details on patching and converting, see ["Patching an ISAM file to another version"](#) in the same chapter.

Workbench

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you have version 8 Synergy projects...	Convert the projects to version 10.1 by opening them in Workbench.	Workbench version 10.1 uses SlickEdit version 15, and therefore requires that all existing Synergy projects be converted. Projects are converted automatically when they are opened.
Windows	If you create Synergy/DE projects and count on the -X compiler option being used by default...	Modify the compilation command line for that project type to include -X .	The -X option is no longer included by default because when used in conjunction with strong prototyping, it can mask problems. This affects <i>new</i> projects only. For instructions on modifying the command line for a project type, see “Customizing commands for a project type” in the “Developing Your Application in Workbench” chapter of the <i>Getting Started with Synergy/DE</i> manual.
Windows	If you have written your own macros...	Reload them after installation. For each macro, at the Workbench command line enter the following: <code>load macro_name.e</code>	Macros cannot be converted.
Windows	If you have Synergy .NET Component projects built with version 1.1 of the .NET Framework...	Install .NET Framework version 2.0.	Version 2.0 of the .NET Framework is now the minimum supported version. When you open a project created with 1.1, you'll be prompted to select the correct environment batch file.
Windows	If you use the format <code>%VAR%</code> to refer to an environment variable in a project open command... (8.1)	Use the format <code>%(VAR)</code> instead.	SlickEdit now requires a different format.
Windows	If you rely on SlickEdit to create user1 and user2 menu commands for all projects when they are created... (8.1)	Create the user-defined tool entries manually by entering a new tool name of “user 1” and “user 2” in the Tool name field of the Project Properties dialog.	SlickEdit no longer performs this function automatically.
Windows	If you open Workbench projects in Composer... (8.1)	Instead, launch Composer from Workbench to modify a specific script file, then return to Workbench.	Composer no longer supports Workbench projects. However, Workbench can pass Composer the name of a script file to open.

UI Toolkit

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code uses the <i>version</i> argument to U_VERSION...	Be aware that it now returns A.1.1 to represent version 10.1.1 and you may need to change your code.	U_VERSION now returns a value with an initial letter so that existing string comparisons will continue to evaluate as expected. You may want to use the optional argument <i>version_full</i> , added in 9.5.3, which returns 10.1.1 in version 10. (The <i>version</i> argument is also optional now.)
All	If your code passes SYN_VER to U_ABOUT, U_CHECKVERSION, U_MINVERSION, or U_PARSEVERSION...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. These four U_ routines were modified to handle version strings containing either digits or letters to avoid breaking existing code.
All	If your code uses buffers to store version numbers...	Check them to ensure they can handle a two-byte version number.	Some existing version strings (see above) now use letters to represent version 10 and higher to avoid breaking existing code. We recommend you review <i>all</i> version string logic in your application.
All	If your code passes a d1 for the <i>v</i> argument to U_PARSEVERSION...	Change the argument to an integer.	The return value may be truncated if a d1 is used in version 10.
All	If you overload any system-supplied function or subroutine...	Verify that your overloaded routine exactly matches the prototype of the system-supplied routine in return type, and in number, direction, and type of parameters, as well as whether parameters are optional or required.	We now strongly prototype all system-supplied functions and subroutines. Using the -W4 compiler option (/WARNINGS=4 on OpenVMS) will show the prototype the compiler expects and your overloaded routine definition, so that you can see how they differ. Once you change your routine, your code may no longer compile in versions 8.3 and earlier . See "Compatibility Information" on page 54 for a suggestion on how to handle this situation.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you undefine <code>TOOLS_INIT</code> in your code...	Remove the <code>.UNDEFINE</code> .	<code>TOOLS_INIT</code> is now undefined in tools.def . If you also undefine it in your code, the compiler generates an "Identifier not defined" error. Once you remove the <code>.UNDEFINE</code> , your code may not work properly in versions 8.3 and earlier . See "Compatibility Information" on page 54 for a suggestion on how to handle this situation.
All	If your code passes the <i>field_id</i> and <i>selection_id</i> arguments to <code>IB_END</code> ...	Remove these arguments.	These arguments have not been supported (and have had no affect on the operation of your code) since Toolkit version 3.3. Their use now causes the compiler to generate a "More argument values than declared parameters in routine" error.
All	If you link against tklib.olb ... (8.1)	Link against tklib.elb (Windows and UNIX) or tklib_sh.exe (OpenVMS) instead.	We ceased distribution of tklib.olb in version 8.3. We also no longer distribute the files chninf.dbl , chninf.def , and fkey.dbl because they were used only with tklib.olb . This change may break your code.
All	If your code uses chninf.def to find the highest channel number that Toolkit can use... (8.1)	Change your code to use the new <code>D_CHANNEL_MAX</code> subfunction to <code>%E_INFO</code> .	We ceased distribution of chninf.def in version 8.3. This change may break your code.
All	If your code uses the left or right square bracket character as a field delimiter in the routines <code>I_DISABLE</code> , <code>I_DISPLAY</code> , <code>I_ENABLE</code> , <code>I_INIT</code> , or <code>I_SETDEL</code> ... (8.1)	Use a different delimiter character.	Toolkit now permits you to create fields that reference specific elements in repository arrayed fields. To do this, you must use square brackets; consequently, these routines no longer recognize square brackets as delimiters in field lists. This change may break your code.
All	If your code passes a null string for the <code>I_FORCE new_data</code> argument and depends on there being a space in the field... (8.1)	Change your code to pass a space instead.	Previously, a null string in the <i>new_data</i> argument was interpreted as a space (" "); now, it is interpreted as a null string (""). This change results from a feature that enables you to clear the force buffer and cancel a pending <code>I_FORCE</code> call by passing a null string. This change may break your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your Toolkit application includes a customized version of any of the user-replaceable list subroutines (these are the subroutines that begin with <code>USR_L</code>)... (8.1)	Remove any references to those routines and to the lstprv.def file.	We ceased distribution of the user-replaceable list subroutines in version 8.3 and of lstprv.def in 9.5.3. If your application includes a customized version of any of these routines, Toolkit will simply ignore it and call the corresponding default routine (e.g., it will call <code>L_DATA</code> instead of <code>USR_LDATA</code>). We also no longer distribute the files lstusr.dbl , lstprv.dbl , and lstbuf.def . This change may break your code.
All	If your application exceeds the maximum number of entry lists or menu column rows in the <code>MB_</code> routines...	Correct your code.	Previously, the maximums (9 for lists and 20 for rows) were not enforced. Exceeding the maximums could cause unpredictable results, but there was no error. Now a "Too many lists" or "Too many rows" error is returned. This change may break your code.
All	If your code passes a value other than 0 or 1 for the <i>no_place</i> argument to <code>MB_COLUMN</code> ... (8.1)	Change your code to pass a value of 1.	The name of this argument has changed from <i>no_place</i> to <i>option</i> , and it now is used to determine both column loading and placement options. Previously, any value greater than 0 would cause the column to be loaded without placing it; now, you must pass 1 to get that behavior. This change may break your code.
All	If your code creates blank menu entry names... (8.1)	Correct your code so that all menu entries are named.	Passing a blank menu entry to <code>MB_ENTRY</code> causes a fatal error. This change may break your code.
All	If you have code that calls <code>U_SELDFLT</code> ... (8.1)	Update your code to call <code>S_SELDFLT</code> instead.	We removed the <code>U_SELDFLT</code> routine, which was renamed to <code>S_SELDFLT</code> in Toolkit version 3.0. This change may break your code.
All	If your code uses the <code>g_werr</code> record in gblctl.def ...	Define your own record to use with the <code>W_RETERR</code> function.	We removed the gblctl.def file from the distribution. This change may break your code. For information on <code>W_RETERR</code> , see "Error Processing in the Windowing System" in the "Synergy Windowing API" chapter of the <i>Synergy DBL Language Reference Manual</i> .

