

Configuration Guide



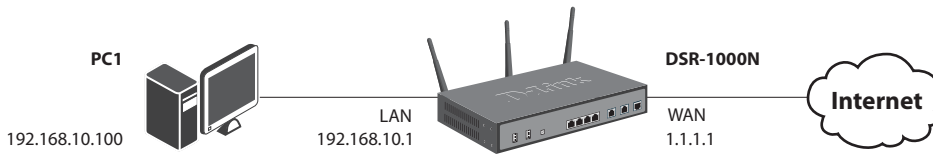
How to Configure Bandwidth Management in DSR Series

Overview

This document describes how to configure the D-Link DSR-1000N to enable bandwidth management feature. This feature regulates traffic between the private LAN and external WAN. The screenshots in this document is from firmware version 1.03B12. If you are using an earlier version of the firmware, the screenshots may not be identical to what you see on your browser.

Situation note

The bandwidth management feature can be used to guarantee bandwidth for mission critical applications and it can throttle traffic for lower priority and bandwidth consuming usage. With this feature, company can efficiently utilize Internet bandwidth and increase productivity for business.



Configuration Step

- Under the **ADVANCED** -> **Advanced Network** -> **Traffic Management** -> **Bandwidth Profiles**, select **Enable Bandwidth Profiles** and click **Save settings**.

| DSR-1000 | SETUP | ADVANCED | TOOLS | STATUS | | | | | | |
|--|---|---------------------------|-------|--------|--------------------------|------|---------------------------|--|--|--|
| Application Rules | <p>Please enable Bandwidth Profiles to perform Add/Edit/Delete Operations</p> <p>BANDWIDTH PROFILES LOGOUT</p> <p>This page shows the list of configured bandwidth profiles. These profiles then can be used with the traffic selectors.</p> <p> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p> | | | | | | | | | |
| Website Filter | | | | | | | | | | |
| Firewall Settings | | | | | | | | | | |
| Advanced Network | | | | | | | | | | |
| Routing | | | | | | | | | | |
| Certificates | | | | | | | | | | |
| Users | | | | | | | | | | |
| IP/MAC Binding | <p>Enable Bandwidth Profiles: <input checked="" type="checkbox"/></p> | | | | | | | | | |
| IPv6 | <p>List of Bandwidth Profiles</p> <table border="1"> <thead> <tr> <th><input type="checkbox"/></th> <th>Name</th> <th>Bandwidth Rate / Priority</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;"> <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Add"/> </td> </tr> </tbody> </table> | | | | <input type="checkbox"/> | Name | Bandwidth Rate / Priority | <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Add"/> | | |
| <input type="checkbox"/> | Name | Bandwidth Rate / Priority | | | | | | | | |
| <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Add"/> | | | | | | | | | | |
| Radius Settings | | | | | | | | | | |
| Switch Settings | | | | | | | | | | |

Step 1: Enable Bandwidth Profiles

Step 2: Save Settings

2. Click the Add button to create a Bandwidth Profiles.

The screenshot shows the 'BANDWIDTH PROFILES' configuration page on a DSR-1000 router. The page has a navigation menu on the left with options like Application Rules, Website Filter, Firewall Settings, etc. The main content area shows a success message 'Operation succeeded' and a 'LOGOUT' button. Below that, there's a section for 'Enable Bandwidth Profiles' with a checked checkbox. The 'List of Bandwidth Profiles' section contains a table with columns 'Name' and 'Bandwidth Rate / Priority'. At the bottom of the table, there are 'Edit', 'Delete', and 'Add' buttons. The 'Add' button is highlighted with a green box.

Select the Add button

3. Specify the Name, Profile Type and Minimum Bandwidth Rate, Maximum bandwidth Rate, WAN Interface like as follows and click the Save Settings:

3a. Name: This field is the unique identifier for the profile.

3b. Profile Type: This field is to specify if the profile is a rate controlling profile or a priority controlling profile. Rate control will allow the User to define a minimum and maximum rate in Kbps and the internet pipe line availability is accordingly bounded. For a Priority type profile the exact rate itself is not bounded rather associated traffic is allocated to pre-defined priority segments to ensure available bandwidth is first consumed first by the highest priority segment.

