

## Tech Note 850

# Historian Hyper-V Guest Image and Time Synchronization

All Tech Notes, Tech Alerts and KBCD documents and software are provided "as is" without warranty of any kind. See the [Terms of Use](#) for more information.

Topic#: 002644

Created: March 2012

## Introduction

When using Wonderware Historian Server as a guest within Hyper-V hosts, you may encounter the following message in the ArchestraA Logger:

```
"Server time is shifting (Expected time, Current time)" (02/06/12,11:24:48,766, 02/06/12,11:24:45,453) [...; Config.cpp; 2040]
```

Sometimes the time synchronization may shift 5 or 6 seconds ahead. However, this is not a Wonderware product issue, but rather an issue related to Hyper-V hosts. Normally this is resolved simply by installing Integration Services for the Hyper-V guest image, but there are cases where the Integration Services may actually cause this problem. Here is a workaround solution for customers facing this issue.

## Application Versions

- Microsoft Hyper-V
- Wonderware Historian Server 10.0

## Background

According to [Microsoft KB Article 2618634](#), Hyper-V Time Synchronization doesn't correct the system clock in a Virtual Machine if it is more than 5 seconds ahead of the Host clock.

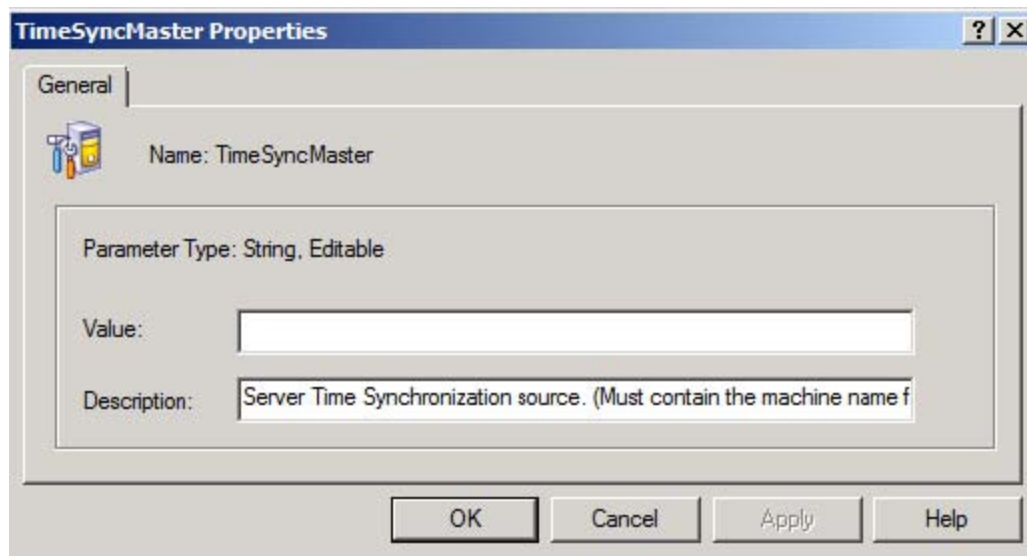
As a general rule of thumb, when time drifts inside a virtual machine, it runs slower than in the real world and the time falls behind. For more detailed information, reference a [blog entry](#) from Microsoft's Virtualization Program Manager, Ben Armstrong.

For situations where installing the Integration Services doesn't help, Wonderware recommends using Windows' NET TIME command to periodically synchronize the Hyper-V guest clock with its host computer.