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If your code uses definitions from lstprv.def or gblctl.def ...	Remove the .INCLUDEs for those files and change your code to make calls to routines that provide the same information. For example, if your code references <code>glst_scriid</code> , which was previously available in lstprv.def , instead call <code>L_STATUS</code> with <code>D_LCTRID</code> ; and <code>glst_hdred</code> and <code>glst_ftrid</code> may be replaced with the <code>L_STATUS</code> subfunctions <code>D_LHDRID</code> and <code>D_LFTRID</code> , respectively.	The lstprv.def and gblctl.def files are no longer distributed.
All	If your application accesses the <code>gs_dec</code> member of fldinf.def ...	Recompile your code.	To support a change in the maximum size of decimal and implied-decimal fields in Toolkit, we changed <code>gs_dec</code> from a d1 to an i1 .
Windows	If you use the Synergy Control Panel...	Look for the Synergy UI Toolkit Control Panel instead.	We changed the name of this utility to avoid confusion with the new Synergy Control Panel. (See next item.)
Windows	If you access the Synergy Control Panel from the Start menu...	Access the Synergy UI Toolkit Control Panel from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for this utility is no longer added to the Start menu. You can also access the Synergy UI Toolkit Control Panel from within Workbench (Synergy/DE > Utilities > Synergy UI Toolkit Control Panel).
Windows	If you access Proto, Script, Composer, or the ActiveX Diagnostic utility from the Start menu...	Access these programs from the command line instead, or add your own shortcuts to the Start menu.	Shortcuts for these UI Toolkit utilities are no longer added to the Start menu. You can also access Script, Composer, and the ActiveX Diagnostic utility from within Workbench.
Windows	If you specify color palette entry 16 for a list header or footer...	Specify color palette entry 1 to retain the current look.	Previously, color palette entry 16 did not work properly, which caused the default (1) to be used instead. We fixed entry 16, which could cause a change in the appearance of your application.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you link against tklib.elb ...	Update your code as necessary if you see new errors such as "Invalid subscript" or "Index out of bounds" when you compile or run with version 10.1.	Tklib.elb is now built with the -qstrict compiler option, which means it performs checks similar to those done with DTK_BOUNDS=2. This change may break your code. We strongly recommend that you fix your code to correct any problems you find; however, if you have a critical situation where you cannot fix your code, you can use tklib_nostrict.elb , which is not built with the -qstrict compiler option. (But see "Upcoming Changes" on page 79.)
Windows	If you use the ActiveX list control and have non-static headers or footers...	Adjust the position of the text as necessary.	Text is now centered in the column by default. Previously, it was left-justified.
Windows	In an ActiveX control, if your code uses %M_SIGNAL in an event method triggered by WM_KEYDOWN for a key that will be translated into a character... (8.1)	User WM_CHAR to trigger the event method instead.	Using %M_SIGNAL in response to a keydown event causes the keypress to remain in the message queue, which could cause duplicate characters.
Windows	If you depend on an input method being applied to the subsequent field or button when a menu entry is signaled from a method during L_INPUT processing and the user action moves context to the subsequent field... (8.1)	Change your code. Or, to revert to the previous behavior, set the RETAIN_CONTEXT_CHANGE_ON_SIGNAL environment variable or the g_retaincontext global variable.	We corrected a problem that caused a method to be applied to the following field when the user moved context to that field. If your application depended on this behavior, this change may break your code.
Windows	If you override cell color and font for an ActiveX list control and then call L_RESTART... (8.1)	Reapply the overrides after the call to L_RESTART, if you want to retain them.	Cell color and font overrides are now reset to the default after a call to L_RESTART.
Windows	If you rely on the default Synergy runtime color definitions... (8.1)	To maintain the same color scheme, define the specific colors you want the application to use in your synergy.ini file.	We removed the Synergy color and palette definitions from the distributed synergy.ini file in version 8.3. The new default colors are slightly different than they were previously. Consequently, you may notice a change in the appearance of applications that rely on the default colors.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If your code uses i1 variables to store the color values returned by U_REND and the WI_PALET subfunction to W_INFO... (8.1)	Change these variables to at least an i2 or d3 . (We recommend using an i4 .)	To accommodate the increased number of Synergy colors in version 8.3, U_REND and the WI_PALET subfunction to W_INFO may now return values that are too large for i1 variables. This change may break your code.
Windows	If your application uses tabbed dialogs... (8.1)	You may want to use the g_tabfacecolor global variable in tkctl.def to control which color palette entry will be applied to a window when it is added to a tabbed dialog.	Due to changes we made to the color palette in 8.3, on a Windows system with themes enabled, you may notice a change in the appearance of your application when a window is added to a tabbed dialog.
Windows	If your application has tab sets with the tabs on the bottom or side... (8.1)	Move the tabs to the top of the tab set.	Tabs are supported only at the top of the tab set on systems that support Windows themes. This change may break your code.
UNIX OpenVMS	If your application has an input window with more than 31 fields, and the 32nd field has an arrive method... (8.1)	Recompile the window script to take advantage of a fix for this problem.	We corrected a problem that caused the arrive method on the thirty-second field to sometimes fail to be invoked.
UNIX OpenVMS	If your application has a check box with field-level renditions specified...	Set the new D_INPPRCRND state for E_STATE to D_OFF if you want to retain the current look of the prompt.	In 9.3, we added the D_INPPRCRND state to E_STATE . By default, this state is set to D_ON on UNIX and OpenVMS, which causes Toolkit to use field-level renditions for check box prompts. Previously Toolkit used renditions for the part of the window that the prompt occupied.

Upcoming Changes

(Windows) The file **tklib_nostrict.elb** was originally distributed in version 9.5.3 and will be removed from the distribution in a future version. The purpose of **tklib_nostrict.elb** is to help users make the transition to the new **tklib.elb** introduced in 9.5.3, which is built with the **-qstrict** compiler option.

Composer

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you access Composer from the Start menu...	Start it from within Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Composer and most other Synergy/DE applications are no longer added to the Start menu.
Windows	If you open Workbench projects in Composer... (8.1)	Instead, launch Composer from Workbench to modify a specific script file, and then return to Workbench.	Composer no longer supports Workbench projects. However, Workbench can pass Composer the name of a script file to open.

Repository

Compatibility Information

- ▶ Repositories created in version 8 need to be converted for use with version 10. When a version 8 repository is opened for modification, you will be prompted to convert it. Once a repository has been converted, it cannot be accessed by pre-version 10 Repository or other Synergy/DE programs and tools (Composer, Workbench, the compiler, etc.).
- ▶ SDL (Synergy Data Language) files do not need to be converted.
- ▶ If you have customized Repository's window library, you must reapply your customizations and rescript it.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use the Repository subroutine library and use the repository version (ci_ver in ddinfo.def) in a string comparison...	Check your code to ensure that the version comparison works as expected.	The string now starts with "1". Deployed applications could break because the string comparison logic will not evaluate as expected. For example, 9.5.3 will evaluate as higher than 10.1.1. We recommend you modify your code to use U_PARSEVERSION. This change may break your code.
All	If you create aliases in your repository via schema...	Run the Verify Repository utility to update an alias counter maintained with each structure.	We added UI support for defining alias structures. For more information, see "Defining Aliases" in the "Repository" chapter of the <i>Repository User's Guide</i> .
All	If you use the DD_ALIAS routine in the Repository subroutine library...	Change your code to pass a numeric value instead of an alpha for the #names argument.	The seventh argument (#names) was changed from alpha to numeric. (Note that it was always documented as d3 , but the underlying code was an a .)
Windows	If you access the Repository application from the Start menu...	Start it from Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Repository and most other Synergy/DE applications are no longer added to the Start menu.

Upcoming Changes

In an upcoming version of Synergy/DE, we are planning to remove the Repository object library (OLB) file **ddlib.olb**. It has been replaced with the executable library (ELB) file **ddlib.elb**. (The OLB file will be available on the Synergex web site.)

You should be linking against the ELB file instead of the OLB file for the following reasons:

- ▶ An ELB will reduce the size of your application if you link multiple programs against the library.
- ▶ Linking against an ELB is more reliable than rebuilding the OLB and making a custom ELB.

- ▶ An ELB provides more compatibility when multiple Synergy applications from different companies coexist on one system.
- ▶ In most cases, you can upgrade to newer versions of Synergy/DE without recompiling and relinking your applications.

ReportWriter

Compatibility Information

No conversion or rescripting is required. ReportWriter can read Repository files from version 8, as well as those converted to version 10 format.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you access ReportWriter from the Start menu...	Start it from the command line instead or create your own shortcut.	Shortcuts for ReportWriter, and most other Synergy/DE applications, are no longer added to the Start menu.

xfServer

Compatibility Information

- xfServer 10 supports clients running Synergy/DE version 6.1 and higher, but some features require a higher version of the client. See the xfServer release notes, **REL_SRV.TXT**, for details.
- (Windows) xfServer is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you reference one remote file specification from another when the first file specification is on Windows... (8.1)	Cease to do so.	This is no longer permitted because of the potential for data corruption.
All	If you use the BEGPOR and ENDPORT environment variables with synxfpng ...	Instead use the -p option in combination with -r to ping a range of ports.	The BEGPOR and ENDPORT environment variables have been deprecated.
Windows	If the RUSER environment variable is set in both the registry and the environment... (8.1)	Be aware that RUSER set in the environment now has precedence over RUSER set in the registry.	Note that when RUSER is set in the Synrc node in the registry, as is required to configure xfServerPlus for remote data access, it is read into the environment when rsynd starts up, and it is therefore considered to be set in the environment. This change may break your code.
Windows	If RUSER is set to the user name "SSPI" and no password is specified... (8.1)	Change the user name.	To support Windows authentication security, RUSER recognizes "SSPI" as a special value.

xfServerPlus

Compatibility Information

- ▶ xfServerPlus version 10 can receive routine calls from version 7.1 and higher xfNetLink clients.
- ▶ Synergy Method Catalog (SMC) files must be converted for use with xfServerPlus and Workbench 10 and with version 10 utilities such as the Method Definition Utility (MDU) and **smc_elb.exe**. See the “SMC conversion utility” section of the xfServerPlus release notes (**REL_XFPL.TXT**) for instructions.
- ▶ xfServerPlus 10 can receive routine calls from version 7.1 and higher xfNetLink clients. but some features require a higher version of the client. See the xfServerPlus release notes, **REL_XFPL.TXT**, for details.
- ▶ (Windows) xfServerPlus is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use the “Add new interfaces” option in the Import function of the Method Definition Utility...	Use the “Update interfaces” option instead and then choose the new interfaces you want to add.	The MDU now has an Update interfaces option, which updates existing interfaces, in addition to adding new interfaces.
All	If you use the Reports feature in the Method Definition Utility... (8.1)	Run the Export Methods option to generate an XML file, and then view the file in an XML viewer.	We removed the Reports feature.
Windows	If the RUSER environment variable is set in both the registry and the environment... (8.1)	Be aware that RUSER set in the environment now has precedence over RUSER set in the registry.	When RUSER is set in the Synrc node in the registry, as is required to configure xfServerPlus for remote data access, it is read into the environment when rsynd starts up, and it is therefore considered to be set in the environment. This change may break your code.
Windows UNIX	If you use the xfServerPlus log file... (8.1)	Expect to see multiple log files.	By default, xfServerPlus now generates a separate log file for each session. You can set the XFPL_SINGLELOGFILE option to ON in the xfpl.ini file to continue producing a single log file.
UNIX	If you start xfServerPlus with a password... (8.1)	Encode the -u password with setruser .	To improve xfServerPlus security, a clear text password is no longer permitted when starting xfServerPlus. This change may break your code if you start xfServerPlus with a script.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
UNIX	If you start <i>xfServerPlus</i> without a password... (8.1)	The user starting <i>xfServerPlus</i> must be root or signed on as the user specified with -u .	This is the documented behavior, but it was not previously enforced. This change may break your code if you start <i>xfServerPlus</i> with a script.
OpenVMS	If you run <i>xfServerPlus</i> on OpenVMS... (8.1)	The <i>xfServerPlus</i> account must have the SHARE privilege.	Without this privilege, <i>xfServerPlus</i> will not run. This change may break your code.

