



Your IPv6/v4
Solution

Madrid IPv6 Forum Summit – January 2001

IP EDGE DEVICES
A solution for the Internet Migration

Patrick Cocquet, 6WIND CEO, IPv6 Forum VP

www.6wind.com

Summary

- 6WIND, the IPv6 company !
- IP Edge device, a migration box
- 6WIND Products
- Plate-form example
- Configuration tool
- Conclusion

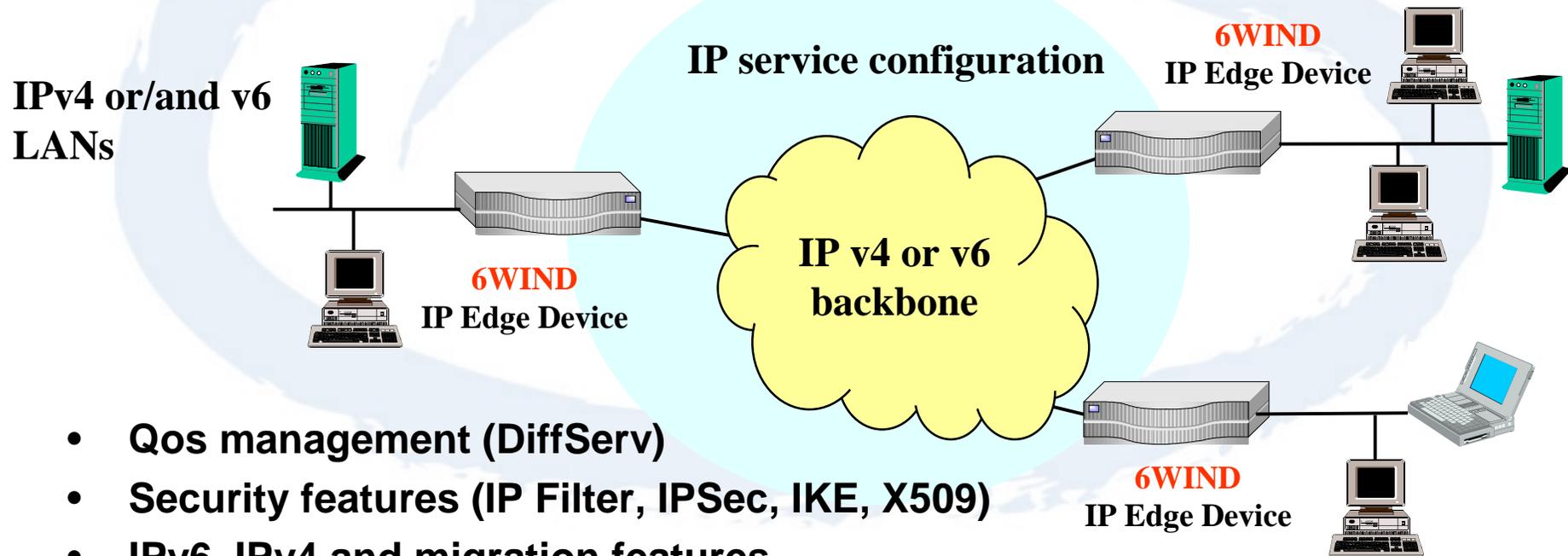
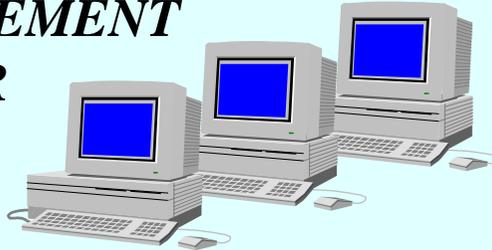
- **The IPv6 start-up company**
 - Spin-outing of the Thomson-CSF IP Network development activities
 - Starting day : 1st September 2000
 - Team : 20 engineers + subcontractors
 - Experience : 5 years of IP R&D activities
 - Member of the IPv6 Forum Board (VP)

COMPANY POSITIONING

- **To develop IP access devices to provide the user with new IP services :**
 - All features in one box : QoS, security, IPv6, mobility, routing
 - Significant step in terms of performances
- **To develop expertise around the introduction of the IPv6 technology**
- **Markets (1st step) :**
 - ISP and telcos
 - Large enterprises (indirect sales)
- **Markets (2nd step) :**
 - Home network (wireless + zero conf IP networks)