## Procedure

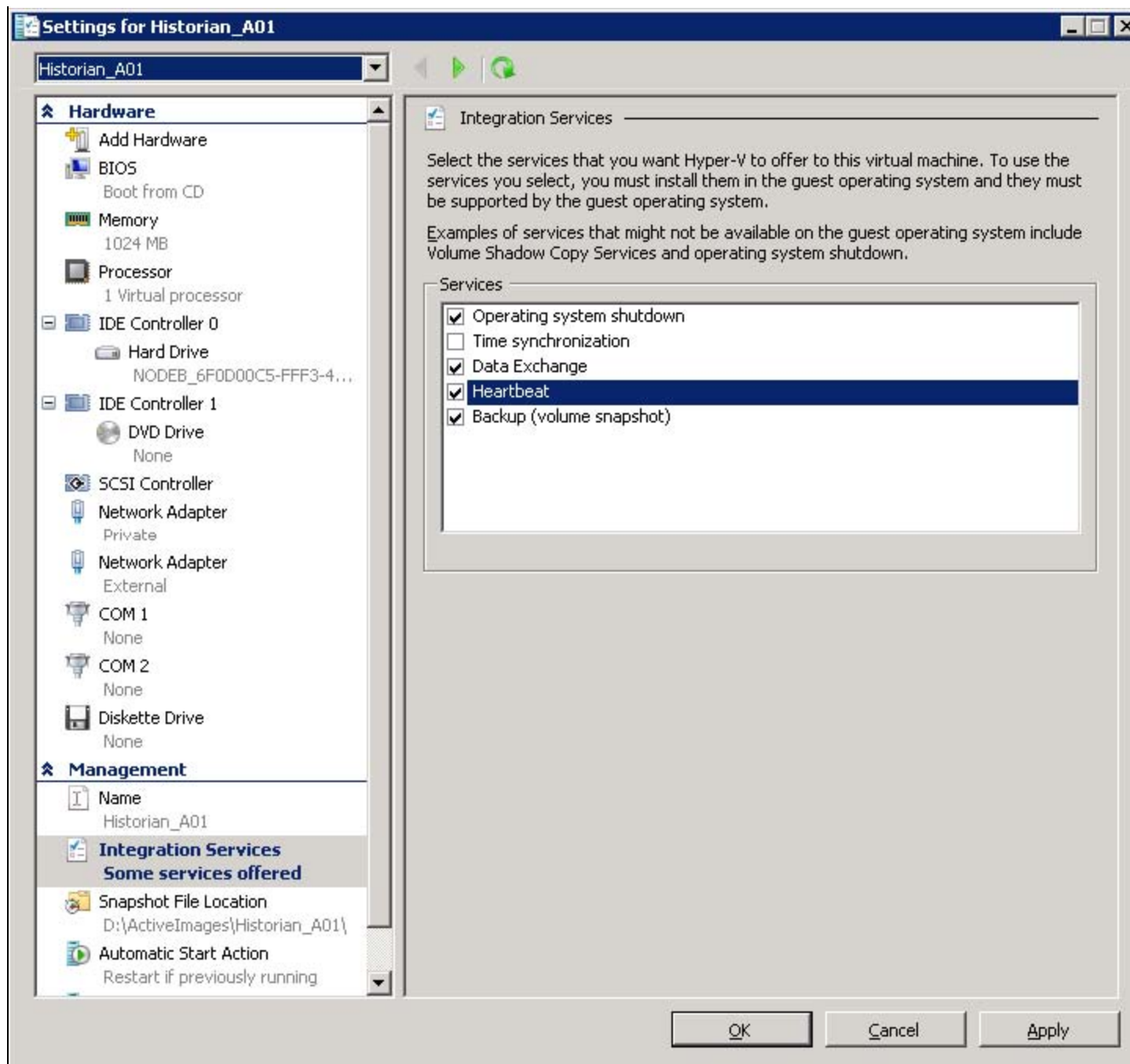
### To resolve this issue

1. Before shutting down the Virtual Machine, use the Historian Server's **Configuration Editor > System Configuration > Parameters**, and modify the **TimeSyncMaster | Value** property to remove any value if existing, or leave it blank.



**FIGURE 1: REMOVE TIMESYNCMASTER VALUE**

2. Power OFF the Virtual Machine.
3. Disable the Hyper-V Time Synchronization option in the virtual machine settings (via the Hyper-V Manager console).

**FIGURE 2: DISABLE TIME SYNC INTEGRATION SERVICE OPTION**

4. Click **OK** and start the guest image again.
5. Use NOTEPAD to create a .BAT batch file containing the text shown below within the guest image, replacing the text for **HyperVhostname** with the name of your Hyper-V host computer.