xfNetLink Java Edition

Compatibility Information

- ▶ Java JAR files generated in previous versions of xfNetLink Java can be used in version 10.1 without being rebuilt. However, if you want to take advantage of the new data types and many new features available in version 10, you must regenerate classes and rebuild your JAR file with JRE v1.5 compatibility.
- ▶ (Windows) xfNetLink Java is now always installed in the default location, Program Files\Synergex\xfNLJava. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ xfNetLink Java 9.5.1a and higher is not supported on SCO OpenServer (system code 003) and HP Tru64 UNIX (system code 021) because these platforms do not support Java 1.5, which is the minimum supported JDK version.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you are using a version of the JDK prior to 1.5...	Upgrade to JDK version 1.5.	xfNetLink Java requires a Java Virtual Machine compatible with JDK version 1.5 or higher.
All	If your application requires JRE v1.2 through 1.4 compatibility...	Use the genjava -c version option and specify 1.2 for <i>version</i> .	By default, classes are generated with JRE 1.5 compatibility. The genjava -c version option enables you to specify that classes be created with 1.2 compatibility, which means they will be compatible with JRE 1.2 through 1.4. The compatibility level determines not only what xfNetLink Java features are available, but also a number of default type mappings; consequently, this change may break your code if you regenerate classes for an existing application.
All	If your code includes date and time fields in repository structures passed as parameters...	Update your code to use the Calendar class. ^a	Date and time fields are now mapped to the Calendar class instead of the Date class. This change may break your code if you regenerate classes for an existing application.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you have User fields in repository structures passed as parameters where the subtype is Date and the User data field contains either ^CLASS^= YYYYMMDDHHMISS or YYYYMMDDHHMISSUUUUUU ...	Update your client code to use the Calendar class.	This type of User field now maps to the Calendar class. Previously, such fields were converted to Strings. This change may break your code if you regenerate classes for an existing application.
All	If you have binary fields within structures that are passed as parameters...	Update your client code to use a byte array instead of a String. ^a	Binary fields are now mapped to byte arrays; previously, they were converted to Strings. This change may break your code if you regenerate classes for an existing application.
All	If your code includes decimal or implied-decimal parameters or return values...	Update your client code as necessary to account for changes to the default type mappings for these data types. Or, you can use type coercion to coerce these data types to the old mappings. ^a	The mapping for decimal and implied-decimal data types changed. See "Appendix B: Data Type Mapping" in the <i>xfNetLink & xfServerPlus User's Guide</i> for details. This change may break your code if you regenerate classes for an existing application.
All	If your code includes any of the following methods: getxfMinport() getxfMaxport() setxfMinport() setxfMaxport()...	Remove them or comment them out.	These methods have been deprecated. They should be used only when running in debug mode (using the debugInit() and debugStart() methods) through a firewall, requiring a valid range of ports.

a. This version 10 change applies to class wrappers generated with JRE 1.5 compatibility, which is the default in version 10. If you use the **genjava -c** option (or the "Generate classes as version" option in Workbench) to generate classes with JRE 1.2 compatibility, those classes will be generated as they were in version 9.5.1 and earlier, and the described feature will not be available, which means you will not need to make this change to your code.

xfNetLink .NET Edition

Compatibility Information

- xfNetLink .NET is now always installed in the default location, Program Files\Synergex\xfNLNET. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- Version 8 assemblies can be used in version 10.1 without being rebuilt. However, if you want to take advantage of the new data types, methods, and other features now available, you must regenerate classes and rebuild your assembly.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you access the xfNetLink .NET Configuration Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfNetLink .NET Configuration Utility is no longer added to the Start menu. You can also access this utility from within Workbench.
Windows	If you are using Visual Studio 2005 or earlier...	Upgrade to 2008 or higher.	The minimum supported version is now 2008.
Windows	If you use version 1.0 or 1.1 of the .NET Framework...	Upgrade to version 2.0 or higher. Then edit the AssemblyInfo.cs file to remove the attributes <code>AssemblyDelaySign</code> and <code>AssemblyKeyFile</code> . Or, you can delete the AssemblyInfo file; xfNetLink will create a new one the next time you run gens .	.NET Framework 2.0 is now the minimum supported version. In .NET Framework versions 1.0 and 1.1, these two attributes were included in the AssemblyInfo file. In version 2, they are specified on the compiler command line. Because the AssemblyInfo file is not overwritten, you must either delete these attributes from the file or delete the file so that it is recreated.
Windows	If you have fields in Repository that are flagged as read-only, and you generate structure members as properties, and you need to be able to set those properties in your client code...	Clear the read-only fields in Repository before you generate classes.	Fields flagged as read-only in Repository are generated as read-only in the C# classes when structure members are generated as properties. These properties will have a "get" method, but no "set" method. This change may break your code if you regenerate classes for an existing application. Note that the read-only flag is not honored when you generate structure members as public fields.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If your application passes structures that contain fields defined as binary data type in the repository...	To continue to have these fields converted to strings in the generated C# classes, run gens with the -nb option; else, they will be converted to byte arrays.	A field in a structure that is defined as a binary data type in the repository is now converted to a byte array in the generated C# code instead of a string. This change may break your code if you regenerate classes for an existing application.
Windows	If your Synergy assembly includes methods that pass structures as parameters... (8.1)	Add a reference to xfnlnet.dll in your Visual Studio project.	This requirement results from two new features added in 8.3, the gens -i option and the generation of a C# interface for every generated class.
Windows	If you use the port number range feature (minport and maxport)...	Cease to do so.	This feature has been deprecated. Minport and maxport are ignored when set in the configuration file or passed with the connect() method, unless you are running in debug mode. If you attempt to modify these settings with the xfNetLink .NET Configuration utility, you will be prompted to remove them from your config file.
Windows	If you use client-side logging... (8.1)	Expect to see multiple log files.	By default, xfNetLink .NET now generates a separate log file for each class that instantiates a connection to xfServerPlus. You can set "single log file" to "on" in the application configuration file to continue producing a single file.

SQL OpenNet

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL OpenNet is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
Windows	If you use vtxnet2 ... (8.1)	Change the start-up command line in the opennet.srv file to specify vtxnet2 .	We changed the default SQL OpenNet server from vtxnet2 to vtxnetd . This change may break your code.

xfODBC

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) *xfODBC* and *xfODBC Client* are now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ You must re-create your system catalogs for use with version 10 by running the **dbcreate** utility with the **-x** option. (For information on preserving views when you re-create a system catalog, see [“Preserving views”](#) in the “Creating a System Catalog” chapter of the *xfODBC User’s Guide*.)

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you set OJNESTON and have SQL92 outer joins with ON clauses for table qualifiers specified after all table qualifiers... For example, FROM... LEFT JOIN vendors v LEFT JOIN plants p ON o.or_vendor = v.vend_key ON o.or_item = p.in_itemid}	Discontinue setting OJNESTON, and put each ON clause immediately follows its table qualifier: FROM... LEFT JOIN vendors v ON o.or_vendor = v.vend_key LEFT JOIN plants p ON o.or_item = p.in_itemid}	We removed support for the OJNESTON option; attempting to set it now causes an “Unknown option” error. <i>xfODBC</i> no longer supports this type of query.
All	If you set SODBC_NONULL...	Set the “Null allowed” value to Yes or No for each field in Repository.	SODBC_NONULL has been deprecated. We strongly recommend you use the Repository setting instead.
All	If you do not set SODBC_NONULL...	If you don’t want the default behavior (see Comments), set the “Null allowed” value to Yes or No for each field in Repository.	The dbcreate utility now uses the Repository “Null allowed” field to determine how to set the “Null allowed” property for system catalog columns. For more information, including details on the default behavior, see “Preventing null updates and interpreting spaces, zeros, and null values” in the “Preliminary Steps” chapter of the <i>xfODBC User’s Guide</i> .

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use SQL_REAL for the CAST and CONVERT functions...	Use SQL_FLOAT instead.	xfODBC no longer supports SQL_REAL.
All	If your data includes unsigned fields that contain negative values... (8.1)	Change the fields to signed fields by selecting the "Negative allowed" option in Repository. Or, you can set the SODBC_NOUNSIGNED environment variable to revert to the previous behavior.	The dbcreate utility and xfODBC driver now distinguish between signed and unsigned fields. This prevents negative values from being stored in non-negative fields, which enables xfODBC to work better with ADO.NET and Microsoft Access.
Windows	If you access the xfODBC DBA Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfODBC DBA Utility is no longer added to the Start menu.
OpenVMS	If you have created your own XFODBCUSR.EXE file... (8.1)	Rename the file XFODBCUSR_SO.EXE and set the logical XFODBCUSR_SO (instead of XFODBCUSR) to point to it.	We changed the name of the XFODBCUSR.EXE file (and the corresponding logical) to XFODBCUSR_SO.EXE . This change may break your code.

SQL Connection

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL Connection is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
All	If you use the %SSC_BLOB routine...	Use the new routine %SSC_LARGECOL instead.	The new routine and option improve SQL Connection's ability to get and put large binary column data and large character column data. See %SSC_LARGECOL in the "Database Functions" chapter of the <i>SQL Connection Reference Manual</i> for details.
All	If you use the SSQL_BLOBCOL option for %SSC_OPEN...	Instead, use the new SSQL_LARGECOL option for %SSC_OPEN for gets and the SSQL_LARGECOL option for %SSC_EXECUTE for puts.	
All	If you use a driver keyword (such as rdb or sybase) in a connect string...	Change the connect string to use a driver name instead: <ul style="list-style-type: none"> ■ VTX0 for Oracle on UNIX or OpenVMS ■ VTX1 for Oracle Rdb ■ VTX2 for Sybase ■ VTX4 for Synergy database ■ VTX5 for Informix ■ VTX11 for ODBC-compliant databases ■ VTX14 for MySQL 	We deprecated all database driver keywords on all platforms.
Windows	If you use VTX0, VTX12, oracle, or sqlserver in a connect string...	Change the connect string to use one of the following driver names instead: <ul style="list-style-type: none"> ■ VTX0_9 for Oracle 9 ■ VTX0_10 for Oracle 10 ■ VTX0_11 for Oracle 11 ■ VTX12_ODBC for SQL Server 2005 ■ VTX12_SQLNATIVE for SQL Server 2005 or 2008 with SQL Native Client 	You can no longer use these keywords (VTX0, VTX12, oracle, sqlserver) in a connect string. In addition, we removed the database driver options from the Connectivity Series tab in the Synergy Configuration Program. This change may break your code.

