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SUJET: Guide d'installation du raccordement sécurisé à haut débit pour la maintenance NovaScale.		DOSSIER CSB	2007-002 REV 1

Contenu & Sommaire :

Ce CSB décrit les étapes du raccordement d'un client NovaScale (9000 - Hélios, 7000, ...) au centre de support Bull pour sa maintenance sécurisée via Internet.

1. Matériel et informations nécessaires
2. Enregistrement du client
3. Personnalisation du TrustWay CRX.
4. Pré-configuration du routeur NAT.
5. Personnalisation du routeur NAT.
6. Personnalisation du routeur ADSL
7. Installation sur le réseau.

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WRITER : D.HAMEL / A. LAPEYRE / P. BEILVERT	APPROVED By : M. MIJIYAWA	Page 1
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ORIGINATOR'S ADDRESS :

BULL - 43, RUE JEAN JAURES - BP 68
78340 LES CLAYES SOUS BOIS

TEL NUMBER :

(33) 01 30 80 70 00

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1. Matériel & informations nécessaires :

Matériel :

Ce matériel est issu de la commande, sauf les cordons Ethernet et le PC qui peuvent être fournis par le client

- 1 TrustWay CRX.
- 1 routeur NAT (3Com 3CR860-95).
- 1 Modem ADSL (3Com 3wdr101a-75)
- PC avec émulation Hyper terminal & browser (utilisé seulement pendant la phase de paramétrage).
- Cordon RJ11-DB9F (ref 76680283-001) fourni avec CRX.
- Câble Ethernet (1 cordon fourni avec le routeur).

Paramètres de configuration Hyper terminal :

- Vitesse : 115200 bits/sec.
- Data : 8 bits
- Parité : sans
- Stop : 1 bit
- Contrôle de flux : Aucun

2. Enregistrement du client :

2.1. La « Demande d'Enregistrement » (voir figure) est à remplir après consultation de l'administrateur client :

- Le client aura souscrit au préalable un abonnement ADSL auprès d'un FAI.
- Le FE complétera la fiche de demande de renseignements qu'il retournera à l'administrateur du Bicc

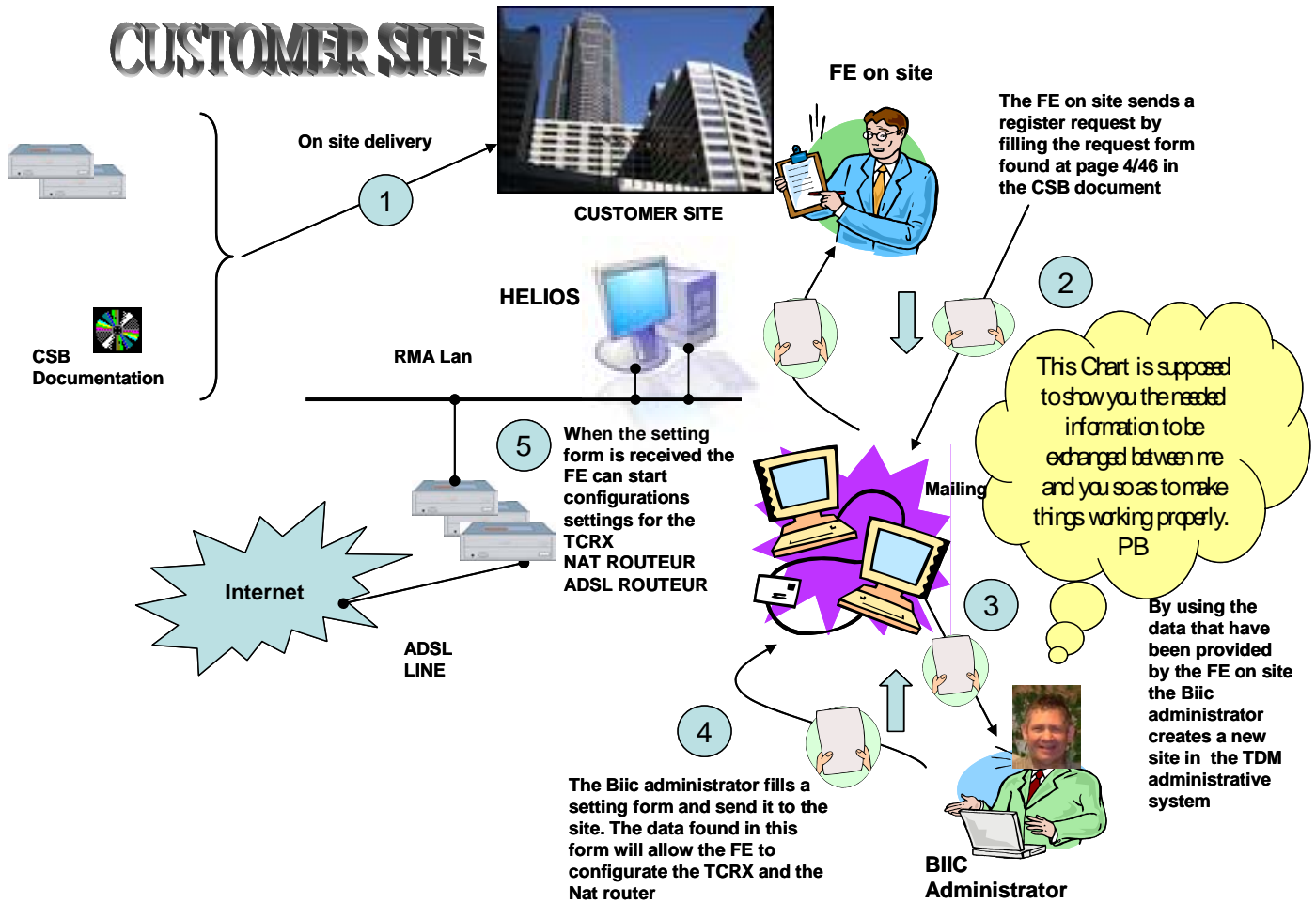
2.2. Cette fiche est à envoyer à l'administrateur BICC :

- Mr Patrick Beilvert
- Tel : (33)1 6993 9421
- Fax : (33)1 6993 9440
- Mail : Patrick.beilvert@bull.net, copie Srv.gcos8-support@Bull.net

2.3. L'administrateur BICC répond en envoyant une fiche « Configuration Client Hélios » regroupant les éléments de configuration des divers boîtiers. Ces éléments seront utilisés dans les étapes suivantes pour programmer le CRX et le routeur NAT et l'ADSL

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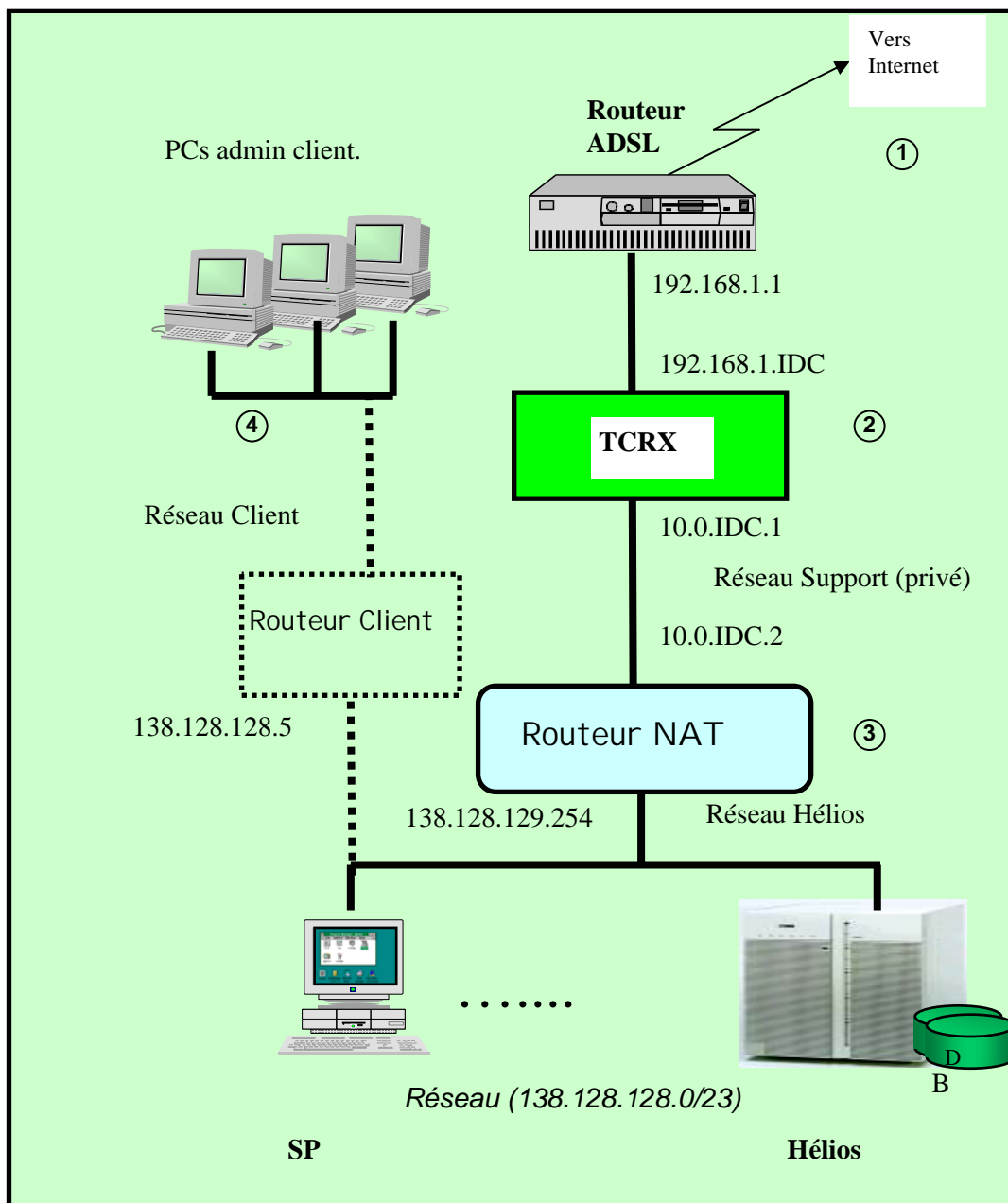


1. Matériel (Adsl Router + TCRX + Nat Router) + documentation livrés sur site.
2. Le FE sur site envoie une fiche de renseignements vers le Bicc
3. L'administrateur du Bicc crée un nouveau site RMS
4. L'administrateur du Bicc renvoie vers le site une fiche de configuration
5. A l'aide de cette fiche le FE sur site configure les éléments de la RMS

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Le schéma de principe pour la configuration est décrit ci-dessous :



Shéma de principe

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Les informations à renvoyer par le technicien du site (Field Engineer) sur site vers l'administrateur du Bicc :

<u>Demande d'Enregistrement :</u>	
Nom du client : _____	
Coordonnées de l'administrateur client :	
Nom :	_____
Tel :	_____
Mail :	_____
Connexion ADSL :	
@IP ADSL (publique) :	_____ ①
ISP Name :	_____
Contract Type :	_____
TCRX :	
Serial n° :	XAN-_____ ②
NAT_3Com:	
N° série:	_____ ③
Réseau client :	
@PC/sub-net Admin client :	_____ ④

*Note : Le client doit souscrire auprès d'un FAI un contrat ADSL
_____ avec adresse IP Fixe*

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Configuration Hélios :


Informations client :

Identification : **2** IDC=2Nom : Bull_Massy
Adresse : rue Galvani MassyNom de l'administrateur : J.F.Auger
Téléphone : 223.9397
Mail : jf.auger@bull.net

Réseau_Admin :

@IP_réseau 129.185.192.0/19
Masque : 255.255.224.0 

Réseau_privé_support :

@IP_réseau 10.0.2.0/24 (de 10.0.3.0
Masque : 255.255.255.0 à 10.0.3.254)
Gateway : 10.0.2.1 



Réseau_privé_Hélios :

@IP_réseau 138.128.128.0/23
Masque : 255.255.254.0
Gateway : 138.128.129.254


Modem_ADSL :

@IP_public : 217.128.38.219 
@IP_privée: 192.168.1.1

CRX_Hélios :

N° serie : XAN-CRX-00030
Identification : 75628-113G190114 
@IP_Chiffré : 192.168.1.3
@IP_Clair : 10.0.2.1 

NAT_3Com :

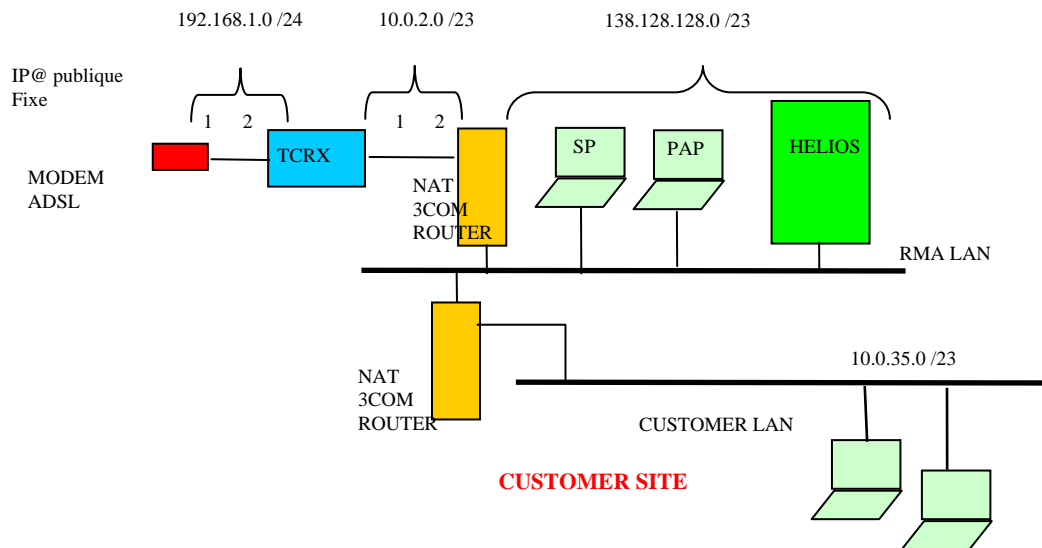
N° serie : L5MV4NBDA55E2
Identification : 3Com
@IP_ISP : 10.0.2.2 
@IP_LAN : 138.128.129.254
Route(s) statique(s) : 129.185.192.0/19 via 138.128.128.5

Routeur client (optionnel) :

@IP_A : 138.128.128.5
@IP_B : _____

Note : Fiche renvoyée, complètement renseignée, par l'administrateur Bull-BICC au client.

Exemple de configuration type de la RMS sécurisée sur site :



Les différents réseaux :

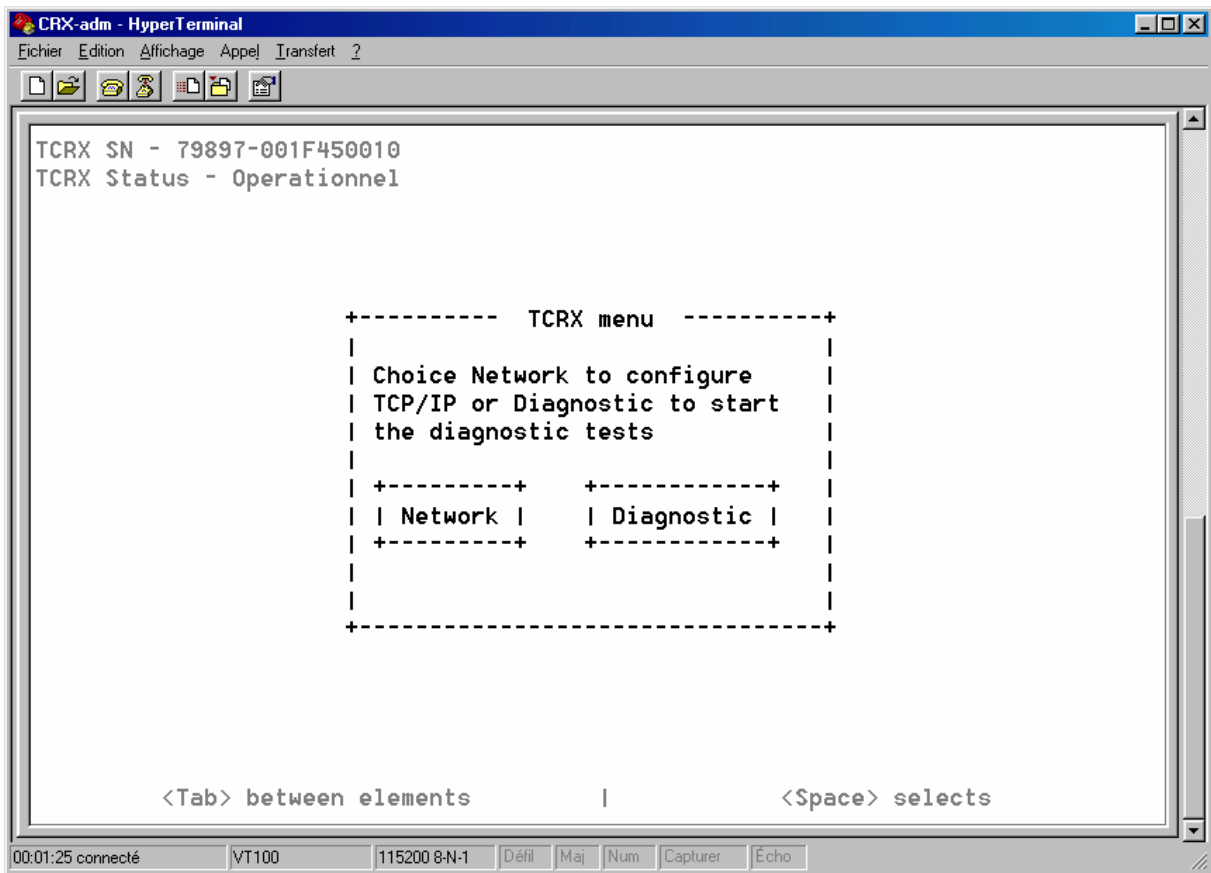
- ADSL public (l'adresse IP du modem sur le réseau ADSL doit être fixe)
- Réseau privé crypté 192.168.1.0/24 (nœuds : routeur ADSL, TCRX)
- Réseau privé clair 10.0.n.0/23 (n différent pour chaque site)
- Réseau RMA 138.128.128.0/23 (nœuds SP, Pap, etc..)
- Réseau client (ici exemple donné pour 10.0.35.0/23 (nœuds consoles NCC))