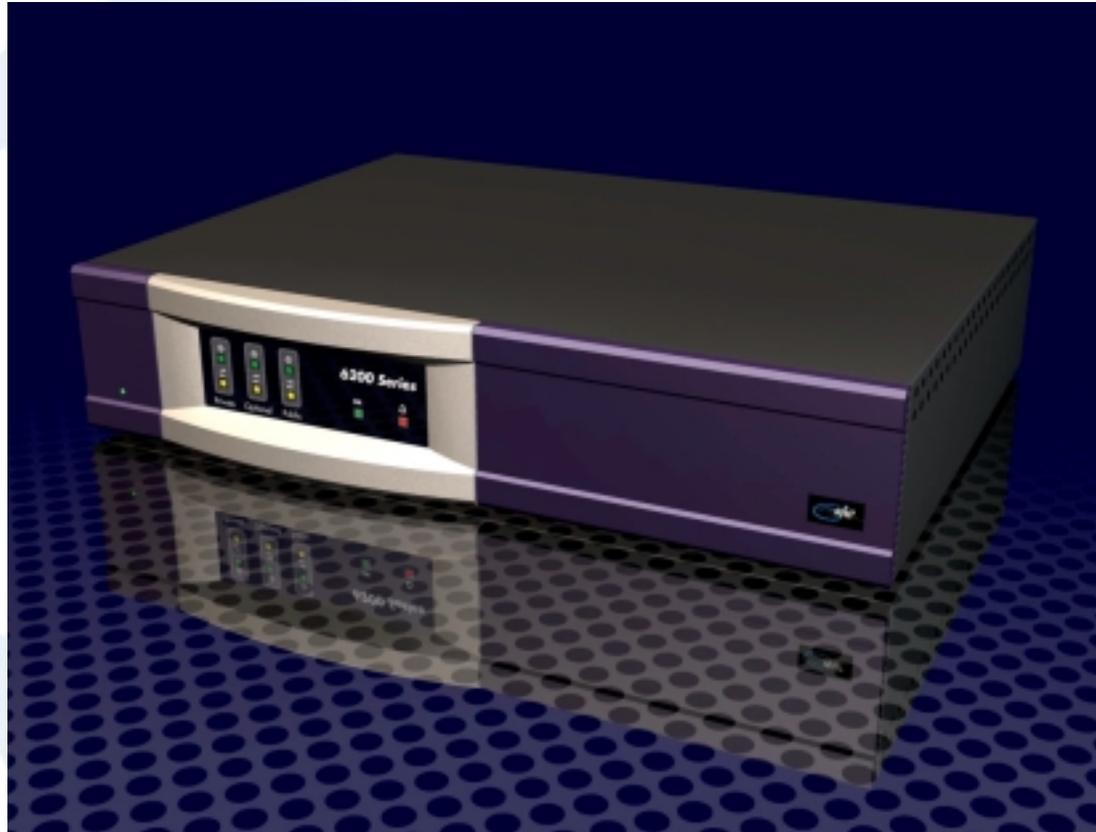
ARCHITECTURE

MANAGEMENT CENTER



- Qos management (DiffServ)
- Security features (IP Filter, IPSec, IKE, X509)
- IPv6, IPv4 and migration features
- Mobility (mobile IP)
- Routing

6WIND First set of Products



6200, 6400 series

First set of Edge Device Functions

- Quality of Service
 - Traffic differentiation (EF and AF)
- IP VPN
 - IPsec with IKE and PKI interface
- IPv4 - IPv6 Integration
 - Tunnels (6in4 and 4in6), 6to4
 - Translators

Plate-form Example

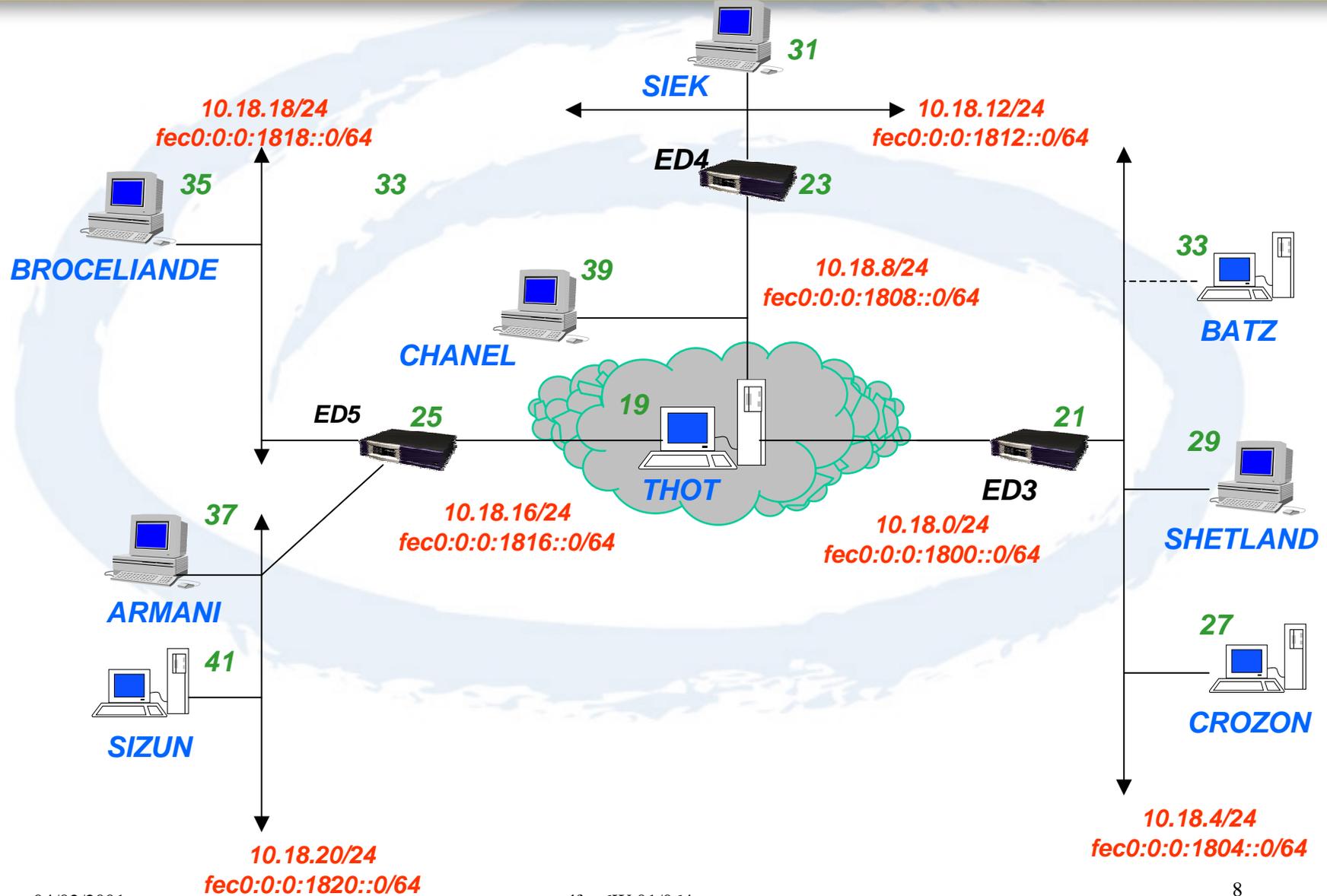




Plate-form representation using SNMPc

Your IPv6/v4 Solution

SNMPc Server - WorkGroup Edition - [Discovered Objects]