3c. Priority: This is the priority of the traffic to set the bandwidth rate on. Choose from low, medium and high priorities.

3d. Minimum Bandwidth Rate: This field is the minimum bandwidth value in Kbps for the profile

3e. Maximum Bandwidth Rate: This field is the maximum bandwidth value in Kbps for the profile.

3f. WAN Interface: The WAN interface on which the bandwidth limiting profile is to be applied. Choose from Dedicated WAN (WAN1) or Configurable WAN (WAN2).

| DSR-1000 | SETUP | ADVANCED | TOOLS | STATUS |
|-------------------|--|----------|-------|--------|
| Application Rules | <div style="text-align: right;">BANDWIDTH PROFILES LOGOUT</div> <p>This page allows user to add a new bandwidth profile.</p> <p><input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/></p> <hr/> <div style="background-color: #333; color: white; padding: 2px;">Bandwidth Profile Configuration</div> <p>Name: <input type="text" value="Bandwidth"/></p> <p>Profile Type: <input type="text" value="Rate"/></p> <p>Priority: <input type="text" value="Low"/></p> <p>Minimum Bandwidth Rate: <input type="text" value="1"/> (1 - Max. Bandwidth Kbps)</p> <p>Maximum Bandwidth Rate: <input type="text" value="1000"/> (100 - 1000000 Kbps)</p> <p>WAN Interface: <input type="text" value="Dedicated WAN"/></p> | | | |

4. After click Save Settings, you will see the profiles has been created as figure.

| DSR-1000 | SETUP | ADVANCED | TOOLS | STATUS | | | | | | |
|--------------------------|---|----------|-------|--------|-----------|---------------------------|---------------------------|--------------------------|-----------|-------------|
| Application Rules | Operation succeeded | | | | | | | | | |
| Website Filter | <div style="text-align: right;">BANDWIDTH PROFILES LOGOUT</div> <p>This page shows the list of configured bandwidth profiles. These profiles then can be used with the traffic selectors.</p> <p><input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/></p> <hr/> <p>Enable Bandwidth Profiles: <input checked="" type="checkbox"/></p> <div style="background-color: #333; color: white; padding: 2px;">List of Bandwidth Profiles</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 25%;">Name</th> <th style="width: 70%;">Bandwidth Rate / Priority</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>Bandwidth</td> <td>1-1000 Kbps</td> </tr> </tbody> </table> <p style="text-align: center;"><input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Add"/></p> | | | | | Name | Bandwidth Rate / Priority | <input type="checkbox"/> | Bandwidth | 1-1000 Kbps |
| | | | | | Name | Bandwidth Rate / Priority | | | | |
| <input type="checkbox"/> | | | | | Bandwidth | 1-1000 Kbps | | | | |

5. Under the **ADVANCED->Advanced Network-> Traffic Management ->Traffic Selector**, **double click it**.

Operation succeeded

BANDWIDTH PROFILES LOGOUT

of configured bandwidth profiles. These profiles then can be used with the traffic

Don't Save Settings

Profiles:

| Name | Bandwidth Rate / Priority |
|-------------------|---------------------------|
| Traffic Selectors | 1-1000 Kbps |

Edit Delete Add

UNIFIED SERVICES ROUTER

Click the Traffic Selectors

6. Under the **Traffic Selectors**, click **Add** button.

TRAFFIC SELECTORS LOGOUT

This page shows a list of traffic selectors. Traffic selectors are service based rules to which user can attach bandwidth profiles.

List of Traffic Selectors

| Service | Traffic Selector Match Type | Bandwidth Profile |
|---------|-----------------------------|-------------------|
|---------|-----------------------------|-------------------|

Edit Delete Add

UNIFIED SERVICES ROUTER

7. Specify the following fields and click Save Settings
 - 7a. Available Profiles: Select from a list of configured bandwidth profiles upon which to apply the traffic selector criteria.
 - 7b. Service: User can select from a list of pre-defined or custom defined services for the traffic selector rule. Custom services can be defined under Advanced->Firewall->Custom Services.
 - 7c. Traffic Selector Match Type: The match type can be one of the following: IP, MAC address, Port name and Interface.