Communication from the guest image to the physical host *must be working properly*. You can test it by using the PING command. If the Hyper-V guest image cannot access the Hyper-V physical host, please contact your Hyper-V administrator to verify the virtual network adapters in use and connectivity settings.

```
@ECHO OFF
REM net time command line to obtain Hyper-V host clock
REM =====
:SyncIt
NET TIME \\HyperVhostname /set /yes
ECHO OFF
CHOICE /d y /t 60 > nul
ECHO OFF
GOTO :SyncIt
REM =====
REM /*** Use CTRL-C to break script execution. ***/
```

6. Copy the batch file into the **Startup** folder for your guest image's Operating System.
  - Windows 2003 & Windows XP = **C:\Documents and Settings\All Users\Start Menu\Programs\Startup**
  - Windows 2008 & Windows7 = **C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Startup**

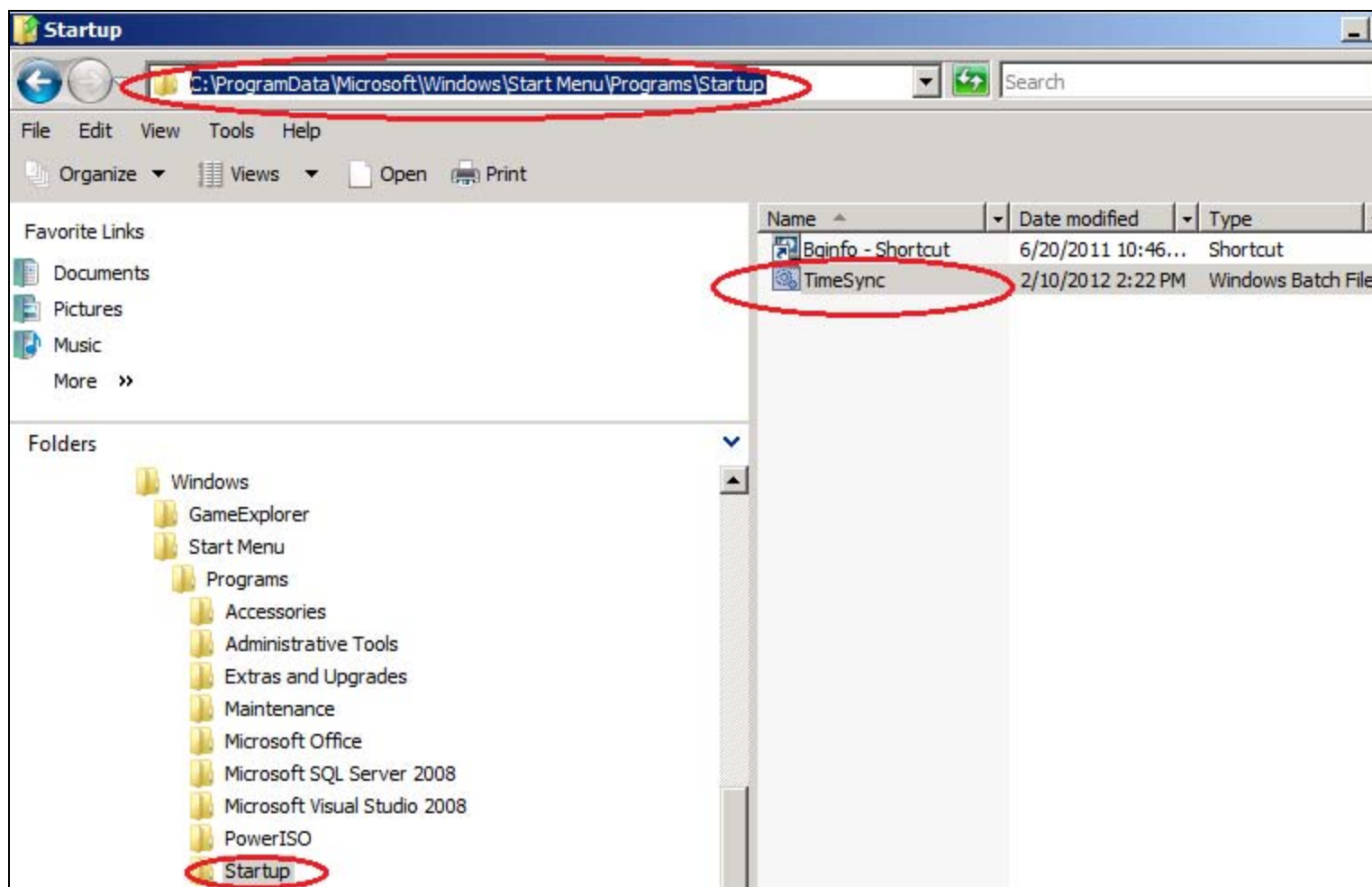