File Edit View Insert Manage Tools Config Window Help

ed5.6wind.net SystemInfo

Root Subnet

- Discovered Object
 - 10.18
 - 10.18.12
 - 10.18.16
 - 10.18.4
 - 10.18.8
 - Integration
 - ed3
 - ed4

Map Mib Trend Event Me

Normal	01/25/2001	15:04:12	siek	Device Responding to Poll
Normal	01/25/2001	15:04:46	crozon	Device Responding to Poll
Normal	01/25/2001	15:04:56	crozon	Ftp Service Up
Normal	01/25/2001	15:04:56	crozon	Sntp Service Up
Normal	01/25/2001	15:04:56	crozon	Telnet Service Up

04/0

Current History Custom 1 Custom 2 Custom 3 Custom 4 Custom 5 Custom 6 Custom 7 Custom 8

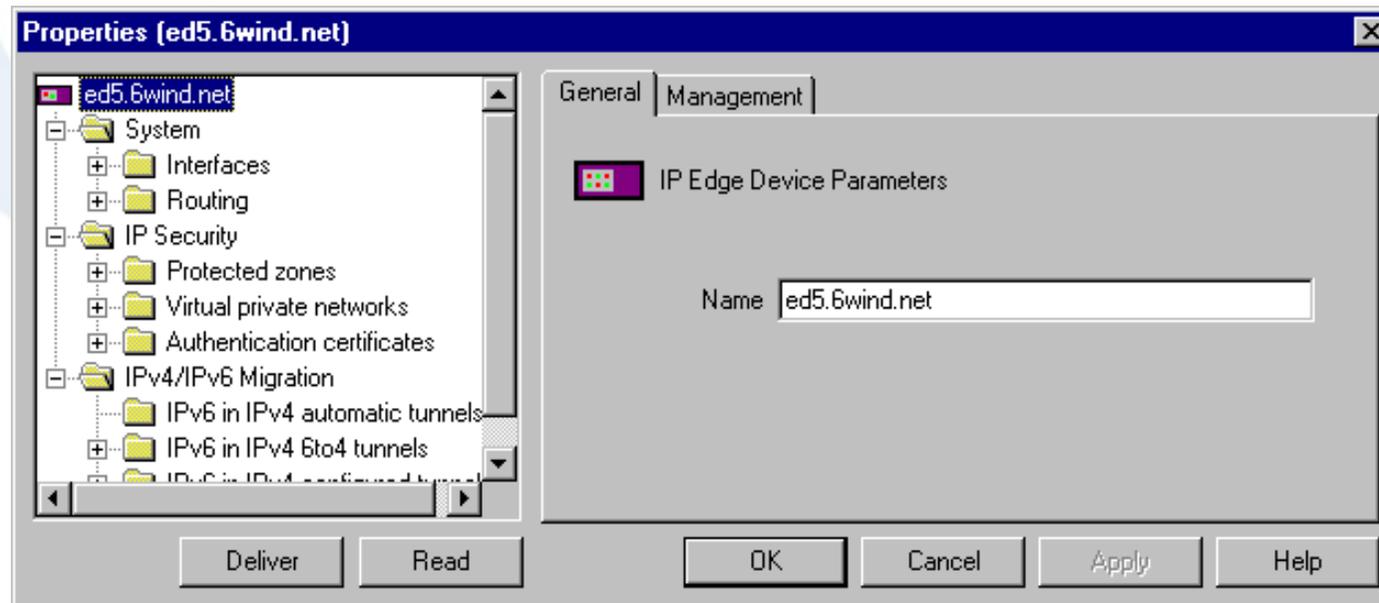
For Help, press F1

10.18.8.39 Administrator Supervisor

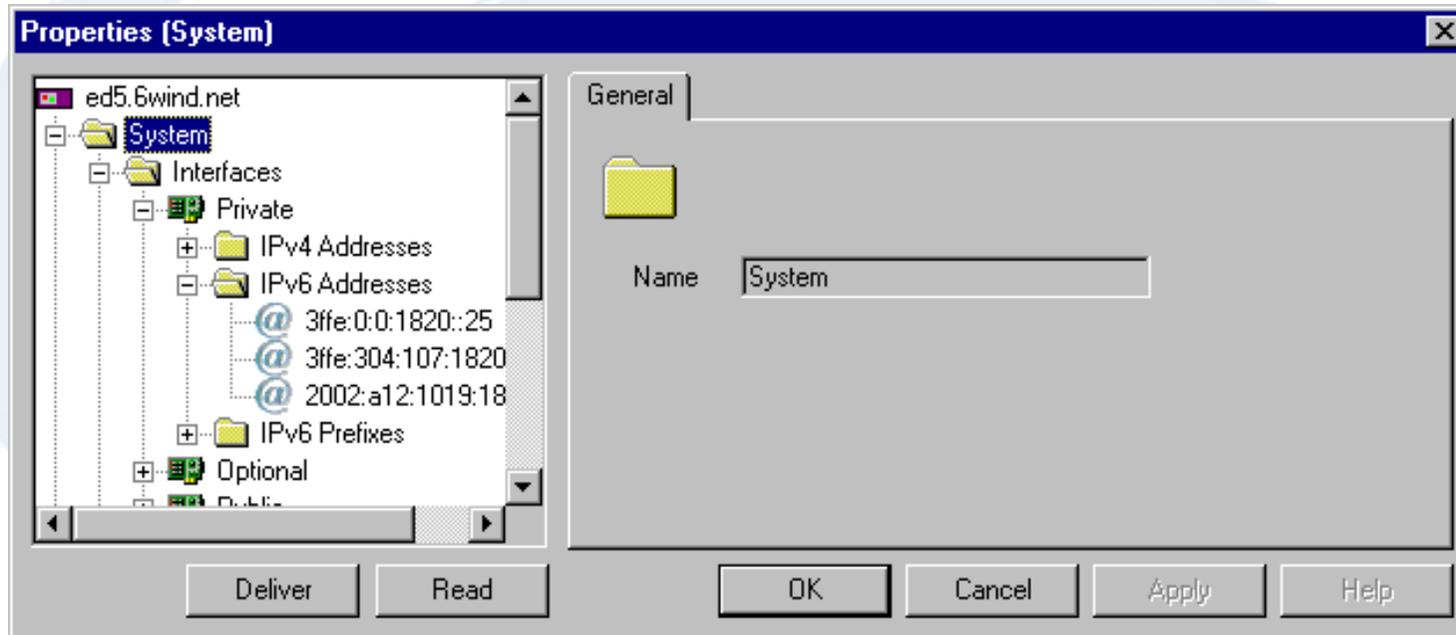
Edge Device configuration

The IP Edge configuration is made of 3 parts :

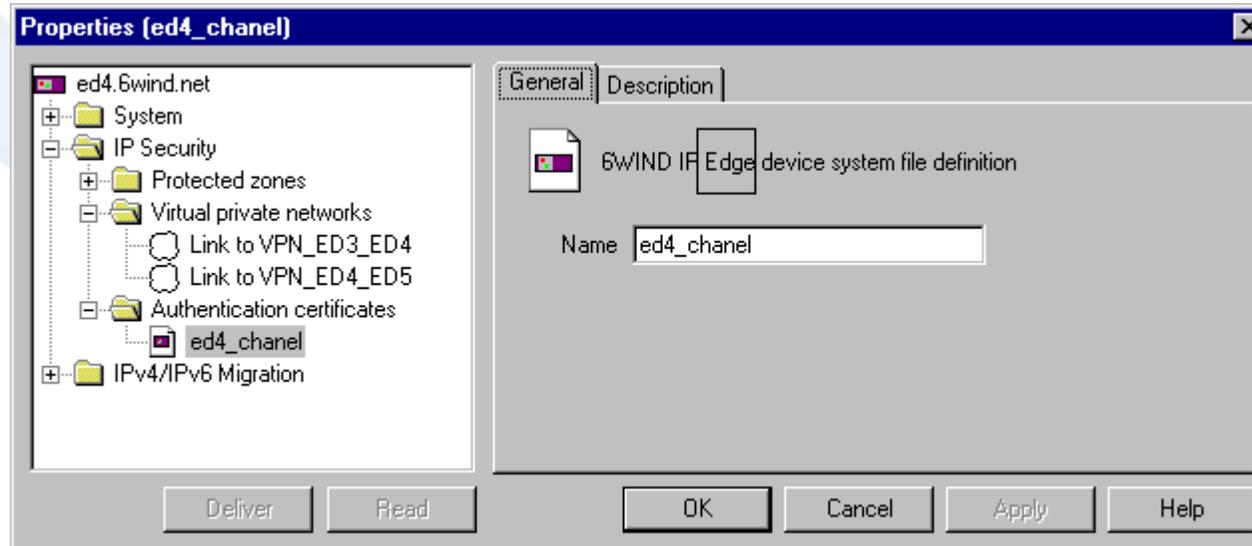
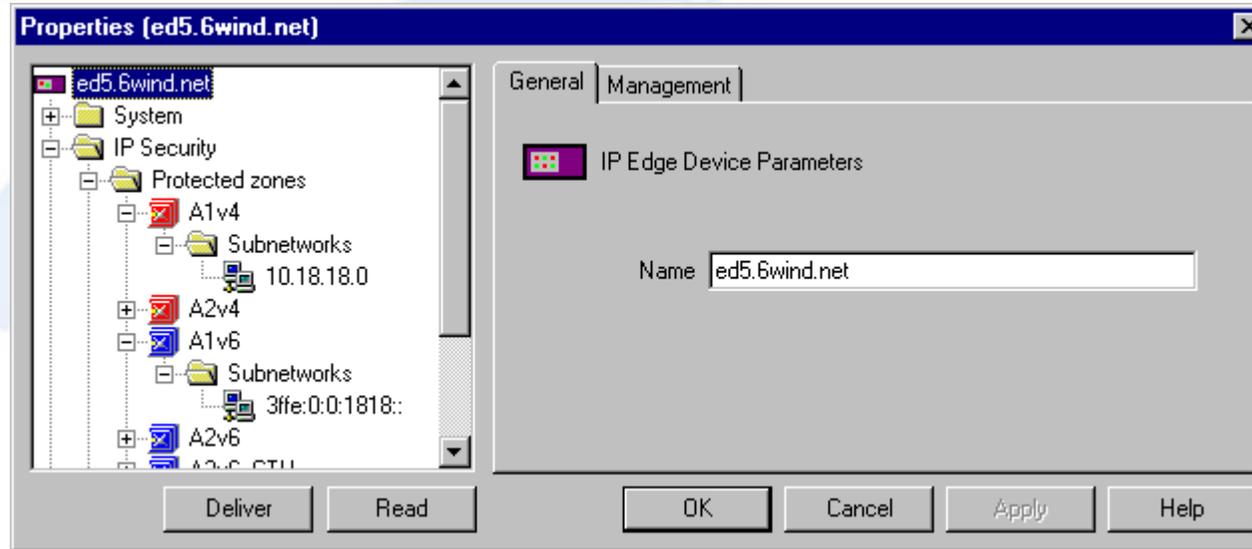
- **system** : you configure the addresses and the routing
- **security** : you define the zones and the certificates used in your Edge
- **migration** : automatic, configured, 6to4 tunnels



