

Re: Question

Source: <http://www.derkeiler.com/Newsgroups/comp.security.firewalls/2002-10/7767.html>

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Date: 08/23/02

From: eirik@mi.uib.no (Eirik Seim)

Date: 22 Aug 2002 22:49:50 GMT

On Thu, 22 Aug 2002 17:58:53 +0100, Neil Appleby wrote:

> *This is a multi-part message in MIME format.*

Please start posting in text-only. HTML belongs on the www, not on the usenet.

> *..and what is NAT? I know it is network address translation but what =
> does it do?*

NAT is the function of rewriting network addresses, or translating them if you'd like. In its most common implementation, it sits on the gateway of an Internet connected LAN, translating from internal (private, rfc1918 addresses) to unique, or "real" Internet addresses. "Globally routable addresses" if you'd like a proper term.

In order to map several internal IP addresses to the one external, the NAT software has to translate both the addresses and the source ports (often referred to as PAT, Port Address Translation) so that two different internal hosts, say 10.0.0.10 and 10.0.0.11, when connecting to the same port on the same external server (like both browsing www.cnn.com), are allocated different source ports by the PAT functionality, and thus avoid collisions.

Typically, this looks like:

Src host Src port – NAT host NAT port – Dst host Dst port
10.0.0.10 1025 – 169.254.1.1 40001 – www.cnn.com 80

www.cnn.com sees this as coming from 169.254.1.1:40001, and really believes 169.254.1.1 is the other end point of the connection.

Src host Src port – NAT host NAT port – Dst host Dst port
10.0.0.11 1025 – 169.254.1.1 40002 – www.cnn.com 80

www.cnn.com sees no different hosts, only different ports. It basically understands this as another request from the same host, only with a different source port.

comp.security.firewalls: Re: Question

Figured I'd write up an answer, as NAT isn't mentioned in the FAQ, but there is also a lot of documentation to find on google:

http://www.google.com/search?as_epq=what+is+NAT

– Eirik

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New and exciting signature!

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