FIGURE 3: COPY BATCH FILE TO THE STARTUP FOLDER

7. When the batch file runs, the command prompt window appears.

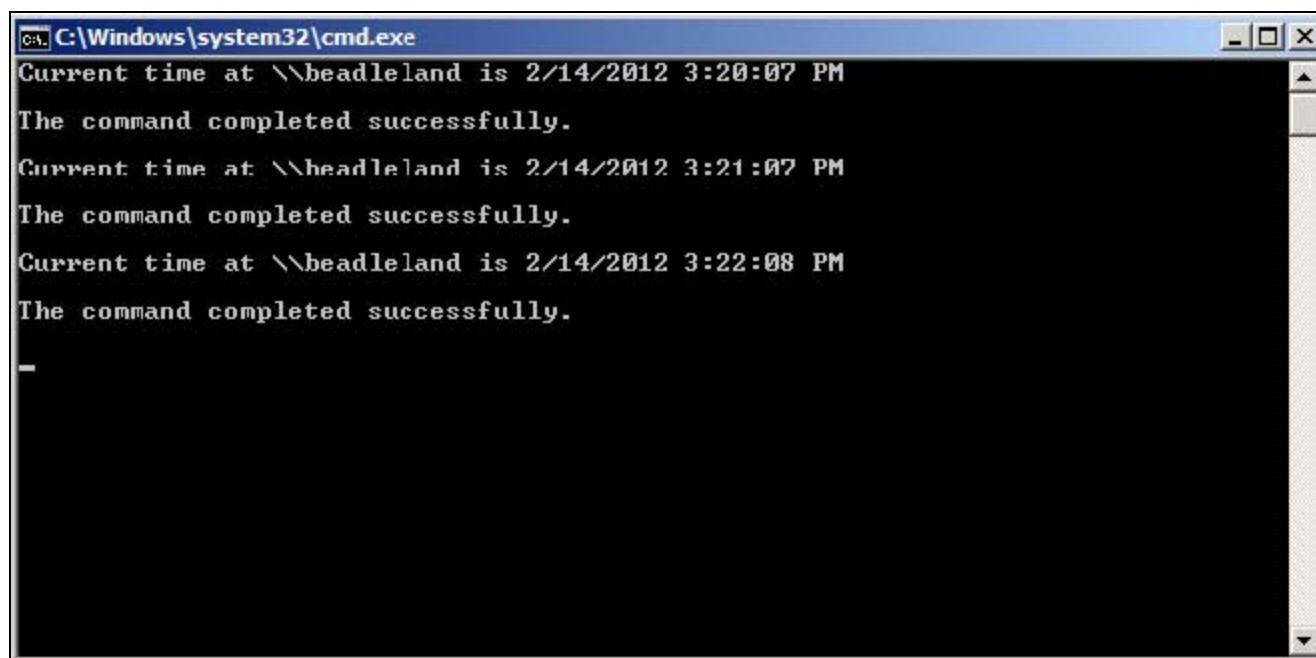
A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window has a blue title bar and standard Windows window controls (minimize, maximize, close) on the right. The command prompt shows three sequential lines of output, each consisting of a timestamp and a success message: "Current time at \\headleland is 2/14/2012 3:20:07 PM", "The command completed successfully.", "Current time at \\headleland is 2/14/2012 3:21:07 PM", "The command completed successfully.", and "Current time at \\headleland is 2/14/2012 3:22:08 PM", "The command completed successfully.". A single hyphen "-" is visible on the line following the third success message. The background of the command prompt is black, and the text is white.

