

# VPN Backup & Load Balance

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# VPN TRUNK

VPN TRUNK means a VPN technology connects two private networks with multiple VPN tunnels and provides both load balance and fail-over functionalities.

VPN TRUNK :

1. VPN Backup
2. VPN Load Balance



# VPN TRUNK Management WEB UI

## Backup profile list

[Set to Factory Default](#)

**Note:** [Active:NO] The state may be Disable or Dial in Lan to Lan profile at present.

No.	Status	Name	Member1 (Active) Type	Member2 (Active) Type
1	v	VpnBackup1	3 (YES) IPsec	4 (YES) L2TP over IPsec (MUST)
2	v	VpnBackup2	5 (YES) IPsec	6 (YES) IPsec
3	v	VpnBackup3	7 (YES) IPsec	8 (YES) IPsec

Advanced

VpnBackup1

## Load Balance Profile List

[Set to Factory Default](#)

**Note:** [Active:NO] The state may be Disable or Dial in Lan to Lan profile at present.

No.	Status	Name	Member1 (Active) Type	Member2 (Active) Type
1	v	VpnLB1	1 (YES) PPTP	2 (YES) IPsec
2	v	VpnLB2	9 (YES) IPsec	10 (YES) IPsec
3	v	VpnLB3	11 (YES) IPsec	12 (YES) IPsec
4	v	VpnLB4	13 (YES) IPsec	14 (YES) IPsec

Advanced

VpnLB1

## General Setup

Status  Enable  Disable

Profile Name

Member1

Please choose the combination that you want.

Member2

Please choose the combination that you want.

Attribute Mode

Please choose the combination that you want.

No.	<Name>	<Connection-Type>	<VPN Server IP (Private Network)>
15	Audi	IPsec	192.168.2.39(20.20.34.0)
16	Bentley	IPsec	192.168.2.40(20.20.35.0)
17	BMW	IPsec	192.168.2.41(20.20.36.0)
18	Buick	IPsec	192.168.2.42(20.20.37.0)
19	Cadillac	IPsec	192.168.2.43(20.20.38.0)
20	Chrysler	IPsec	192.168.2.44(20.20.39.0)
21	Citroen	IPsec	192.168.2.45(20.20.40.0)
22	Ferrari	IPsec	192.168.2.46(20.20.41.0)
23	Fiat	IPsec	192.168.2.47(20.20.42.0)

# VPN Backup Mechanism Features

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- ◎ Real-time
- ◎ Support All VPN Protocols : IPSec, PPTP, L2TP, L2TP over IPSec and ISDN (depends on hardware specifications)
- ◎ Mail Alert
- ◎ Syslog
- ◎ Specific ERD (Environment Recovery Detection) mechanism.

# VPN Load Balance Mechanism

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## 1. Three's algorithms

**(1) Round Robin ( 1:1 )**

**(2) Weighted Round Robin**

\* **Auto Weighted Mode : Auto Detect**

\* **According to Line Ratio Mode : Manual**

( Member1:Member2 Range => 1:99 , 2:98 ~ 97:3 , 98:2 , 99:1 )

**(3) Fastest – Auto select fastest tunnel**

## 2. VPN Load Balance Live Demo

--> Data transmission when one tunnel disconnected

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# VPN Load Balance Mechanism

## Binding Tunnel Policy

### VPN Load Balance - Binding VPN Tunnel Policy

Active:

Tunnel Bind Table Index:  (1~400)

Binding Dial Out Index:

Binding Src IP Start:  End:

Binding Dest IP Start:  End:

Binding Dest Port Start:  End:

Binding Fragmented:  Binding Protocol:

### Detail Information

```
[VPN Load Balance Profile name;GVpnLB ]
No.1 ---> Tunnel Bind Table Idnex :1
=====
Binding Dial Out Index = 1
Binding protocol       = OTHER Protocol 47
Binding Src IP        = 192.168.10.24 ~ 192.168.10.25
Binding Dst IP        = 192.168.1.20 ~ 192.168.1.20
Binding Dst Port      = 123 ~ 123
Binding Fragmented    = NO
```

