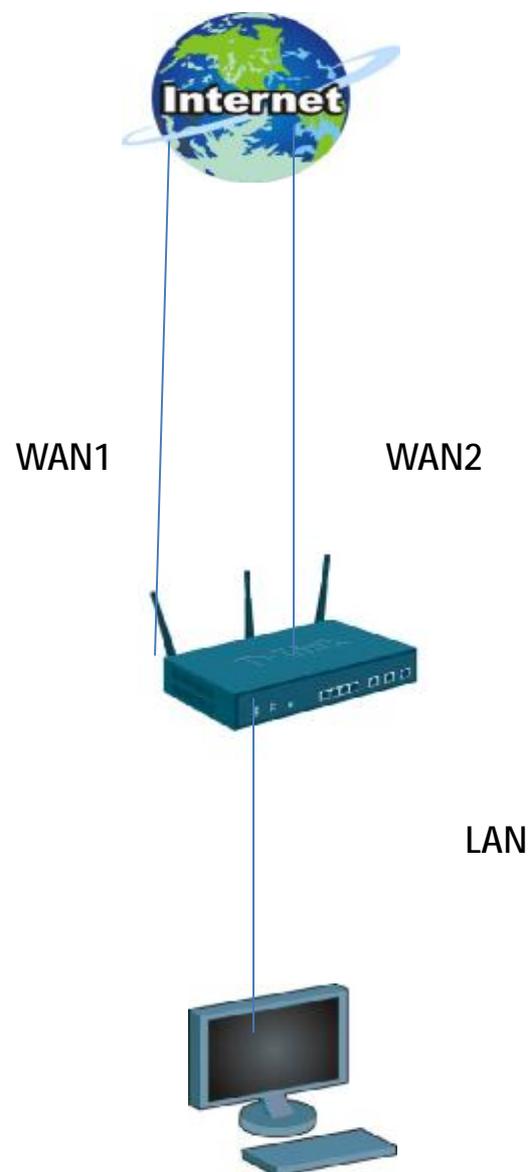


## Configuration Examples

How to set up Auto-Rollover on the DSR

### Topology



# WAN Modes

The WAN mode settings allows configuration of one or more internet interfaces called WAN ports. The User can configure the device to use a single dedicated port for all the external WAN traffic or use both the WANs available on the device for inbound/outbound traffic. When both WAN ports are configured and active, they can be used concurrently to share the internet traffic load or can be used to provide redundancy in the event of one of the links going down.

The following actors participate in these use cases:

- ✓ User – the administrator who takes various operational actions on the system.
- ✓ Device –DSR series
- ✓ Host - machine behind the Device used to access management interface.
- ✓ WAN host – Internet host.

@ Click Save Settings to apply configuration changes or Don't Save Settings to discard any changes and revert to the previously saved settings.

## Auto-Rollover with Multiple WAN ports

(1) Go to setup->internet setting->wan1 settings-> wan1 setup

Wizard	
Internet Settings	<b>WAN1 SETUP</b> <span>LOGOUT</span>
Wireless Settings	This page allows you to set up your Internet connection. Ensure that you have the Internet connection information such as the IP Addresses, Account Information etc. This information is usually provided by your ISP or network administrator.
Network Settings	<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>
DMZ Setup	
VPN Settings	
USB Settings	
VLAN Settings	
	<b>ISP Connection Type</b>
	<b>ISP Connection Type:</b> <input type="text" value="Dynamic IP (DHCP)"/>
	<b>Host Name:</b> <input type="text"/>
	<b>Domain Name System (DNS) Servers</b>
	<b>DNS Server Source:</b> <input type="text" value="Get Dynamically from ISP"/>
	<b>Primary DNS Server:</b> <input type="text" value="0.0.0.0"/>
	<b>Secondary DNS Server:</b> <input type="text" value="0.0.0.0"/>

(2) Go to setup->internet setting->wan2 settings-> wan2 setup

Wizard	
Internet Settings	<b>WAN2 SETUP</b> <span>LOGOUT</span>
Wireless Settings	This page allows you to set up your Internet connection. Ensure that you have the Internet connection information such as the IP Addresses, Account Information etc. This information is usually provided by your ISP or network administrator.
Network Settings	<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>
DMZ Setup	
VPN Settings	
USB Settings	
VLAN Settings	
	<b>ISP Connection Type</b>
	<b>ISP Connection Type:</b> <input type="text" value="Static IP"/>
	<b>IP Address:</b> <input type="text" value="218.210.16.29"/>
	<b>IP Subnet Mask:</b> <input type="text" value="255.255.255.240"/>
	<b>Gateway IP Address:</b> <input type="text" value="218.210.16.25"/>
	<b>Domain Name System (DNS) Servers</b>
	<b>Primary DNS Server:</b> <input type="text" value="168.95.1.1"/>
	<b>Secondary DNS Server:</b> <input type="text" value="8.8.8.8"/>

(3) Go to setup->internet setting->wan mode  
In this example,wan1 is my default route.wan2 is my backup route.