IP Address: If the traffic selector match type is IP, enter the IP address in this field.

MAC Address: If the traffic selector match type is MAC address, enter the MAC address in this field for the traffic selector rule.

Port Name: The LAN port number/name to apply the traffic selector rule if the match type is Port name.

Interface: If the match type is interface, select from the interface number provided in the drop down list. Only LAN and VLAN interfaces are applicable.

| DSR-1000 | SETUP | ADVANCED | TOOLS | STATUS |
|--------------------------------|--|----------|-------|--------|
| Application Rules ▶ | <div style="text-align: right;">LOGOUT</div> <h3>TRAFFIC SELECTORS</h3> <p>This page allows user to configure various traffic rules, to which bandwidth profiles can be attached.</p> <p> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p> <h4>Traffic Selector Configuration</h4> <p> Available Profiles: <input type="text" value="Bandwidth"/> </p> <p> Service: <input type="text" value="ANY"/> </p> <p> Traffic Selector Match Type: <input type="text" value="IP"/> </p> <p> IP Address: <input type="text" value="192.168.10.100"/> </p> <p> MAC Address: <input type="text" value=""/> </p> <p> Port Name: <input type="text" value="Port 1"/> </p> <p> Interface: <input type="text" value="1"/> </p> | | | |
| Website Filter ▶ | | | | |
| Firewall Settings ▶ | | | | |
| Advanced Network ▷ | | | | |
| Routing ▶ | | | | |
| Certificates | | | | |
| Users ▶ | | | | |
| IP/MAC Binding | | | | |
| IPv6 ▶ | | | | |
| Radius Settings | | | | |
| Switch Settings | | | | |
| Intel® AMT | | | | |
| UNIFIED SERVICES ROUTER | | | | |

8. After Save setting, it will be looks like the following figure.

DSR-1000 // SETUP ADVANCED TOOLS STATUS

Application Rules
Website Filter
Firewall Settings
Advanced Network
Routing
Certificates
Users
IP/MAC Binding
IPv6
Radius Settings
Switch Settings
Intel® AMT

UNIFIED SERVICES ROUTER

Operation succeeded

TRAFFIC SELECTORS LOGOUT

This page shows a list of traffic selectors. Traffic selectors are service based rules to which user can attach bandwidth profiles.

List of Traffic Selectors

| <input type="checkbox"/> | Service | Traffic Selector Match Type | Bandwidth Profile |
|--------------------------|---------|-----------------------------|-------------------|
| <input type="checkbox"/> | ANY | IP | Bandwidth |

Edit Delete Add

Testing result and procedure:

1. Use the iperf utility to check that the maximum bandwidth is controlled under 1000Kbps.

```

C:\Users\admin\Desktop\TEST tool\iperf>iperf -c 1.1.1.2
-----
Client connecting to 1.1.1.2, TCP port 5001
CP window size: 8.00 KByte (default)
-----
1081 local 127.0.0.1 port 52894 connected with 1.1.1.2 port 5001
ID Interval Transfer Bandwidth
1081 0.0-10.6 sec 1.22 MBytes 967 Kbits/sec
C:\Users\admin\Desktop\TEST tool\iperf>iperf -c 1.1.1.2
-----
Client connecting to 1.1.1.2, TCP port 5001
CP window size: 8.00 KByte (default)
-----
1081 local 127.0.0.1 port 52906 connected with 1.1.1.2 port 5001
ID Interval Transfer Bandwidth
1081 0.0-10.9 sec 1.23 MBytes 944 Kbits/sec
C:\Users\admin\Desktop\TEST tool\iperf>iperf -c 1.1.1.2
-----
Client connecting to 1.1.1.2, TCP port 5001
CP window size: 8.00 KByte (default)
-----
1081 local 127.0.0.1 port 52922 connected with 1.1.1.2 port 5001
ID Interval Transfer Bandwidth
1081 0.0-10.8 sec 1.22 MBytes 944 Kbits/sec
C:\Users\admin\Desktop\TEST tool\iperf>

```

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