

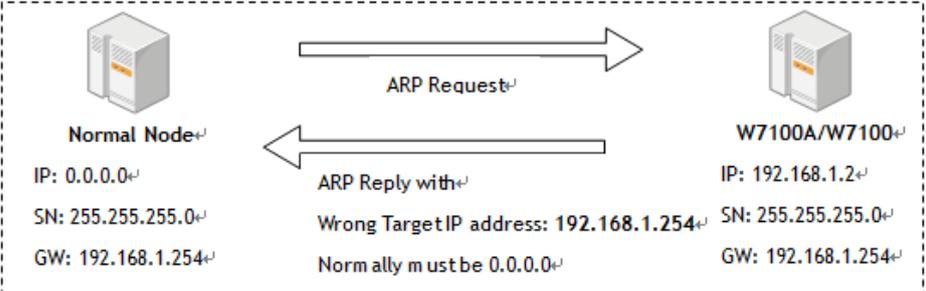
W7100A Errata Sheet

Document History

Ver. 1.0.0 (Feb. 23, 2012)	First release (erratum 1, 2)
Ver. 1.1.0 (Sep. 10, 2012)	Added the erratum 3

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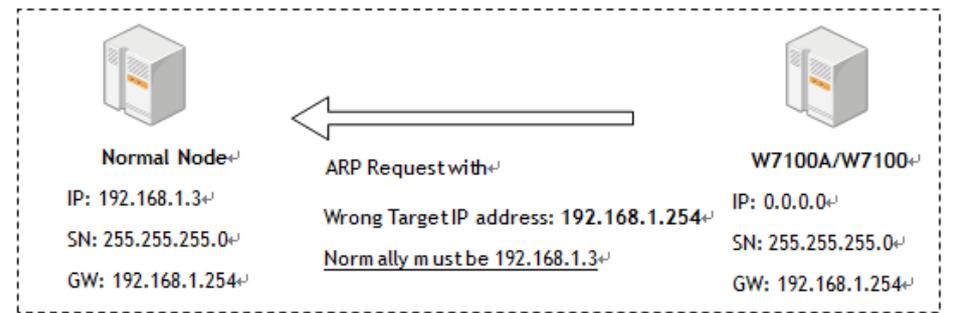
Erratum 1	
Phenomenon	The W7100A replies with gateway IP address for the ARP request from network node which has "0.0.0.0" IP address. But normally the W7100A should replies with target IP address "0.0.0.0" not the gateway IP address.
Condition	<div style="border: 1px dashed black; padding: 10px; text-align: center;">  <p>The diagram illustrates the ARP process between a Normal Node and a W7100A/W7100. The Normal Node (IP: 0.0.0.0, SN: 255.255.255.0, GW: 192.168.1.254) sends an ARP Request to the W7100A/W7100 (IP: 192.168.1.2, SN: 255.255.255.0, GW: 192.168.1.254). The W7100A/W7100 responds with an ARP Reply, but incorrectly uses the gateway IP address (192.168.1.254) as the target IP, instead of the correct target IP (0.0.0.0).</p> </div> <p>The main reason of this erratum is subnet calculating logic. The W7100A misunderstands the node locates other sub-network when target has "0.0.0.0" IP address. So the W7100A set the target IP to the gateway IP instead of "0.0.0.0" and sends the ARP reply.</p>
Solution & Recommendation	The "0.0.0.0" is abnormal IP address in common network so if any node has "0.0.0.0" in the network, stop its ARP processing until getting the valid IP address.

Erratum 2

Phenomenon

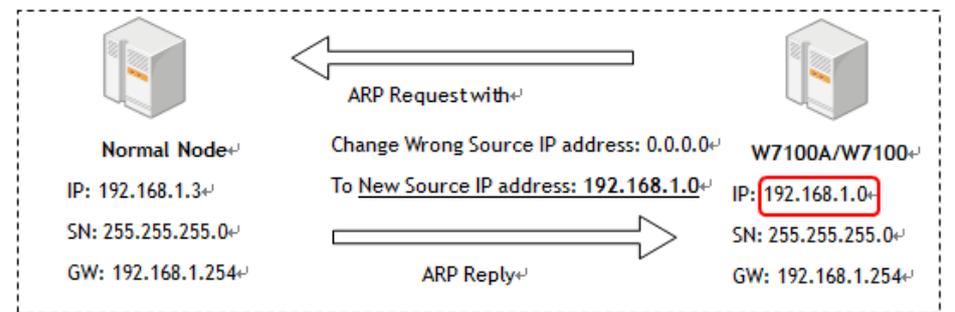
Assuming that the IP address of W7100A is "0.0.0.0" and the gateway, subnet mask is valid (not "0.0.0.0"), the W7100A set the target IP address of ARP request to the gateway IP address not the target node IP address when sends ARP request to another node. So the peer node cannot receive the ARP request from the W7100A.