Wizard

Internet Settings

Wireless Settings

Network Settings

DMZ Setup

VPN Settings

USB Settings

VLAN Settings

Operation succeeded

### WAN MODE

LOGOUT

This page allows user to configure the policies on the two WAN ports for Internet connection.

Save Settings Don't Save Settings

#### Port Mode

Auto-Rollover using WAN port:  WAN1

Load Balancing:  Round Robin

Use only single WAN port:  WAN1

Save Settings Don't Save Settings

#### Port Mode

Auto-Rollover using WAN port:  WAN1

Load Balancing:  Round Robin

Use only single WAN port:  WAN1

#### WAN Failure Detection Method

None:

DNS lookup using WAN DNS Servers:

DNS lookup using DNS Servers:

WAN1: 0.0.0.0

WAN2: 0.0.0.0

Ping these IP addresses:

WAN1: 8.8.8.8

WAN2: 0.0.0.0

Retry Interval is: 30 (Seconds)

Failover after: 4 (Failures)

# Auto-Rollover success

Product Page: DSR-1000N Hardware Version: A1 Firmware Version: 1.0308\_WW

## D-Link

DSR-1000N	SETUP	ADVANCED	TOOLS	STATUS	HELP																																																																																																
<ul style="list-style-type: none"> <li>Device Info</li> <li>Logs</li> <li>Traffic Monitor</li> <li>Active Sessions</li> <li>Active Runtime Sessions</li> <li>Wireless Clients</li> <li>LAN Clients</li> <li>Active VPIs</li> </ul>	<div style="background-color: #0056b3; color: white; padding: 5px; font-weight: bold;">DEVICE STATUS</div> <p style="font-size: small; color: gray;">This page displays the current settings and displays a snapshot of the system information.</p> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>General</b> </div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">System Name:</td><td>DSR-1000N</td></tr> <tr><td>Firmware Version:</td><td>1.0308_WW</td></tr> <tr><td>Serial Number:</td><td>Q8341A080030</td></tr> </table> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>WAN1 Information</b> </div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">MAC Address:</td><td>00:18:E7:08:5C:50</td></tr> <tr><td>IPv4 Address:</td><td>0.0.0.0 / 0.0.0.0</td></tr> <tr><td>IPv6 Address:</td><td></td></tr> <tr><td style="border: 2px solid red;">Wan State:</td><td style="border: 2px solid red;">DOWN</td></tr> <tr><td>NAT (IPv4 only):</td><td>Enabled</td></tr> <tr><td>IPv4 Connection Type:</td><td>Dynamic IP (DHCP)</td></tr> <tr><td>IPv6 Connection Type:</td><td>IPv6 is disabled</td></tr> <tr><td>IPv4 Connection State:</td><td>Not Yet Connected</td></tr> <tr><td>IPv6 Connection State:</td><td>This is disabled</td></tr> <tr><td>Link State:</td><td>LINK DOWN</td></tr> <tr><td>WAN Mode:</td><td>Auto-Rollover using WAN port: Enabled WAN</td></tr> <tr><td>Gateway:</td><td>0.0.0.1</td></tr> <tr><td>Primary DNS:</td><td>0.0.0.1</td></tr> <tr><td>Secondary DNS:</td><td>0.0.0.1</td></tr> <tr><td>Primary DNS (IPv6):</td><td></td></tr> <tr><td>Secondary DNS (IPv6):</td><td></td></tr> </table> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>WAN2 Information</b> </div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">MAC Address:</td><td>00:18:E7:08:5C:51</td></tr> <tr><td>IPv4 Address:</td><td>214.1.0.16.24 / 255.255.255.40</td></tr> <tr><td>IPv6 Address:</td><td></td></tr> <tr><td style="border: 2px solid red;">Wan State:</td><td style="border: 2px solid red;">UP</td></tr> <tr><td>NAT (IPv4 only):</td><td>Enabled</td></tr> <tr><td>IPv4 Connection Type:</td><td>Static IP</td></tr> <tr><td>IPv6 Connection Type:</td><td>IPv6 is disabled</td></tr> <tr><td>IPv4 Connection State:</td><td>Connected</td></tr> <tr><td>IPv6 Connection State:</td><td>IPv6 is disabled</td></tr> <tr><td>Link State:</td><td>LINK UP</td></tr> <tr><td>WAN Mode:</td><td>Auto Rollover using WAN port: Dedicated WAN</td></tr> <tr><td>Gateway:</td><td>214.2.0.4.25</td></tr> <tr><td>Primary DNS:</td><td>168.95.1.1</td></tr> <tr><td>Secondary DNS:</td><td>8.8.8.8</td></tr> <tr><td>Primary DNS (IPv6):</td><td></td></tr> <tr><td>Secondary DNS (IPv6):</td><td></td></tr> </table> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>LAN Information</b> </div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">MAC Address:</td><td>00:18:E7:08:5C:4F</td></tr> <tr><td>IP Address:</td><td>192.168.16.1 / 255.255.255.0</td></tr> <tr><td>IPv6 Address:</td><td></td></tr> <tr><td>DHCP Server:</td><td>Enabled</td></tr> <tr><td>DHCP Relay:</td><td>Disabled</td></tr> <tr><td>DHCPv6 Server:</td><td>IPv6 is disabled</td></tr> </table> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>Wireless LAN</b> </div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">Operating Frequency:</td><td>2.4GHz</td></tr> <tr><td>Mode:</td><td>N/G-Mixed</td></tr> <tr><td>Channel:</td><td>6 - 2.437GHz</td></tr> </table> <div style="background-color: #f0f0f0; padding: 5px; margin-bottom: 5px;"> <b>Available Access Points</b> </div> <table style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>SNO</th> <th>SECURITY</th> <th>PROXYPOR</th> <th>AUTHENTICATOR</th> </tr> </thead> <tbody> <tr> <td>DSR-1000N_1</td> <td>OPEN</td> <td>NONE</td> <td>NONE</td> </tr> </tbody> </table>				System Name:	DSR-1000N	Firmware Version:	1.0308_WW	Serial Number:	Q8341A080030	MAC Address:	00:18:E7:08:5C:50	IPv4 Address:	0.0.0.0 / 0.0.0.0	IPv6 Address:		Wan State:	DOWN	NAT (IPv4 only):	Enabled	IPv4 Connection Type:	Dynamic IP (DHCP)	IPv6 Connection Type:	IPv6 is disabled	IPv4 Connection State:	Not Yet Connected	IPv6 Connection State:	This is disabled	Link State:	LINK DOWN	WAN Mode:	Auto-Rollover using WAN port: Enabled WAN	Gateway:	0.0.0.1	Primary DNS:	0.0.0.1	Secondary DNS:	0.0.0.1	Primary DNS (IPv6):		Secondary DNS (IPv6):		MAC Address:	00:18:E7:08:5C:51	IPv4 Address:	214.1.0.16.24 / 255.255.255.40	IPv6 Address:		Wan State:	UP	NAT (IPv4 only):	Enabled	IPv4 Connection Type:	Static IP	IPv6 Connection Type:	IPv6 is disabled	IPv4 Connection State:	Connected	IPv6 Connection State:	IPv6 is disabled	Link State:	LINK UP	WAN Mode:	Auto Rollover using WAN port: Dedicated WAN	Gateway:	214.2.0.4.25	Primary DNS:	168.95.1.1	Secondary DNS:	8.8.8.8	Primary DNS (IPv6):		Secondary DNS (IPv6):		MAC Address:	00:18:E7:08:5C:4F	IP Address:	192.168.16.1 / 255.255.255.0	IPv6 Address:		DHCP Server:	Enabled	DHCP Relay:	Disabled	DHCPv6 Server:	IPv6 is disabled	Operating Frequency:	2.4GHz	Mode:	N/G-Mixed	Channel:	6 - 2.437GHz	SNO	SECURITY	PROXYPOR	AUTHENTICATOR	DSR-1000N_1	OPEN	NONE	NONE	<p>Helpful links...</p> <p>All of your Internet and network connection details are displayed on the Device Status page. The firmware version and hardware serial number is also displayed here.</p> <p>More...</p>
