ACATS Modification List for ACATS 4.0

Version 4.0B November 24, 2014

What is this?

This is the ACATS modification list for ACATS 4.0. This document includes test corrections, test removals, and new tests for ACATS 4.0. ACATS 4.0 is the current test suite for Ada, covering the third edition of Ada, ISO/IEC 8652:2012 (usually known as "Ada 2012").

ACATS Modification List version 3.1C for ACATS 3.1 is the current list for that test suite. ACATS 3.1 should be used for testing implementations that support Amendment 1 (ISO/IEC 8652:1995/AMD 1:2007, often known as "Ada 2005"), and will continue to be maintained as necessary for the foreseeable future.

ACATS Modification List version 2.6D for ACATS 2.6 is the current list for that test suite. ACATS 2.6 should be used for testing implementations of the second edition of Ada, ISO/IEC 8652:1995 (usually known as "Ada 95"); it also will continue to be maintained as necessary for the foreseeable future.

Changes from the last list:

Modified tests BDD2004 and BDD2005 to reflect the rulings in AI12-0106-1 and AI12-0121-1.

Test CXAI027 was corrected to report the correct name of the package it tests.

New tests BDB3A01 and CDB3A01 were added to test pragma and aspect Default_Storage_Pool; they use a foundation FDB3A00.

New test CB30001 checks that the optional message parameter to a raise statement can be used, and that the provided message can be retrieved with Exception Message.

New test CB30002 checks that the optional message parameter to a raise expression can be used, and that the provided message can be retrieved with Exception_Message.

New tests BXAI001, BXAI002, BXAI003, BXAI004, BXAIA01, and BXAIA02 check that reverse iterators (using the new container and cursor syntax) are not allowed for hashed containers.

New tests BXAI005, BXAI006, BXAI007, BXAI008, BXAIA03, and BXAIA04 check that writing a container element using indexing is not allowed for set containers.

New tests C433002, C433003, C433004, C433005 check various rules for array aggregates, new test C431002 checks AI05-0016-1, and new test B431005 checks AI12-0046-1.

New tests posted between October 1, 2014 and December 31, 2014 will become required for conformity assessments on July 1, 2015. New tests posted between July 1, 2014 and September 30, 2014 will become required for conformity assessments on April 1, 2015. All tests posted to modification lists for other versions of the ACATS are included in ACATS 4.0 if appropriate and thus are required for conformity assessment using ACATS 4.0 The effective dates of tests are marked in the lists.

Questions about this document? Contact the ACAA Technical Agent at agent@ada-auth.org.

2015 Corrigendum:

With ACATS Modification List 4.0B, we have started including tests for corrections (including new features) in the upcoming 2015 Corrigendum. Most of these corrections have already been approved by WG 9, and those that haven't been are expected to be approved at their next meeting. All of these changes are technically corrections to Ada 2012; as such we will assume all such corrections are implemented for Ada 2012 compilers.

Implementers can request grading modifications for any tests containing 2015 Corrigendum changes until the Corrigendum is approved as a whole by WG 9 (expected at their late June 2015 meeting). Note that most such tests will not be required until after that meeting anyway, as new tests have a six month review period before being required.

Notice:

The ACAA has created and maintains the Ada Conformity Assessment Test Suite for the purpose of conformity assessments conducted in accordance with the International Standard ISO/IEC 18009 - Ada: Conformity assessment of a language processor. This test suite should not be used to make claims of conformance unless used in accordance with ISO/IEC 18009 and any applicable ACAA procedures.

List explanation:

Test numbers given are for the basic test. Categories are "Withdrawn" (the test should not be processed for Ada conformity assessments); "Allowed Modification" (either the original test or the modified one should be processed for Ada conformity assessments); "Modified" (the modified test must be processed for Ada conformity assessments); "Pending New" (the test does not need to be processed for Ada conformity assessments, but will be added in the future); "New" (the test is processed for Ada conformity assessments).

ACATS version labels are provided with all new and modified tests. Use this label to retrieve the test from the ACATS VCS. See "How to get new and modified tests".