Condition



The W7100A miss calculates the sub-network location when sends the ARP request if its own IP address is "0.0.0.0". In the same condition, even if the gateway IP address is "0.0.0.0", the W7100A sends ARP request to "0.0.0.0" IP address because the W7100A sends ARP request to the gateway.

Solution & Recommendation

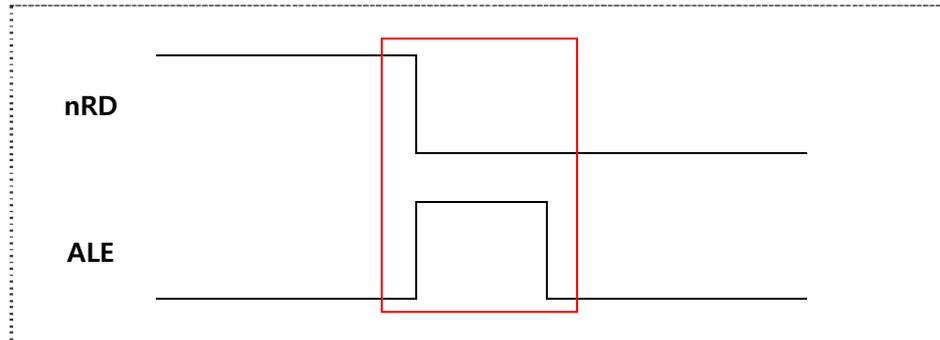


Do not set the IP address of W7100A to "0.0.0.0" to avoid this problem. If don't have valid IP address but want to send ARP request, please set the temporal IP address referring the gateway IP address and subnet mask. Normally common nodes cannot set zero IP address as its own IP address. So use this IP as a temporal IP address. For example, assuming that the gateway IP address is 192.168.1.1 and the subnet mask is 255.255.255.0, a temporal IP could be "192.168.1.0" or any unused IP could be the temporal IP address for the W7100A.

Erratum 3

Phenomenon

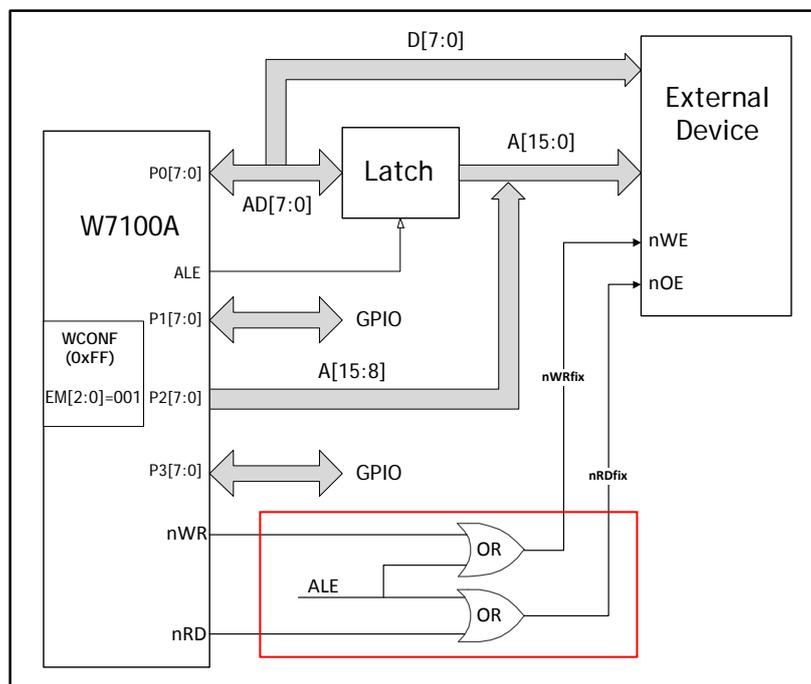
W7100A uses the ALE (address latch enable) signal when controlling the external memory with Standard 8051 interface. An erratum of the ALE signal turning on after the nWR / nRD signal is enabled can occur; and can cause a bus collision or abnormal external memory access.



Condition

When the external memory is controlled using Standard 8051 interface.

Solution & Recommendation



To resolve this erratum, OR the nWR / nRD signal with ALE signal and connect it to the external memory. Then the nWR / nRD signal will occur after the ALE signal and the external memory can be controlled normally.