Les éléments à configurer sont :

- Le boîtier TCRX
- Le / les nat routers (un seul routeur si pas d'interconnexion RMA / Intranet client)
- Le routeur ADSL

3. Personnalisation du TrustWay CRX :

- Via le cordon RJ11-DB9F, connecter le port Com1 du PC à la prise Console du TCRX.
 - Ouvrir une connexion Hyper terminal
 - Via les touches « Tab » puis « enter » sélectionner la fonction « Networks »
- (note : ce même environnement permet aussi de lancer les tests de diagnostique).



```

CRX-adm - HyperTerminal
Fichier Edition Affichage Appel Transfert ?
TCRX SN - 79897-001F450010
TCRX Status - Operationnel

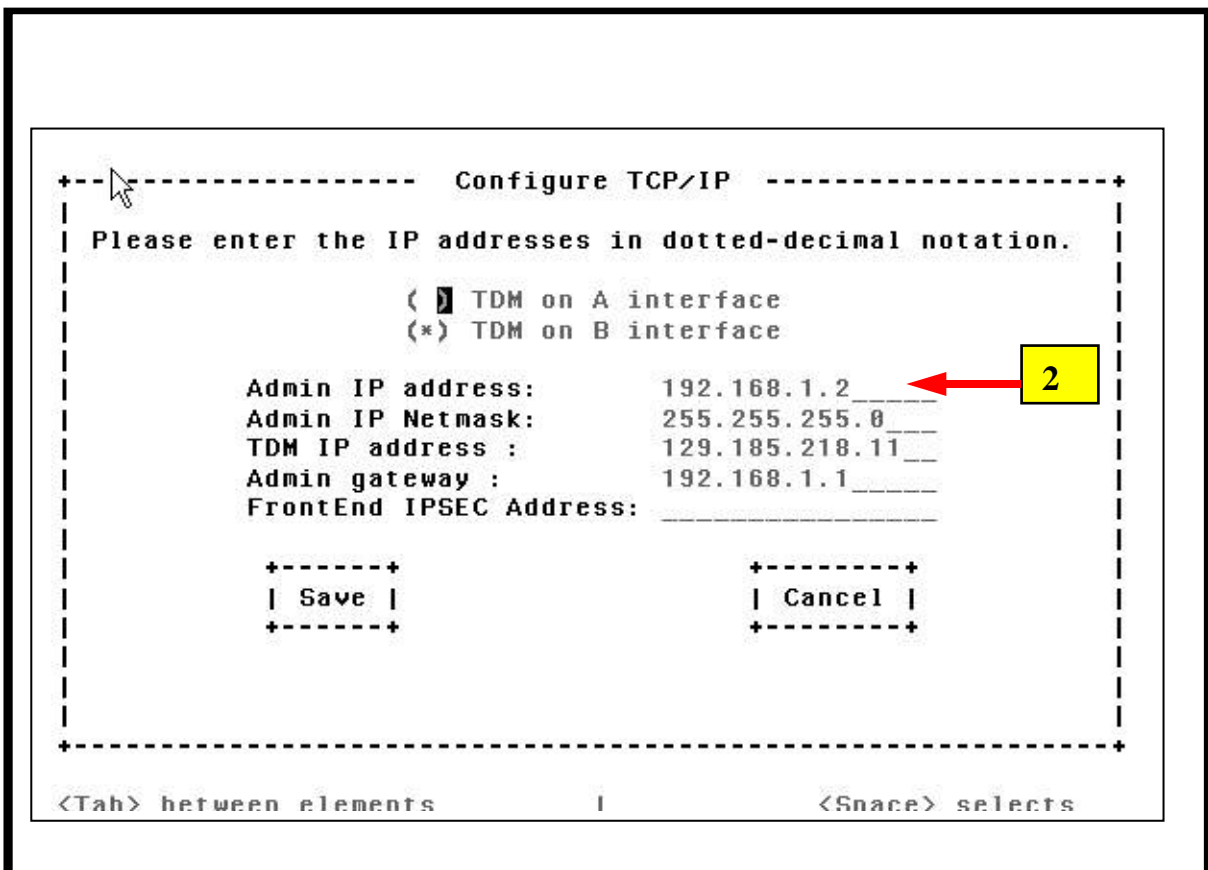
+----- TCRX menu -----+
|
| Choice Network to configure
| TCP/IP or Diagnostic to start
| the diagnostic tests
|
| +-----+ +-----+
| | Network | | Diagnostic |
| +-----+ +-----+
|
+-----+

<Tab> between elements      |      <Space> selects
00:01:25 connecté          VT100      115200 8-N-1  Défil  Maj  Num  Capturer  Écho
  
```


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- Entrer les informations de la fiche de configuration comme montrée dans l'image ci-dessous. Pour réaliser cette opération, vous devez avoir reçu votre fiche de configuration renvoyée par l'administrateur Bull BICC. Remarquez que le paramètre IDC est propre à chaque site.
- L'adresse du TDM est constante et vaut **129.185.218.11**. Il est toujours accessible via l'interface B
- Le fait de sélectionner et valider « Save » va provoquer la prise en compte des informations par le TCRX et son reboot.
- Attendre la fin de ce reboot et débrancher le PC.



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4. Pré-configuration du routeur Nat :


Affecter au PC l'adresse 192.168.1.2 masque 255.255.255.0.

Brancher le cordon Ethernet entre le PC et un des 4 ports LAN du routeur.

Avec Microsoft Internet Explorer, ouvrir une connexion **http://192.168.1.1**

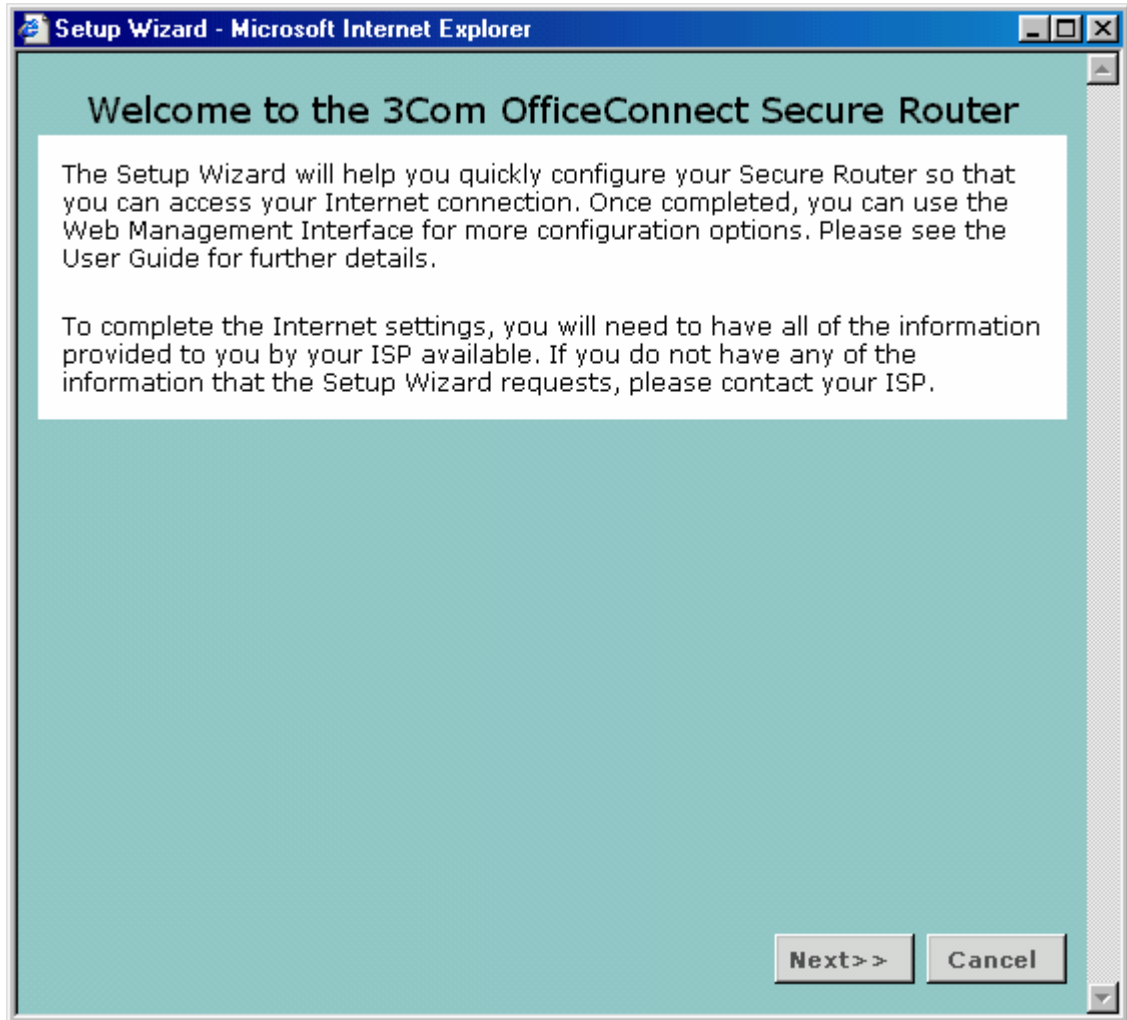


Le mot de passe par défaut est *admin*.

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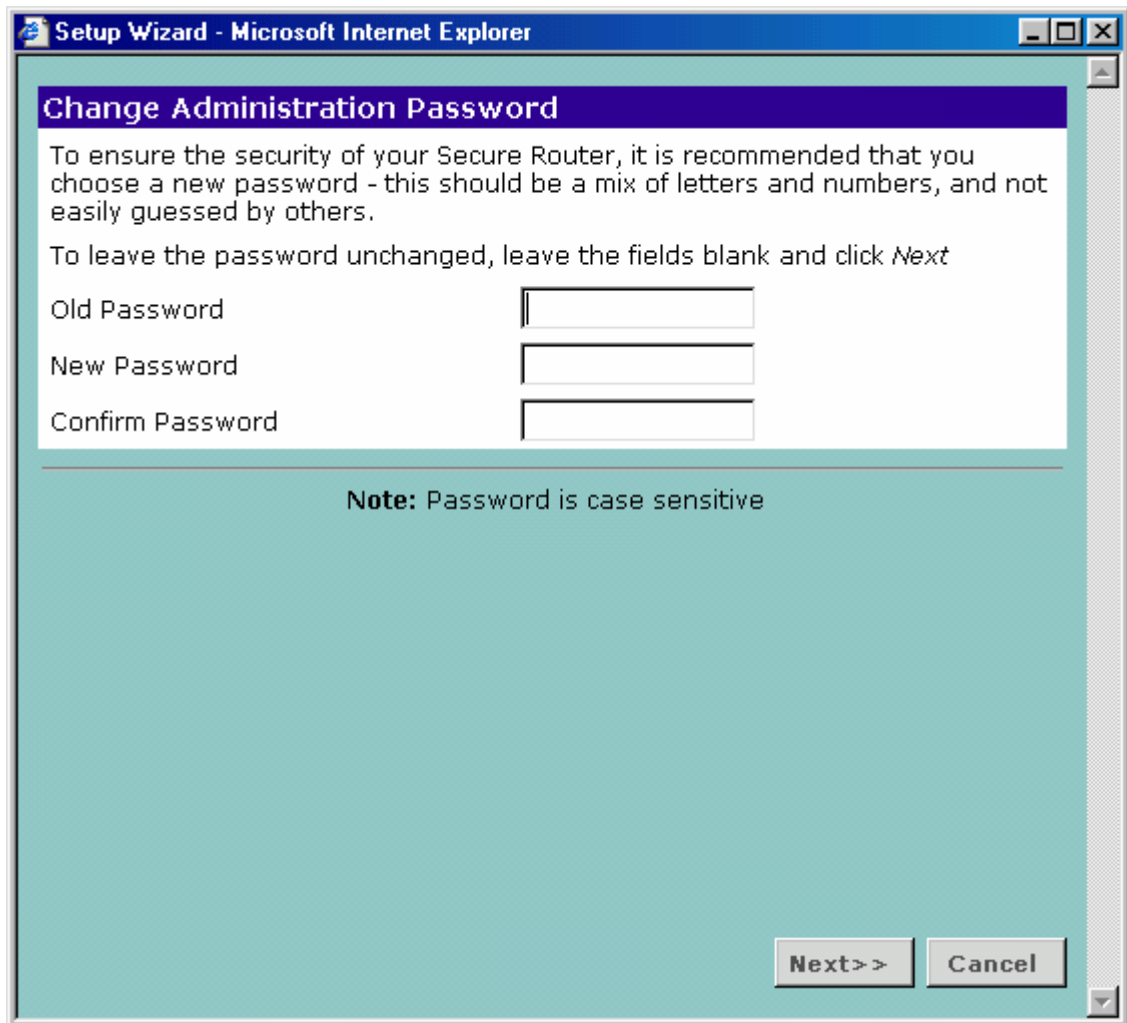
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Change Administration Password

To ensure the security of your Secure Router, it is recommended that you choose a new password - this should be a mix of letters and numbers, and not easily guessed by others.

To leave the password unchanged, leave the fields blank and click *Next*

Old Password


New Password

Confirm Password

Note: Password is case sensitive

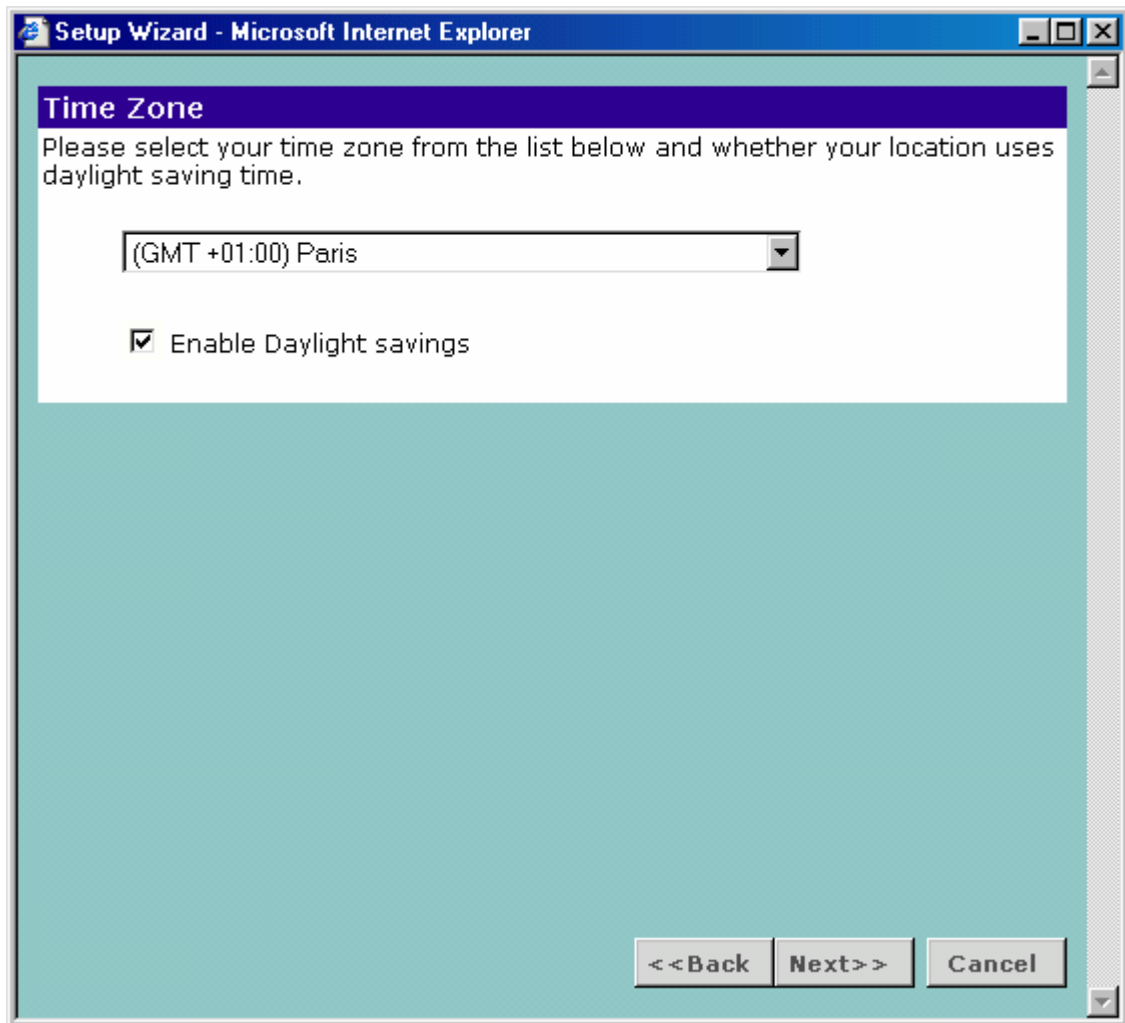
Next >> Cancel

Laisser les champs vides, le mot de passe par défaut ne doit pas être modifié (il pourra l'être ultérieurement par l'administrateur BICC).