# GRE over IPsec

	<u>IPsec</u>	<u>L2TP over IPsec</u>	<u>GRE over IPsec</u>
authentication	IKE phase 1 PSK/RSA	IKE phase 1 PSK/RSA	IKE phase 1 PSK/RSA
	IKE phase 2	N/A	IKE phase 2
	N/A	L2TP ( User name)	GRE ( Key Field)
Traffic throughput	58 ~ 64 Mbps	13 ~ 17 Mbps	56 ~ 60 Mbps
Windows Application	High	High	Low ( Smart VPN Client Feature )
Multi-connection	No	Yes	Yes ( L2L <u>IPsec</u> Load Balance )
Groups- transmission	No	No	Yes (Feature)
Defines a logical traffic	No	No	RFC 2890 (Feature)

\*In some case,we need GRE/IPsec when do two IPsec tunnel load balance

# VPN Backup Demo

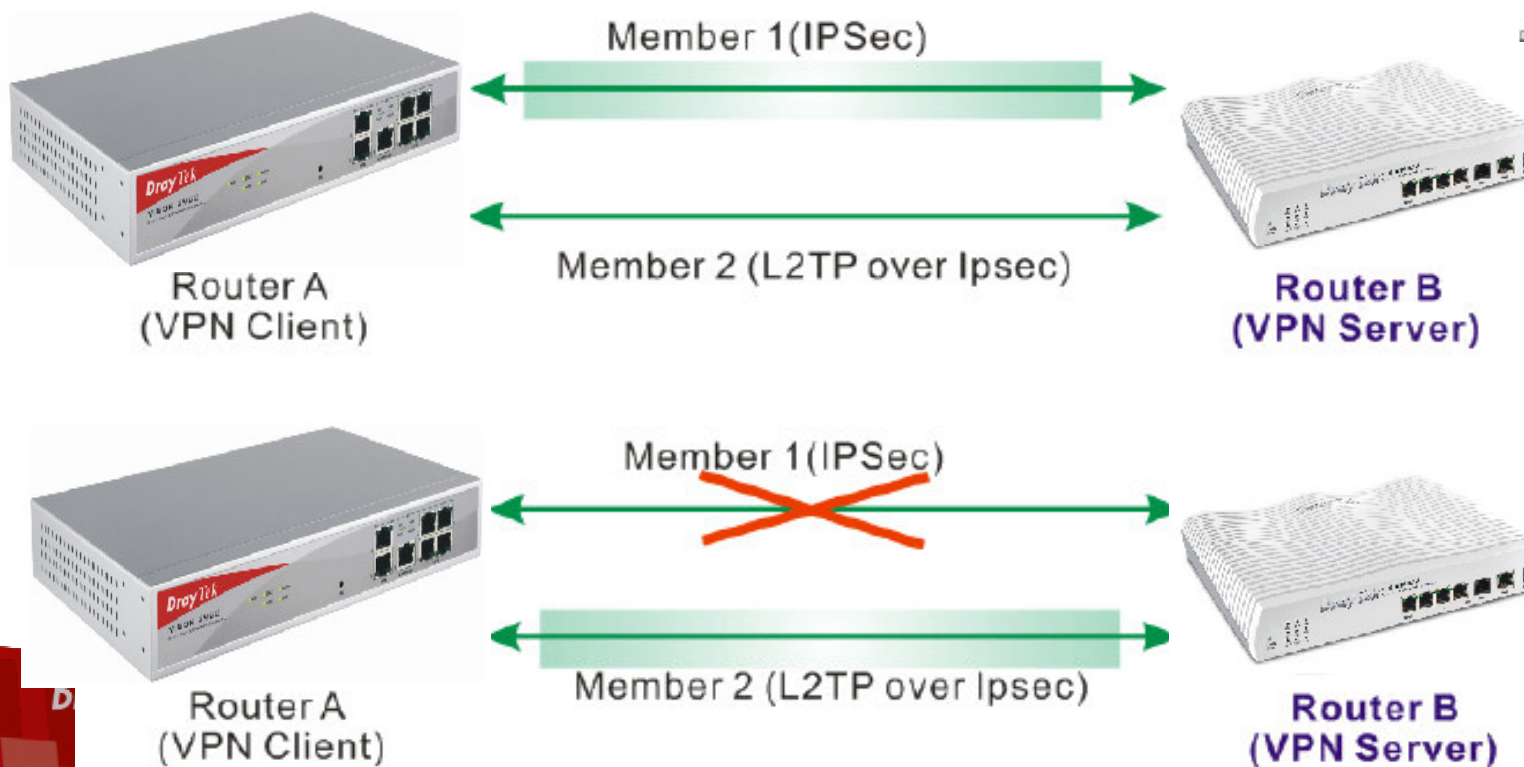
## -Specific ERD mechanism

### 1. Normal Mode ( Live Demo )

->next tunnel backup

### 2. Resume Mode ( Live Demo )

->member1 first backup.