Platform	Version 8 usage	Change required for 10.1	Explanation/Comments
OpenVMS	If you use Oracle or Oracle Rdb natively... (8.1)	Rebuild your database driver using BUILD_SSQL_DB.COM .	<p>We have moved to a shared image model for database drivers on OpenVMS. This change may break your code.</p> <p>For instructions on building a database driver, see “Configuring and Building SQL OpenNet for SQL Connection” in the OpenVMS section of the “Configuring Connectivity Series” chapter of the <i>Installation Configuration Guide</i>.</p>

Migrating from Version 9 to Version 10.1

This section is designed to help you migrate from version 9.1, 9.3, or 9.5 to version 10.1.

Some items in the Version 9 usage columns in the Required Changes tables include a version number in parentheses at the end of the entry. This indicates the version to which that item pertains. For example, if the version number is 9.1, users migrating from 9.1 to 10.1 will need to make the required change. However, users migrating from version 9.3 to 10.1 will not need to make the change. Because there were so many changes within version 9, some of these parenthetical versions are very specific and include patch numbers. If no version is specified, the item applies to all version 9 users.

License Manager

Compatibility Information

- ▶ You must reconfigure all products for Synergy/DE version 10.
- ▶ License Manager server version 10 supports version 6.1 or higher clients on UNIX and version 6.3 or higher clients on Windows.
- ▶ (Windows) In version 10, License Manager server (**synd**) uses sockets to communicate instead of pipes. It will, however, still accept connections from pre-version 10 license clients using pipes. See the release notes, **REL_LM.TXT**, for complete information on this change.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you use the lm -e option to configure products...	Instead, use lm -a or the Synergy Configuration Program, or run the .skf file by double-clicking on it in Windows Explorer (32-bit only).	The -e option, which prompted the user for each piece of information when configuring products, was deprecated to support Windows 8.