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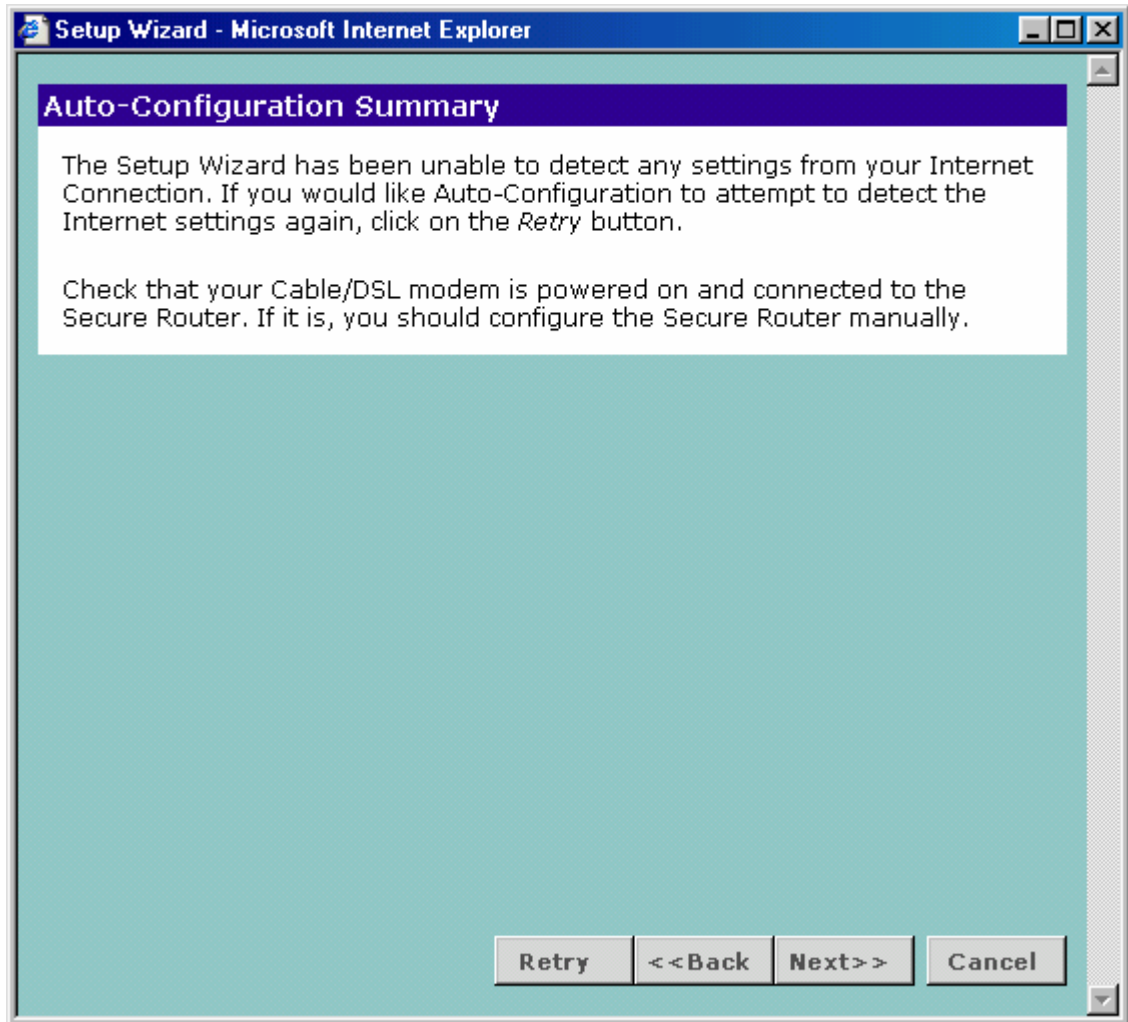
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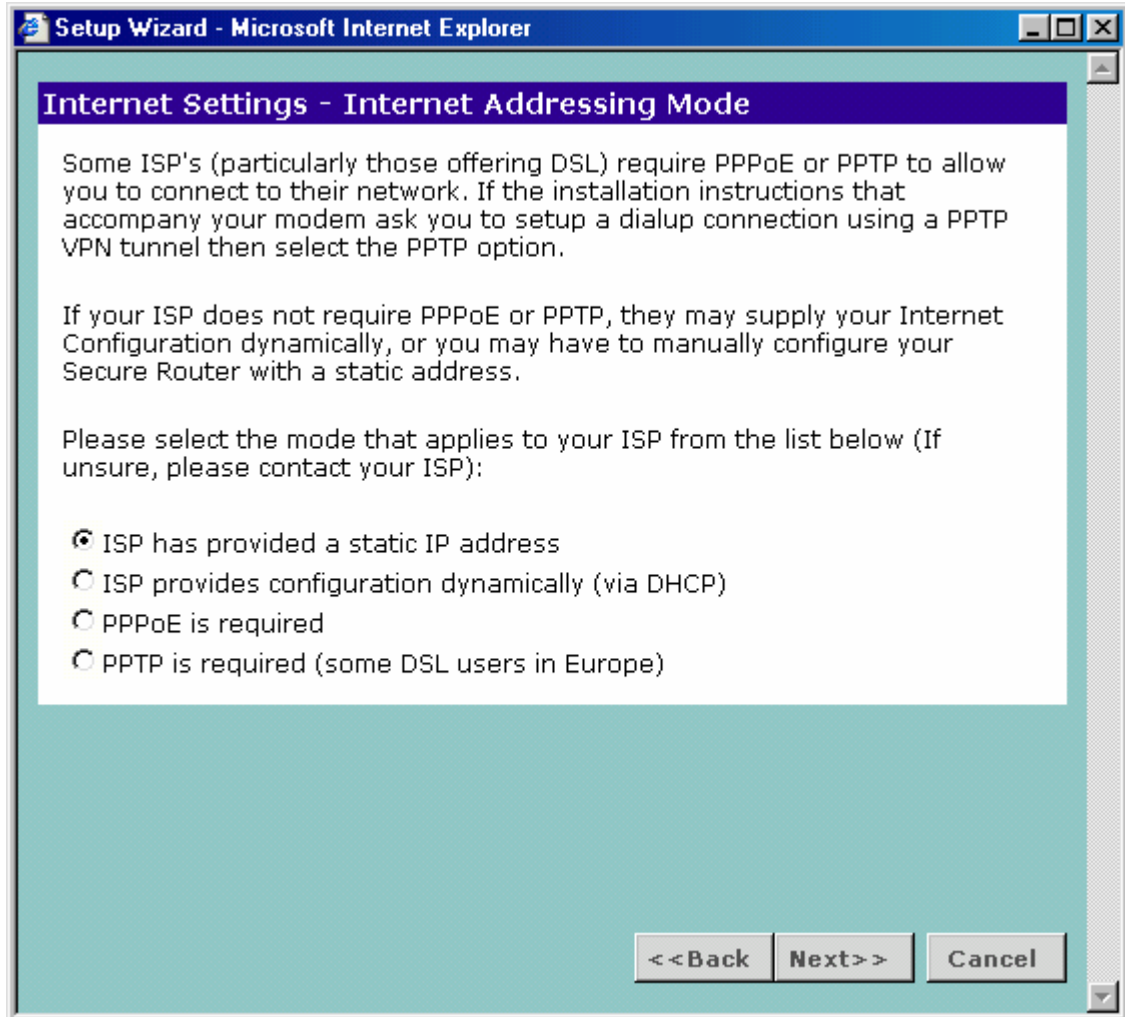
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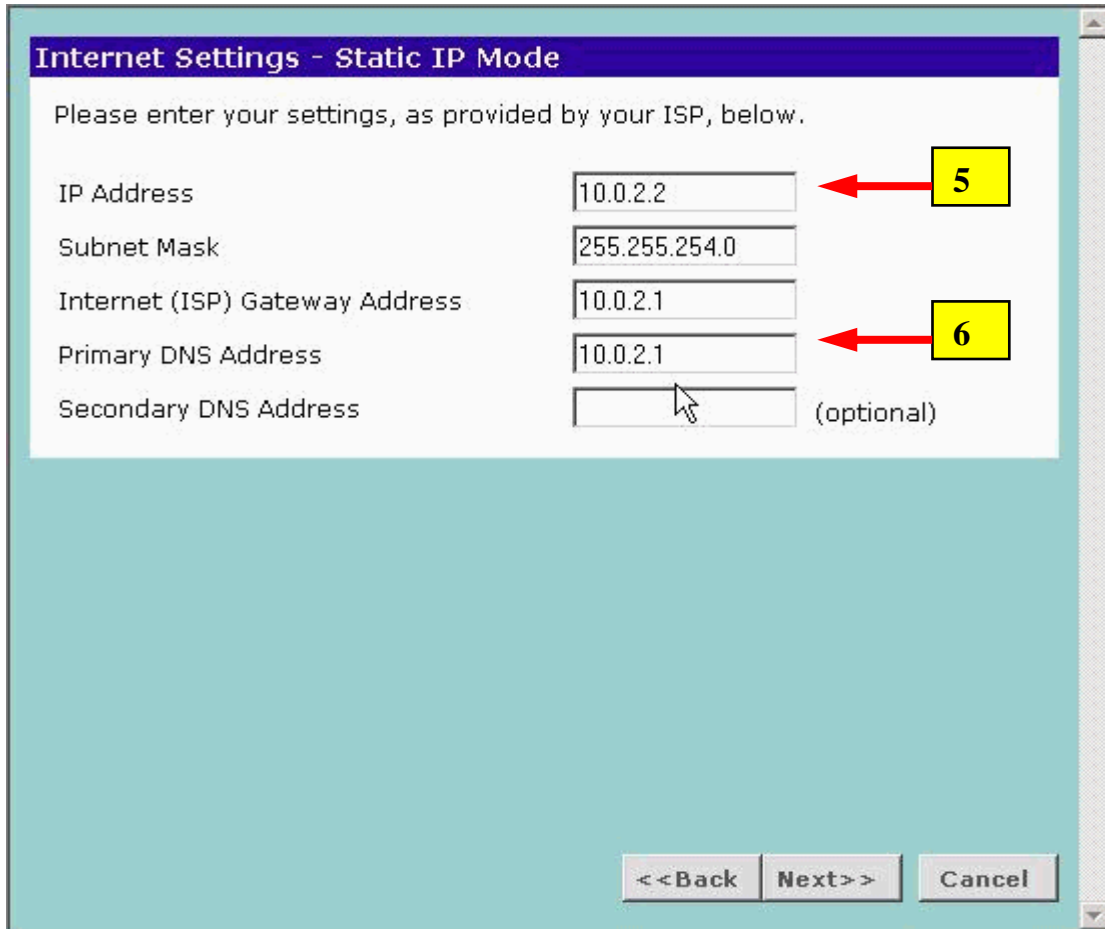
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Définition de l'interface « ISP » :



Internet Settings - Static IP Mode

Please enter your settings, as provided by your ISP, below.

IP Address	<input type="text" value="10.0.2.2"/>	← 5
Subnet Mask	<input type="text" value="255.255.254.0"/>	
Internet (ISP) Gateway Address	<input type="text" value="10.0.2.1"/>	
Primary DNS Address	<input type="text" value="10.0.2.1"/>	← 6
Secondary DNS Address	<input type="text"/>	(optional)

<<Back Next>> Cancel

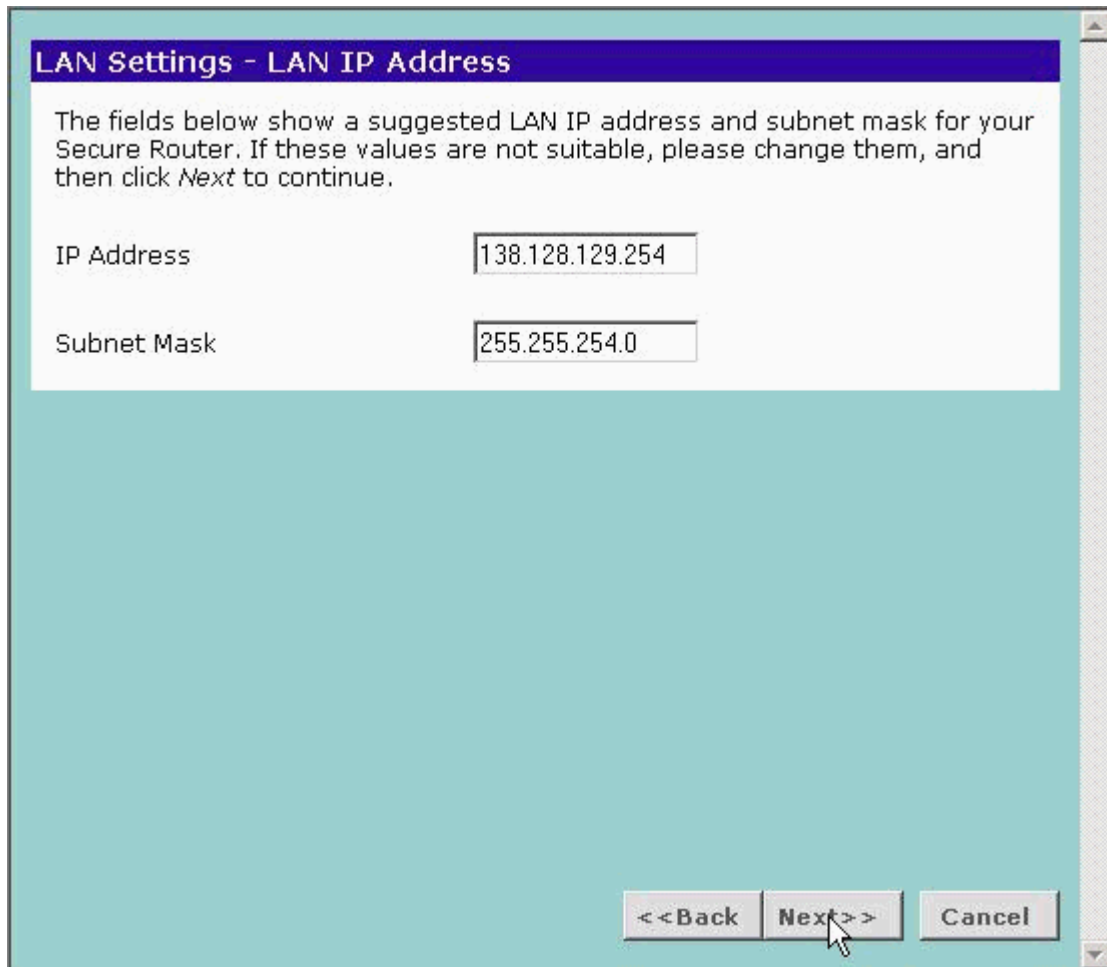
Ces adresses IP sont définies dans votre fiche de configuration :

- IP Address → paramètre 5 @IP_ISP
- Gateway & DNS → paramètre 6
- Subnet mask : fixe (255.255.255.0)

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Définition de l'interface « LAN » :

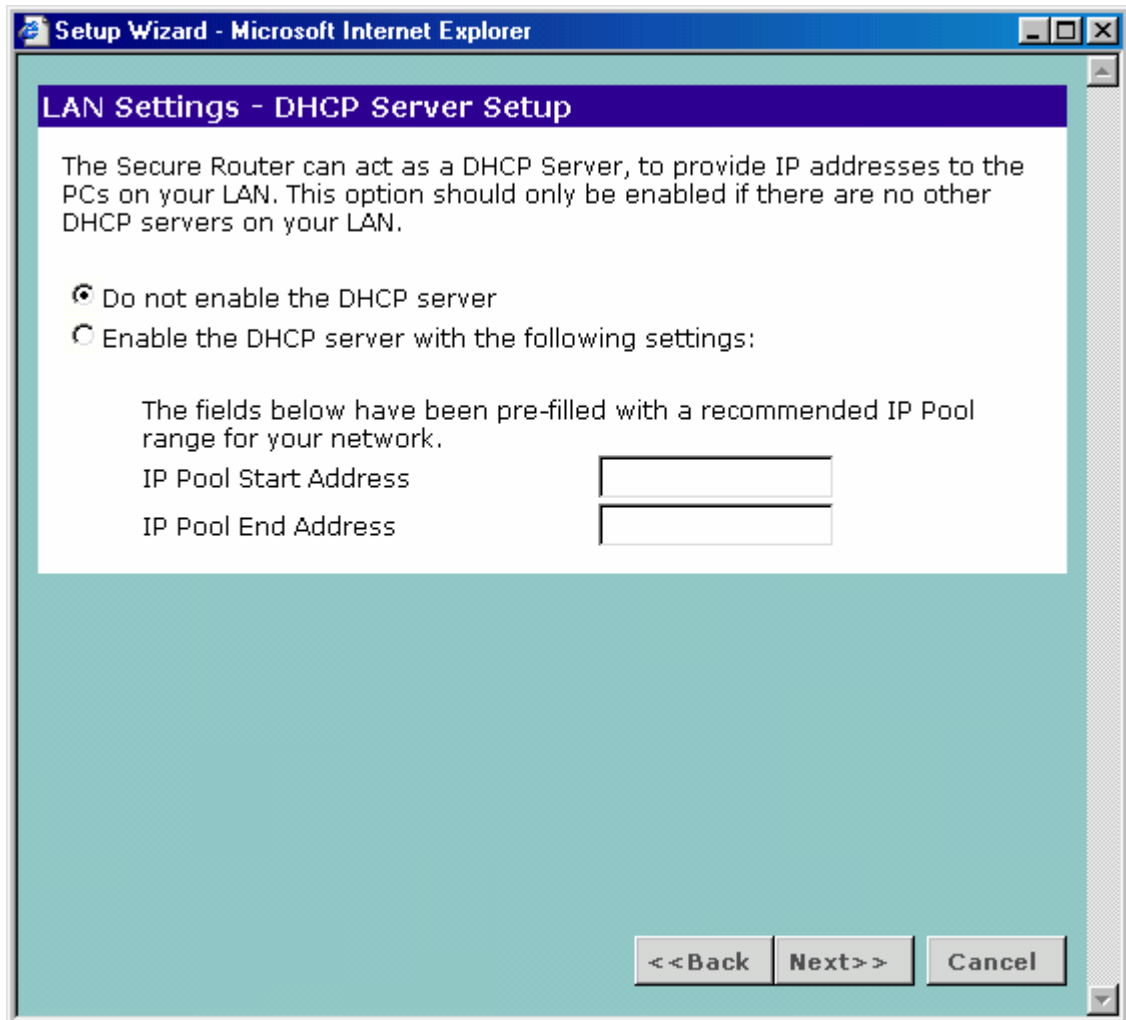


Cette adresses IP (138.128.129.254) et son masque (255.255.254.0) sont **fixes** et correspondent au Gateway dans le plan d'adressage Hélios.

