ACATS Modification List for ACATS 3.1

Version 3.1C
November 24, 2014

What is this?

This is the ACATS modification list for ACATS 3.1. This document includes test corrections, test removals, and new tests for ACATS 3.1. ACATS 3.1 is the current test suite for the version of Ada that became current with the approval and publication of Amendment 1 by ISO as ISO/IEC 8652:1995/AMD 1:2007 (often known as "Ada 2005").

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 Ada 95 implementations, and will continue to be maintained as necessary for the foreseeable future.

ACATS Modification List version 4.0B is the current list for ACATS 4.0. ACATS 4.0 should be used for testing the third edition of Ada, ISO/IEC 8652:2012 (usually known as "Ada 2012").

Changes from the last list:

Test BDD2004 is modified to reflect the decision of AI12-0121-1 and to add a test case that actually checks the rule (E).

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 tests inserted between October 1, 2014 and December 31, 2014 will become required for conformity assessments on July 1, 2015. New tests inserted between April 1, 2014 and June 30, 2014 will become required for conformity assessments on January 1, 2015. New tests inserted between October 1, 2013 and March 31, 2014 are now required for conformity assessments. All other tests previously inserted into ACATS 3.0 are part of ACATS 3.1 and are required for conformity assessment. The effective dates of tests are marked in the lists.

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

Ada 2012 compatibility:

This test suite is designed for Ada 2005. ACATS 4.0 should be used to test Ada 2012 implementations. There are a significant number of tests in ACATS 3.1 that are incompatible with the requirements of Ada 2012.

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 Categories are "Withdrawn" (the test should not be processed for Ada conformity assessments); "Allowed Modification" (either the original test or the modified one should be processed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>

These references are to the consolidated Ada standard as available at http://www.adaic.org/resources/add-contentstandards/05rm/html/RM-TOC.html.

Main list:

===== Core Language =====

```
Name      Category  Version label  (effective date; old version label)
      Short description.

B38105A [Withdrawn] Org VCS Label: A3_1B
      Replaced by tests B3A1007 and B3A1A05 (and existing tests B3A1A01
      and B3A1A02).

B393005 [Modified] VCS Label: A3_1B
      Declaration @114 is illegal because it inherits an abstract
      function that is not overridden, as described in AI05-0097-1.

B3A1001 [Modified] VCS Label: A3_1B
      Type UT1 @78 is supposed to be tagged incomplete, else it's the
      same as type U1.

B3A1002 [Modified] VCS Label: A3_1B
      Type UT1 @77 is supposed to be tagged incomplete, else it's the
      same as type U1.

B3A1007 [Pending New] New VCS Label: A3_1B
                Required after 2015-01-01
      Check that constraints and exclusions aren't allowed on an
      incomplete type in access type and subtype declarations.

B3A1A05 [Pending New] New VCS Label: A3_1B
                Required after 2015-01-01
      Check that generic formal objects cannot be declared with an
      incomplete view.

B540002 [Pending New] New VCS Label: A3_1B
                Required after 2015-01-01
      Check that case statement coverage rules are enforced for
      modular types.
```

C540002 [Pending New] New VCS Label: A3_1B
              Required after 2015-01-01
      Check that the selecting_expression of a case statement can be
      resolved using the requirement that it be any discrete type.

C620001 [Pending New] New VCS Label: A3_1B
              Required after 2015-01-01
      Check that elementary types are passed by-copy.

C62003A [Withdrawn] Org VCS Label: A3_1B
      Replaced by test C620001.

C660001 [Pending New] New VCS Label: A3_1B
              Required after 2015-01-01
      Check that a matching "/=" is defined for an explicitly declared
      "=" operator with a result of Boolean.

B730008 [New] VCS Label: A3_1A
      Check that a tagged partial view and its completion must have the
      same set of interfaces.