System configuration



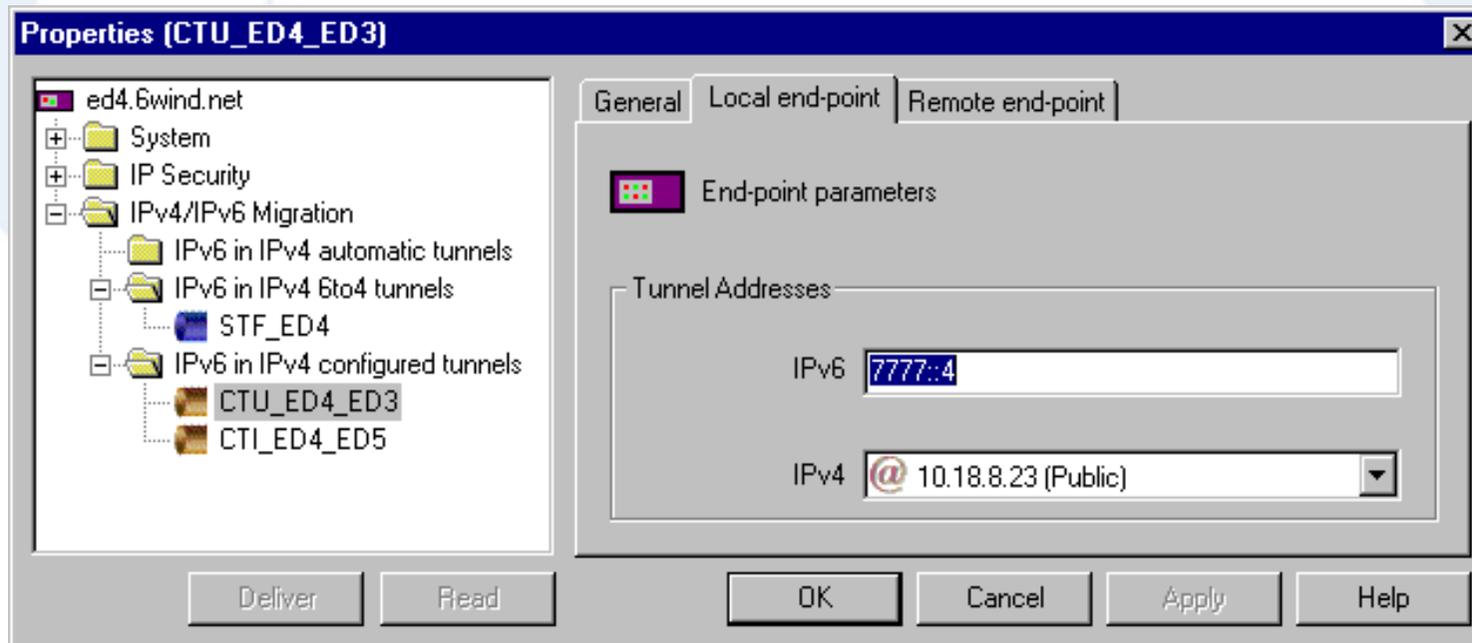
Security configuration



Migration configuration

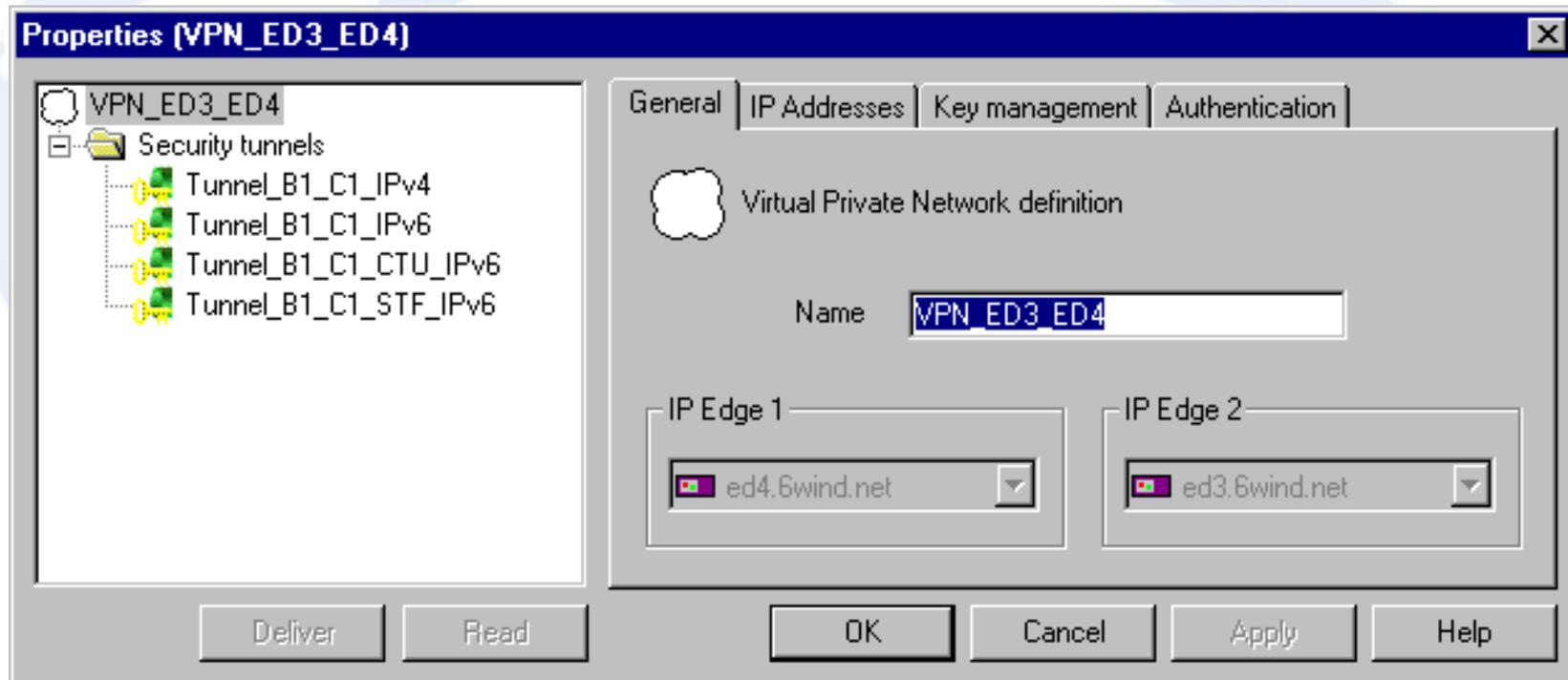
6to4 : you set your public IPv4 address

ctu : you set the IPv4 and IPv6 addresses for the tunnels



VPN Configuration

We configure a VPN between IP Edge Devices, including tunnels with several choices of security rules



VPN Configuration (2)

Properties [VPN_ED3_ED4]

VPN_ED3_ED4
 Security tunnels