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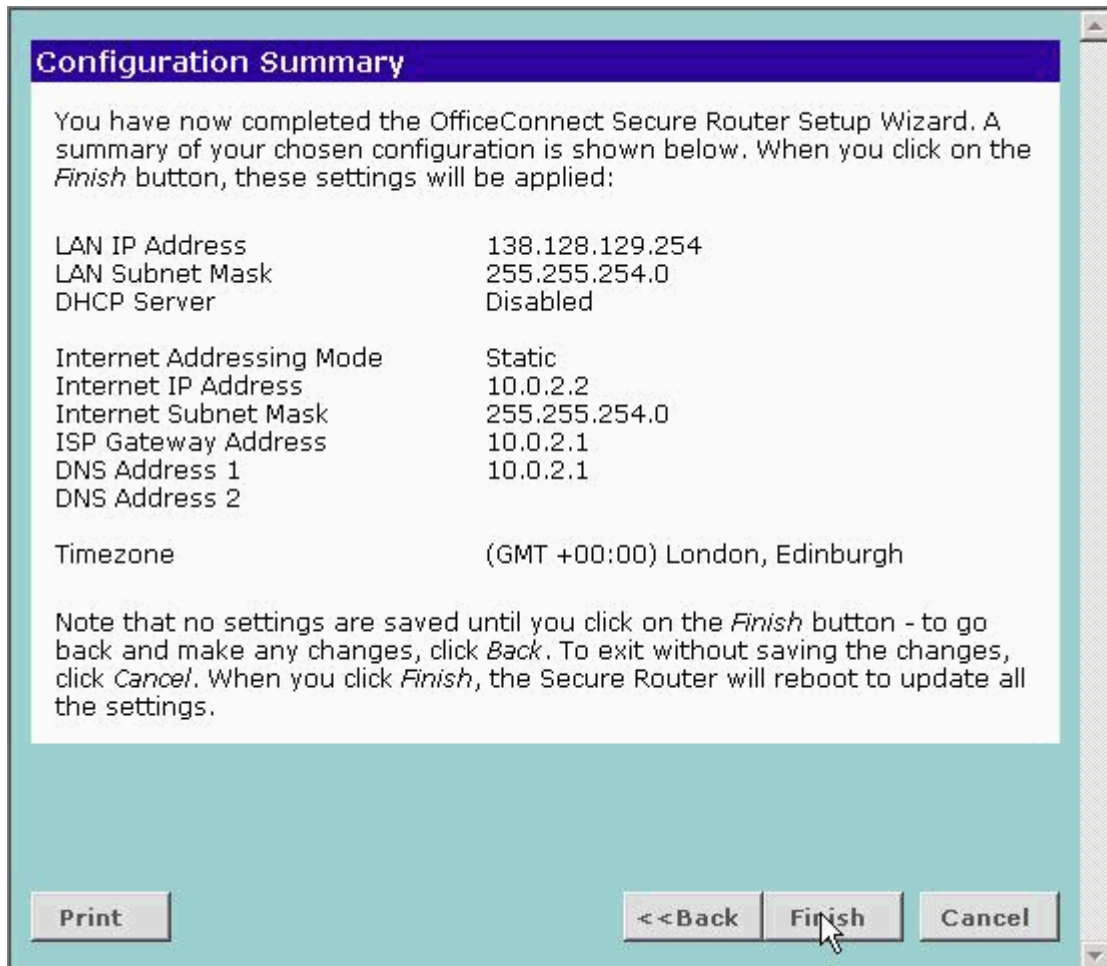
Le routeur n'est pas utilisé comme serveur DHCP.



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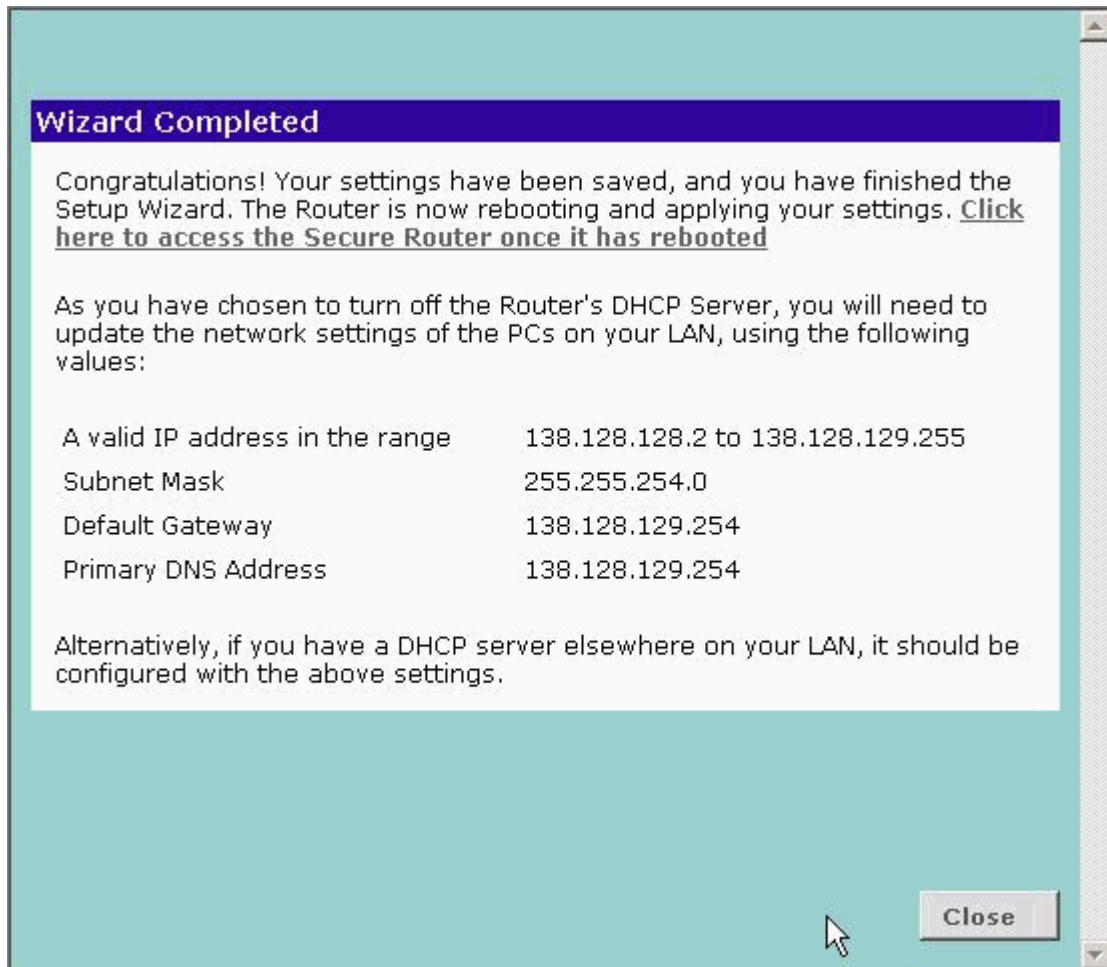
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Ce tableau récapitule les informations entrées. En cas d'erreur, faire « Back » pour revenir les corriger.
« Finish » les valide définitivement



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La phase de pré-configuration est terminée.

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5. Personnalisation du routeur Nat :

- Affecter au PC l'adresse 138.128.128.4 masque 255.255.254.0.
- Avec Microsoft Internet Explorer, ouvrir une connexion <http://138.128.129.254>

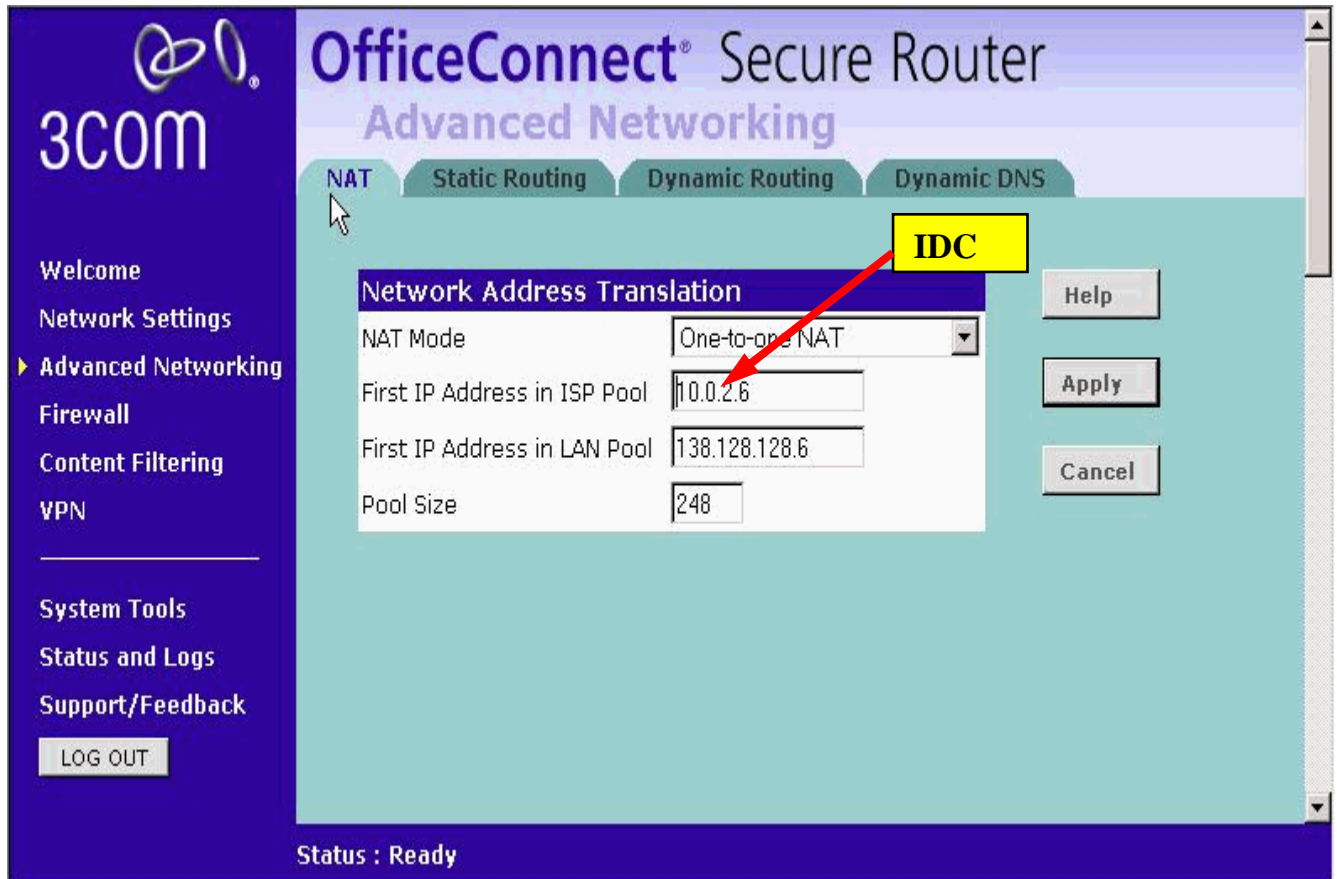


Se connecter (password par défaut).

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Sélectionner l'onglet « Advanced Networking » → « NAT »



L'adresse du pool ISP est de la forme 10.0.IDC.6 ou IDC est défini dans votre fiche de configuration (paramètre **IDC**).

Les autres informations (138.128.128.6 et 248) sont fixes et correspondent au plan d'adressage Hélios.

Valider par « Apply ».

ATTENTION :

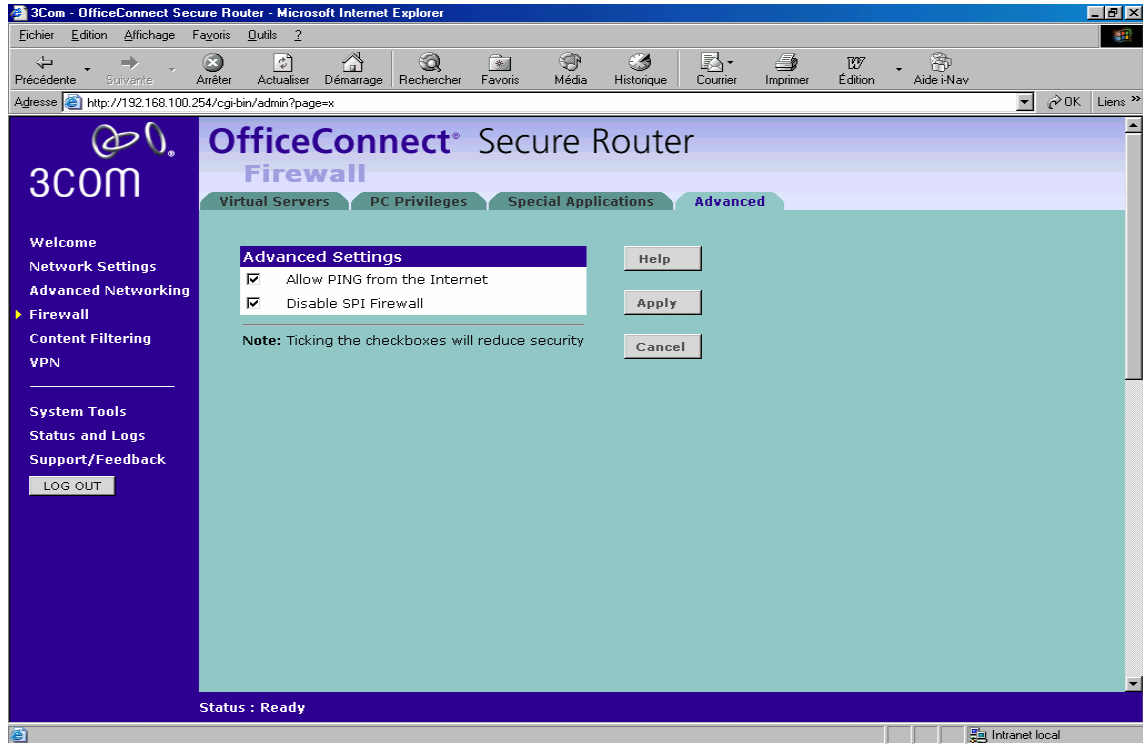
Cette opération provoque une sauvegarde de la configuration qui dure « un certain temps »...

Souvent la page écran reste figée et il faut cliquer sur un autre onglet pour continuer.

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Sélectionner l'onglet « Firewall » → « Advanced »



Cocher « disable SPI firewall » coche aussi automatiquement le « Allow ping »
Valider par « Apply »

Attendez la fin de la sauvegarde de la config et cliquer sur « LOG OUT »

La phase de personnalisation est terminée.

