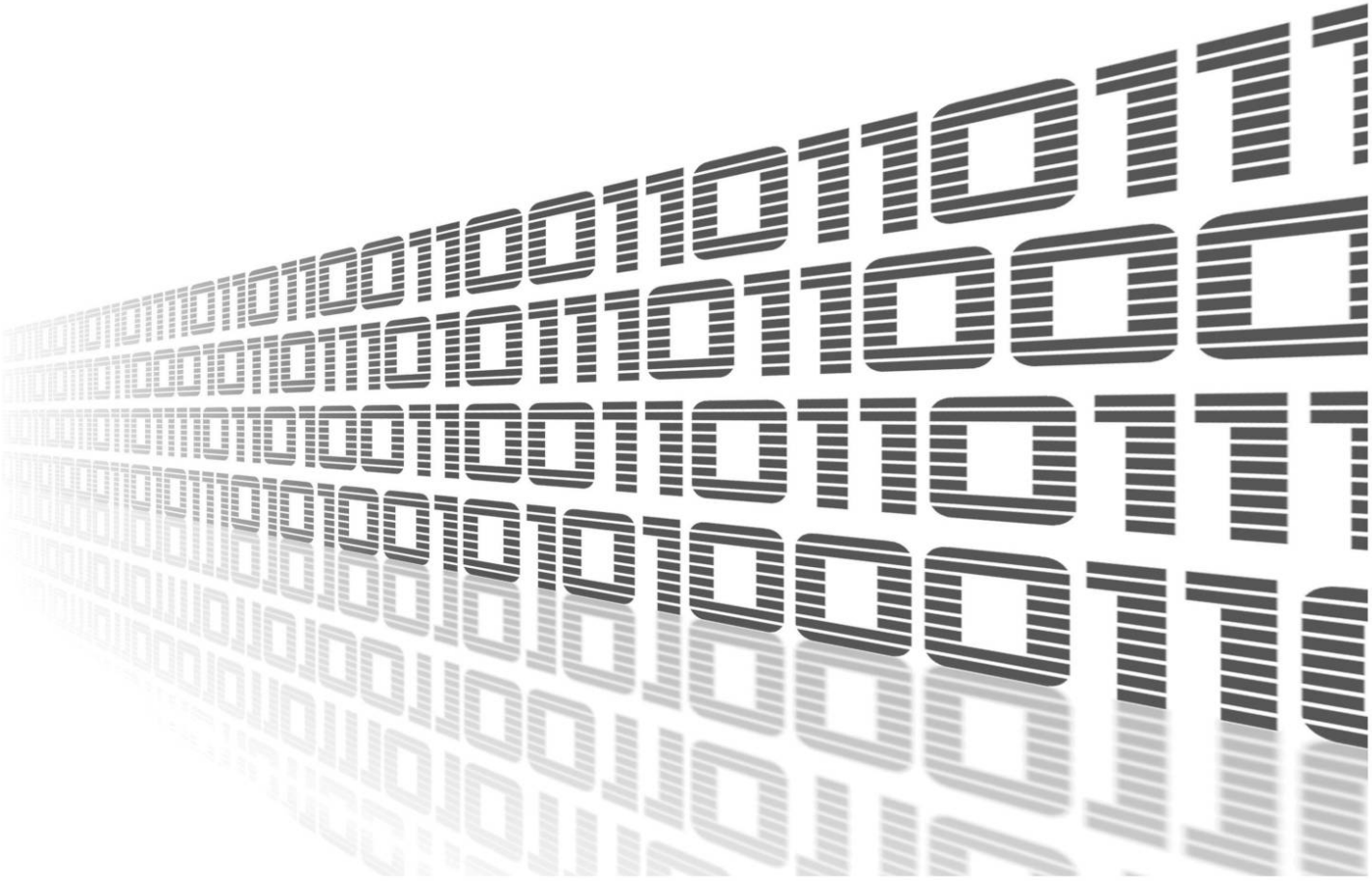
ADVANTECH

RouterApp

NAT



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Used symbols

Danger – Information regarding user safety or potential damage to the router.

Attention – Problems that can arise in specific situations.

Information – Useful tips or information of special interest.

Example – Example of function, command or script.

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1. Changelog

This Router App has been tested on a router with firmware version 6.4.0. After updating the router's firmware to a higher version, make sure that a newer version of the Router App has not also been released, as it is necessary to update it as well for compatibility reasons.