General | IP Addresses | Key management | Authentication

IPv4 addresses
 ed4.6wind.net : @ 10.18.8.23
 ed3.6wind.net : @ 10.18.0.21

IPv6 addresses
 ed4.6wind.net : @ 3ffe:0:0:1808::23
 ed3.6wind.net : @ 3ffe:0:0:1800::21

No IPv6 Address
 @ 3ffe:0:0:1800::21
 @ fe80::21

Deliver Read OK Cancel

Properties [VPN_ED3_ED4]

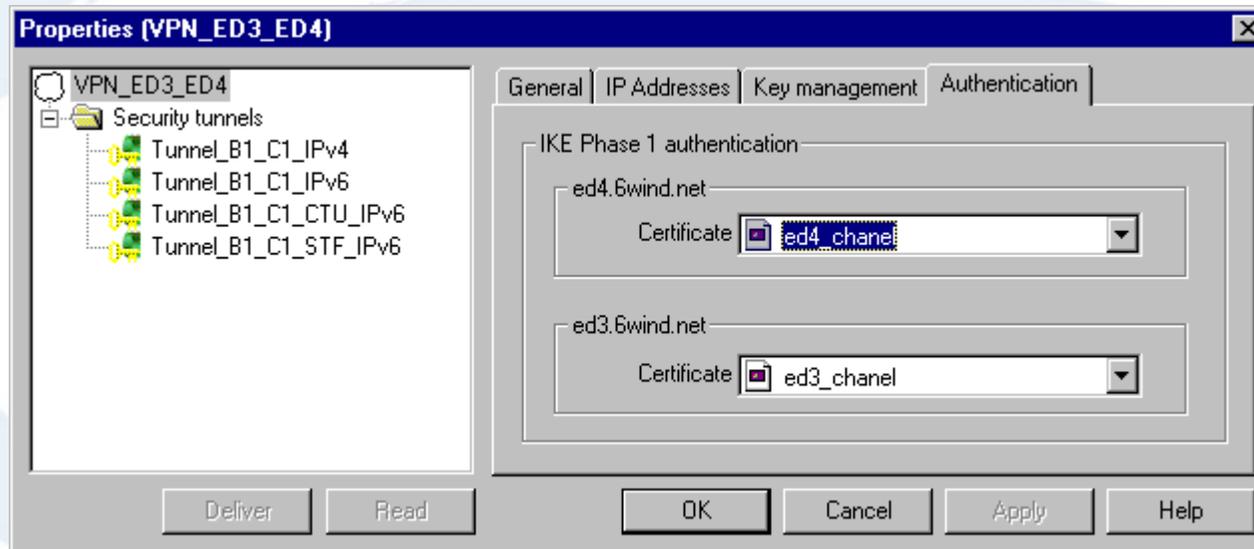
VPN_ED3_ED4
 Security tunnels
 Tunnel_B1_C1_IPv4
 Tunnel_B1_C1_IPv6
 Tunnel_B1_C1_CTU_IPv6
 Tunnel_B1_C1_STF_IPv6