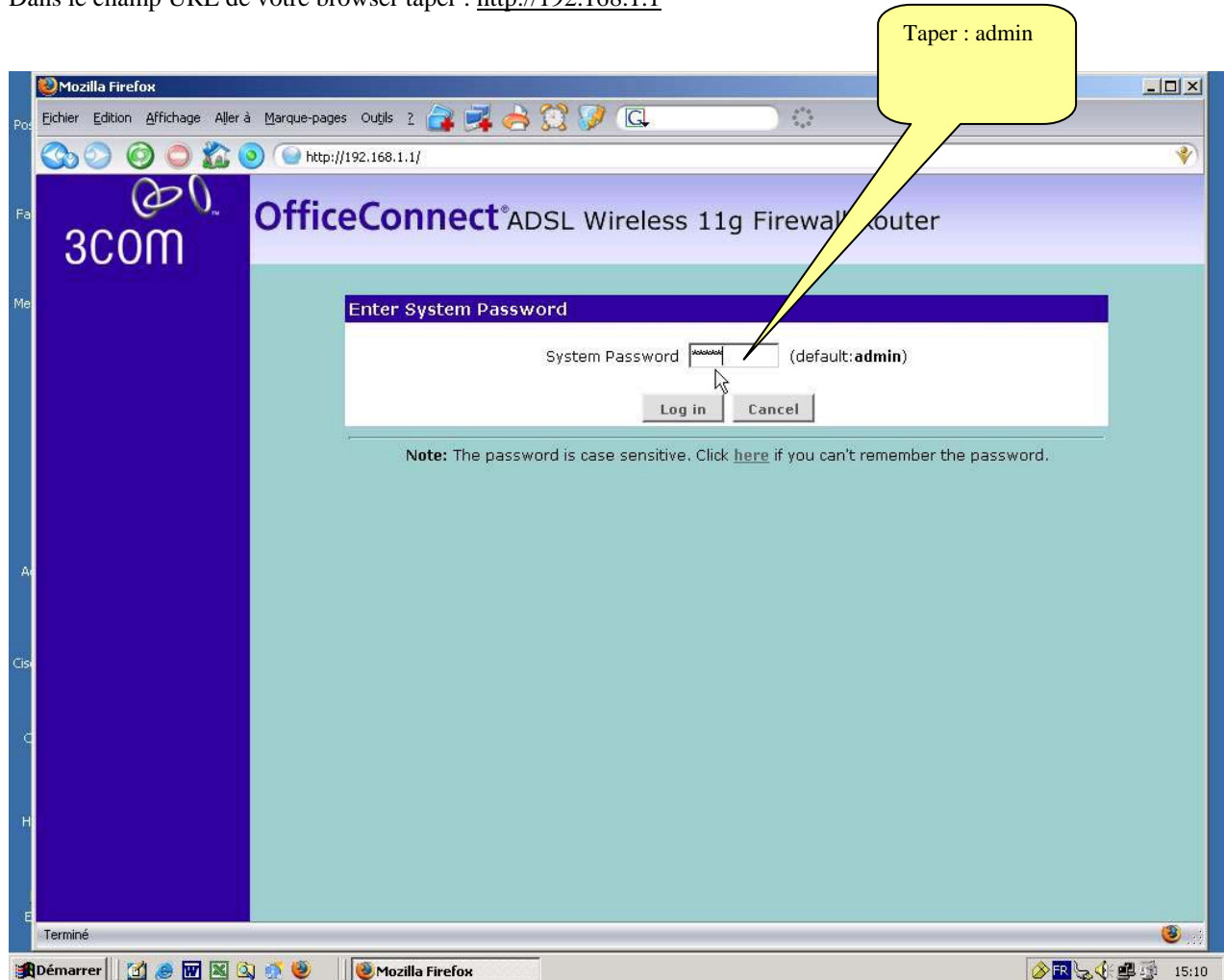
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6. Routeur ADSL :

- Pour le routeur ADSL seules les fenêtres modifiées et différentes des valeurs par défaut seront affichées

Modifier les paramètres TCP/IP de la carte réseau du Laptop utilisé pour configurer le routeur ADSL 3Com. Lui attribuer une adresse IP 192.168.1.2 avec un masque de réseau à 255.255.255.0

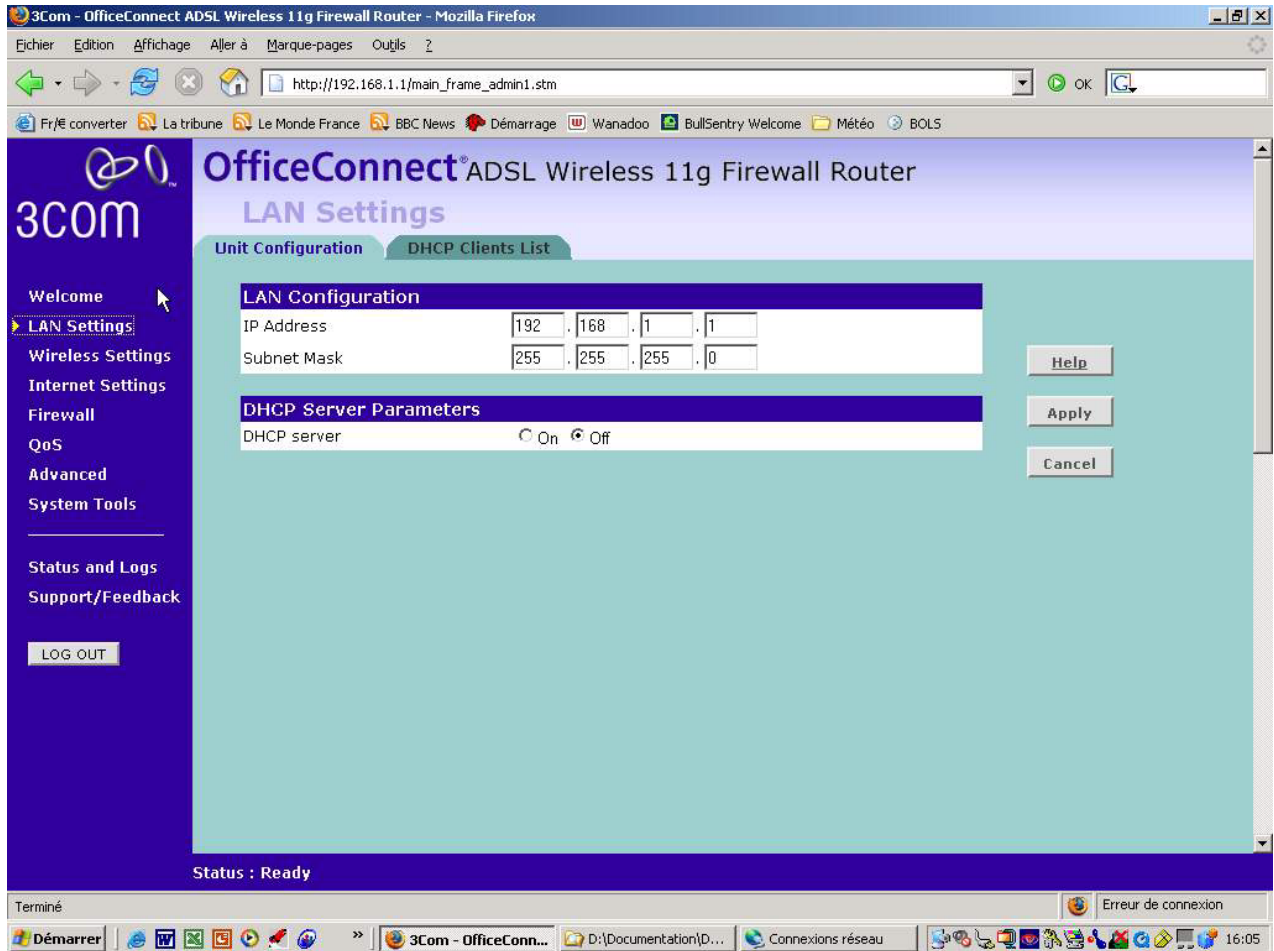
A l'aide d'un câble RJ45 droit relier la sortie de carte réseau de votre Laptop à l'un des 4 ports Lan du routeur ADSL. Dans le champ URL de votre browser taper : <http://192.168.1.1>



Ne rien modifier à ce niveau, les valeurs par défaut adresse IP & masque de réseau sont conservées. Mettre off the DHCP server dans le paragraphe « DHCP Server Parameters »

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Menu Wireless Settings

Le WI FI est désactivé. Ne pas dérouler les écrans des sous menus.

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3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox

Fichier Edition Affichage Aller à Marque-pages Outils ?

http://192.168.1.1/main_frame_admin1.stm

Fr/E convertir La tribune Le Monde France BBC News Démarrage Wanadoo BullGentry Welcome Météo BOLS

3COM OfficeConnect® ADSL Wireless 11g Firewall Router
Wireless Settings

Configuration Profile

Wireless Networking

Enable Wireless Networking

Help
Apply
Cancel

LOG OUT

Status : Ready

Terminé Erreur de connexion

Démarrer 3Com - OfficeConn... D:\Documentation\D... Connexions réseau 16:05

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Menu Internet Settings

Cliquer ensuite sur paragraphe settings. Suivant les opérateurs d'accès à internet (FAI) sélectionner PPP (PPP over ethernet) ou PPPOA (PPP over Atm) Un tableau joint en annexe dresse les valeurs à respecter pour l'Internet Settings. L'exemple ici représente la sélection à faire si le FAI est FT.

Cliquer ensuite sur « Next »

OfficeConnect[®] ADSL Wireless 11g Firewall Router
Internet Settings

ATM PVC | DNS | Clone MAC Address

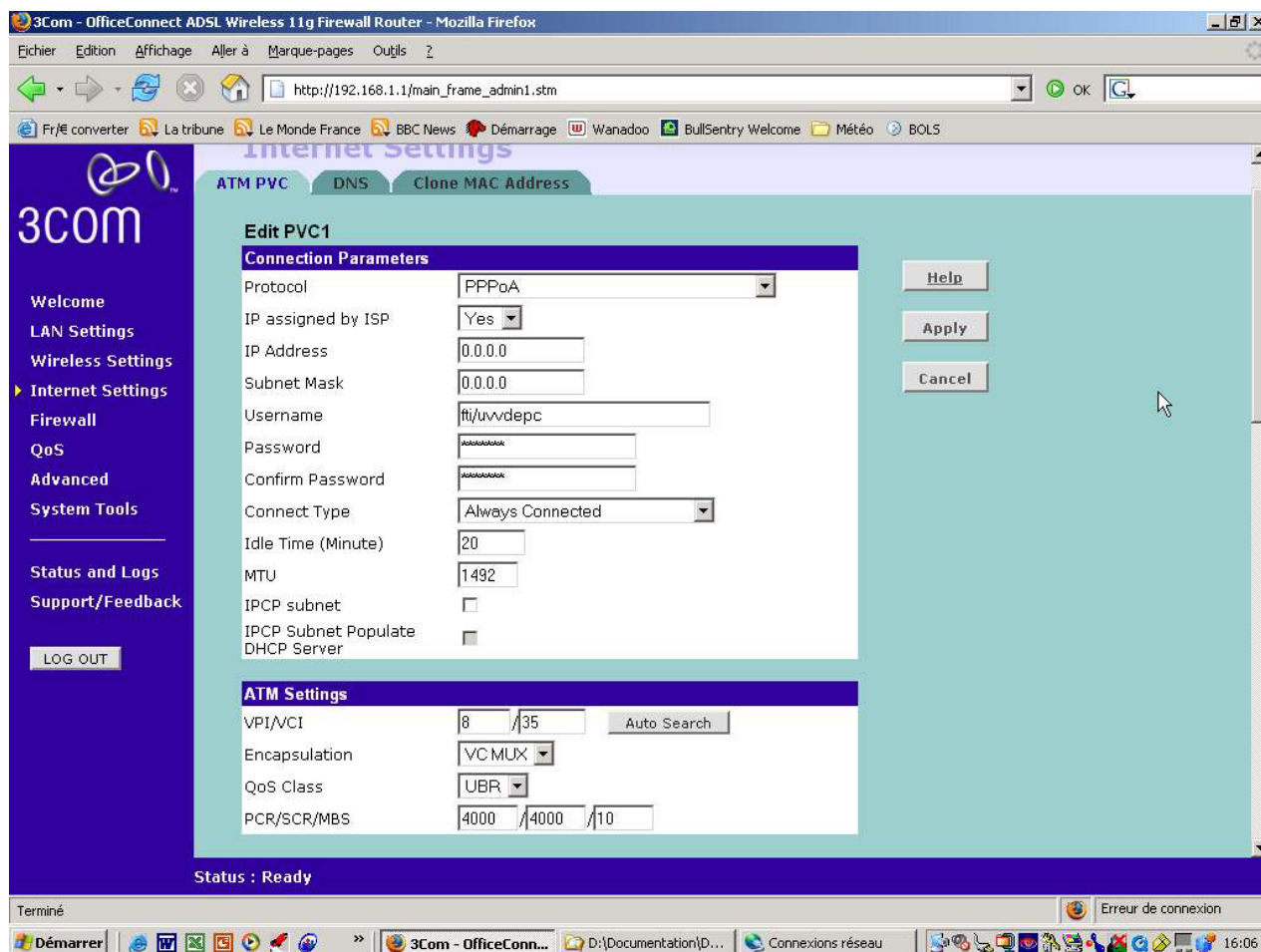
Description	VPI/VCI	Encapsulation	Protocol	Configure
PVC1	8/35	VC MUX	PPPoA	Edit
PVC2	-/-	---	---	Edit
PVC3	-/-	---	---	Edit
PVC4	-/-	---	---	Edit
PVC5	-/-	---	---	Edit
PVC6	-/-	---	---	Edit
PVC7	-/-	---	---	Edit
PVC8	-/-	---	---	Edit

Status : Ready

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L'exemple choisi représente les réglages internet pour l'opérateur Orange. Si l'opérateur est autre il faudra respecter ses propres paramètres. Voir tableau en annexe pour les autres opérateurs.
Renseigner « User name » et « password ». Vous trouverez ces éléments dans le contrat signé avec le FAI.
Cliquer sur « Apply » quand la fenêtre est remplie.

