

## Tech Alert 192

# Roll-Over Issue With Internal Timers Used in Redundant Engines

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## Introduction

An internal timer in the Message Channel component used with redundant engines –**MessageChannel.dll**- can roll over, causing a section of code to execute under the wrong circumstances. This condition in turn may cause a connection reset and trigger a redundant engine to unexpectedly fail over.

## Application Versions

- Wonderware Application Server 3.5 and later

## Additional Details

The internal timer counts milliseconds; its maximum number is based on a DWORD type, which corresponds to a 32-bit integer value of 4294967295 or approximately 49.71 days. When the timer rolls over (condition 1), and at least 1 message is pending in the output buffer queue of the network adapter (condition 2), the Message Channel component will report a Warning connection reset condition in the SMC Logger followed by a 'message dump' similar to the one shown in *figure 1*. As of today, condition 2 has only been reported on VMware ESXi server 5.0.0.

Component	Message
MessageChannel	CheckBlockedMessages - There are incomplete sent messages to platform 7. Time since last sent msg 16. Connention will be reset.
MessageChannel	*****

**FIGURE 1: SMC LOGGER WHEN MESSAGECHANNEL TIMER ROLLS OVER**

## Solution

A change has been implemented in the section of the code that evaluates the accumulated time. With the changes made, the timer gets evaluated properly, even if there is a normal roll over condition after 49.7 days.

The modified library has been released as a hotfix and it's currently available for Application Server 3.5 Patch01.

**L00131583**

Issue:

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MessageChannel GetTickCount rollover causing connection reset and Failovers.

Solution:

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Rearranged the inequality in order to avoid overflow due to addition in the condition.

Deliverables:

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MessageChannel.dll

Please check with Global Customer Support if a hot fix is required for newer versions of the software. A permanent code change is available in Wonderware System Platform 2014 R2 but has not yet been released as of June 2014.

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[Back to top](#)

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