FIGURE 4: BATCH FILE RUNS SUCCESSFULLY

8. Minimize but DO NOT CLOSE this window. It will start automatically when starting the guest image as well.

You can also manage it from **Start/cmd** and type: **msconfig.exe**. You will see the file enabled in the **Startup** tab, and you may disable it here at your convenience.

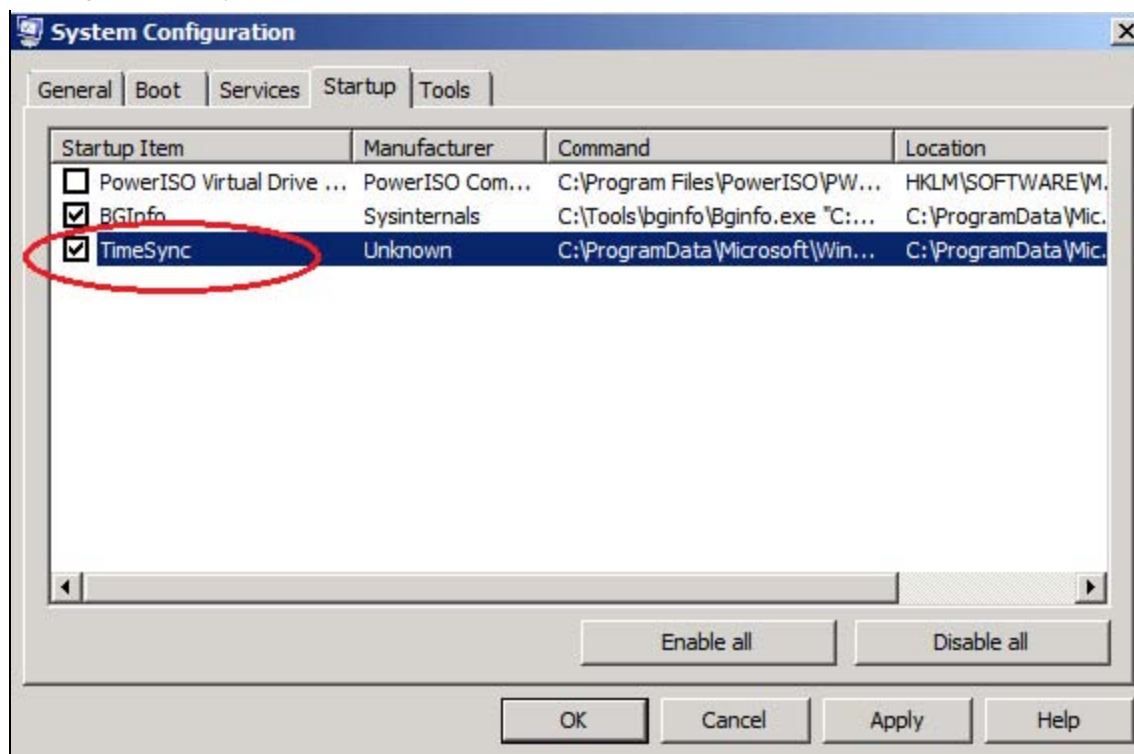


FIGURE 5: STARTUP TAB/ENABLE OR DISABLE TIMESYNC FILE

D. Beadle, C. Boutcher

*Tech Notes* are published occasionally by Wonderware Technical Support. Publisher: Invensys Systems, Inc., 26561 Rancho Parkway South, Lake Forest, CA 92630. There is also technical information on our software products at [Wonderware Technical Support](#).

For technical support questions, send an e-mail to [wwsupport@invensys.com](mailto:wwsupport@invensys.com).

▲ [Back to top](#)

©2012 Invensys Systems, Inc. All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting, or by any information storage and retrieval system, without permission in writing from Invensys Systems, Inc. [Terms of Use](#).