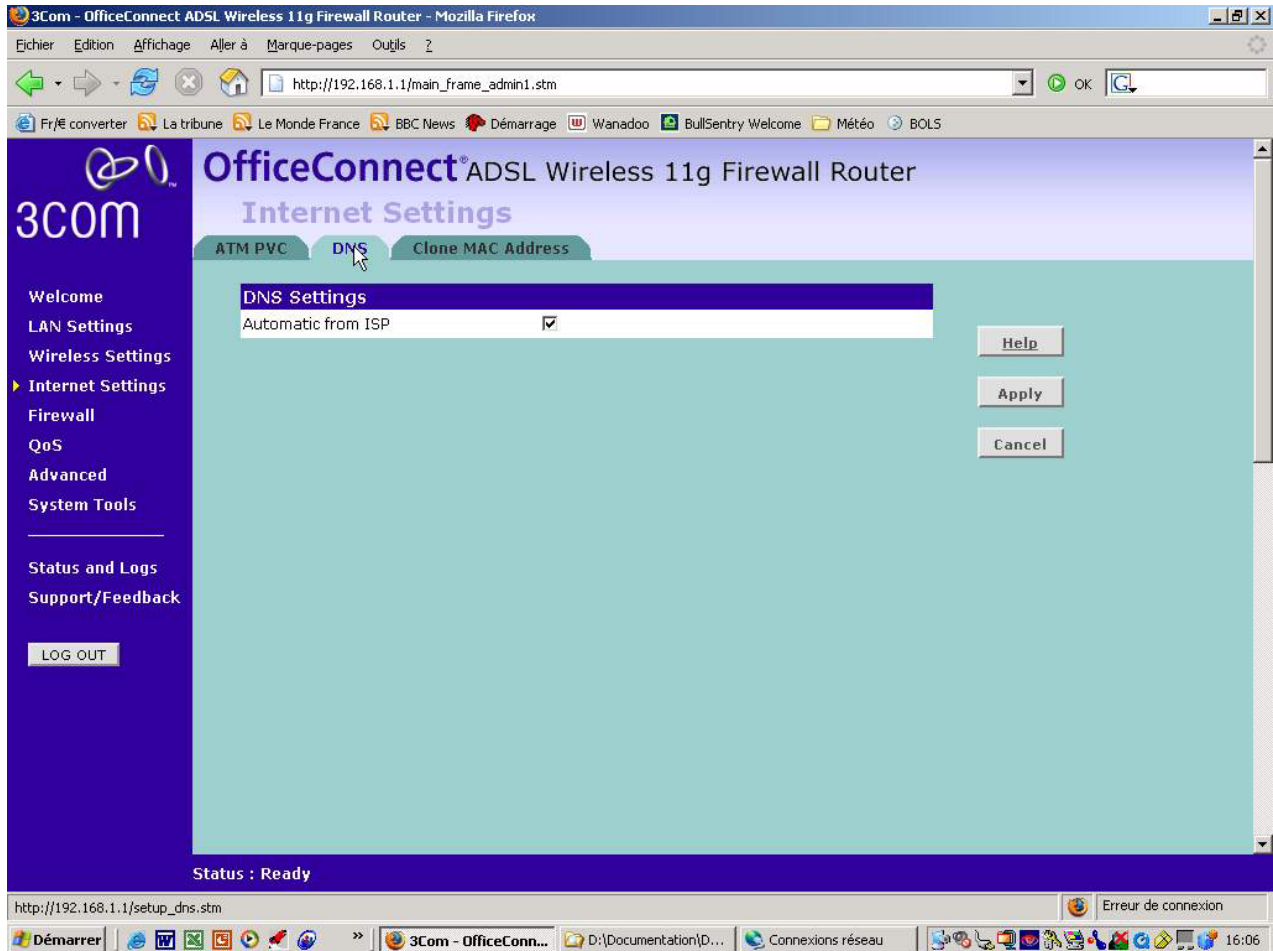


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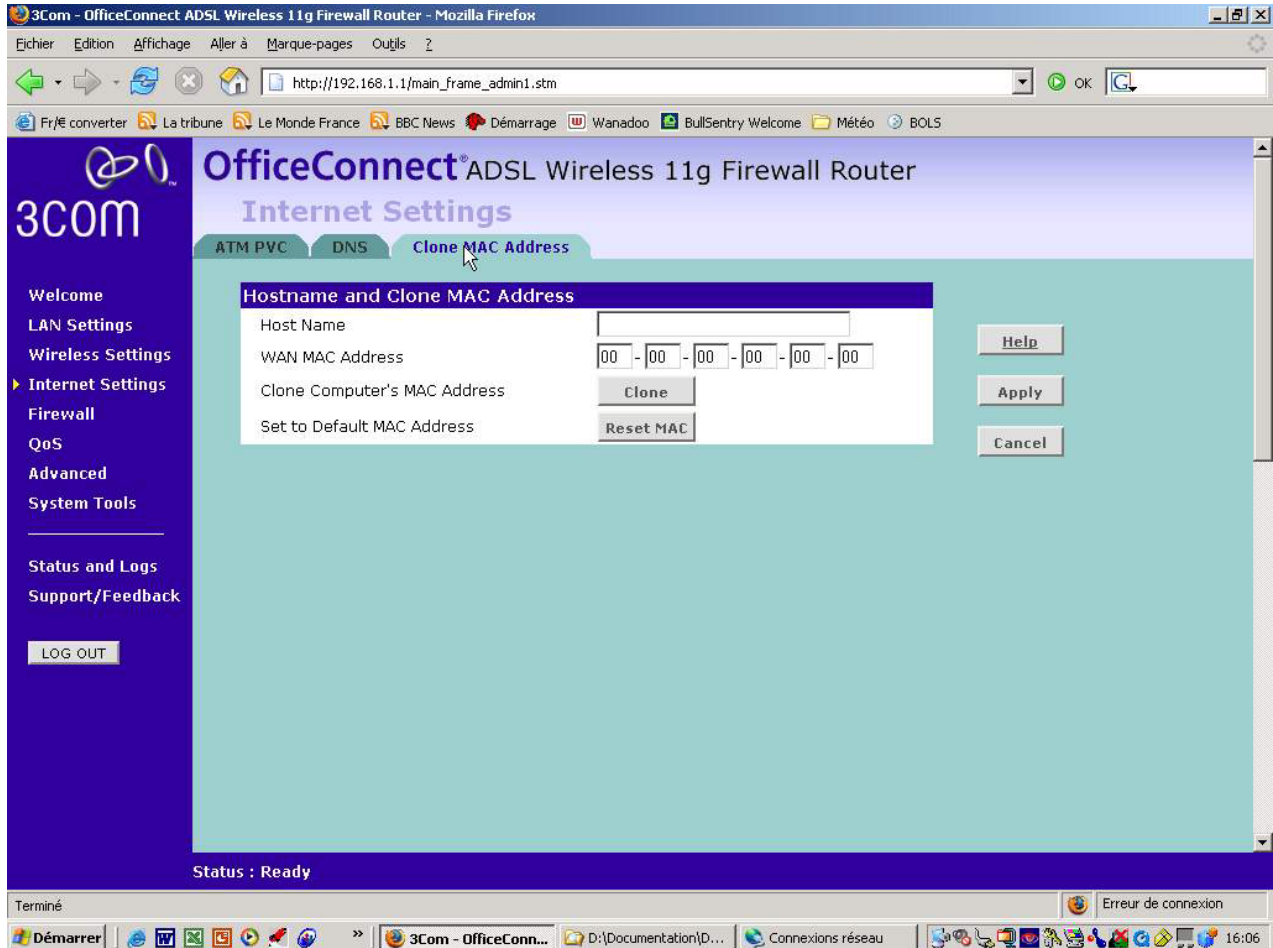
Pour FT (orange) pas de DNS à préciser. Cocher « Automatic from ISP »



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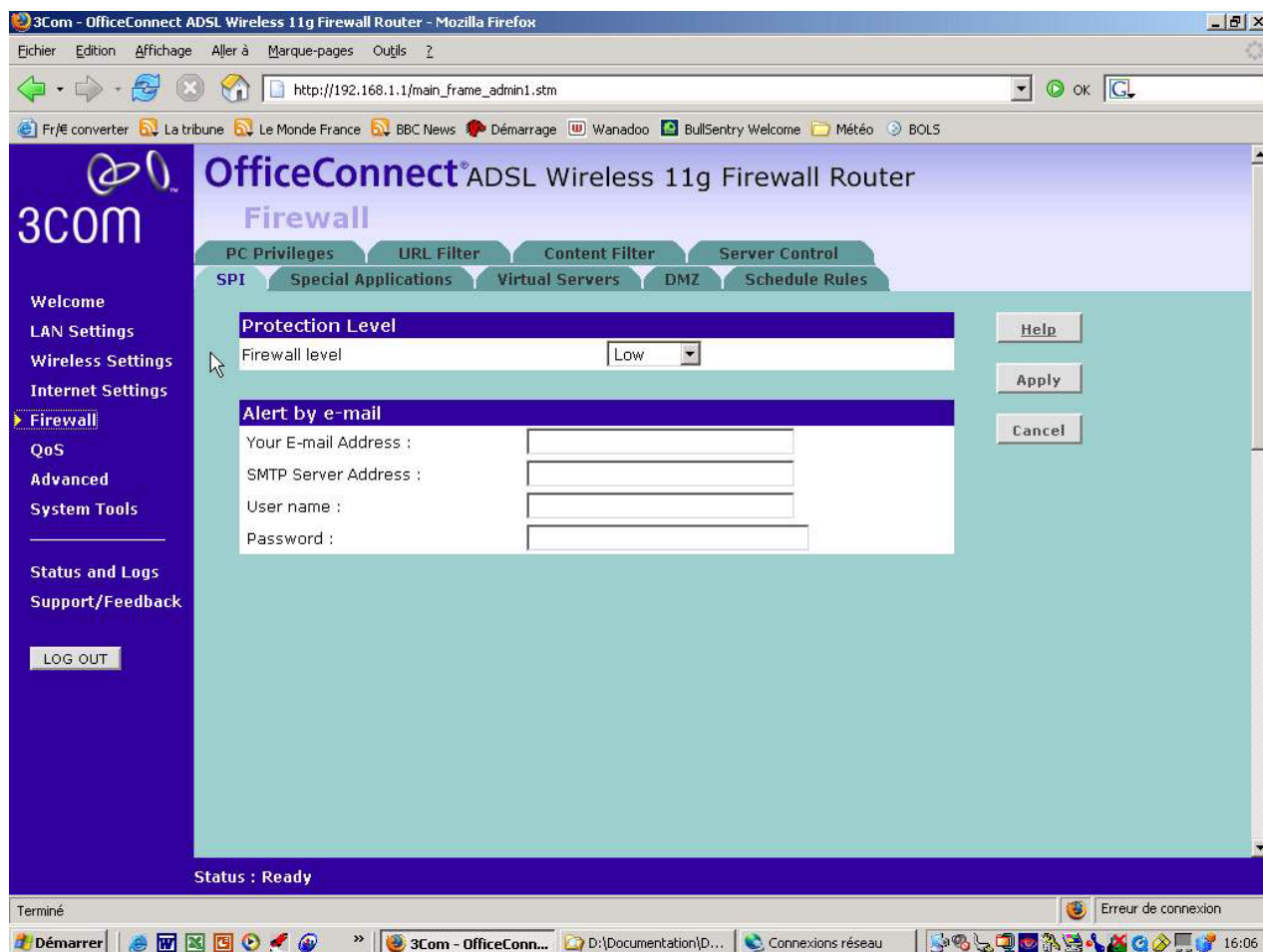
A renseigner en fonction du FAI. Pour FT orange, laisser tel quel.



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Définir le Firewall Level comme : LOW



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On définit une DMZ. Tout ce qui va être reçu en provenance d'Internet est systématiquement redirigé vers le TCRX. Seules les trames encryptées Trustway pourront traverser le TCRX. L'adresse du TCRX est définie dans la fiche de configuration. (paramètre 2).

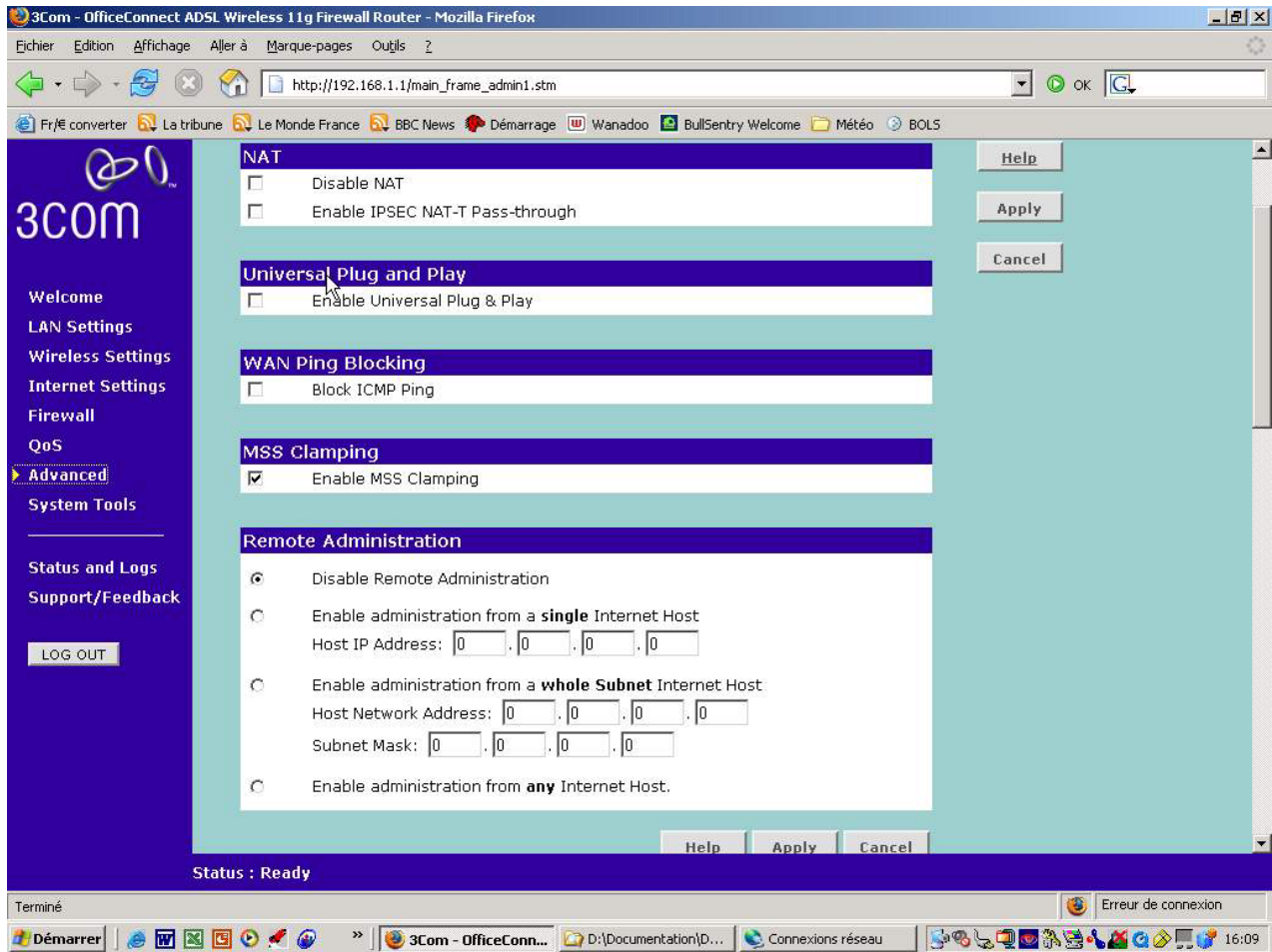
The screenshot shows the administration interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The 'DMZ' tab is selected under the 'Firewall' section. The '1-to-1 NAT' section has 'Enable 1-to-1 NAT' checked. Below it is a table for 'IP Address of Virtual DMZ Host' with 8 rows. The first row is pre-filled with '217.128.38.219' and '192.168.1.2'. A red arrow points from a yellow box containing the number '2' to the 'Client PC IP Address' field of the first row. The interface also includes a sidebar with navigation options like 'Welcome', 'LAN Settings', 'Wireless Settings', 'Internet Settings', 'Firewall', 'QoS', 'Advanced', 'System Tools', 'Status and Logs', and 'Support/Feedback'. The status at the bottom is 'Ready'.

	Public IP Address	Client PC IP Address
1	217.128.38.219	192.168.1.2
2	0,0,0,0	192.168.1.0
3	0,0,0,0	192.168.1.0
4	0,0,0,0	192.168.1.0
5	0,0,0,0	192.168.1.0
6	0,0,0,0	192.168.1.0
7	0,0,0,0	192.168.1.0
8	0,0,0,0	192.168.1.0

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Invalider l'administration à distance du routeur ADSL.



The screenshot displays the web-based configuration interface for a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window shows the URL `http://192.168.1.1/main_frame_admin1.stm`. The interface includes a left-hand navigation menu with categories like 'Welcome', 'LAN Settings', 'Wireless Settings', 'Internet Settings', 'Firewall', 'QoS', 'Advanced', 'System Tools', 'Status and Logs', and 'Support/Feedback'. The main content area is divided into several sections:

- NAT:** Includes checkboxes for 'Disable NAT' and 'Enable IPSEC NAT-T Pass-through'.
- Universal Plug and Play:** Includes a checkbox for 'Enable Universal Plug & Play'.
- WAN Ping Blocking:** Includes a checkbox for 'Block ICMP Ping'.
- MSS Clamping:** Includes a checked checkbox for 'Enable MSS Clamping'.
- Remote Administration:** This section is active and shows four radio button options:
 - Disable Remote Administration:** Selected.
 - Enable administration from a single Internet Host:** Includes a field for 'Host IP Address' with four input boxes.
 - Enable administration from a whole Subnet Internet Host:** Includes fields for 'Host Network Address' and 'Subnet Mask', each with four input boxes.
 - Enable administration from any Internet Host:** Unselected.

Buttons for 'Help', 'Apply', and 'Cancel' are visible on the right side of the configuration sections. The status bar at the bottom of the interface reads 'Status: Ready'.

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Régler la date, l'heure et le time zone

The screenshot shows the web interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window title is "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox". The address bar shows "http://192.168.1.1/main_frame_admin1.stm". The page title is "OfficeConnect® ADSL Wireless 11g Firewall Router" and the sub-header is "System Tools". The "Time Zone" tab is selected in the navigation menu. The "Time and Time Zone" configuration page displays the following settings:

- Current time: October 23, 2006 4:06:50 PM
- Base Date: October 18, 2006
- Base Time: 5:00 PM
- Using Time Server (NTP): Enable
- Set Time Zone: (GMT+01:00)Brussels, Copenhagen, Paris, Vilnius
- Synchronization Interval: 6 (1-72 hours)
- Time Server: 130.149.17.8 - Europe
- Daylight Savings: Enable

Buttons for "Help", "Apply", and "Cancel" are visible on the right side of the configuration area. The status bar at the bottom indicates "Status : Ready".

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Ecrans de status and logs

The screenshot shows the status page of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window title is "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox". The address bar shows "http://192.168.1.1/main_frame_admin1.stm". The page has a purple sidebar with navigation links: Welcome, LAN Settings, Wireless Settings, Internet Settings, Firewall, QoS, Advanced, System Tools, Status and Logs (highlighted), and Support/Feedback. A "LOG OUT" button is also present. The main content area is titled "Status" and has tabs for Status, ADSL Status, ATM PVC Status, Routing Table, and Logs. The "Status" tab is active, showing three tables:

General Information	
3C number	3CRWDR101A-75
Software version	1.00.00 (USA) (Apr 21 2006 19:10:53)
Boot loader version	0.70.1
Wireless version	N.A.
ADSL modem version	05.00.03.00A
Hardware version	01
Serial number	YAVD77J067A00

Access From The Internet	
Firewall	Low Level
Universal Plug & Play	Disabled
Discard ping from the Internet	No

Internet Settings	
WAN Connection Type	PPPOA
Status	CONNECTED
Internet IP address	217.128.38.219
Subnet Mask	255.255.255.255
ISP Gateway Address	193.253.160.3
Primary DNS	80.10.246.130
Secondary DNS	80.10.246.3
WAN MAC Address	00-18-6E-06-7A-01

Buttons for "Help" and "Disconnect" are visible. The status at the bottom is "Status : Ready". The Windows taskbar at the bottom shows the time as 16:10 and includes icons for Démarrer, 3Com - OfficeConn..., D:\Documentation\D..., and Connexions réseau.

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The screenshot shows the administration interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window is titled "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox" and the address bar shows "http://192.168.1.1/main_frame_admin1.stm". The interface has a dark blue sidebar on the left with the 3Com logo and a menu including: Welcome, LAN Settings, Wireless Settings, Internet Settings, Firewall, QoS, Advanced, System Tools, Status and Logs, and Support/Feedback. A "LOG OUT" button is also present. The main content area is light blue and contains three tables:

LAN Settings	
LAN IP address	192.168.1.1
LAN Subnet Mask	255.255.255.0
DHCP Server	Disabled
DHCP Range	192.168.1.2 - 192.168.1.254
LAN MAC Address	00-18-6E-06-7A-00

Wireless Settings	
Wireless Networking	Disabled
Wireless Encryption	Disabled
Channel	11
SSID	3Com
WLAN MAC Address	N.A.