System Name:	DSR-1000N																																																																																																				
Firmware Version:	1.0308_WW																																																																																																				
Serial Number:	Q8341A080030																																																																																																				
MAC Address:	00:18:E7:08:5C:50																																																																																																				
IPv4 Address:	0.0.0.0 / 0.0.0.0																																																																																																				
IPv6 Address:																																																																																																					
Wan State:	DOWN																																																																																																				
NAT (IPv4 only):	Enabled																																																																																																				
IPv4 Connection Type:	Dynamic IP (DHCP)																																																																																																				
IPv6 Connection Type:	IPv6 is disabled																																																																																																				
IPv4 Connection State:	Not Yet Connected																																																																																																				
IPv6 Connection State:	This is disabled																																																																																																				
Link State:	LINK DOWN																																																																																																				
WAN Mode:	Auto-Rollover using WAN port: Enabled WAN																																																																																																				
Gateway:	0.0.0.1																																																																																																				
Primary DNS:	0.0.0.1																																																																																																				
Secondary DNS:	0.0.0.1																																																																																																				
Primary DNS (IPv6):																																																																																																					
Secondary DNS (IPv6):																																																																																																					
MAC Address:	00:18:E7:08:5C:51																																																																																																				
IPv4 Address:	214.1.0.16.24 / 255.255.255.40																																																																																																				
IPv6 Address:																																																																																																					
Wan State:	UP																																																																																																				
NAT (IPv4 only):	Enabled																																																																																																				
IPv4 Connection Type:	Static IP																																																																																																				
IPv6 Connection Type:	IPv6 is disabled																																																																																																				
IPv4 Connection State:	Connected																																																																																																				
IPv6 Connection State:	IPv6 is disabled																																																																																																				
Link State:	LINK UP																																																																																																				
WAN Mode:	Auto Rollover using WAN port: Dedicated WAN																																																																																																				
Gateway:	214.2.0.4.25																																																																																																				
Primary DNS:	168.95.1.1																																																																																																				
Secondary DNS:	8.8.8.8																																																																																																				
Primary DNS (IPv6):																																																																																																					
Secondary DNS (IPv6):																																																																																																					
MAC Address:	00:18:E7:08:5C:4F																																																																																																				
IP Address:	192.168.16.1 / 255.255.255.0																																																																																																				
IPv6 Address:																																																																																																					
DHCP Server:	Enabled																																																																																																				
DHCP Relay:	Disabled																																																																																																				
DHCPv6 Server:	IPv6 is disabled																																																																																																				
Operating Frequency:	2.4GHz																																																																																																				
Mode:	N/G-Mixed																																																																																																				
Channel:	6 - 2.437GHz																																																																																																				
SNO	SECURITY	PROXYPOR	AUTHENTICATOR																																																																																																		
DSR-1000N_1	OPEN	NONE	NONE																																																																																																		

