

[Tech Note 1029](#)

Troubleshooting Platform X Exceeds Maximum Heartbeats Timeouts

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Topic#: 002865

Created: March 2014

Introduction

This *Tech Note* presents troubleshooting guidelines for following symptoms:

- **Error message in Logger on AOS node: Platform X exceed maximum heartbeats timeout of Y ms**, and
- **Blinking Alarm issue:** Alarms coming from the AOS node appear on the Alarm Viewer control and then disappear repeatedly.

Note: This *Tech Note* presents troubleshooting steps in detail for the item **#19** of [Tech Note 916 Platform X Exceed Maximum Heartbeats Timeouts](#).

Application Versions

- System Platform 2012 R2, P01

Troubleshooting Guidelines

Tech Note 916 presents troubleshooting guidelines for possible cause of NMX Hearbeat message. As briefly mentioned in item 19 of this technote, another possible cause of NMX Hearbeat message could be the fact that the NIC for the Arcestra network could be configured to have multiple IP addresses. This is an advanced Windows TCP/IP setting (Figures 1-3 below).

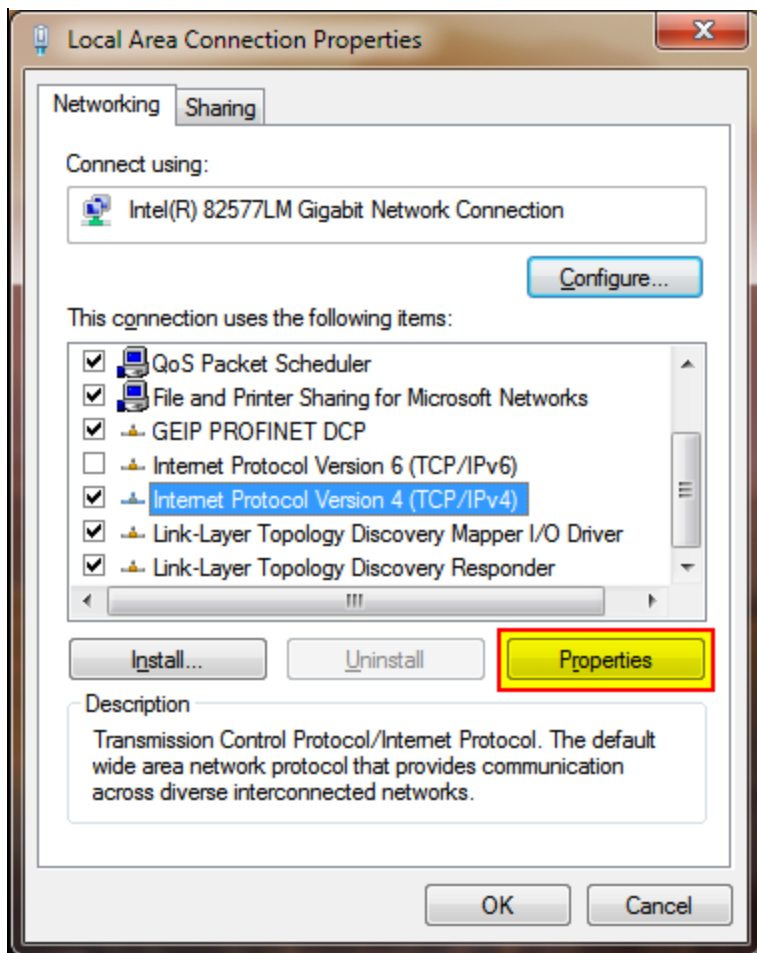


FIGURE 1: CLICK PROPERTIES TO SEE NIC PROPERTIES

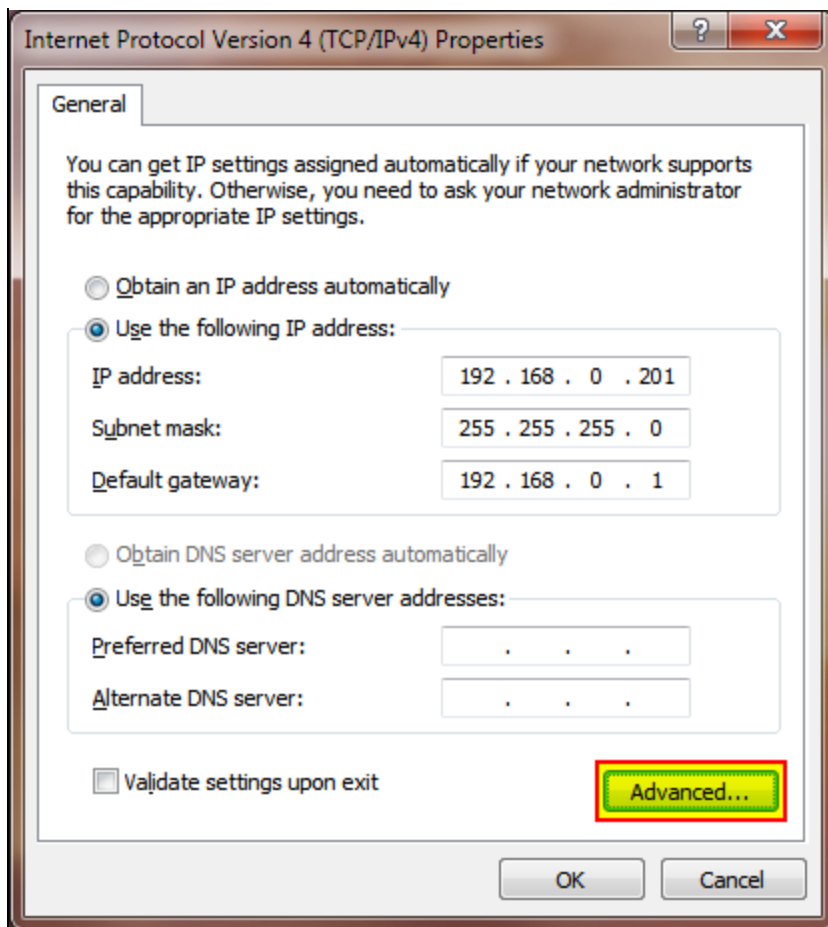


FIGURE 2: ADVANCED PROPERTIES

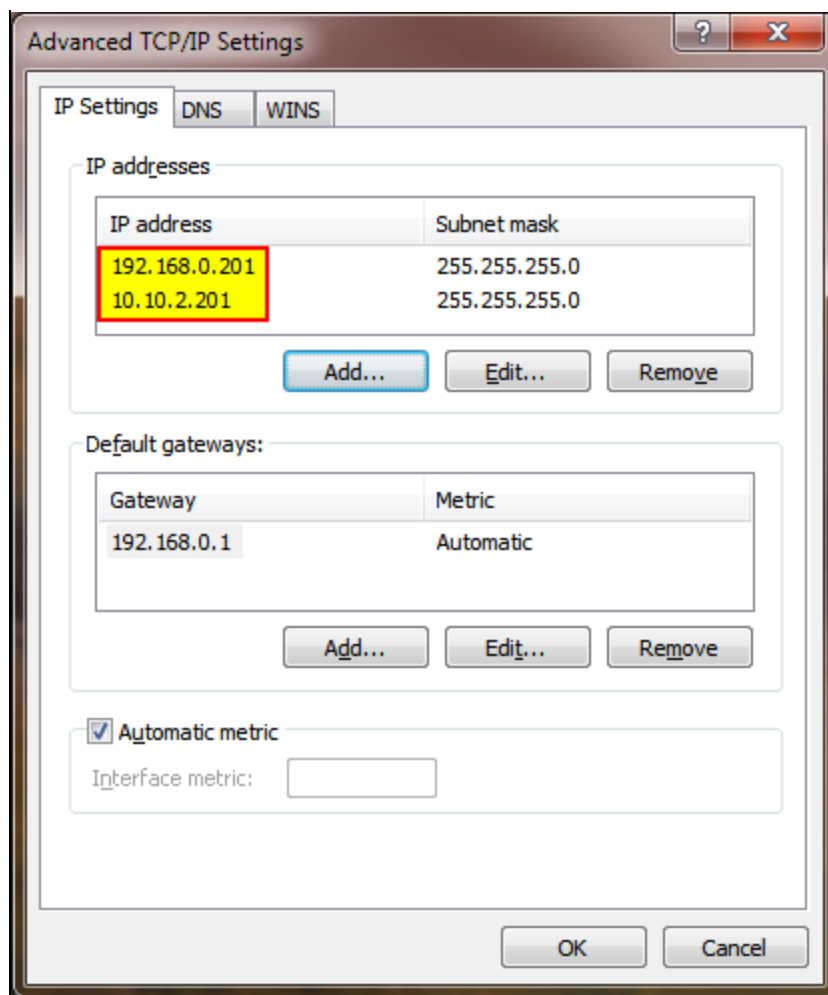


FIGURE 3: ADVANCED IP SETTINGS

There should be only one IP address listed for ArchestrA network instead of two IP addresses(Figure 3 above).

Another symptom experienced in this situation is the "blinking alarm" issue. Alarms coming from the Object Server appear on the Alarm Viewer control and then disappear repeatedly.