B730009 [New] VCS Label: A3_1A
      Check that a tagged partial view can be synchronized if and only
      if the completion is a synchronized type.

C920001 [Pending New] New VCS Label: A3_1B
              Required after 2015-01-01
      Check activation (and non-activation) of tasks declared as (part
      of) return objects in extended return statements.

CB30001 [Pending New] New VCS Label: A3_1C
              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.

CC30004 [Pending New] New VCS Label: A3_1B
              Required after 2015-01-01
      Check that if a generic actual type is elementary, it is passed by
      copy within an instance.

CC3017C [Withdrawn] Org VCS Label: A3_1B
      Replaced by test CC30004.

BDD2004 [New] VCS Label: A3_1A
      Check that subprograms specified for stream attributes meet the
      requirements for such subprograms. This version corrects the
      location of 'Class @230, 235, 240.

BDD2004 [Allowed Modification] New VCS Label: A3_1C Org VCS Label: A3_1
              Required after 2015-04-01
      Error @232 is legal by AI12-0121-1.

CXAI001 [New] VCS Label: A3_1A
      Check the functionality defined in package Ada.Containers.Vectors.

CXAI002 [New] VCS Label: A3_1A
      Check the functionality defined in package
      Ada.Containers.Doubly_Linked_Lists.

CXAI003 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Hashed_Maps.

CXAI004 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Ordered_Maps.

CXAI005 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Hashed_Sets.

CXAI006 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Ordered_Sets.

FXAIA00 [New] VCS Label: A3_1A
       Foundation containing types and values to be used to check the
       functionality of the indefinite containers.

CXAIA01 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Vectors.

CXAIA02 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Doubly_Linked_Lists.

CXAIA03 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Hashed_Maps.

CXAIA04 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Ordered_Maps.

CXAIA05 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Hashed_Sets.

CXAIA06 [New] VCS Label: A3_1A
       Check the functionality defined in package
       Ada.Containers.Indefinite_Ordered_Sets.

CXB3017 [Pending New] New VCS Label: A3_1B
                   Required after 2015-01-01
       Check that pragma Export can be used on subprograms and objects.

===== Annex C =====

[None.]

===== Annex D =====

[None.]

===== Annex E =====

[None.]

```
===== Annex F =====

[None.]

===== Annex G =====

CXG2001 [Modified] VCS Label: A3_1B
      Formula for Model_Mantissa was replaced in Ada 2005 (and really in
      the Corrigendum), but was never updated in this test. This only
      affects machines with decimal floating point.

===== Annex H =====

[None.]

===== Support =====

IMPDEF [Allowed Modification] New VCS Label: A3_1B Org VCS Label: A3_1
                Required after 2015-01-01
      Added constants for the external names for the imported and
      exported routines in test CXB3017. The change is only needed
      for that test, it has no effect on any other test.
```

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_3_1C.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 3.1 is available in various formats on the ACAA web site.

Summary lists:

Withdrawn Tests

(Refer to the main list for details)

```
B38105A
C62003A
CC3017C
```

Allowed Modification Tests

(Refer to the main list for details)

```
BDD2004      2015-04-01
IMPDEF       2015-01-01   (Change only needed for new test CXB3017)
```

Modified Tests

(Refer to the main list for details)

```
B393005
B3A1001
B3A1002
CXG2001
```

New Tests

(Refer to the main list for details)

```
B730008
B730009
BDD2004
CXAI001
CXAI002
CXAI003
CXAI004
CXAI005
CXAI006
CXAIA01
CXAIA02
CXAIA03
CXAIA04
CXAIA05
CXAIA06
FXAIA00
```

Pending New Tests

(Refer to the main list for details)

```
B3A1007      2015-01-01
B3A1A05      2015-01-01
B540002      2015-01-01
C540001      2015-01-01
C620001      2015-01-01
C660001      2015-01-01
C920001      2015-01-01
CB30001      2015-07-01
CC30004      2015-01-01
```