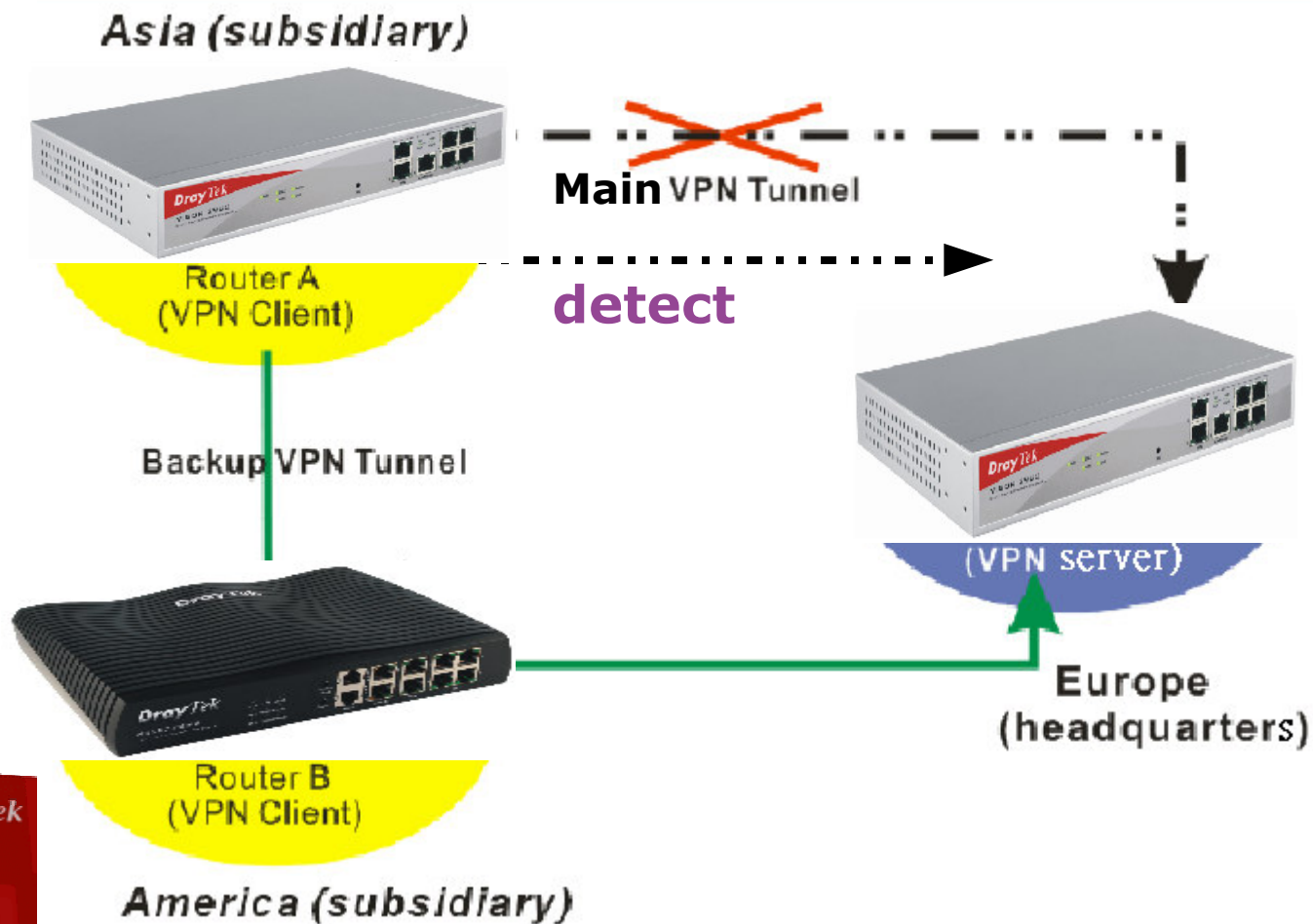


# VPN Backup Demo ( AutoDrop Mode )

## 3. AutoDrop Mode ( Live Demo )

->Auto recover main VPN tunnel.

->Try to connect main VPN tunnel every given period.



