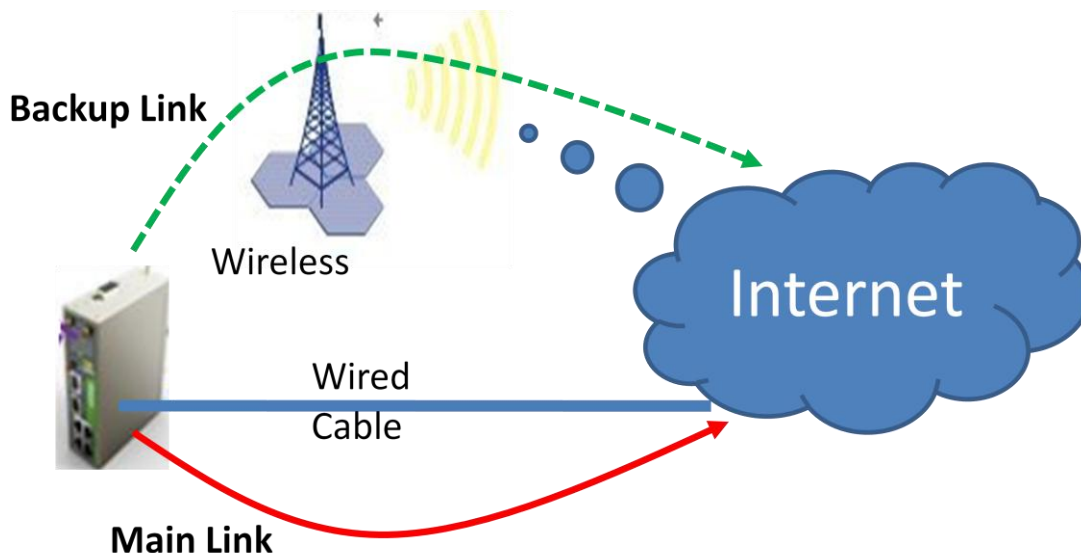


Application Guide for Interface Link Backup

1. Summary

This application guide will show you how to use IR900 to provide interface link backup:



2. Description

In normal case, we use the wired link as the main link to access internet, but when the main link is down, it requires the IR900 router automatically to switch to the backup link(3G wireless link).And when the main link recovery, IR900 should automatically switch to the main link.

3. Configuration on IR900

Step 1: Enable WAN Port

Here we use the FE0/1 as the WAN port, configuration as the following:

For the WAN connection, we provide three ways to connect to internet, here we select DHCP to do the test

Wizards >> New WAN

New WAN

Interface	fastethernet 0/1 ▾
Type	Dynamic Address (DHCP) ▾
NAT	Static IP
	Dynamic Address (DHCP)
	ADSL Dialup (PPPoE)

Step 2: Configuration the APN parameters of cellular port

Network >> Cellular

Status Cellular

Profile

Roaming

PIN Code

Network Type

Static IP

Connection Mode

Redial Interval s

ICMP Detection Server

ICMP Detection Interval s

ICMP Detection Timeout s

ICMP Detection Max Retries

ICMP Detection Strict

Show Advanced Options

Profile

Index	Network Type	APN	Access Number	Auth Method	Username	Password
1	GSM	3gnet	*99***1#	Auto	gprs	*****
<input type="text"/>	<input type="text" value="GSM"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="Auto"/>	<input type="text"/>	<input type="text"/>

Step 3: Configure Link Backup

Step 3.1: Configure SLA

Link Backup >> SLA

SLA Status SLA

SLA Entry

An reachable public address

Index	Type	IP Address	Data size	Interval	Timeout(ms)	Consecutive	Life	Start-time
1	icmp-echo	119.6.6.6	56	30	5000	5	forever	now
<input type="text" value="2"/>	<input type="text" value="icmp-echo"/>	<input type="text"/>	<input type="text" value="56"/>	<input type="text" value="30"/>	<input type="text" value="5000"/>	<input type="text" value="5"/>	<input type="text" value="forever"/>	<input type="text" value="now"/>

Step 3.2: Configure Track

Link Backup >> Track

Status Track

Track Object

Index	Type	SLA ID	Interface	Negative Delay(s)	Positive Delay(s)
1	sla	1		10	10
<input type="text" value="2"/>	<input type="text" value="sla"/>	<input type="text" value="1"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Step 3.3: Configure Interface Backup

Link Backup >> Interface Backup

Interface Backup

Main Interface	Backup Interface	Startup Delay	Up Delay	Down Delay	Track id
fastethernet 0/1	cellular 1	60	10	10	1
cellular 1	cellular 1	60	0	0	

Step 4: Routing settings

Routing >> Static Routing

Route Table

Static Routing

Destination	Netmask	Interface	Gateway	Distance	Track id
0.0.0.0	0.0.0.0	fastethernet 0/1		2	1
0.0.0.0	0.0.0.0	cellular 1		10	
119.6.6.6	255.255.255.255	fastethernet 0/1			

The first and second routing entries are floating routing, when the status of Track 1 is positive, then the first entry (0.0.0.0 0.0.0.0 fastethernet 0/1) will be as the default routing, when the status of Track 2 is negative, then the second routing entry (0.0.0.0 0.0.0.0 cellular 1) will be as the default routing.