Synergy DBL

Compatibility Information

- ▶ Version 10 will run traditional code compiled and linked with Synergy/DE 6.1 and higher; you do not have to recompile unless you want to debug or take advantage of performance improvements and some fixes in version 10.
- ▶ (Windows) The default installation directory for Synergy/DE is Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ (Windows .NET) If you are using a version of Synergy .NET prior to 9.5.3, you must recompile all of your Synergy .NET code, as we have optimized many compiler and runtime code paths for performance and changed the version of **synrnt.dll**.
- ▶ If you prototype files and are using a version of Synergy/DE prior to 9.3 (for 32-bit) or 9.5 (for 64-bit), you must re-prototype your files. We added the demand loading of prototypes to the compiler to speed up compiler load times and reduce dependencies between namespaces. As a result, prototype files are now binary. In addition, in 9.5.1 we changed the magic number in the 64-bit binary prototype files (DBP) to be the same as the 32-bit magic number.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you use the SYN_VER define in dbl.def ...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. Where necessary, Synergy DBL routines have been modified to handle both letters and numbers.
All	If you use the %VERSN routine and have code that parses the returned value to perform a string comparison with an earlier version...	Review your comparison logic and change it where necessary.	Version number comparisons may not evaluate as expected because of the two-byte version in Synergy/DE 10. We recommend you review <i>all</i> version string logic in your application.
All	If your code uses the Boolean data type...	Check your code for Boolean variables with a size of 1 and change them to 4.	In 9.5.1 the mapping of the Boolean data type changed from i1 to i4 to comply with .NET requirements. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses the byte data type... (9.1.x)	Change your code to use sbyte instead.	We added the sbyte (signed byte) data type in 9.3.1 and changed byte (which had been signed) to represent an unsigned byte, as it does in .NET.
All	If your code has FINALLY within a TRY-CATCH and, somewhere in the same routine, issues a STOP statement...	To continue to execute the code in the FINALLY blocks, change your code to perform that processing before the STOP.	A FINALLY block in the same TRY statement where an issuing STOP occurs is no longer executed. This was done to match the behavior of .NET. This change may break your code.
All	If your code includes an alpha passed to an argument defined as numeric (n) that is not marked as MISMATCH... (9.1.x, 9.3)	Change your code to mark the argument as MISMATCH.	A "Type mismatch" error is now generated in this case.
All	If your code includes an integer passed to an argument defined as alpha that is marked as MISMATCH... (9.1.x, 9.3)	Correct your code to pass a different data type.	This is not supported even when MISMATCH is used and so a "Type mismatch" error is now generated.
All	If your code passes ^NULL to an overloaded method... (9.1.x, 9.3.1, 9.3.1a)	Cast ^NULL to the desired type to get the correct overload.	Previously in this situation, the first overload was chosen. Now, an "Ambiguous symbol" error (AMBSYM) is generated. This change may break your code.
All	If you overload the virtual Equals method in System.Object... (9.1.x)	Change your code to match the new method signature.	The virtual Equals method in System.Object now returns Boolean instead of i1 . This change may break your code.
All	If your code accesses the MemberwiseClone() method in the System.Object class from outside the class or ancestor class of the object being cloned... (9.1.x)	Change your code to use the Clone() method in the System.String class instead.	MemberwiseClone() is now a protected method (as it is in .NET). The Clone() method returns a System.Object that is a copy of the original string. This change may break your code.
All	If your code uses the System.Collections.ArrayList class... (9.1.3)	Change all references to ArrayList to Synergex.SynergyDE.Collections.ArrayList, which is 1-based. Or, if you plan to migrate code to .NET, convert ArrayList references to be 0-based.	Indexes used by the System.Collections.ArrayList class are now 0-based instead of 1-based for interoperability with other .NET languages. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses the IndexOf and LastIndexOf methods in System.Collections.ArrayList or System.Array and the System.Object.Equals method of the target object is different than that of the objects in the array because one or both are overridden... (9.1.1, 9.1.3)	Change your code to override the Equals method in the array object to use the desired comparison.	When the two Equals methods are different, the Equals method of the object in the array is now used. This change was made to conform to a change in .NET.
All	If you rely on .DEFINES in conditional code, and the .DEFINES are located in a file that is imported... (9.1.x, 9.3, 9.5.1)	Move the .DEFINES to the file you are importing into.	A .DEFINE in an imported file will not be read when it occurs within conditional processing. This change brings Synergy DBL in line with other languages. This change may break your code.
All	If you use .DEFINES and count on them lasting across sources when multiple sources are compiled in one compilation unit... (9.1.1, 9.1.3, 9.1.5, 9.1.5a)	Update your code to .INCLUDE the second source file in the first source file instead of using a multi-file compilation unit.	The scope of a .DEFINE now ends with each source, which ensures that routines in a multi-module compilation unit operate the same as when the files are compiled individually. This change may break your code.
All	If your code has a call to a label outside a FOREACH loop... (9.1.x)	Remove the call from your code.	This situation is now prohibited because it caused the loop to terminate prematurely, which may not have been noticeable. This change may break your code.
All	If your code includes equality or inequality comparisons of base types or explicit boxed types... (9.1.x, 9.3)	Change your code to unbox the boxed objects Or, if you want the objects to remain boxed, explicitly cast the data type.	In such situations, objects are no longer automatically unboxed. Now, the reference (instance) is compared, rather than the contents. This change was made for compatibility with other object-oriented languages. This change may break your code.
All	If you use gennet ... (9.1.x, 9.3)	Re-run gennet before you recompile your code.	Gennet incorrectly output a class with the name "Byte*" in certain situations. The code would compile and run, but if you recompile, without first re-running gennet , you will get many errors.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you use the %SYSERR routine... (9.1.x, 9.3, 9.5.1)	Check your code to ensure that the call to %SYSERR occurs immediately after an error is detected. Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.	If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %SYSERR, then %SYSERR will return a "success" status code from the I/O operation, rather than the expected system error. The same applies to %SYN_SYSERRTEXT, when it is called without passing the optional argument. This change may break your code. This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.
All	If you use the %ERROR routine... (9.1.x, 9.3, 9.5.1)	Check your code to ensure that the call to %ERROR occurs immediately after an error is detected. Or, you can change your code to use the new %IO_ERROR routine, which enables you to specify the channel from which to retrieve the error.	If your program performs an I/O operation <i>after</i> an error but <i>before</i> calling %ERROR, the <i>status</i> and <i>stv</i> arguments will return a "success" status code from the I/O operation, rather than the expected error number. This change may break your code. This change in behavior is due to implementation of the IOHook class. Previously, the status remained unchanged after an I/O operation.
All	If your code uses i8 or long data types as function return values on 32-bit systems... (9.1.x)	Change your code to use a supported data type.	Using an i8 or long data type on a 32-bit platform now causes the compiler to generate a "Type i8 cannot be return value on 32-bit platform" error. Previously, there was no error, and if you passed a value larger than an i4 to an i8 , it was truncated. This change may break your code.
All	If your code passes a null argument (") to ^ARGN... (9.1.x)	Use ^ARG instead.	^ARGN now returns an "Improper use of null argument" error, because a valid decimal descriptor can't have a length of 0. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses anything other than an a6 for a GETRFA or RFA qualifier variable... (9.1.x)	Change your code to use an a6 or set system option #56.	With the introduction of GRFAs, if the size of a GETRFA or RFA argument is anything other than 6 or 10 bytes, an "Invalid record's file address" error is generated. Setting system option #56 turns off this behavior and causes all RFAs that exceed 6 bytes to be treated as 6-byte RFAs. Even if you are using an a10 , you will need to set system option #56, because a10 now indicates a GRFA and will cause a "Record not same" or "Feature not supported in this version" error when used for an RFA. This change may break your code.
All	If your code includes arrayed fields larger than 256 MB... (9.1.1)	Change your code.	Arrayed fields larger than 256 MB are no longer supported and cause the compiler to generate a "Size of field <i>name</i> too large" error.
All	If you have files with more than 262,143 lines in them... (9.1.1)	Split them into smaller files.	Previously, line numbers in such large files were misreported in errors. Now, the compiler generates an "Exceeded maximum number of lines in file <i>name</i> " error.
All	If you have duplicate global data sections, global commons, or global literals that are not the same size... (9.1.1)	Change your code.	The linker generates an error when it finds duplicate symbols that are not the same size. The exact error depends on which symbol is duplicated. (Duplicate symbols that <i>are</i> the same size cause the linker to generate a warning.)
All	If you use the DBLTOKENS environment variable... (9.1.1)	Cease to do so.	DBLTOKENS is no longer used by the compiler, so this environment variable has been retired.
All	If you use the COPY subroutine to transfer OpenVMS indexed files to or from a remote system... (9.1.x, 9.3, 9.5.1, 9.5.3, 9.5.3a)	Cease to do so. You'll now get an "Invalid operation" error when attempting this.	This action was causing indexed files to lose their attributes, so we have disabled the use of COPY to transfer a file with a .ism extension to or from an OpenVMS system.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code includes a relative range specification that accesses characters preceding the specified field... (9.1.x)	Correct your code to range within the bounds of the field.	Attempting to access characters that precede the specified field now causes the compiler to generate an "Invalid range specified" error. Although this type of access has been deprecated, the Synergy Runtime will continue to support it for backward compatibility. We recommend that you compile and run with -qcheck and make the necessary changes to avoid future memory access violations.
All	If you rely on the <code>//</code> operator having precedence over the <code>*</code> or <code>/</code> operators... (9.5.1, 9.5.3)	Check your code to see if it needs to be changed. These three operators are now at the same precedence level and are evaluated left to right. So, for example, if you have this: <code>var3= var * 1000 / d // 3.2</code> you would need to change it to this to get the same result: <code>var3 = var * 1000 / (d // 3.2)</code>	In versions 9.5.1 and 9.5.3, the compiler did not follow the correct evaluation order for the <code>*</code> , <code>/</code> , and <code>//</code> operators. They now all have the same precedence and, when used in the same expression, are evaluated left to right. This change may break your code.
Windows	If you run Synergy/DE applications such as Repository from the Start menu or use the shortcut to set the environment on a 64-bit operating system...	Create your own shortcuts or start applications from the command line.	The only shortcut added to the Start menu in version 10 is Workbench (for most Windows platforms; see below for an exception).
Windows	If you access the Synergy Configuration Program from the Start menu...	Access it from the Synergy Control Panel instead, which is located in Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the Synergy Configuration Program is no longer added to the Start menu.
Windows	If you use OpenSSL for data encryption or with the HTTP document transport API...	Upgrade your OpenSSL to version 1.0.1c.	The minimum supported version has changed. For more information on OpenSSL, see "OpenSSL Requirements" in the "Requirements and Considerations" chapter of the <i>Installation Configuration Guide</i> . This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you use the Synergy .NET assembly API with Framework version 2.0 or 3.5... (9.3.1b)	Set the SYNNET_CLR environment variable to the full Framework version of the CLR to use. For example, <code>SYNNET_CLR=v2.0.50727</code>	When this environment variable was introduced in 9.3.1b, the default was the version 2 CLR. In 9.5.1, the default changed to version 4.
Windows	If your code uses <code>^SIZE(font_specs)</code> to allocate the <code>font_specs</code> structure passed to <code>DWP_FONT</code> , or uses the <code>font_specs</code> structure definition in winprint.def directly... (9.1.x)	Initialize the new fields to an integer of size 0.	Initializing the fields to 0 will prevent randomly changing the escapement used by fonts in existing code. To do this, either pass the <code>DM_NULL</code> option in <code>%MEM_PROC</code> or use the <code>INIT</code> statement on the structure.
Windows .NET	If you are using .NET Framework 2.0 with Synergy .NET...	Upgrade to Framework 4.	The minimum supported Framework version for Synergy .NET is now 4. (Note that Framework 2 or 3.5 is still a prerequisite to the <i>installation</i> of Synergy/DE.)
Windows .NET	If your code uses either the parent initializer or parent property member of the <code>System.Windows.Forms.Form</code> class... (9.5.1, 9.5.3)	To maintain the current precedence (property over initializer), use <code>"this.parent"</code> . Else, the parent initializer has precedence over the parent property member.	We changed the precedence to prevent a null reference exception at runtime.
Windows .NET	If you pass literals or literals cast as objects to parameters of type object... (9.5.1)	To continue using Synergy literal types, change your code to cast the literal as the desired Synergy type. Otherwise, change your code to handle .NET literal types.	These literals now default to the corresponding .NET types, whereas previously they defaulted to Synergy types. This change may break your code.
Windows 7 and 64-bit	If in your code a Windows callback attempts to perform a <code>STOP</code> chain... (9.1.x, 9.3.1, 9.3.1a)	Change your code to exit the routine via an <code>XRETURN</code> or a program-controlled exit.	Windows 7 and all 64-bit Windows platforms now prevent exceptions from being thrown across the kernel boundary. Doing so caused random hangs and crashes. Therefore, this action is not allowed and causes the runtime to generate a <code>\$ERR_NOCHAIN</code> error. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you create REV 2, 3, or 5 ISAM files...	Cease to do so.	You can no longer <i>create</i> files at these levels, though they can still be accessed with version 10. See “Converting and Patching ISAM REV 2 and 3 Files” on page 106 for conversion instructions.
Windows UNIX	If you need to create ISAM files that will be recognized by Synergy/DE versions prior to 10...	Set the ISAMC_REV environment variable to 4.	The default for creating files with version 10 is REV 6, which is recognized only by version 10. REV 4 is recognized by versions back to 7.1. See ISAMC_REV in the “Environment Variables” chapter of the <i>Environment Variables & System Options</i> manual.
Windows UNIX	If you use the ismvfy , irecovr , or isutl utility with REV 2 and 3 ISAM files...	Patch or convert your files to the current revision using isutl with the -p option.	An error occurs if you use pre-REV 4 files with these utilities. We recommend that after patching your files, you use isutl instead of ismvfy and irecovr , as the latter are now just front-ends for isutl . See “Converting and Patching ISAM REV 2 and 3 Files” on page 106 for instructions.
Windows UNIX	If you use any of the following ismvfy options: -a , -f , -i , -p , -r ...	Cease to do so.	These options are no longer supported because the ismvfy and irecovr utilities are now just front-ends for isutl .
Windows UNIX	If you use the irecovr -t or -x options...		
Windows UNIX	If you rely on the default page size of 1K (1026 bytes) when creating ISAM files...	Explicitly specify the page size on creation of the file.	The default size is now 4K (4096 bytes) to target the performance of large sector drives.
Windows UNIX	If you use file pre-allocation...	Cease to do so. Depending on how you were using this feature, you may need to update your code. For example, you may need to trap for the errors “No space exists for file on device” (\$ERR_NOSPAC) or “Invalid relative record” (\$ERR_RELREC).	This functionality has been removed because file allocation on flat files has been deprecated. This change may break your code.
Windows UNIX	If you use the OPEN options ALLOC and NUMREC, or system option #15...	Cease to do so. See the above entry on pre-allocation for more information on this change.	The functionality for these options has been disabled because file allocation on flat files has been deprecated.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows UNIX	If you specify the LOCK:Q_NO_LOCK qualifier on an OPEN statement when opening a file in update mode... (9.1.x, 9.3, 9.5.1)	Be aware that existing records can no longer be updated or deleted in this case (but new records can still be stored).	You can no longer WRITE or DELETE an unlocked record. Previously, when using the Q_NO_LOCK qualifier, this was permitted and could cause file corruption. If you OPEN a file in update mode with the Q_NO_LOCK qualifier and attempt to update or delete an existing record using the WRITE or DELETE statement, you'll see a "No current record" error.
Windows UNIX	If your code uses READ or READS from a relative file when the file record size is greater than the size of the data area... (9.1.x)	Correct your code or set system option #27.	This situation now generates an "Input data size exceeds destination size" error. This error can also occur when a file is opened in the default mode with RECSIZ set. This change may break your code.
UNIX	If you are saving off GRFAs from files that use integer keys or non-key data on a big endian machine...	Regenerate the saved GRFAs.	GRFAs in version10 may not match GRFAs generated by earlier versions of Synergy.
UNIX	If you use the synbackup utility... (9.1.x, 9.3, 9.5.1, 9.5.1a)	Disable it using synbackup -d and then re-enable it using synbackup -c .	This procedure will eliminate E_BACKUPMODE errors due to an invalid base address. Note that the -a option has been removed; synbackup now always selects its base address.
OpenVMS	If you use client/server encryption with HP SSL version 1.3...	Upgrade to 1.4 or follow the instructions in " OpenSSL Requirements " in the "Requirements and Considerations" chapter of the Installation Configuration Guide to continue using 1.3.	Version 1.4 is expected because the runtime support files SYNSSLIB.EXE and HTTPSLIB.EXE are built with 1.4, but the corresponding files built with 1.3 are still distributed.
OpenVMS	If you use the .ALIGN PAGE compiler directive... (9.1.x, 9.3)	Be aware that it now aligns on a 4096 boundary on OpenVMS I64 and an 8192 boundary on OpenVMS Alpha.	N/A

Notes:

If you have the `READ_CACHE` environment variable set, you can unset it. `READ_CACHE` was a temporary environment variable introduced in 9.3.1 to allow users to take advantage of read caching for files opened in I, I:S, and I:R mode in conjunction with the `OPTIONS:“/sequential”` qualifier. This became the default in version 9.5.1, so there is no longer a need for the environment variable.

Upcoming Changes

Access to ISAM Revision 2 and 3 files will be removed in a future release. As of Synergy/DE 10, new Revision 2, 3, and 5 files can no longer be created. Although you can still access them in 10.1, we plan to remove support for these revisions in a future release. See below for instructions on converting REV 2 and REV 3 files.

Converting and Patching ISAM REV 2 and 3 Files

For future compatibility, and for use with the **isutl** utility, you will need to convert your REV 2 and 3 files to REV 4 or higher. Conversion will also improve performance. If your application requires pre-version 10 compatibility, we recommend you convert files to REV 4; otherwise, we recommend you convert them to REV 6, which is supported only on version 10 and higher. We strongly recommend you do this now because access to REV 2 and 3 files will be removed in a future version.