General | IP Addresses | Key management | Authentication

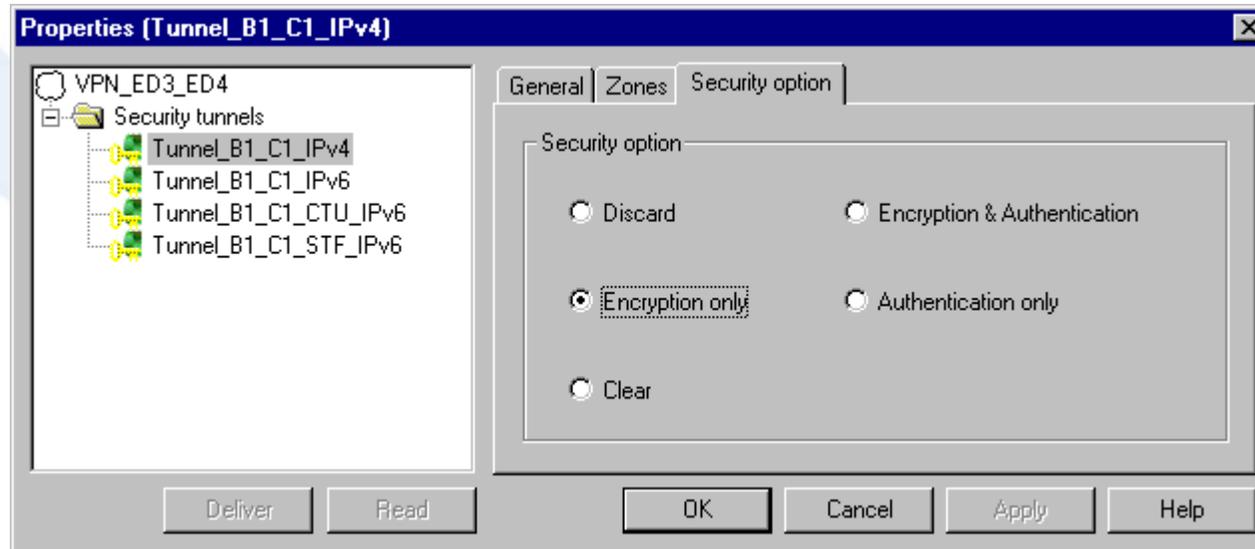
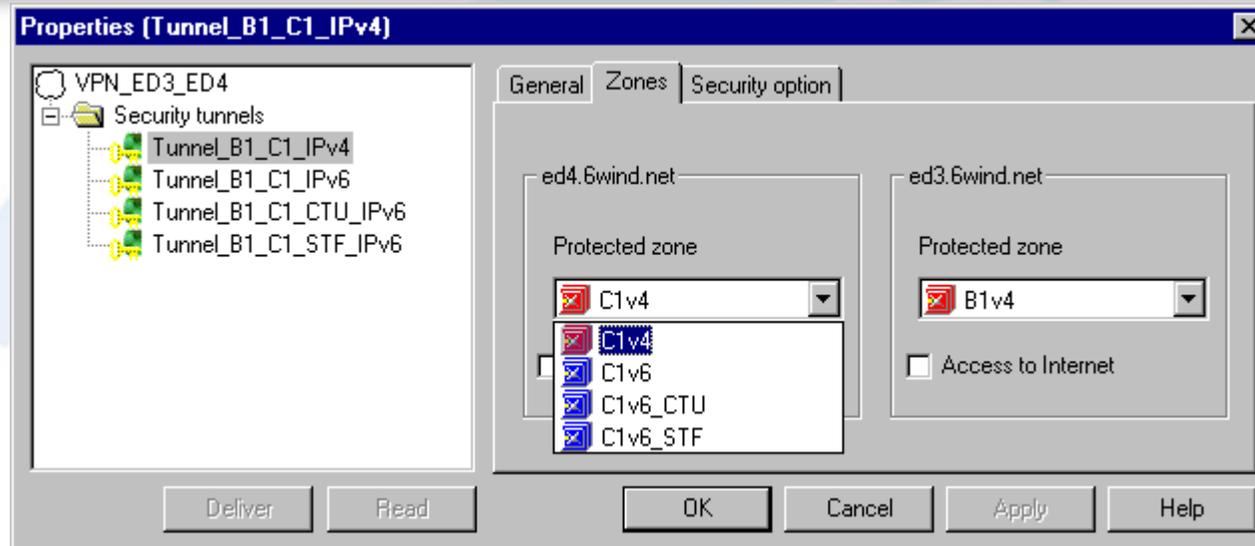
IKE
 Template: Certificates lite
 Static
 Pre-Shared Key strong
 Pre-Shared Key lite
 Certificates strong

Deliver Read Help

VPN Configuration (3)



IPsec tunnel configuration



QoS Configuration

6WIND QoS Management

General | **Classes of services**

ed3.6wind.net

- [-] RIO
 - [-] Input
 - Drop precedence
 - Best Effort
 - [-] Output
 - Drop precedence
 - Best Effort
- [-] Ep0
 - [-] **Input**
 - Drop precedence
 - Best Effort
 - Management
 - manager
 - VIDEO
 - VIC
 - [-] Output

Class name	Rate	Size	Prio...	Transmitted	Over limit	Rejected
Scheduler freq...	50 Hz					
Allowed rate	4 000 000 bits/s					
Maximum over...	0 bits/s					
Scheduler	OFF					
Drop precede...						
Best Effort	1 950 000 bits/s	1 000 000 bits	0	0 bits	0 bits	0 bits
Management	50 000 bits/s	10 000 bits	15	0 bits	0 bits	0 bits
VIDEO	2 000 000 bits/s	200 000 bits	15	0 bits	0 bits	0 bits

Add... | Delete | Properties...