If you are enough careful, you will find the IP address is the detection address of SLA, so the third routing entry (119.6.6.6) is in order to guarantee the detection address will be forwarded by wired port or main interface.

Step 5: Test and Verify

When the main link is up

We check the status of SLA and Track as the following show:

Link Backup >> SLA

SLA Status

SLA

Index	Type	IP Address	Status	Detect result
1	icmp-echo	119.6.6.6	start	up

Link Backup >> Track

Status Track

Index	Status
1	positive

We check the status of cellular port and WAN port

Network >> Cellular

Status Cellular

Modem

Active SIM	SIM 1
IMEI Code	357784044095147
IMSI Code	460012877004513
Phone Number	
Signal Level	📶 (22 asu -69 dBm)
Register Status	registered
Operator	China Unicom
Network Type	3G (WCDMA)
LAC	F11B
Cell ID	A1BBD82

Network

Status	Disconnected
IP Address	0.0.0.0
Netmask	0.0.0.0
Gateway	0.0.0.0
DNS	0.0.0.0
MTU	1500
Connection time	0 day, 00:00:00

Network >> Ethernet

Status Fastethernet 0/1

Fastethernet 0/1

Connection Type	Dynamic Address (DHCP)
IP Address	10.5.11.123
Netmask	255.255.255.0
Gateway	10.5.11.1
DNS	61.139.2.69
MTU	1500
Status	Up
Connection time	0 day, 00:07:20
Remaining Lease	0 day, 23:52:40

We check the routing table:

Routing >> Static Routing

Route Table Static Routing

Type:

Type	Destination	Netmask	Gateway	Interface	Distance/Metric	Time
S	0.0.0.0	0.0.0.0	10.5.11.1	fastethernet 0/1	1/0	
C	10.5.11.0	255.255.255.0		fastethernet 0/1	0/0	
S	119.6.6.6	255.255.255.255	10.5.11.1	fastethernet 0/1	1/0	
C	127.0.0.0	255.0.0.0		loopback 1	0/0	
C	192.168.2.0	255.255.255.0		fastethernet 0/2	0/0	

When wired cable is disconnected, the main link will be down, the IR900 route will switch the backup link automatically, and then we check the status of SLA and Track as the following show:

Link Backup >> SLA

SLA Status SLA

Index	Type	IP Address	Status	Detect result
1	icmp-echo	119.6.6.6	start	down

Link Backup >> SLA

SLA Status SLA


Index	Type	IP Address	Status	Detect result
1	icmp-echo	119.6.6.6	start	down

We check the status of cellular port

Network >> Cellular

Status Cellular

Modem

Active SIM SIM 1
IMEI Code 357784044095147
IMSI Code 460012877004513
Phone Number
Signal Level  (22 asu -69 dBm)
Register Status registered
Operator China Unicom
Network Type 3G (WCDMA)
LAC F11B
Cell ID A1BBD82

Network

Status Connected
IP Address 10.176.160.10
Netmask 255.255.255.255
Gateway 1.1.1.3
DNS 119.6.6.6 0.0.0.0
MTU 1500
Connection time 0 day, 00:02:22

We check the routing table:

Routing >> Static Routing

Route Table Static Routing

Type:

Type	Destination	Netmask	Gateway	Interface	Distance/Metric	Time
S	0.0.0.0	0.0.0.0	1.1.1.3	cellular 1	1/0	
C	1.1.1.3	255.255.255.255		cellular 1	0/0	
C	10.5.11.0	255.255.255.0		fastethernet 0/1	0/0	
C	127.0.0.0	255.0.0.0		loopback 1	0/0	
C	192.168.2.0	255.255.255.0		fastethernet 0/2	0/0	

When wired cable is connected, the main link will be up, the IR900 route will switch the main link from the backup link automatically, and then we check the status of SLA and Track as the

following show:

Link Backup >> SLA

SLA Status **SLA**

Index	Type	IP Address	Status	Detect result
1	icmp-echo	119.6.6.6	start	up

Link Backup >> Track

Status **Track**

Index	Status
1	positive

We check the status of cellular port

Network >> Cellular

Status **Cellular**

Modem

Active SIM	SIM 1
IMEI Code	357784044095147
IMSI Code	460012877004513
Phone Number	
Signal Level	📶 (22 asu -69 dBm)
Register Status	registered
Operator	China Unicom
Network Type	3G (WCDMA)
LAC	F11B
Cell ID	A1BBD82

Network

Status	Disconnected
IP Address	0.0.0.0
Netmask	0.0.0.0
Gateway	0.0.0.0
DNS	0.0.0.0
MTU	1500
Connection time	0 day, 00:00:00

Contact us

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Tel: 86 - 10 - 64391099 - 8022

Fax: 86 - 10 - 64399872

Address: Wangjing Science Park, Road Lizezhonger, Chaoyang
District, Beijing, P. R. C, 100102

Website: <http://www.inhandnetworks.com>

Email: info@inhandnetworks.com