This interferes with the communications because—unlike multiple NICs which allow for manipulation of the binding order—when multiple IP addresses are specified on a single NIC the binding order of these addresses is not directly user-configurable.

Figure 4 (below) shows that after running the IPCONFIG command, the IP addresses actually appear *in reverse* of the order displayed in the Advanced IP Settings window.

```

Ethernet adapter Local Area Connection 2:

    Connection-specific DNS Suffix  . : 
    Description . . . . . : ASIX AX88772A USB2.0 to Fast Ethernet Ad
    pter
    Physical Address. . . . . : 84-E7-14-00-18-03
    DHCP Enabled. . . . . : No
    Autoconfiguration Enabled . . . . : Yes
    IPv4 Address. . . . . : 10.10.2.201<Preferred>
    Subnet Mask . . . . . : 255.255.255.0
    IPv4 Address. . . . . : 192.168.0.201<Preferred>
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1
    NetBIOS over Tcpip. . . . . : Enabled
    
```

FIGURE 4: IP SETTINGS APPEAR IN REVERSE ORDER

When the Engines and objects are deployed on the object servers that only have 1 IP address per NIC, the Log Viewer does not report the heartbeat timeout messages (and our alarm summary window maintained a steady status).

When the Engines and objects are deployed on the object servers that had 2 IP addresses on a single NIC, the Log Viewer was flooded with the timeout messages and we experienced the "blinking" alarm issue. Removal of the secondary IP addresses from those servers caused the heartbeat timeouts and "blinking" alarms to cease.

Test results show that multiple IP addresses per NIC seemed to work without any issue for a server that performs only the DA Server role. ArchestrA Platforms on the other hand do not appear to be compatible with such a configuration.

Here are some additional comments on the troubleshooting that was done:

Q. Which Address did you remove from the configuration?

A. It was the 10.10.x.xxx IP addresses that we removed from the NICs.

Q. Were there any tools, other than ipconfig, that lead you to the problem?

A. Our testing process involved sequestering the 2 Object Servers, GR and a View node from the plant network onto an isolated network.

- We placed test engines on each of the 4 machines and launched SMC -> Platform Manager on each of the 4 machines
- Via Platform Manager we watched the engine statuses of each machine's neighbors (from that machine's perspective).
- Each object server could not see that its counterpart was hosting any engines (complete communication problem).
- Connections between GR and [either] object server had engines alternating status between **Running on Scan** and **Not Available** (partial communication problem).
- Connections between View node and [either] object server had engines alternating status between **Running on Scan** and **Not Available** (partial communication problem).
- Only connections between GR and View node showed continuous engine status of **Running on Scan** (no communication problem)
- We deduced from that test that the problem was solely related to the 2 object servers.
- A comparison to the other 2 object servers (the ones that had hosted the objects without a platform comms issue) revealed no configuration differences other than the single-NIC with multiple IP addresses. The other 2 object servers had the standard

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configuration of a single IP address per NIC.

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