Statistics :
 Instant Cumul

Refresh period : ms | Reset

OK | Annuler | Appliquer

Class of service

Class of Service properties :

Card :

Class name :

Available bandwidth re-allocation priority :

Minimum rate guaranteed for the class : bits/s

Buffer size : bits

Drop policy :

Maximum over limit rate : bits/s

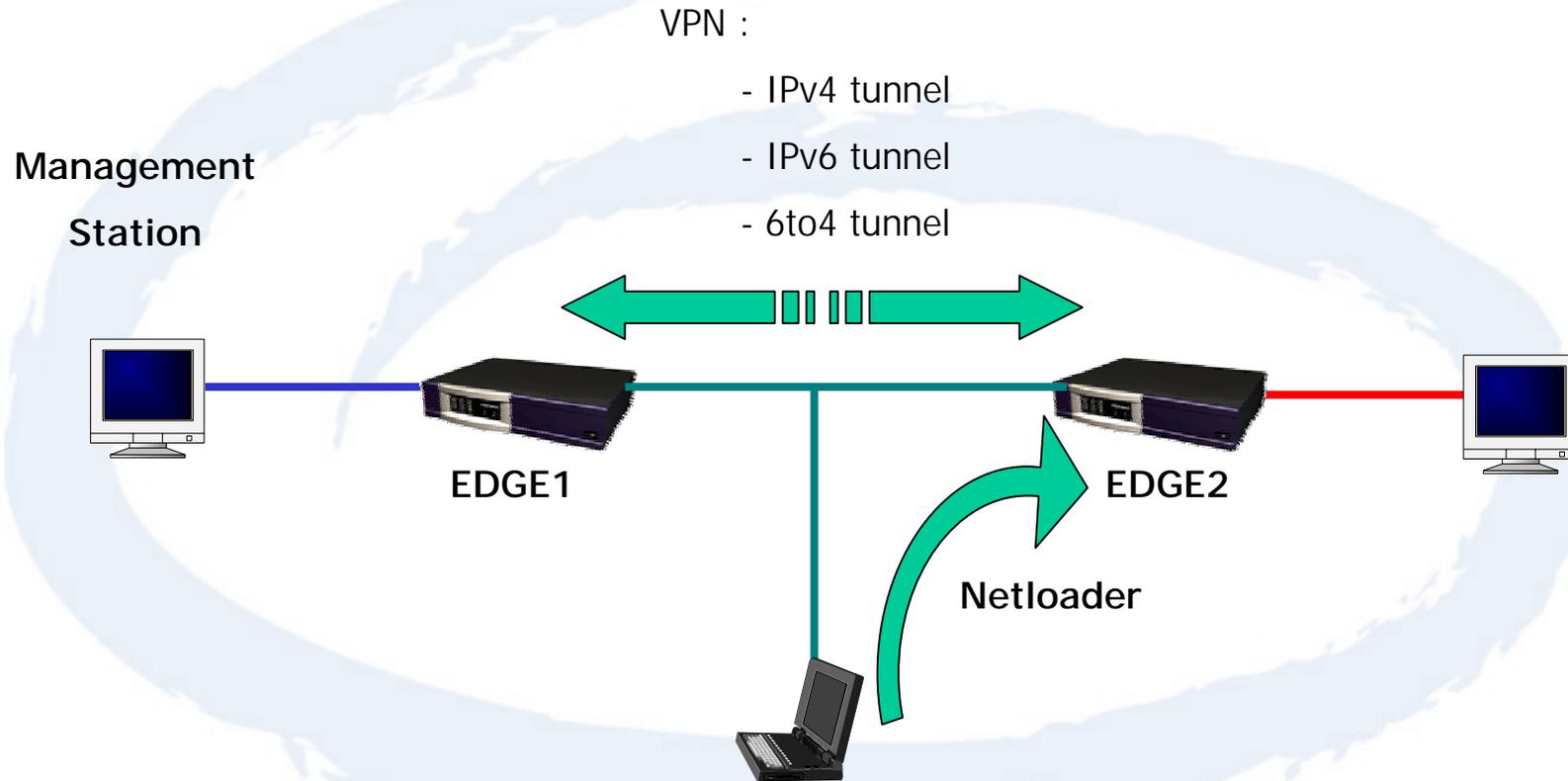
Flow marker :

Flow definition

Flow Parameters [X]

Source address :	<input type="text" value="3ffe:304:107:300::3"/>	Mask :	<input type="text" value="ffff:ffff:ffff:ffff:ffff:ffff:ffff:ff"/>
Destination address :	<input type="text" value="3ffe:304:107:400::4"/>	Mask :	<input type="text" value="ffff:ffff:ffff:ffff:ffff:ffff:ffff:ff"/>
Source port :	<input type="text" value="4444"/>	Mask :	<input type="text" value="65535"/>
Destination port :	<input type="text" value="7777"/>	Mask :	<input type="text" value="65535"/>
Protocol :	<input type="text" value="17"/>	Mask :	<input type="text" value="255"/>
DSCP :	<input type="text" value="0"/>	Mask :	<input type="text" value="0"/>

< Précédent Terminer Annuler



- 6WIND Edge Devices enable new service deployment :
 - Better multi-media performance by implementing Diffserv
 - Security by using IPSec and IKE
 - Efficient management
 - Nomadism of users by using MobileIP(2nd release)
 - Multicasting (3rd release)

Allowing v4 to v6 migration of networks and v4/v6 interoperability

The end

- Questions ?
 - Info@6wind.com
- Web sites
 - www.6wind.com
 - www.ipv6forum.com
 - www.6init.org
 - www.lip6.fr/airs