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Product Alert Notice #22—Potential Safety Issue

Invensys has reviewed the issue described in this Product Alert Notice and determined that, if no action is taken to resolve the issues described in this notice, there is a potential risk of harm to people, property, and/or the environment. Customers should immediately review and determine if this potential risk is applicable to their applications/systems. If this issue is found to be applicable, customers should immediately undertake and complete the remedial actions to avoid the potential risk.

Subject: Performing a Download Changes Operation in TriStation 1131 May Corrupt the Application's Implementation List

Affected Products

TriStation™ 1131 Developer's Workbench Software versions 4.0–4.8.0

Problem Description

The TriStation 1131 software corrupts an application's implementation list if all of the actions in either of the following two scenarios are performed since the last Download All to the controller:

Scenario 1 *(applies to TriStation 1131 v4.0–4.8.0)*

1. Multiple programs are deleted from the implementation list.

2. Programs deleted from the implementation list are reinserted back into the implementation list.

3. A Download Changes operation to the controller is performed.

Scenario 2 *(applies to TriStation 1131 v4.6.x only)*

1. The order of execution in the implementation list is changed or programs are added to or deleted from the implementation list.

2. A Download All operation to the Triconex® Emulator is performed.

3. A Download Changes operation to the controller is performed.

In both cases, during the Download Changes operation, the implementation list is corrupted. As a result, some programs in the implementation list may not be executed, or may be executed twice, while the application is running on the controller.

Background

The TriStation 1131 software maintains an implementation list for all the programs in an application. The implementation list determines which programs to execute, and in what order. When a Download Changes operation is performed, a program is only downloaded if there has been a change in the program. Changes in the implementation list are not currently considered to be changes to the program.

When a Download All operation is performed, the programs in the list are sequentially numbered. The numbering of the programs in the list does not change until the next time a Download All operation is performed, or when a program is removed from the list. When a program is added to the list during a Download Changes operation, it receives the next sequential number in the list.

When a program is removed from the implementation list, its program number can be assigned to another program. When multiple programs are removed and then reinserted into the implementation list, the reinserted programs might not be assigned their original program numbers. This causes the programs in the TriStation 1131 project to have different program numbers than on the controller.

Additionally, in TriStation 1131 4.6.x only, the programs on the implementation list are renumbered after a Download All operation to the Emulator. This causes the programs in the TriStation 1131 project to have different program numbers than on the controller.

Operational Restrictions and Recommended Actions

The following information describes how to determine if your project is impacted by the problem described in the Problem Description.

- If you are using TriStation 1131 v4.6.x, you should read both of the following sections.

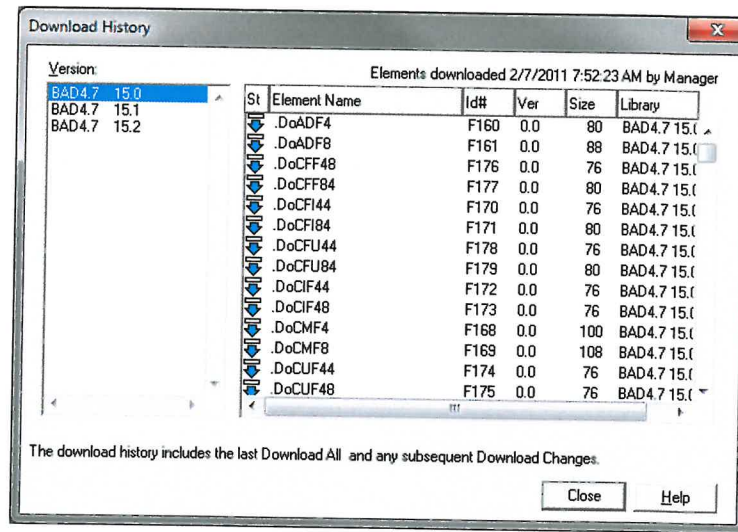- If you are using TriStation 1131 v4.0–4.8.0, you only need to read the first section.