Hardware Status		
Port	Speed	Duplex
LAN Port #1	No Link	No Link
LAN Port #2	10	Half Duplex
LAN Port #3	No Link	No Link
LAN Port #4	No Link	No Link

At the bottom of the interface, the status is "Status : Ready". The browser's status bar shows "http://192.168.1.1/status.stm" and a connection error message "Erreur de connexion". The Windows taskbar at the bottom shows the Start button, several application icons, and the system tray with the time "16:10".

7. Installation sur le réseau :

Pour information, les protocoles IP utilisés entre le CRX hélios et le BICC, sont décrits ci après :

Règles de filtrage :

CLIENT	sens Cnx	Flux	BULL
TCRX	<== <== <== ==> ==> <==>	SNMP trap (UDP p162) Syslog (UDP p514) TFTP connexion (UDP p69) SNMP (UDP p161) TFTP data ICMP (echo)	TDM (129.185.218.11) TDM-Backup (129.182.20.55)
TCRX	<==> <==>	IPSEC-ESP (protocole 50) ICMP (tout type)	TCRX (129.185.218.12)

- Brancher le petit câble ethernet entre le port « câble DSL » du routeur NAT et le port « Clair » du TCRX.
- Brancher le port LAN du modem ADSL sur le port « Chiffré » du TCRX.
- Brancher le LAN Hélios sur un des 4 ports « LAN » du routeur NAT.
- Téléphoner au BICC pour les essais.

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Annexe 1

Tableau Indicatif pour le setting des Paramètres Internet pour les opérateurs français. Vérifier les indications données dans le contract ADSL

ISP	Pays	VPI	VCI (hexa)	Encapsulation	Connexion	DNS
Cegetel ADSL Max 8 Mb	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.94.174.85 212.94.174.86
Cegetel non dégroulé 512 IP/ADSL et dégroulé	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.94.174.85 212.94.174.86
Club-Internet	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	194.117.200.10 194.117.200.15
Free dégroupé 1024/256 (mini)	France	8	36 (24)	4 - RFC1483/2684 Routed IP (IPoA) VCmux	dhclient / dhcpd / static	213.228.0.68 212.27.32.176 212.27.32.177 212.27.39.2 212.27.39.1
Free non dégroupé 512/128 & 1024/128	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.228.0.23 212.27.32.176
Free non dégroupé ADSL Max	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.228.0.23 212.27.32.176
Tiscali.fr 128k	France	8	35 (23)	5 - RFC2364 PPPoA LLC	pppoa	213.36.80.1 213.36.80.2
Tiscali.fr 512k	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.36.80.1 213.36.80.2
Télé2	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.151.136.242 130.244.127.162 212.151.136.246
Wanadoo	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	80.10.246.2 80.10.246.129
n9uf tel9com 512 & dégroulé 1024	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.30.93.108 212.203.124.146 (62.62.156.12 62.62.156.13)

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Customer

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Service

Networking & Security

Bulletin

Customers Support

CUSTOMER SERVICE

FILE CONTROL		ORIGIN	ISSUE DATE	EXP.DATE
Networking & Security		XCL	January 2007	INDEF
SUBJECT: NovaScale secured High Speed Remote Maintenance installation guide.			DOSSIER CSB	2007-002 REV 1

Content & Summary :

This CSB describes the steps to build an Internet secured link between NovaScale (including NovaScale 9000 – Helios, NovaScale 7000) customers sites to Bull Support centres.

1. Hardware and information required.
2. Customer registration.
3. Personalizing of the TrustWay CRX box.
4. Pre-configuring the NAT router.
5. Personalizing the NAT router.
6. Personalizing ADSL router.
7. Plugging on the network.

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1. Hardware and information required:

Hardware:

This material comes with your order except Ethernet cordons and the PC which are provided by the customer.

- 1 TrustWay CRX box.
- 1 NAT router (3Com 3CR860-95).
- 1 Modem ADSL (3Com 3wdr101a-75)
- PC with HyperTerminal & browser (used only during the configuration step).
- 1 cordon RJ11-DB9 (ref 76680283-001) comes with the CRX.
- Ethernet cable (comes with the router).

HyperTerminal settings:

- Bauds rate: 115200 b/sec.
- Data : 8 bits
- Parity : none
- Stop : 1 bit
- Flow control: none.
- Terminal emulation : VT100

2. Customer registration:

2.1. The « Registration Request» form (see figure) is filled with information provided by the customer network administrator:

- The customer has already subscribed ADSL link from his FAI provider.
- The Field Engineer feed the registration request form and send it back to BICC administrator

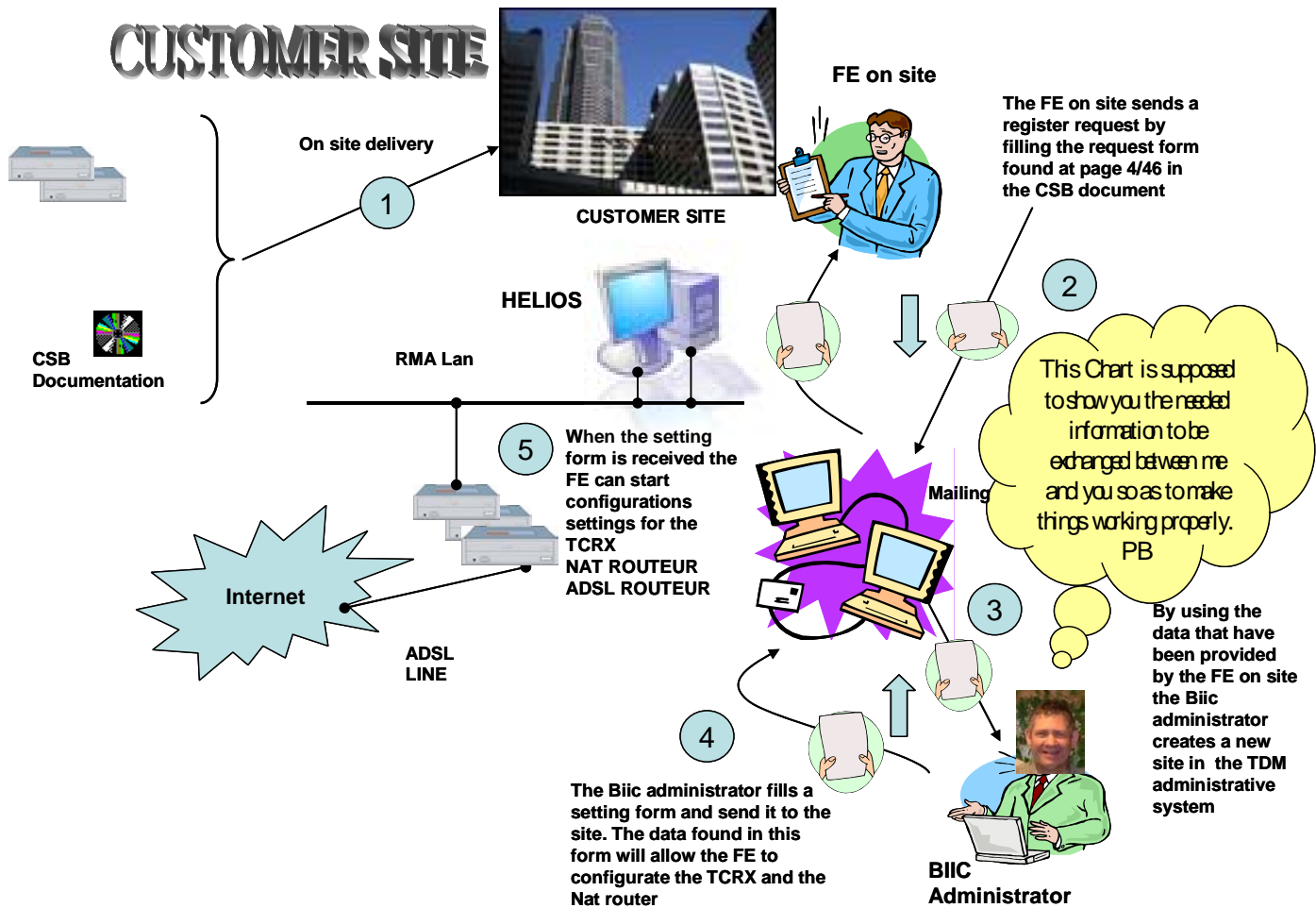
2.2. This request form is to be sent to the BICC administrator:

- Mr Patrick BEILVERT
- Tel : (33)1 6993 9421
- Fax : (33)1 6993 9440
- Mail : patrick.beilvert@Bull.net copy to Srv.gcos8-support@Bull.net

2.3. The BICC administrator acknowledges the request by sending back a « Helios Customer Configuration » form summarizing all the configuration parameters of the boxes. This information will be used later in the initialization steps of the CRX, NAT router and the ADSL modem.

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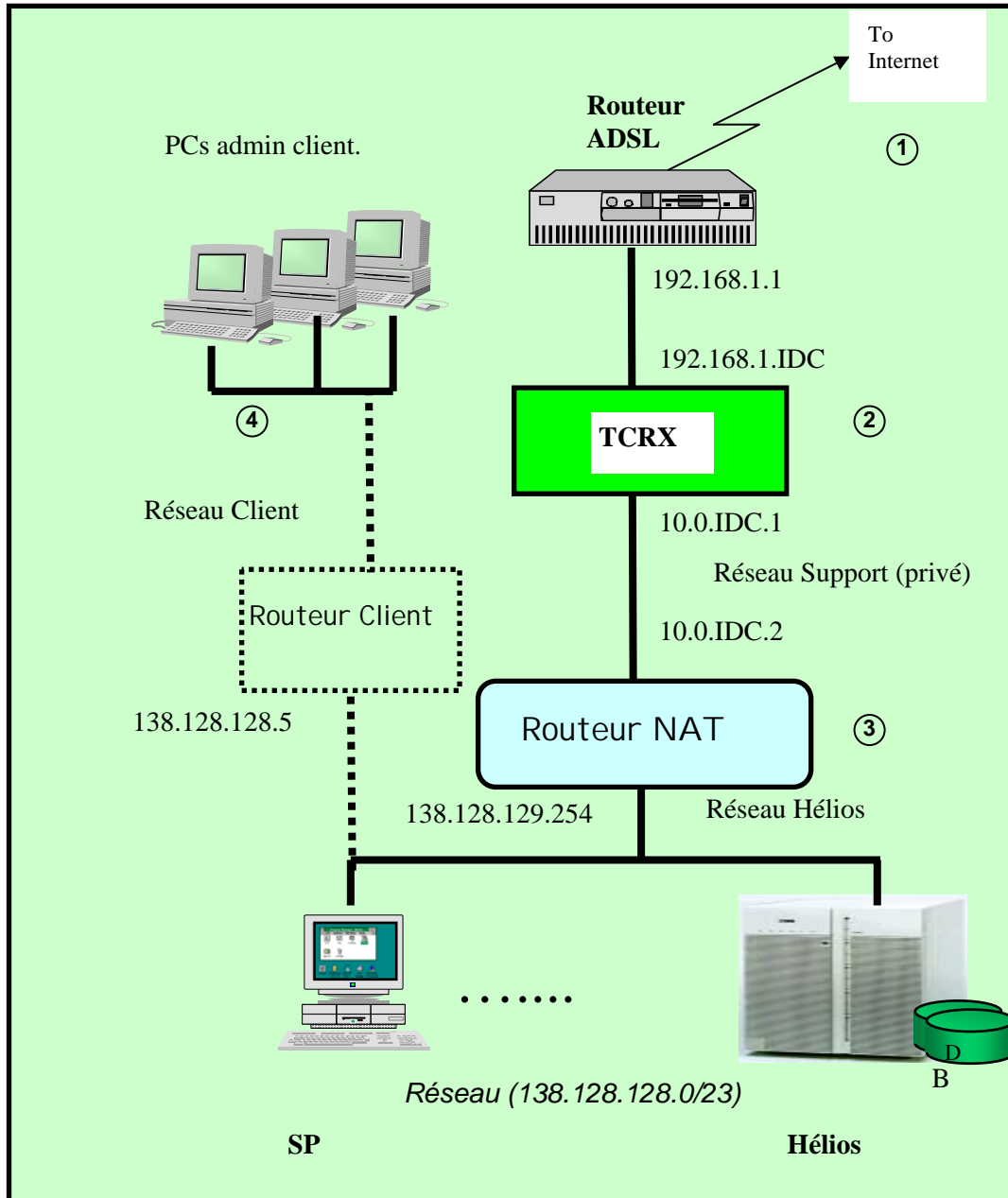
Note : Flow Chart de l'échange d'informations entre le Site et le Bicc

1. Hardware (Adsl Router + TCRX + Nat Router) + documentation delivered on site.
2. Field engineer on site sends the registration request form to the BICC
3. The BICC administrator create a new
4. BICC administrator sends back to the site a configuration form.
5. With the configuration form the FE on site configure the high speed RMS components.

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The following schema is used for configuration.



Principle schema



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Demande d'Enregistrement :

Customer name : _____

Customer administrator address :

Nom : _____

Tel : _____

Mail: _____

ADSL Connexion:

@IP ADSL (public) : _____

ISP Name : _____

Contract Type : _____

①

TCRX :

Serial n° : XAN-_____

NAT_3Com:

N° série: _____

②

Customer Network :

@PC/sub-net Admin client :

③

④

Note : *The customer to subscribe from its FAI provider ADSL link with fix IP address*

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Configuration Hélios :

Informations client :

Identification : 2 IDC=2

Nom : Bull_Massy

Adresse : rue Galvani Massy

Nom de l'administrateur : J.F.Auger

Téléphone : 223.9397

Mail : jf.auger@bull.net

Réseau_Admin :

@IP_réseau 129.185.192.0/19 ← 4

Masque : 255.255.224.0

Réseau_privé_support :

@IP_réseau 10.0.2.0/24 (de 10.0.3.0

Masque : 255.255.255.0 à 10.0.3.254)

Gateway : 10.0.2.1 → 6

Réseau_privé_Hélios :

@IP_réseau 138.128.128.0/23

Masque : 255.255.254.0

Gateway : 138.128.129.254

Modem_ADSL :

@IP_public : 217.128.38.219 → 1

@IP_privée : 192.168.1.1

CRX_Hélios :

N° serie : XAN-CRX-00030

Identification : 75628-113G190114 → 2

@IP_Chiffré : 192.168.1.3

@IP_Clair : 10.0.2.1 → 3

NAT_3Com :

N° serie : L5MV4NBDA55E2

Identification : 3Com

@IP_ISP : 10.0.2.2 → 5

@IP_LAN : 138.128.129.254

Route(s) statique(s) : 129.185.192.0/19 via 138.128.128.5

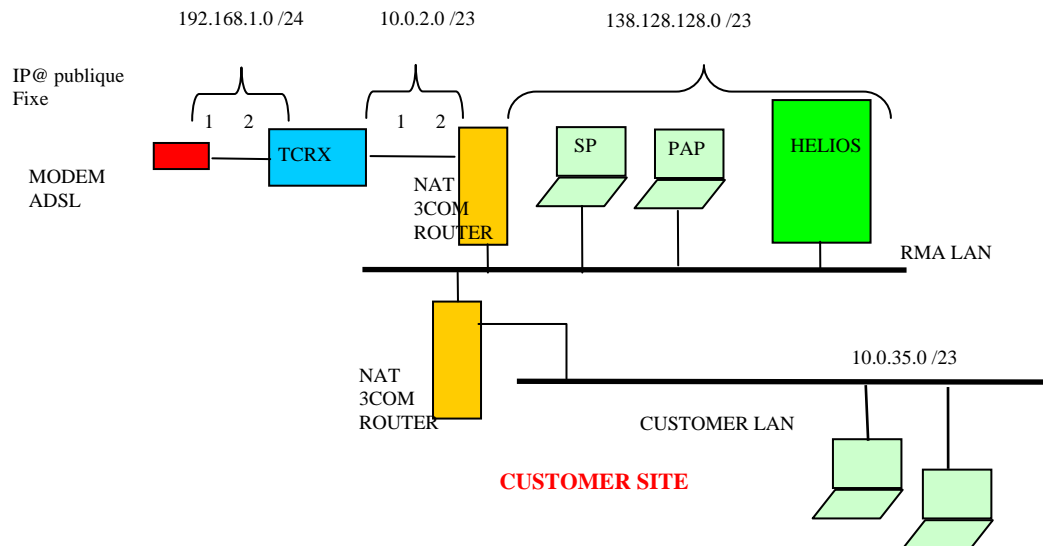
Routeur client (optionnel) :

@IP_A : 138.128.128.5

@IP_B : _____

Note : Form sent back by Bull-BICC administrator.