We recommend that you use **isutl** with the **-p** option to patch or convert files. For information on **isutl** see [isutl](#) in the “Synergy DBMS” chapter of *Synergy Tools*; for details on patching and converting, see [“Patching an ISAM file to another version”](#) in the same chapter.

Workbench

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you have version 9 projects... (9.1.x, 9.3)	Convert them to version 10.1 by opening them in Workbench.	Workbench version 10.1 uses SlickEdit 2010 (version 15). Once a project is converted, it is no longer compatible with earlier versions of Workbench.
Windows	If you have written your own macros...	After installing, reload them into Workbench. For each macro, at the Workbench command line enter the following: <code>load macro_name.e</code>	Macros cannot be converted.
Windows	If you create Synergy/DE, Synergy/DE Application, Synergy/DE Executable Library, or Synergy/DE Object Library projects and count on the -X compiler option being used by default... (9.3, 9.5.1, 9.5.1a)	Modify the compilation command line for that project type to include -X .	The -X option is no longer included by default because when used in conjunction with strong prototyping, it can mask problems. This affects <i>new</i> projects only. For instructions on modifying the command line for a project type, see “Customizing commands for a project type” in the “Developing Your Application in Workbench” chapter of the <i>Getting Started with Synergy/DE</i> manual.
Windows	If you customized your configuration directory with VSLICKCONFIG... (9.1.x)	Update your environment to use SLICKEDITCONFIG instead.	In version 9.3, SlickEdit replaced the VSLICKCONFIG environment variable with SLICKEDITCONFIG.
Windows	If you have Synergy .NET Component projects built with version 1.1 of the .NET Framework... (9.1.x)	Install .NET Framework version 2.0 or higher.	Version 2.0 of the .NET Framework is now the minimum supported version.

UI Toolkit

Compatibility Information

(Windows .NET) You must recompile all Toolkit code used with Synergy .NET. See the table below for more detail.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses the <i>version</i> argument to U_VERSION... (9.1.x, 9.3, 9.5.1)	Be aware that it now returns A.1.1 to represent version 10.1.1 and you may need to change your code.	U_VERSION now returns a value with an initial letter so that existing string comparisons will continue to evaluate as expected. You may want to use the optional argument <i>version_full</i> , added in 9.5.3, which returns 10.1.1 in version 10. (The <i>version</i> argument is now optional.)
All	If your code passes SYN_VER to U_ABOUT, U_CHECKVERSION, U_MINVERSION, or U_PARSEVERSION...	We recommend that you now use SYN_VERSION instead.	SYN_VER returns A.1.1 in version 10 so that existing string comparisons will continue to evaluate as expected. SYN_VERSION returns 10.1.1. These four U_ routines were modified to handle version strings containing either digits or letters to avoid breaking existing code.
All	If your code uses buffers to store version numbers...	Check them to ensure they can handle a two-byte version number.	Some existing version strings (see above) now use letters to represent version 10 and higher to avoid breaking existing code. We recommend you review <i>all</i> version string logic in your application.
All	If your code passes a d1 for the <i>v</i> argument to U_PARSEVERSION...	Change the argument to an integer.	The return value may be truncated if a d1 is used in version 10.
All	If your application exceeds the maximum number of entry lists or menu column rows in the MB_ routines... (9.1.1, 9.1.3)	Correct your code.	Previously, the maximums (9 for lists and 20 for rows) were not enforced. Exceeding the maximums could cause unpredictable results, but there was no error. Now a "Too many lists" or "Too many rows" error is returned. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses definitions from lstprv.def or gblctl.def ... (9.1.x, 9.3, 9.5.1)	Remove the .INCLUDEs for those files and change your code to make calls to routines that provide the same information. For example, if your code references <code>glst_scriid</code> , which was previously available in lstprv.def , instead call <code>L_STATUS</code> with <code>D_LCTRID</code> ; and <code>glst_hdred</code> and <code>glst_ftrid</code> may be replaced with the <code>L_STATUS</code> subfunctions <code>D_LHDRID</code> and <code>D_LFTRID</code> , respectively.	The lstprv.def and gblctl.def files are no longer distributed.
All	If your code uses the <code>g_werr</code> record in gblctl.def ... (9.1.x)	Define your own record to use with the <code>W_RETERR</code> function.	We removed the gblctl.def file from the distribution. This change may break your code. For information on <code>W_RETERR</code> , see “Error Processing in the Windowing System” in the “Synergy Windowing API” chapter of the <i>Synergy DBL Language Reference Manual</i> .
All	If your application accesses the <code>gs_dec</code> member of fldinf.def ... (9.1.x)	Recompile your code.	To support a change in the maximum size of decimal and implied-decimal fields in Toolkit, we changed <code>gs_dec</code> from a d1 to an i1 .
Windows	If you use the Synergy Control Panel...	Look for the Synergy UI Toolkit Control Panel instead.	We changed the name of this utility to avoid confusion with the new Synergy Control Panel. (See next item.)
Windows	If you access the Synergy Control Panel from the Start menu...	Access the Synergy UI Toolkit Control Panel from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for this utility is no longer added to the Start menu. You can also access the Synergy UI Toolkit Control Panel from within Workbench (Synergy/DE > Utilities > Synergy UI Toolkit Control Panel).
Windows	If you access Proto, Script, Composer, or the ActiveX Diagnostic utility from the Start menu...	Access these programs from the command line instead, or add your own shortcuts to the Start menu.	Shortcuts for these UI Toolkit utilities are no longer added to the Start menu. You can also access Script, Composer, and the ActiveX Diagnostic utility from within Workbench.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you link against tklib.elb ... (9.1.x, 9.3, 9.5.1)	Update your code as necessary if you see new errors such as "Invalid subscript" or "Index out of bounds" when you compile or run with version 10.	Tklib.elb is now built with the -qstrict compiler option, which means it performs checks similar to those done with DTK_BOUNDS=2. This change may break your code. We strongly recommend that you fix your code to correct any problems you find; however, if you have a critical situation where you cannot fix your code, you can use tklib_nostrict.elb , which is not built with the -qstrict compiler option. (But see "Upcoming Changes" on page 111.)
Windows	If you specify color palette entry 16 for a list header or footer... (9.1.x)	Specify color palette entry 1 to retain the current look.	Previously, color palette entry 16 did not work properly, which caused the default (1) to be used instead. We fixed entry 16, which could cause a change in the appearance of your application.
Windows	If you use the ActiveX list control and have non-static headers or footers... (9.1.x)	Adjust the position of the text as necessary.	Text is now centered in the column by default. Previously, it was left-justified.
Windows 7 and 64-bit	If in your code a Windows callback attempts to perform a STOP chain... (9.1.x, 9.3.1, 9.3.1a)	Change your code to exit the routine via an XRETURN or a program-controlled exit.	Windows 7 and all 64-bit Windows platforms now prevent exceptions from being thrown across the kernel boundary. Doing so caused random hangs and crashes. Therefore, this action is not allowed and causes the runtime to generate a \$ERR_NOCHAIN error. This change may break your code.
Windows .NET	If your code uses a global field defined in tools.def or tkctl.def to access a group or record name...	Cease to do so and recompile your code.	This syntax is no longer supported. This change may break your code.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows .NET	If your code uses ranging when assigning a value to a global field defined in tools.def or tkctl.def ... For example, <code>g_entnam(7:4)</code>	Change the code to assign the value of the global field to a temporary field, and then use ranging with that field.	We made internal Toolkit global variables private and changed user-accessible global variables into properties. This should reduce the need for recompiling in future versions. Because of this, you must recompile all Toolkit code used with Synergy .NET. This change may break your code.
Windows .NET	If your code assigns a value of a different type (that is, uses implicit conversion) to a global field defined in tools.def or tkctl.def ...	Change your code to use explicit conversion.	
Windows .NET	If your code assigns a value to a global field defined in tools.def or tkctl.def , and then uses the result of the assignment in the same Synergy DBL statement...	Change your code so these are in different statements. For example, instead of this: <code>if (g_select = value)</code> create two statements: <code>g_select=1</code> <code>if (g_select)</code>	
Windows .NET	If your code uses casting to modify a global field defined in tools.def or tkctl.def ...	Change the code to use a temporary field for the cast. For example, instead of this: <code>clear ^i(g_entnam)</code> you can do this: <code>clear ^i(temp_var)</code> <code>g_entnam = temp_var</code>	
Windows .NET	If your code passes a global field defined in tools.def or tkctl.def as a modifiable parameter to a subroutine, function, or method...	Change your code to pass a temporary field and then assign its value to the global field.	
UNIX OpenVMS	If your application has a check box with field-level renditions specified... (9.1.x)	Set the new D_INPPRCRND state for E_STATE to D_OFF if you want to retain the current look of the prompt.	In 9.3, we added the D_INPPRCRND state to E_STATE. By default, this state is set to D_ON on UNIX and OpenVMS, which causes Toolkit to use field-level renditions for check box prompts. Previously Toolkit used renditions for the part of the window that the prompt occupied.

Upcoming Changes

(Windows) The file **tklib_nostrict.elb** was originally distributed in version 9.5.3 and will be removed from the distribution in a future version. The purpose of **tklib_nostrict.elb** is to help users make the transition to the new **tklib.elb** introduced in 9.5.3, which is built with the **-qstrict** compiler option.

Composer

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you access Composer from the Start menu...	Start it from within Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Composer and most other Synergy/DE applications are no longer added to the Start menu.
Windows 64-bit	If you get a "composer.dbr not found" message when starting Composer from Workbench... (9.1.x, 9.3)	Check the SYNBIN setting in your synergy.ini file to make sure it points to the directory where 32-bit Synergy/DE is installed.	This error appears only on a 64-bit machine when both 32-bit and 64-bit Synergy/DE are installed. Prior to version 9.5, SYNBIN was set to the path for the 64-bit directory, while Composer is always 32-bit. SYNBIN is now set to SYNERGYDE32 when installing on a 64-bit machine.