# VPN Load Balance Demo

## (1. Round Robin)

VPN Load Balance Device



WAN1: Tunnel-1 PPTP(MPPE)



VPN Server



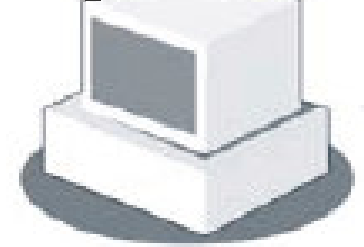
WAN2: Tunnel-2 IPSec-AH

VPN Load Balance Demo - Round Robin  
see syslog(call log page)

LAN site



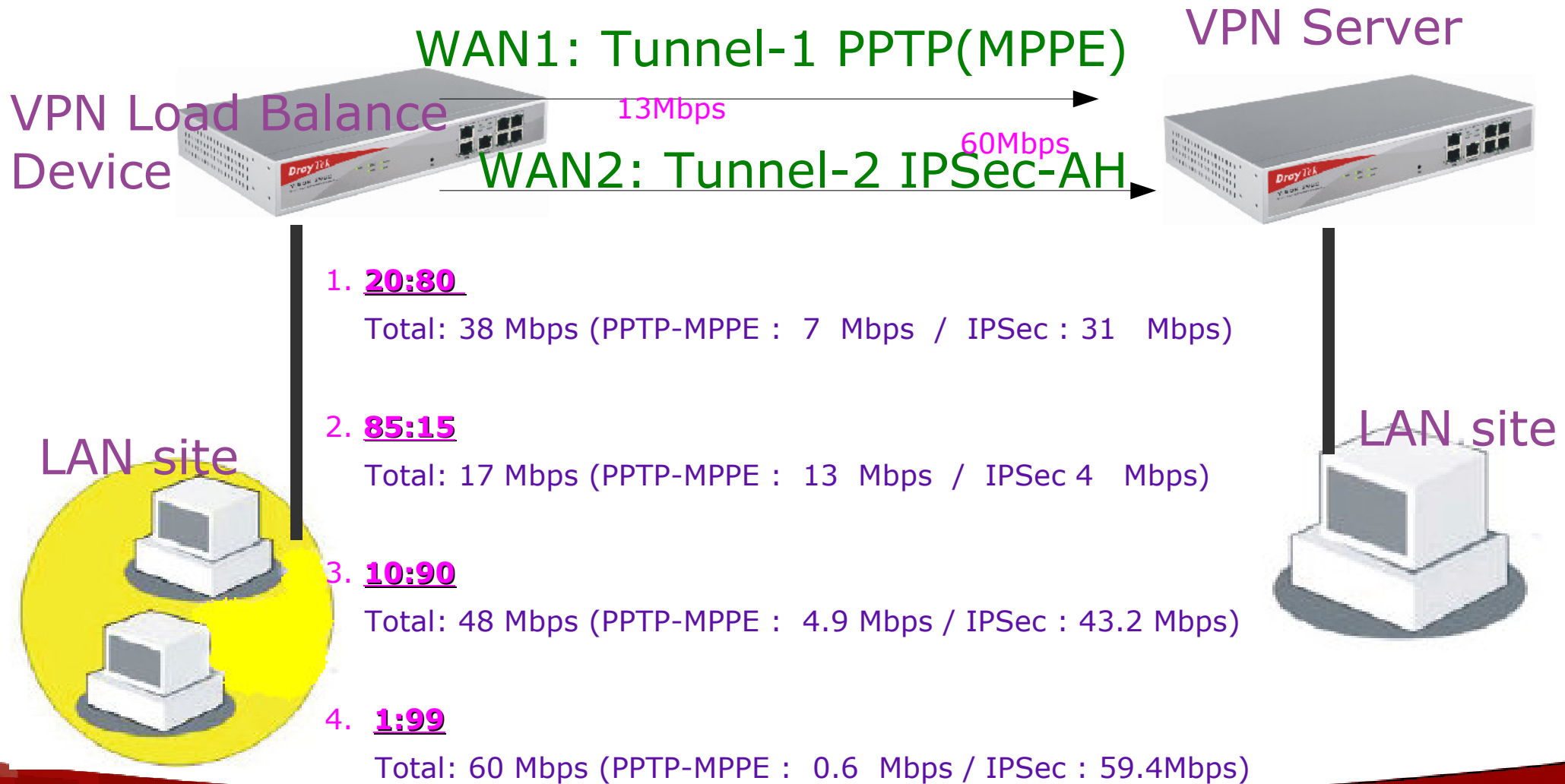
LAN site



Message
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:2)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:1)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:2)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:1)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:2)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:1)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:2)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.1 --(DialOutIndex:1)-->
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:2)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:1)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:2)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:1)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:2)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:1)--> Dest:192.168.1.20
VPN LoadBalance ~~~[DataSize:40]==> Src:192.168.10.24 --(DialOutIndex:2)--> Dest:192.168.1.20