UNIFIED SERVICES ROUTER

Copyright © 2010 D-Link Corporation

Use case #	1
Description	This use case describes WAN auto-rollover mode of operation and its configuration details.
Actors	User, Device, Host, WAN host
Assumptions	Both WAN interfaces are configured and operational on the Device, and the mode of WAN operation selected is Auto-Rollover using WAN port.
Steps	<p>The auto-rollover feature allows the User to use a secondary ISP link for backup purposes that becomes active when failure is detected on the primary ISP link. When in this mode, the Device checks the connection of the primary link at regular intervals to assess its status.</p> <ol style="list-style-type: none"> <li>1. WAN failure detection method: Failure on a WAN link implies that it is no longer available for internet traffic. There are several options available to detect failure on the primary WAN link: <ol style="list-style-type: none"> <li>a. <b>DNS lookup</b>: The User can configure the Device to use either the DNS server IP address configured in WAN settings or specify custom DNS server IP address. Failure to access these servers during regular intervals will point to a link failure.</li> <li>b. <b>Ping these IP addresses</b>: The user selects this option to detect WAN failure by pinging an IP address.</li> <li>c. <b>Retry Interval is</b>: The frequency the Device will use to detect a link failure is defined here. Upon reaching the retry limit, the WAN link is considered to be failed. This increments the failover counter.</li> </ol> </li> <li>2. Failover after configured number of attempts: User enters the desired number of failure detection attempts after which the Device will switch to the secondary configured WAN connection. The failover counter used in 1c above is compared to this threshold and is reset to 0 when the secondary WAN link is made active (i.e. the link rollover is complete)</li> </ol>
Notes/Issues	<ol style="list-style-type: none"> <li>1. User should ensure that the secondary WAN port is configured and active before selecting auto-rollover mode of operation.</li> <li>2. When using ping as the WAN failure detection method, the configured IP address must respond to ping requests from the Device.</li> </ol>