In citations, line numbers are given relative to the start of a test file in the format of '@<line#,line#,...>'; if a test program comprises more than one file, then the particular file will be indicated by "fn", where "n" is the test-program name's file-designator numeral. E.g., "B38103E: @f1-31, ... " denotes test file b38103e1.ada. In cases where there are two or more rationales for different errors in a test program, these different rationales with their respective line citations are listed on separate lines. References to the Ada standards are given in the format:

```
<section|chapter>.<clause>[.<subclause>]:paragraph>
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These references are to the Ada standard as available at http://www.adaic.org/resources/add-contentstandards/12rm/html/RM-TOC.html.

Main list:

including none. (Case 2: Null records and extensions.)

B431005 [Pending New] New VCS Label: A4 0B Required after 2015-07-01

Check that a component association with an expression in a record or extension aggregate that have more than one associated component is illegal if the expression is illegal for any one of the associated components.

C433002 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Check that no array components can be outside of the index subtype for an array aggregate, even when the components are specified by <>.

C433003 [Pending New] New VCS Label: A4 $_{
m OB}$ Required after 2015-07-01

Check that for each association with a box in an array aggregate, the component is initialized by default (scalar types with Default Values).

C433004 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Check that for each association with a box in an array aggregate, the component is initialized by default (array types with Default Component Values).

C433005 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Check that the constraint of the constrained array subtype of a function return is used to determine the bounds of an array aggregate with an others choice in the expression of a return statement.

C760014 [Pending New] New VCS Label: A4_0A
Required after 2015-04-01
Check that Ada.Finalization is declared pure.

CB30001 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Check that the optional message parameter is supported in a raise statement, and that the message can be retrieved with Exception Message.

CB30002 [Pending New] New VCS Label: A4 0B Required after 2015-07-01

Check that the optional message parameter is supported in a raise expression, and that the message can be retrieved with Exception Message.

BDB3A01 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test resolution and legality rules for pragma and aspect Default Storage Pool.

CDB3A01 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that aspect Default_Storage_Pool changes the default storage pool for a generic instantiation.

BDD2004 [Allowed Modification] New VCS Label: A4_0B Org VCS Label: A4_0

Required after 2015-04-01 Error @229 is legal by AI12-0121-1.

BDD2005 [Allowed Modification] New VCS Label: A4_0B Org VCS Label: A4_0 Required after 2015-04-01

Replaced test cases waiting on AI12-0106-1 (now approved) and made changes required by AI12-0121-1.

BXAI001 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Hashed Maps does not allow reverse iterators.

BXAI002 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Hashed Sets does not allow reverse iterators.

BXAI003 [Pending New] New VCS Label: A4 0B Required after 2015-07-01

Test that package Bounded_Hashed_Maps does not allow reverse iterators.

BXAI004 [Pending New] New VCS Label: A4 0B Required after 2015-07-01

Test that package Bounded_Hashed_Sets does not allow reverse iterators.

BXAI005 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Hashed_Sets does not allow direct writing of set elements.

BXAI006 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Ordered_Sets does not allow direct writing of set elements.

BXAI007 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Bounded_Hashed_Sets does not allow direct writing of set elements.

BXAI008 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Bounded_Ordered_Sets does not allow direct writing of set elements.

BXAIA01 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Indefinite_Hashed_Maps does not allow reverse iterators.

BXAIA02 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Indefinite_Hashed_Set does not allow reverse iterators.

BXAIA03 [Pending New] New VCS Label: A4_0B Required after 2015-07-01

Test that package Indefinite_Hashed_Sets does not allow direct writing of set elements.

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BXAIA04 [Pending New] New VCS Label: A4 OB
                  Required after 2015-07-01
      Test that package Indefinite_Ordered_Sets does not allow direct
     writing of set elements.
CXAI027 [Allowed Modification] New VCS Label: A4 0B Org VCS Label: A4 0
                  Required after 2015-04-01
      Corrected the name of the package that is reported as being
      tested.
==== Annex C =====
[None.]
==== Annex D =====
[None.]
==== Annex E =====
[None.]
==== Annex F =====
[None.]
==== Annex G =====
[None.]
==== Annex H =====
[None.]
==== Support =====
FDB3A00 [Pending New] New VCS Label: A4 0B
                  Required after 2015-07-01
      Foundation for test BDB3A01 and CDB3A01.
```

How to get new and modified tests:

The official home of the ACATS test suite is the ACAA web site. The site can be accessed from the Compilers and Conformance section of the Ada IC web site (www.adaic.org). It also can be accessed directly at www.ada-auth.org.

The complete set of official new and modified tests are available in the Mod_4_0B.Zip and Tar files on the ACAA web site.

Individual new and modified tests can be retrieved from the ACATS VCS. Simply navigate to the appropriate directory (folder), and select the test you want. Select the revision you want (usually the most recent) and it will be retrieved for you. Tests are stored in directories that correspond to the test's prefix. For instance, the test CD92001.A will be found in the CD directory. You can also browse the differences

between versions of a test. [In case of a conflict, the files in the ACATS VCS should be considered the 'official' versions.]

If you cannot get the files from the official site or you cannot get the files in a format appropriate for your processor, please contact your ACAL.

The baseline ACATS 4.0 is available in various formats on the ACAA web site.

Summary lists:

Withdrawn Tests

(Refer to the main list for details)

None.

Allowed Modification Tests

(Refer to the main list for details)

| 2015-04-01 |
|------------|
| 2015-04-01 |
| 2015-04-01 |
| |

Modified Tests

(Refer to the main list for details)

None.

New Tests

(Refer to the main list for details)

None.

Pending New Tests

(Refer to the main list for details)

| B431005 | 2015-07-01 |
|---------|------------|
| BDB3A01 | 2015-07-01 |
| BXAI001 | 2015-07-01 |
| BXAI002 | 2015-07-01 |
| BXAI003 | 2015-07-01 |
| BXAI004 | 2015-07-01 |
| BXAI005 | 2015-07-01 |
| BXAI006 | 2015-07-01 |