1.1 NAT Changelog

v1.0.0 (2016-10-10)

- First release.

v1.1.0 (2020-05-29)

- Increased number of rules to 32.
- Added option TCP+UDP.

v1.2.0 (2020-07-22)

- Added description field.

v1.3.0 (2020-10-01)

- Updated CSS and HTML code to match firmware 6.2.0+.

v1.3.1 (2022-01-19)

- Widened description field.

v1.4.0 (2024-01-05)

- Reworked license information
- Added `br0` interface
- Extended from 32 to 64 SNAT/DNAT entries
- Added description and summary files
- Recompiled with ModulesSDK 2.1.0

2. Description of the module

Router app *NAT* is not contained in the standard router firmware. Uploading of this router app is described in the Configuration manual (see Chapter Related Documents).

NAT router app allows router to translate adresses from one IP address space into another by modifying network address information in the IP header of packets.

3. Web Interface

Once the installation of the module is complete, the module's GUI can be invoked by clicking the module name on the Router apps page of router's web interface.

Left part of this GUI contains menu with Status menu section and Configuration menu section. Customization menu section contains only the Return item, which switches back from the module's web page to the router's web configuration pages. The main menu of module's GUI is shown on Figure 1.

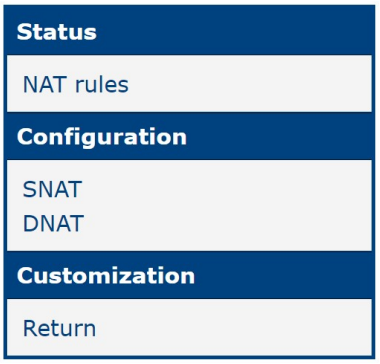

Figure 1: Menu

3.1 Status

3.1.1 NAT rules

An overview of the current status can be viewed by clicking on the *Overview* item in the main menu of module web interface. At the beginning of this page is a list of SNAT and DNAT rules and information about whether the corresponding service is active or not.

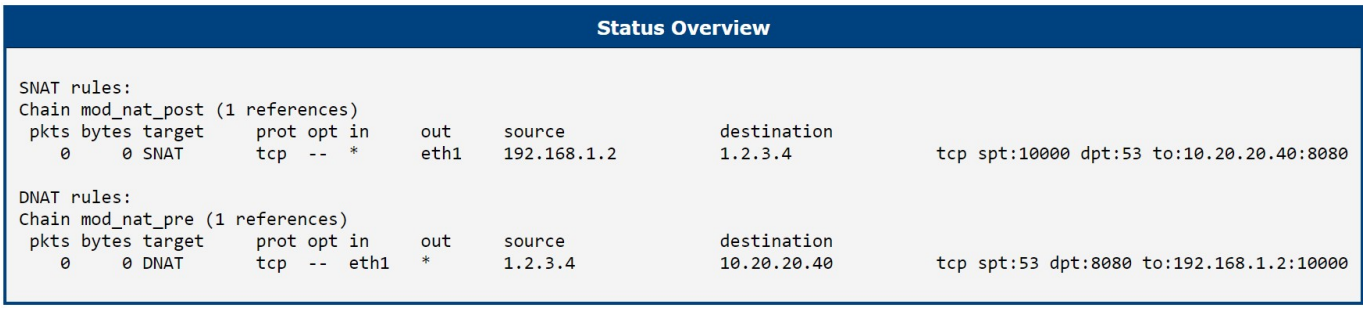

Figure 2: Status Overview

3.2 Configuration

3.2.1 SNAT

Source Network Address Translation (SNAT) changes the private IP address of the source host to a public IP address and may also modify the source port in the TCP/UDP headers. It is typically used by internal users to access the Internet and is performed after the routing decision is made. SNAT, the most common form of NAT, alters the source address of packets passing through the router. It is used when an internal (private) host initiates a session with an external (public) host, with the NAT device changing the private IP address of the source host to a public IP address.

Configuration of SNAT can be done on Global page, under Configuration menu section. All configuration items for SNAT configuration page are described in the table below. SNAT configuration can handle up to 64 rules.

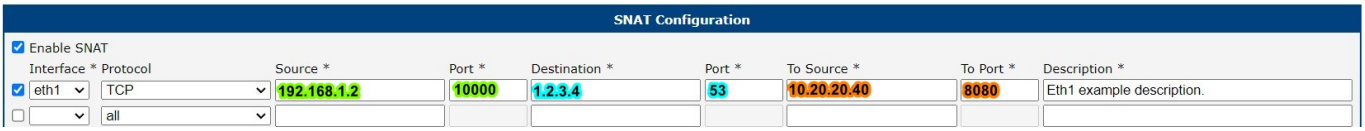

Figure 3: SNAT Configuration

Item	Description
Enable SNAT	Enabled, SNAT functionality of the module is turned on.
Interface	Select router interface for this rule.
Protocol	Select protocol for this rule. You can choose from: all, TCP, UDP, TCP+UDP, UDP.
Source	Enter source IP address.
Port	Enter source port.
Destination	Enter destination IP address.
Port	Enter destination port.
To Source	Enter To Source IP address.
To Port	Enter To Source port.
Description	Enter the description of this configuration field.