If You Are Using TriStation 1131 v4.0–4.8.0

To prevent the problem described in the Problem Description from affecting your project, do not remove and reinsert programs into the implementation list as part of a Download Changes operation.
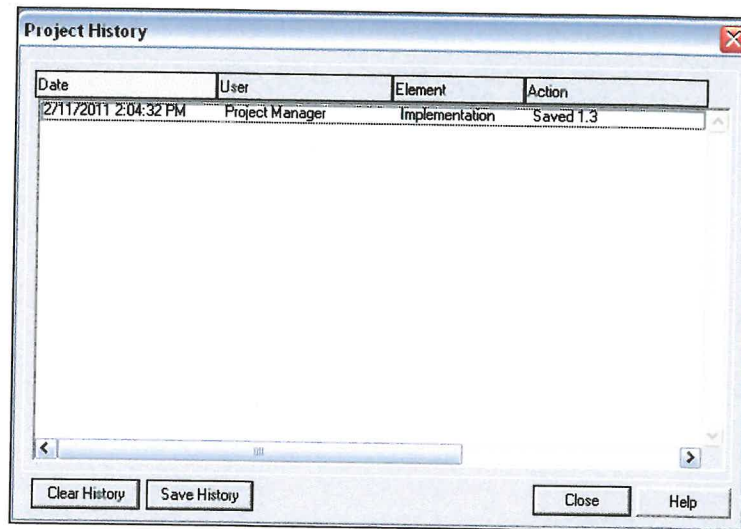
To determine if your application's implementation list has been corrupted, check if there has been a change to the implementation list since the last Download All operation by following this procedure:

1. Determine the time and date of the most recent Download All operation.

    - From the Project menu, select View Download History.

    - Look at the time and date displayed in the top right corner of the Download History dialog box.

This screen shows an example Download History:

2. Check the Project History for changes in the implementation list.

   • From the Project menu, select View Project History.

   • View entries that occurred after the time and date of the most recent Download All operation (as determined in Step 1).

   • Look for an entry that indicates a change to the implementation list. This screen shows an example Project History:

   ○ If there have **not** been any changes to the implementation list since the last Download All operation, your system is not affected.

   ○ If there have been any changes to the implementation list since the last Download All operation, your system is potentially affected. Contact your local Invensys Technical Support Group.

If You Are Using TriStation 1131 v4.6.x

- If you have performed the actions described in Scenario 2 of the Problem Description, immediately perform a Download All to the controller.

- Do not change the order of execution in the implementation list as part of a Download Changes operation.

To determine if your application's implementation list has been corrupted due to Scenario 2, from the Project menu, select View Project History, and then look for the following entries:

Note: The following are examples of typical project history entries. The exact entries in your project history may vary.

- A Download All to the controller:

  6/9/2010 8:13:04 AM, User, PROJECT, Download All 21.0, Controller: Major Version incremented

  6/9/2010 8:13:17 AM, User, PROJECT, Saved 21.0, Build configuration complete

- A change to the implementation list; in this case, a change to the order of program execution:

  6/9/2010 8:20:17 AM, User, Implementation, Saved 1.37, Change the order of the Program Execution.

- A Download All to the Emulator:

  6/9/2010 8:20:35 AM, User, PROJECT, Download All 21.0.1, Emulator: Emulator Version incremented
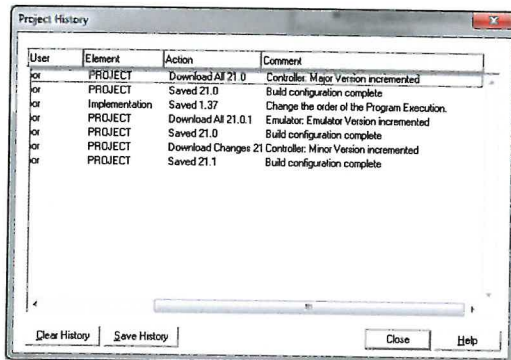
  6/9/2010 8:20:38 AM, User, PROJECT, Saved 21.0, Build configuration complete

- A Download Changes to the controller:

  6/9/2010 8:21:00 AM, User, PROJECT, Download Changes 21.1, Controller: Minor Version incremented

  6/9/2010 8:21:18 AM, User, PROJECT, Saved 21.1, Build configuration complete

This screen shows an example Project History.

The problem cause described in Scenario 1 of the Problem Description was fixed in TriStation 1131 v4.9.0.

The problem cause described in Scenario 2 of the Problem Description was fixed in TriStation 1131 v4.7.0.

If you have any questions regarding this PAN, please contact the Global Customer Support Center, or your local Invensys office.

Changes from Previous Release (Rev. 2)

Section	Description
Operational Restrictions and Recommended Actions	• Removed the statement, "A fix for the problem cause described in Scenario 1 is not currently available; however, Invensys is committed to resolving this issue as soon as possible. After a fix has been released, this PAN will be revised and a Customer Notification will be sent to all registered users of the Invensys Global Customer Support web site that have selected Triconex as a product family in which they are interested."