Advantech AE Technical Share Document

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Category	■FAQ □SOP	Related OS	N/A
Abstract	ADAM-6000 & ADAM-6200, How to send the data to the external network?		
Keyword	Ethernet, Port Forwarding, IP, Port, NAT		
Related Product	ADAM-6000 series, ADAM-6100 series, ADAM-6200 series		

■ **Problem Description:**

This document explains what is needed to be noticed if the ADAM needs to send the data to the external network?

■ **Answer:**

If GCL sends the remote message to the outside network, that means your application requirement is about data communication for device locating between intranet (private/internal network) and internet (public/external network) via NAT.
There are two scenarios for the external machine (pc). One is in the private domain. Another is in the public domain.

If the external machine is in private domain, then you need manually configure "port forwarding" on your Gateway Router (such as Cisco/D-Link/Linksys etc…) to enable bi-directional request communication. This is because NAT only allows requests coming from the internal network to the external network, which means that it is impossible as such for an external machine to send a packet to a machine on the internal network. In other words, the internal network machines cannot operate as a server with regards the external network. For this reason, the Gateway Router normally provide one function called "port forwarding" or port mapping consisting of configuring the gateway to send all packets received on a particular port to a specific machine on the internal network. So, if the internal network device(let's say an ADAM module => Internal Network) needs to access the port 1052 (user-defined) operating on machine 172.18.3.4 (Let's say switch/router=> External Network), it will be necessary to define a port forwarding rule on the gateway, redirecting all TCP packets received on port 1052 (user-defined) to machine 192.168.1.2. The following picture demonstrates the discussion above:
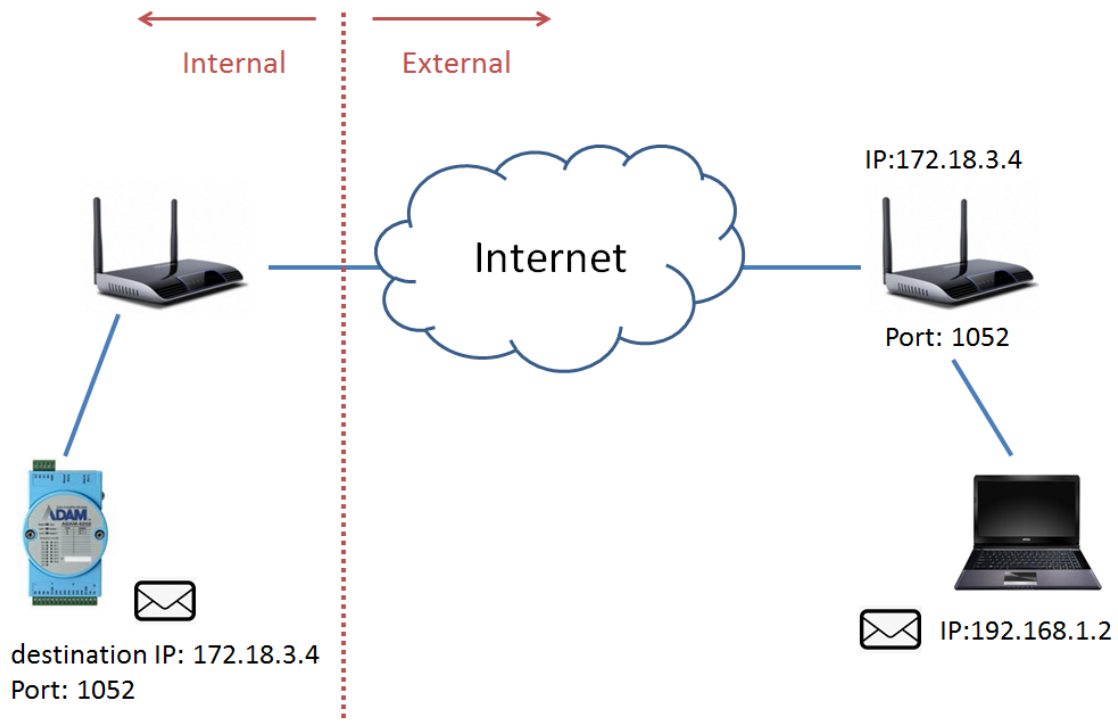
If external machine is in public domain (it means that the pc has a public address). The internal network machine (let's say an ADAM module => Internal Network) to sends udp packet to a machine 172.18.3.4 directly.
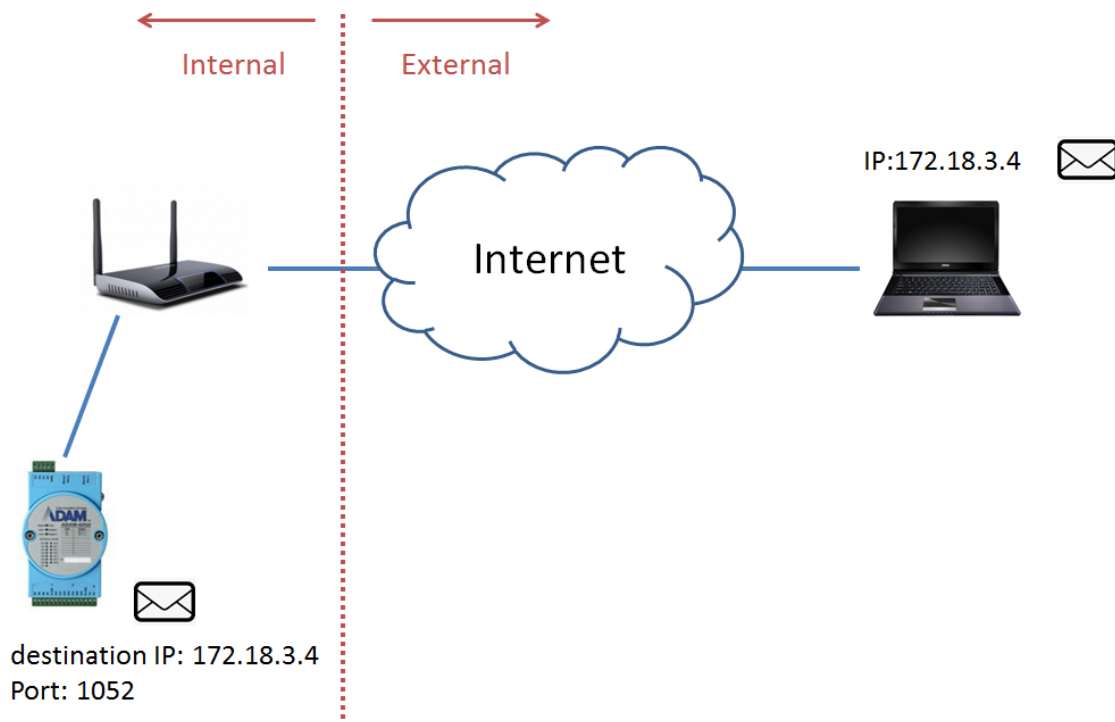
Moreover, the customer can also establish the VPN environment to make the external device in the internal network. Then, the ADAM can send the udp packet to the machine in the internal network.