Table 1: SNAT Configuration Example Items Description

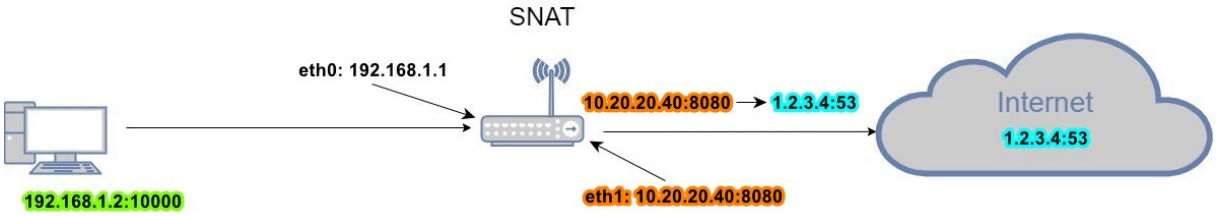

Figure 4: SNAT Example

3.2.2 DNAT

Destination Network Address Translation (DNAT) changes the destination address in the IP header of a packet and may also modify the destination port in the TCP/UDP headers. It is used to redirect incoming packets with a destination of a public address/port to a private IP address/port within a network and is performed before the routing decision is made. Unlike Source Network Address Translation (SNAT), which alters the source address of packets, DNAT adjusts the destination address of packets passing through the router, allowing an external (public) host to initiate a session with an internal (private) host. The source address of return packets is automatically translated back to the IP address of the source host.

Configuration of DNAT can be done on Global page, under Configuration menu section. All configuration items for DNAT configuration page are described in the table below. DNAT configuration can handle up to 64 rules.

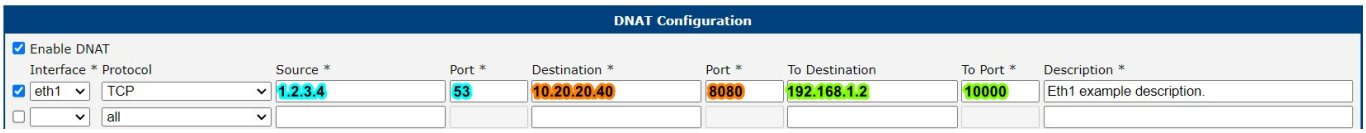

Figure 5: DNAT Configuration

Item	Description
Enable DNAT	Enabled, DNAT functionality of the module is turned on.
Interface	Select router interface for this rule.
Protocol	Select protocol for this rule. You can choose from: all, TCP, UDP, TCP+UDP, UDP.
Source	Enter source IP address.
Port	Enter source port.
Destination	Enter destination IP address.
Port	Enter destination port.
To Destination	Enter To Destination IP address.
To Port	Enter To Destination port.
Description	Enter the description of this configuration field.

Table 2: DNAT Configuration Example Items Description

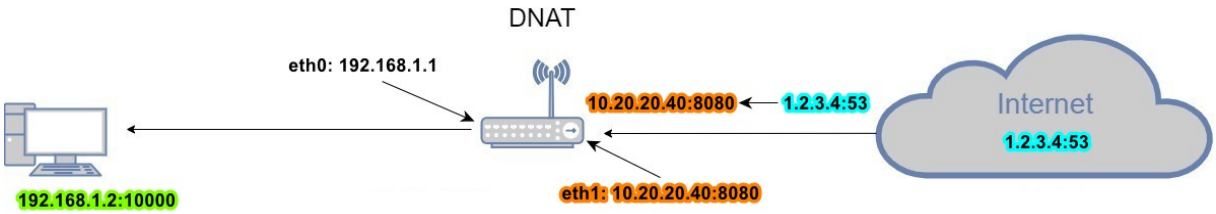

Figure 6: DNAT Example

4. Related Documents

You can obtain product-related documents on *Engineering Portal* at *icr.advantech.com* address.

To get your router's *Quick Start Guide*, *User Manual*, *Configuration Manual*, or *Firmware* go to the *Router Models* page, find the required model, and switch to the *Manuals* or *Firmware* tab, respectively.

The *Router Apps* installation packages and manuals are available on the *Router Apps* page.

For the *Development Documents*, go to the *DevZone* page.