Quick Note 05

Configuring Port Forwarding to access an IP camera user interface on a TransPort LR54

7 November 2017

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1 INTRODUCTION

1.1 Outline

This guide details the steps involved in configuring a TransPort LR54 for Port Forwarding to an IP Camera (or any other similar equipment) using the web interface and the Command Line (CLI).

Many customer application scenarios require access to an equipment connected behind a Digi device which provides WAN connectivity, such as IP Cameras for CCTV applications.

Most of the time, these devices use a web server that provides its content on http port 80 and this port is often not configureable.

This document will describe how to setup the TransPort LR54 to allow remote management calls to http://IPADDR in order to forward such traffic to the IP Camera (or similar equipment) behind the TransPort LR54.
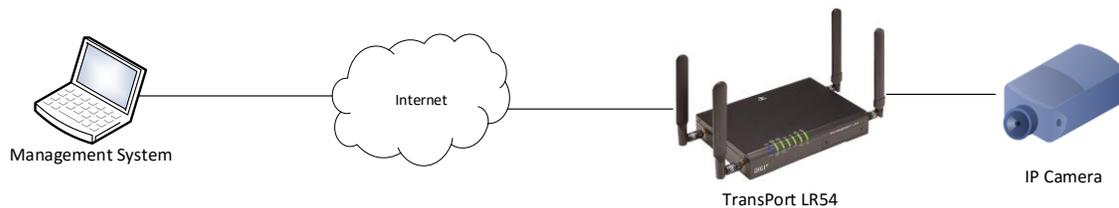
1.2 Assumptions

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product and of the requirements for their specific application.

This document assumes that the device is using factory default settings, WAN connectivity is properly configured and working with external access possible. The IP Camera has a fixed IP address and has the TransPort LR54 as its default gateway.

This quick note applies only to:

Model: Digi Transport LR 54

1.3 Corrections

Requests for corrections or amendments to this documentation are welcome and should be addressed to: tech.support@digi.com

Requests for new quick notes can be sent to the same address.

1.4 Version

| Version Number	Status
1.0	Completed 07.11.2017

2 CONFIGURATION

Open a web browser to the IP Address of the TransPort LR54 (by default 192.168.1.1)

Log in using the username and password. By default the username is admin and the password is found on the label underneath the device.

2.1 Port forwarding configuration using non-standard ports via web interface

This example will be used if your device **can** be configured to use non-standard ports such as 8080.

Navigate to **Network > Services > Port Forwarding**
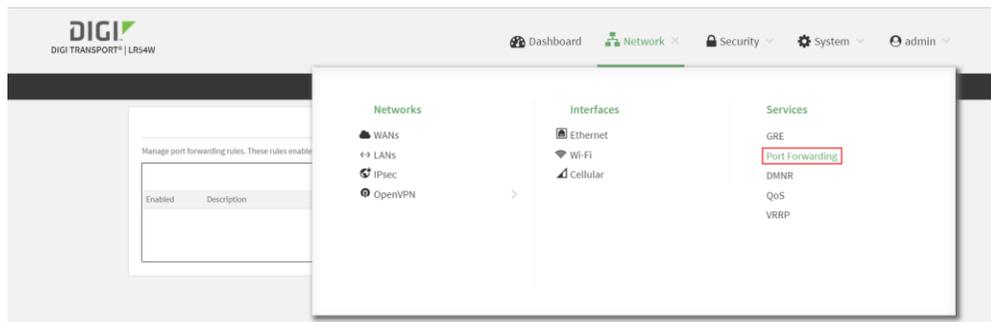
Click on **Add Rule** (**+**)

Enter a description for this rule, a From Port, the IP address of the equipment (on the LAN) and a To Port if different. In this example, 8080 is used.

Click **Apply**

Parameter	Setting	Description
Description	NATP Camera	Enter a description for this Port forwarding rule
From Port(s)	8080	Incoming TCP port on the WAN side
Protocol	TCP	Protocol used for this rule
To IP Address	192.168.1.10	IP Address of the equipment
To Port	8080	TCP Port used by the equipment

The equipment's web interface can now be reached by Opening a web browser to the WAN IP address (Ethernet or Cellular) of the TransPort LR54 with 8080 as the port number at the end of the URL: **http://x.x.x.x:8080**

2.2 Port forwarding configuration using non-standard ports via CLI

This example will be used if your device can be configured to use non-standard ports such as 8080.