Repository

Compatibility Information

- ▶ Repositories created in version 9 need to be converted to be used with version 10. When a version 9 repository is opened for modification, you will be prompted to convert it. Once a repository has been converted, it cannot be accessed by pre-version 10 Repository or other Synergy/DE programs and tools (Composer, Workbench, the compiler, etc.).
- ▶ If you have customized Repository's window library, you must reapply your customizations and rescript it.
- ▶ SDL (Synergy Data Language) files do not need to be converted.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you use the Repository subroutine library and use the repository version (ci_ver in ddinfo.def) in a string comparison...	Check your code to ensure that the version comparison works as expected.	The string now starts with "1". Deployed applications could break because the string comparison logic will not evaluate as expected. For example, 9.5.3 will evaluate as higher than 10.1.1. We recommend you modify your code to use U_PARSEVERSION. This change may break your code.
All	If you write Boolean data to a file or include repository structures containing Booleans as named records... (9.1.x, 9.3)	Update your repository by generating a schema and editing it to do one of the following: <ul style="list-style-type: none"> ■ Change the size of Booleans to 4. ■ Change the data type of Booleans to integer, leaving the size at 1. 	The size of Boolean fields and templates changed from 1 to 4 to correspond with a size change in Synergy DBL. This change may break your code. For a detailed description of editing schema for this change, see the 9.5 release notes, REL_RPS.TXT , available in the Resource Center on the Synergex website.
All	If you create aliases in your repository via schema... (9.1.x, 9.3, 9.5.1, 9.5.1a)	Run the Verify Repository utility to update an alias counter maintained with each structure.	We added UI support for defining alias structures. For more information, see "Defining Aliases" in the "Repository" chapter of the <i>Repository User's Guide</i> .
All	If you use the DD_ALIAS routine in the Repository subroutine library... (9.1.x, 9.3.1)	Change your code to pass a numeric value instead of an alpha for the #names argument.	The seventh argument (#names) changed from alpha to numeric. (Note that it was always documented as d3 , but the underlying code was an a .)
Windows	If you access the Repository application from the Start menu...	Start it from within Workbench, from the command line, or from a shortcut that you create yourself.	Shortcuts for Repository and most other Synergy/DE applications are no longer added to the Start menu.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows .NET	If you use the Repository subroutine library (ddlib.dll)... (9.5.1)	Rebuild your code.	The signature for the DD_FIELD routine has changed. This change may break your code.

Upcoming Changes

In an upcoming version of Synergy/DE, we are planning to remove the Repository object library (OLB) file **ddlib.olb**. It has been replaced with the executable library (ELB) file **ddlib.elb**. (The OLB file will be available on the Synergex web site.)

You should be linking against the ELB file instead of the OLB file for the following reasons:

- ▶ An ELB will reduce the size of your application if you link multiple programs against the library.
- ▶ Linking against an ELB is more reliable than rebuilding the OLB and making a custom ELB.
- ▶ An ELB provides more compatibility when multiple Synergy applications from different companies coexist on one system.
- ▶ In most cases, you can upgrade to newer versions of Synergy/DE without recompiling and relinking your applications.

ReportWriter

Compatibility Information

No conversion or rescripting is required. ReportWriter can read Repository files from version 9, as well as those converted to version 10 format.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you access ReportWriter from the Start menu...	Start it from the command line instead or create your own shortcut.	Shortcuts for ReportWriter, and most other Synergy/DE applications, are no longer added to the Start menu.

xfServer

Compatibility Information

- xfServer 10 supports clients running Synergy/DE version 6.1 and higher, but some features require a higher version of the client. See the xfServer release notes, **REL_SRV.TXT**, for details.
- (Windows) xfServer is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you use the BEGPOR and ENDPORT environment variables with synxfpng...	Instead use the -p option in combination with -r to ping a range of ports.	The BEGPOR and ENDPORT environment variables have been deprecated.
Windows	If you use client/server encryption...	Upgrade your OpenSSL to version 1.0.1c.	The minimum supported version has changed. For more information on OpenSSL, see " OpenSSL Requirements " in the "Requirements and Considerations" chapter of the <i>Installation Configuration Guide</i> . This change may break your code.
OpenVMS	If you use client/server encryption with HP SSL version 1.3... (9.3)	Upgrade to 1.4 or follow the instructions in "OpenSSL Requirements" in the "Requirements and Considerations" chapter of the <i>Installation Configuration Guide</i> to continue using 1.3.	Version 1.4 is expected because the runtime support files SYNSSLIB.EXE and HTTPSLIB.EXE are built with 1.4, but the corresponding files built with 1.3 are still distributed.

xfServerPlus

Compatibility Information

- xfServerPlus 10 can receive routine calls from version 7.1 and higher xfNetLink clients, but some features require a higher version of the client. See the xfServerPlus release notes, **REL_XFPL.TXT**, for details.
- Version 9.1.5 and earlier Synergy Method Catalog (SMC) files must be converted for use with xfServerPlus and Workbench 10, as well as with version 10 utilities such as the Method Definition Utility (MDU) and **smc_elb.exe**. See the “SMC conversion utility” section of the xfServerPlus release notes for instructions.
- (Windows) xfServerPlus is now always installed in the default location, Program Files\Synergex\SynergyDE. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your application passes structures as parameters and some of those structures have fields that are Boolean data type... (9.1.x, 9.3)	After updating the Boolean size in your repository (see Repository's “Required Changes” table on page 113), run the Verify Catalog utility in the MDU to update repository structure sizes in the SMC, and then rebuild your component.	The size of Boolean fields in repository structures changed from 1 to 4 to correspond with a change in Synergy DBL. This change may break your code.
All	If you use the “Add new interfaces” option in the Import function of the MDU... (9.1.x)	Use the “Update interfaces” option instead and then choose the new interfaces you want to add.	The MDU now has an Update interfaces option, which updates existing interfaces, in addition to adding new interfaces.
Windows	If you use client/server encryption...	Upgrade your OpenSSL to version 1.0.1c.	The minimum supported version has changed. For more information on OpenSSL, see “OpenSSL Requirements” in the “Requirements and Considerations” chapter of the <i>Installation Configuration Guide</i> . This change may break your code.
OpenVMS	If you use client/server encryption with HP SSL version 1.3... (9.3)	Upgrade to 1.4 or follow the instructions in “OpenSSL Requirements” in the “Requirements and Considerations” chapter of the <i>Installation Configuration Guide</i> to continue using 1.3.	Version 1.4 is expected because the runtime support files SYNSSLIB.EXE and HTTPSLIB.EXE are built with 1.4, but the corresponding files built with 1.3 are still distributed.

xfNetLink Java Edition

Compatibility Information

- ▶ (Windows) xfNetLink Java is now always installed in the default location, Program Files\Synergex\xfNLJava. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- ▶ xfNetLink Java 9.5.1a and higher is not supported on SCO OpenServer (system code 003) and HP Tru64 UNIX (system code 021) because these platforms do not support Java 1.5, which is the minimum supported JDK version.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you are using a version of the JDK prior to 1.5... (9.1.x, 9.3, 9.5.1)	Upgrade to JDK version 1.5.	xfNetLink Java requires a Java Virtual Machine compatible with JDK version 1.5 or higher.
All	If your application requires JRE v1.2 through 1.4 compatibility... (9.1.x, 9.3, 9.5.1)	Use the genjava -c version option and specify 1.2 for <i>version</i> .	By default, classes are generated with JRE 1.5 compatibility. The genjava -c version option enables you to specify that classes be created with 1.2 compatibility, which means they will be compatible with JRE 1.2 through 1.4. The compatibility level determines not only what xfNetLink Java features are available, but also a number of default type mappings; consequently, this change may break your code if you regenerate classes for an existing application.
All	If your code includes date and time fields in repository structures passed as parameters... (9.1.x, 9.3, 9.5.1)	Update your code to use the Calendar class. ^a	Date and time fields are now mapped to the Calendar class instead of the Date class. This change may break your code if you regenerate classes for an existing application.
All	If you have User fields in repository structures passed as parameters where the subtype is Date and the User data field contains either ^CLASS^=YYYYMMDDHHMISS or YYYYYMMDDHHMISSUUUUU... (9.1.x, 9.3, 9.5.1)	Update your client code to use the Calendar class.	This type of User field now maps to the Calendar class. Previously, such fields were converted to Strings. This change may break your code if you regenerate classes for an existing application.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you have Boolean fields within structures that are passed as parameters... (9.3, 9.5.1)	Update your client code to use a byte array instead of a byte. ^a	Previously, Boolean fields were converted to bytes; now they are converted to byte arrays. This change may break your code if you regenerate classes for an existing application.
All	If you have binary fields within structures that are passed as parameters... (9.1.x, 9.3, 9.5.1)	Update your client code to use a byte array instead of a String. ^a	Binary fields are now mapped to byte arrays; previously, they were converted to Strings. This change may break your code if you regenerate classes for an existing application.
All	If your code includes decimal or implied-decimal parameters or return values... (9.1.x, 9.3, 9.5.1)	Update your client code as necessary to account for changes to the default type mappings for these data types. Or, you can use type coercion to coerce these data types to the old mappings. ^a	The mapping for decimal and implied-decimal data types changed. See “Appendix B: Data Type Mapping” in the <i>xfNetLink & xfServerPlus User’s Guide</i> for details. This change may break your code if you regenerate classes for an existing application.
All	If your code includes any of the following methods: getxfMinport() getxfMaxport() setxfMinport() setxfMaxport()... (9.1.x, 9.3, 9.5.1)	Remove them or comment them out.	These methods have been deprecated. They should be used only when running in debug mode (using the debugInit() and debugStart() methods) through a firewall, requiring a valid range of ports.

a. This version 10 change applies to class wrappers generated with JRE 1.5 compatibility, which is the default in version 10. If you use the **genjava -c** option (or the “Generate classes as version” option in Workbench) to generate classes with JRE 1.2 compatibility, those classes will be generated as they were in version 9.5.1 and earlier, and the described feature will not be available, which means you will not need to make this change to your code. Note that the **-c** option was introduced in version 9.5.1a with a default value of 1.2; in 9.5.3 the default changed to 1.5.