# VPN Load Balance Demo

(2. Weighted Round Robin – According to Line Ratio)



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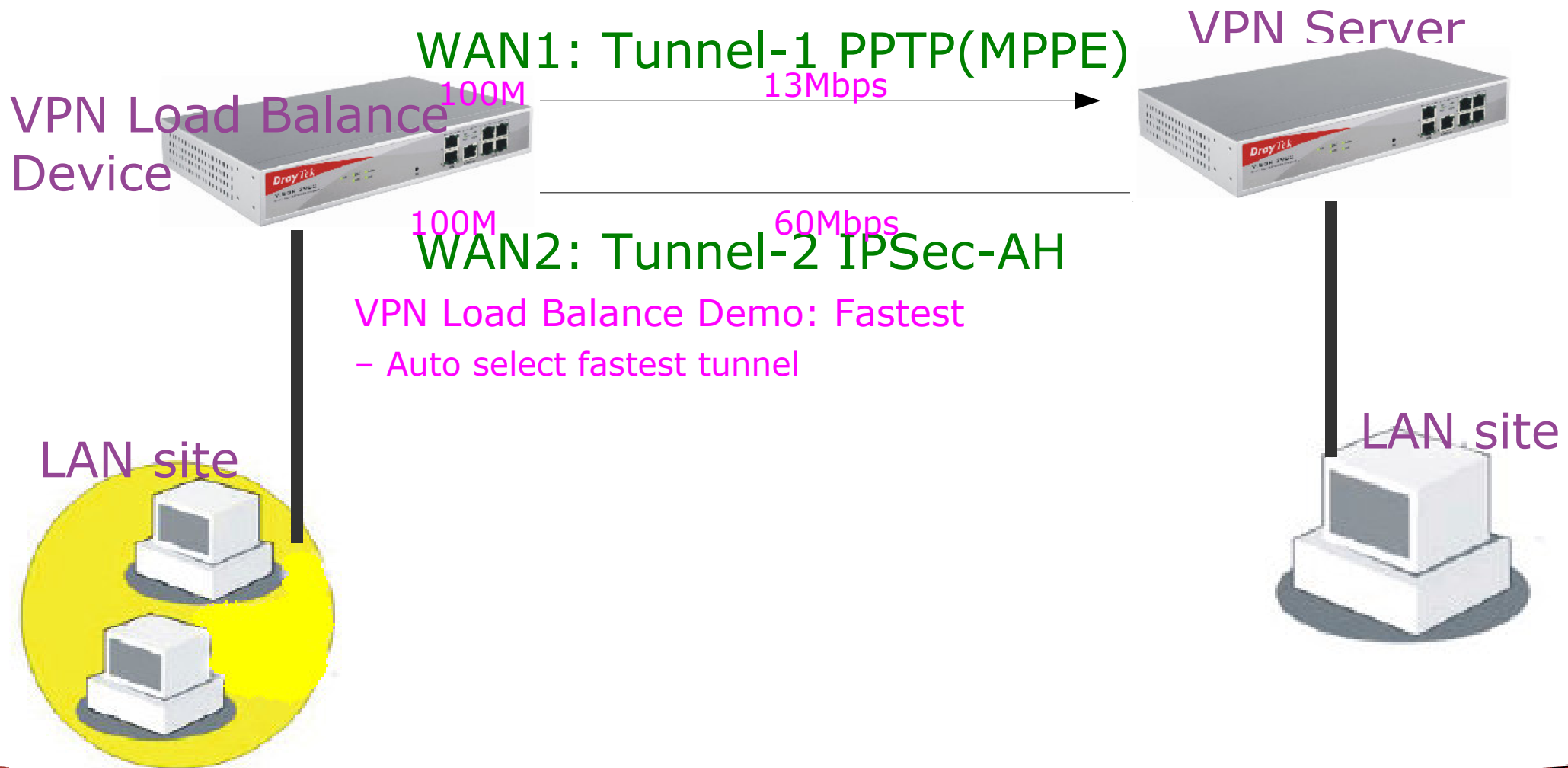
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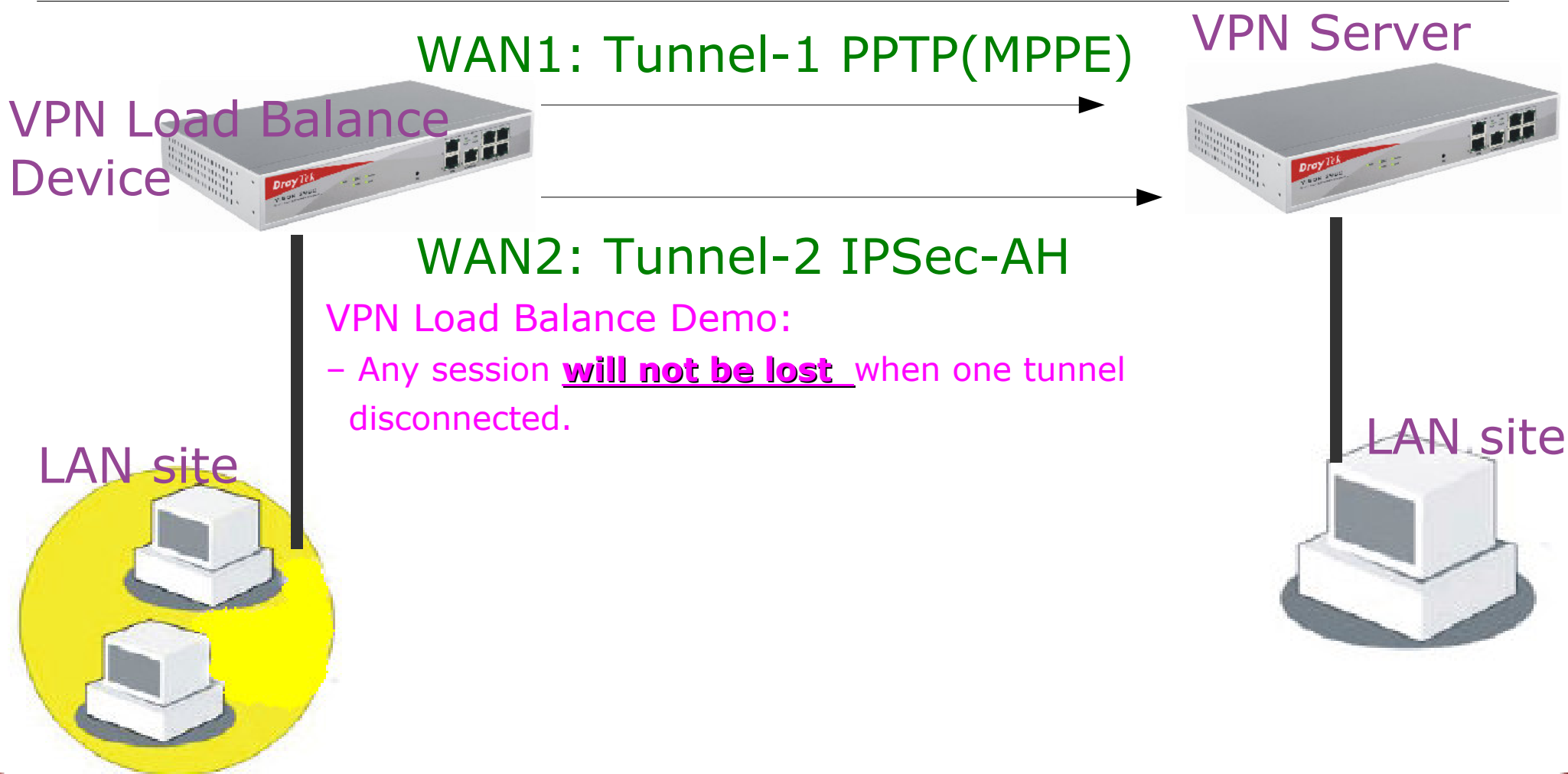
# VPN Load Balance Demo

## (3. Fastest )



# VPN Load Balance Demo

(4. Data transmission when one tunnel disconnected)



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**THANK YOU**

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