Access to the CLI (Command Line Interface) – this can be achieved:

•   Through the serial port @115200 bps

•   Via SSH connection using a terminal application such as PuTTy (used in this example)

Open PuTTy.

Issue the following command to configure the port forwarding rule, similar to section 2.1 with 8080 as the TCP Ports and 192.168.1.10 as the IP address

```
digi.router> port-forward 1 description NATP Camera
digi.router> port-forward 1 port 8080
digi.router> port-forward 1 protocol TCP
digi.router> port-forward 1 to-ip-address 192.168.1.10
digi.router> port-forward 1 to-port 8080
digi.router> port-forward 1 state on
```

To verify the settings, issue:

```
digi.router> port-forward 1 ?

Configure port forwarding rules
Syntax:
port-forward 1 <parameter> <value>

Available Parameters:
 Parameter          Current Value       Description
-------------------------------------------------------------------
 description        NATP Camera         Description of the rule
 port               8080                Forward packets received on port(s)
 protocol           tcp                 Protocol of the packets to forward
 state              on                  Enable or disable the port forward rule
 to-ip-address      192.168.1.10        IPv4 address to forward packets to
 to-port            8080                Port to forward packets to
```

Parameter	Setting	Description
Description	NATP Camera	Enter a description for this Port forwarding rule
From Port(s)	8080	Incoming TCP port on the WAN side
Protocol	TCP	Protocol used for this rule
To IP Address	192.168.1.10	IP Address of the equipment
To Port	8080	TCP Port used by the equipment

The equipment's web interface can now be reached by Opening a web browser to the WAN IP address (Ethernet or Cellular) of the TransPort LR54 with 8080 as the port number at the end of the URL:
http://x.x.x.x:8080

2.3 Port forwarding configuration using standard ports

This example will be used if your device **cannot** be configured to use non-standard ports such as 8080.

The default HTTP and HTTPS ports on the TransPort LR54 are not configurable (80 and 443 respectively). If the equipment also uses 80 or 443, Remote management on the WAN interfaces (HTTPS ONLY) will not work on such ports (LAN will still work)

As of Firmware version 3.1.0.4, to configure a port forwarding rule for an equipment to use port 80, it is required to use the firewall.

Access to the CLI (Command Line Interface) – this can be achieved:

- Through the serial port @115200 bps

- Via SSH connection using a terminal application such as PuTTy (used in this example)

Open PuTTy.

Issue the following command to configure the port forwarding rule with 80 as the TCP ports and 192.168.1.10 as the IP address

```
digi.router> firewall -t nat -A tlr_port_forward -i cellular1 -p tcp --dport 80 -j DNAT --to-destination 192.168.1.10:80
```

To verify the rule has been configured properly:

```
digi.router> show firewall nat

Firewall rules for nat
 ---------------------
Chain tlr_port_forward (1 references)
num   pkts bytes target     prot opt in      out     source                destination
1        0     0 DNAT        tcp  --  cellular1 *      0.0.0.0/0             0.0.0.0/0
tcp dpt:80 to:192.168.1.10:80
```

Command details:

firewall	Firewall configuration
-t nat	Specify table name, here NAT
-A tlr_port_forward	Append to the chain tlr_port_forward
-i cellular1	Specify the incoming interface, here cellular1
-p tcp	Specify the protocol, here TCP
--dport 80	Specify the destination port on the incoming interface, here 80
-j DNAT	Specify the target and the option, in this case perform Destination Network Address Translation (DNAT)
--to-destination 192.168.1.10:80	Specify the destination's IP address on the LAN side and the port (destination port)

The equipment's web interface can now be reached by Opening a web browser to the WAN IP address (Ethernet or Cellular) of the TransPort LR54: **http://x.x.x.x**

Warning: **Using the web interface to setup port forwarding using one of the default ports used for the web management (80/443) will prevent access both on LAN and WAN to the TransPort LR54. A feature improvement is planned in a later firmware release.**