xfNetLink .NET Edition

Compatibility Information

- xfNetLink .NET is now always installed in the default location, Program Files\Synergex\xfNLNET. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.
- Version 9 32-bit assemblies can be used in version 10 without being rebuilt. For 64-bit assemblies, see the table below.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you access the xfNetLink .NET Configuration Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfNetLink .NET Configuration Utility is no longer added to the Start menu. You can also access this utility from within Workbench.
Windows	If you are using Visual Studio 2005...	Upgrade to 2008 or higher.	The minimum supported version is now 2008.
Windows	If you use version 1.0 or 1.1 of the .NET Framework... (9.1.1)	Upgrade to version 2.0 or higher. Then edit the AssemblyInfo.cs file to remove the attributes AssemblyDelaySign and AssemblyKeyFile . Or, you can delete the AssemblyInfo file; xfNetLink will create a new one the next time you run gencs .	.NET Framework 2.0 is now the minimum supported version. In .NET Framework versions 1.0 and 1.1, these two attributes were included in the AssemblyInfo file. In version 2, they are specified on the compiler command line. Because the AssemblyInfo file is not overwritten, you must either delete these attributes from the file or delete the file so that it is recreated.
Windows	If you have fields in Repository that are flagged as read-only, and you generate structure members as properties, and you need to be able to set those properties in your client code... (9.1.1)	Clear the read-only fields in Repository before you generate classes.	Fields flagged as read-only in Repository are now read-only in the C# classes when structure members are generated as properties. These properties will have a "get" method, but no "set" method. This change may break your code if you regenerate classes for an existing application. Note that the read-only flag is not honored when you generate structure members as public fields.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If your application passes structures that contain fields defined as binary data type in the repository... (9.1.x, 9.3, 9.1.5, 9.1.5a)	To continue to have these fields converted to strings in the generated C# classes, run gencs with the -nb option; else, they will be converted to byte arrays.	A field in a structure that is defined as a binary data type in the repository is now converted to a byte array in the generated C# code instead of a string. This change may break your code if you regenerate classes for an existing application.
Windows	If your code uses enumerations as parameter or method return types, or pass structures that include enumerations... (9.3.1)	Update your client code to correct the case of enumeration member names to be initial caps.	When introduced in 9.3.1, enumeration members were generated with all caps (e.g., GREEN); in 9.3.1a, they were changed to initial caps (e.g., Green). This change may break your code.
Windows	If you use the port number range feature (minport and maxport)... (9.1.x)	Cease to do so.	This feature has been deprecated. Minport and maxport are ignored when set in the configuration file or passed with the connect() method, unless you are running in debug mode. If you attempt to modify these settings with the xfNetLink .NET Configuration utility, you will be prompted to remove them from your config file.
Windows	If you generate classes with the Original property... (9.3.1, 9.3.1a)	Specify the -r option when you run gencs .	When introduced in 9.3.1, the Original property was generated by default; in 9.3.1b, we added the gencs -r option to explicitly specify it. Note that this option is not available when generating classes with Workbench. This change may break your code.
Windows 64-bit	If you run xfNetLink .NET on a 64-bit machine... (9.1.x)	Uninstall your current version before installing version 10. After installation, rebuild your assembly and then rebuild your application in Visual Studio.	In 9.3.1, the version number of the xfnlnet.dll and gencs.exe files were changed to be the same in both the 32-bit and 64-bit distribution of xfNetLink .NET. This will make it easier to develop in one environment and deploy in another. This change may break your code.

SQL OpenNet

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL OpenNet is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

xfODBC

Compatibility Information

- All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- (Windows) *xfODBC* and *xfODBC Client* are now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you set OJNESTON and have SQL92 outer joins with ON clauses for table qualifiers specified after all table qualifiers... For example, <pre>FROM... LEFT JOIN vendors v LEFT JOIN plants p ON o.or_vendor = v.vend_key ON o.or_item = p.in_itemid}</pre>	Discontinue setting OJNESTON, and put each ON clause immediately follows its table qualifier: <pre>FROM... LEFT JOIN vendors v ON o.or_vendor = v.vend_key LEFT JOIN plants p ON o.or_item = p.in_itemid}</pre>	We removed support for the OJNESTON option; attempting to set it now causes an "Unknown option" error. <i>xfODBC</i> no longer supports this type of query.
All	If you set SODBC_NONULL... (9.1.x)	Set the "Null allowed" value to Yes or No for each field in Repository.	SODBC_NONULL has been deprecated. We strongly recommend you use the Repository setting instead.
All	If you do not set SODBC_NONULL... (9.1.x)	If you don't want the default behavior (see Comments), set the "Null allowed" value to Yes or No for each field in Repository.	The dbcreate utility now uses the Repository "Null allowed" field to determine how to set the "Null allowed" property for system catalog columns. For more information, including details on the default behavior, see "Preventing null updates and interpreting spaces, zeros, and null values" in the "Preliminary Steps" chapter of the <i>xfODBC User's Guide</i> .
All	If you use SQL_REAL for the CAST and CONVERT functions... (9.1.x, 9.1.3, 9.1.5, 9.1.5a)	Use SQL_FLOAT instead.	<i>xfODBC</i> no longer supports SQL_REAL.

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If your code uses Boolean data types... (9.1.x, 9.3)	After updating your repository as explain in the Repository “Required Changes” table on page 113 , re-create your system catalogs using the dbcreate -c option.	The size of the Boolean data type changed in Synergy DBL from 1 to 4. For information on preserving views when you re-create a system catalog, see “Preserving views” in the <i>“Creating a System Catalog”</i> chapter of the <i>xfODBC User’s Guide</i> for information.
Windows	If you access the xfODBC DBA Utility from the Start menu...	Access it from the Synergy Control Panel instead, which is located in the Windows Control Panel. (On XP and 2003, there is a shortcut to the Synergy Control Panel on the Start menu.)	A shortcut for the xfODBC DBA Utility is no longer added to the Start menu.

SQL Connection

Compatibility Information

- ▶ All Connectivity Series products for client and server must be upgraded to version 10.1. Otherwise, a version mismatch error occurs.
- ▶ (Windows) SQL Connection is now always installed in the default location, Program Files\Synergex\SynergyDE\Connect. This path cannot be changed during a *new* installation, but upgrades will be installed in the same location in which the current version is installed, even if it is a non-default directory.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
All	If you use the %SSC_BLOB routine... (9.1)	Use the new routine %SSC_LARGECOL instead.	The new routine and option improve SQL Connection's ability to get and put large binary column data and large character column data. See %SSC_LARGECOL in the "Database Functions" chapter of the <i>SQL Connection Reference Manual</i> for details.
All	If you use the SSQL_BLOBCOL option for %SSC_OPEN... (9.1)	Instead, use the new SSQL_LARGECOL option for %SSC_OPEN for gets and the SSQL_LARGECOL option for %SSC_EXECUTE for puts.	
All	If you use a driver keyword (such as rdb or sybase) in a connect string...	Change the connect string to use a driver name instead: <ul style="list-style-type: none"> ■ VTX0 for Oracle on UNIX or OpenVMS ■ VTX1 for Oracle Rdb ■ VTX2 for Sybase ■ VTX4 for Synergy database ■ VTX5 for Informix ■ VTX11 for ODBC-compliant databases ■ VTX14 for MySQL 	We deprecated all database driver keywords on all platforms.
Windows	If you use VTX0, VTX12, oracle, or sqlserver in a connect string...	Change the connect string to use one of the following driver names instead: <ul style="list-style-type: none"> ■ VTX0_9 for Oracle 9 ■ VTX0_10 for Oracle 10 ■ VTX0_11 for Oracle 11 ■ VTX12_ODBC for SQL Server 2005 ■ VTX12_SQLNATIVE for SQL Server 2005 or 2008 with SQL Native Client 	You can no longer use these keywords (VTX0, VTX12, oracle, sqlserver) in a connect string. In addition, we removed the database driver options from the Connectivity Series tab in the Synergy Configuration Program. This change may break your code.

Synergy/DE Data Provider for .NET

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you are using Visual Studio 2008 or .NET Framework 3.5 with Synergy/DE Data Provider for .NET... (9.1.x, 9.3)	Upgrade to Visual Studio 2010 and Framework 4 or higher.	The minimum supported version of Visual Studio is 2010 and the Framework minimum supported version is 4. See the release notes, REL_SDP.TXT , for complete information on Visual Studio and Framework requirements.
Windows	If you have an entity data model (EDM) created with Visual Studio 2008... (9.1.x, 9.3)	To upgrade to Visual Studio 2010, import the entire 2008 project with the Conversion Wizard. To upgrade to Visual Studio 2012, regenerate the EDM.	Note that the Conversion Wizard in Visual Studio 2010 may not work for complex EDMs; in those cases, you must delete and regenerate the EDM.

Synergy DBL Integration for Visual Studio

Compatibility Information

Version 10 code generated by Visual Studio and Synergy DBL Integration (SDI) features (such as Visual Studio designers) should be compiled only with the Synergy/DE version 10 compiler. Compiling such code with Synergy/DE version 9 may cause compile-time or runtime errors.

Required Changes

Platform	Version 9 usage	Change required for 10.1	Explanation/Comments
Windows	If you are using .NET Framework 2 or 3.5 with SDI...	Upgrade to Framework 4 or higher.	The minimum supported version of the .NET Framework is 4. See the release notes, REL_SDI.TXT , for complete information on Visual Studio and Framework requirements.
Windows	If you have structures with datetime fields in an Interop project...	Replace the SynergyRoutines.dbl file in your project with SynergyRoutines.dbl from an Interop project created with version 10.	In previous versions, datetime fields could cause errors. We updated the SynergyRoutines.dbl file in version 10 to correct this, but you will need to replace the file manually in existing projects.
Windows	If you use an App.config file... (9.5.1)	Change the Build Action property in existing projects by selecting the App.config file in the Solution Explorer, opening the Properties toolbar, and selecting "None" under the Build Action property.	In order to be fully compatible with MSBuild, an App.config file requires a Build Action of "None". This is now the default in Synergy projects, but prior to 9.5.3, the default Build Action was "Content".