Configuration example of secured high speed RMS on customer site :



Different networks :

- ADSL public (Adsl modem ip address must be fix)
- Private ciphered network 192.168.1.0/24 (nodes : router ADSL, TCRX)
- Private enciphered network 10.0.n.0/23 (n different for each site)
- RMA network 138.128.128.0/23 (Nodes SP, Pap, etc..)
- Customer network (in this example for 10.0.35.0/23 (Nodes consoles NCC)

System configured:

- TCRX box
- Nat routers (only one router if there is no inter connection with the customer Intranet)
- ADSL modem

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3. Personalizing of the TrustWay CRX box:

- Via RJ11-DB9F cable, connect the Com1 port of the PC to TCRX console.
- Open Hyper terminal connexion
- Via the touch pad « Tab » then « enter » select « Networks »

note: the same environment allows to run diagnostics tests

```
CRX-adm - HyperTerminal
Fichier Edition Affichage Appel Transfert ?
TCRX SN - 79897-001F450010
TCRX Status - Operationnel

+----- TCRX menu -----+
|
| Choice Network to configure
| TCP/IP or Diagnostic to start
| the diagnostic tests
|
| +-----+ +-----+
| | Network | | Diagnostic |
| +-----+ +-----+
|
+-----+

<Tab> between elements      |      <Space> selects

00:01:25 connecté  VT100  115200 8-N-1  Défil  Maj  Num  Capturer  Écho
```

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- Enter the information as shown below
- TDM address is a constant and equal to **129.185.218.11**, it is always accessible via l'interface B
- Select « Save ». This will validate the TCRX configuration set and reboot the system.

```
+-----+
| Please enter the IP addresses in dotted-decimal notation.
|
| ( ) TDM on A interface
| (* ) TDM on B interface
|
| Admin IP address:      192.168.1.2
| Admin IP Netmask:    255.255.255.0
| TDM IP address :    129.185.218.11
| Admin gateway :     192.168.1.1
| FrontEnd IPSEC Address:
|
| +-----+           +-----+
| | Save |           | Cancel |
| +-----+           +-----+
+-----+

<Tab> between elements      |      <Space> selects
```

- Wait for the reboot ends before to disconnect the PC.

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4. Pre-configuring the NAT router

Configure the PC with address 192.168.1.2 and mask 255.255.255.0.

Connect Ethernet cable between the PC and one of the 4 LAN ports of the router.

With Microsoft Internet Explorer, open the connexion **http://192.168.1.1**

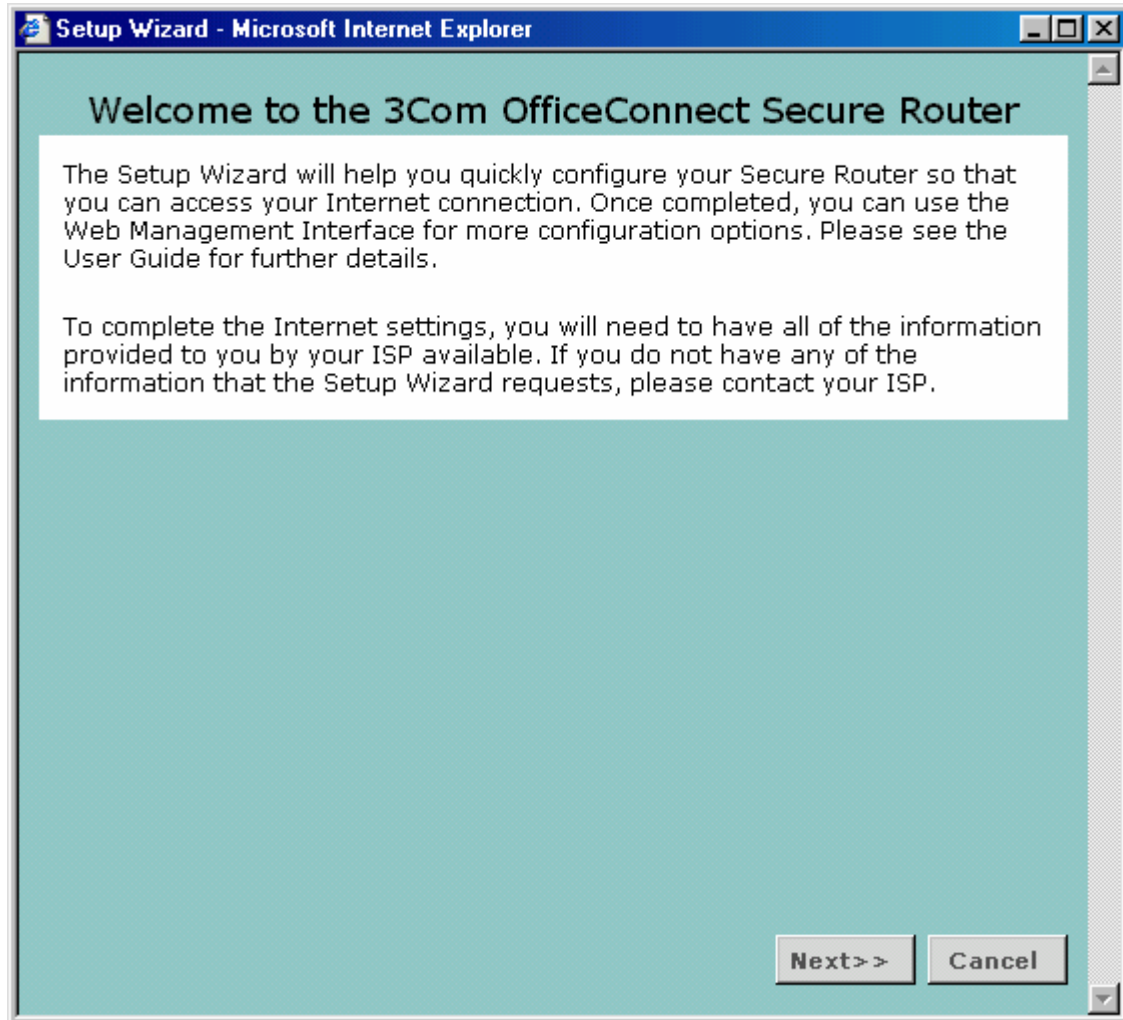


The default password is *admin*.

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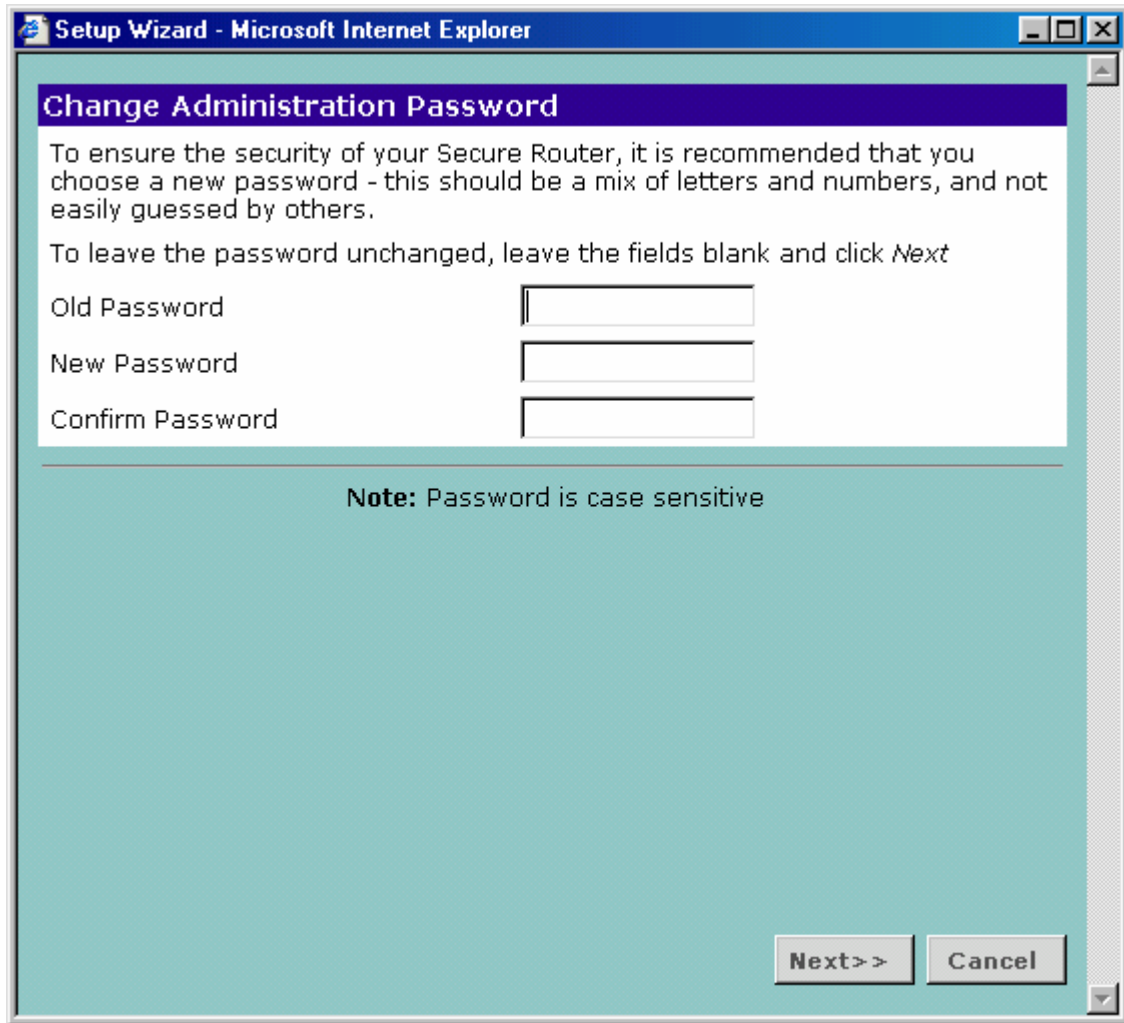
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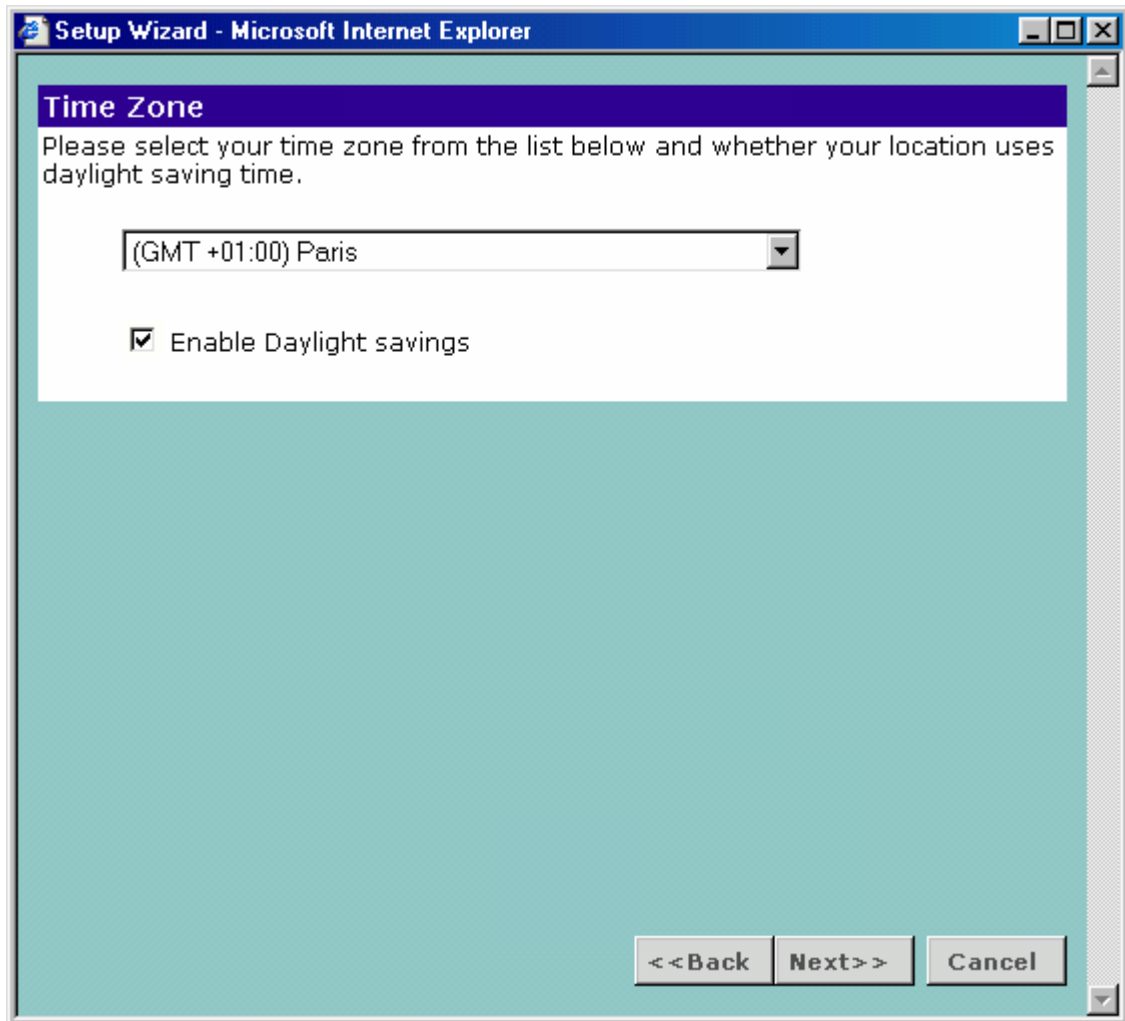
The screenshot shows a window titled "Setup Wizard - Microsoft Internet Explorer". The main content area has a purple header "Change Administration Password". Below the header, there is instructional text: "To ensure the security of your Secure Router, it is recommended that you choose a new password - this should be a mix of letters and numbers, and not easily guessed by others. To leave the password unchanged, leave the fields blank and click *Next*". There are three input fields: "Old Password", "New Password", and "Confirm Password". A "Note: Password is case sensitive" is displayed below the fields. At the bottom right, there are two buttons: "Next>>" and "Cancel".

Let the fields empty, the default password will not be modified (it can be modified later by the BICC administrator).

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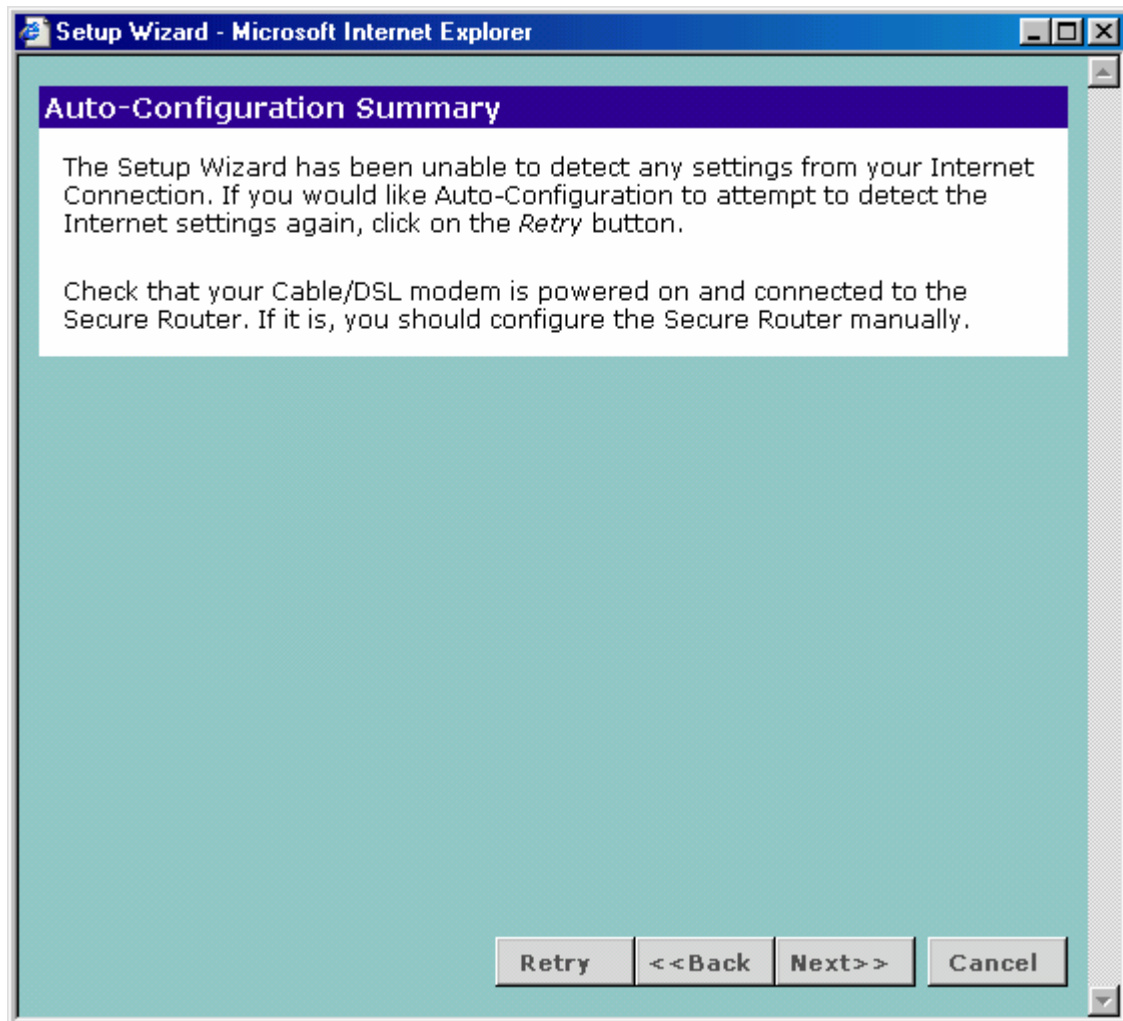
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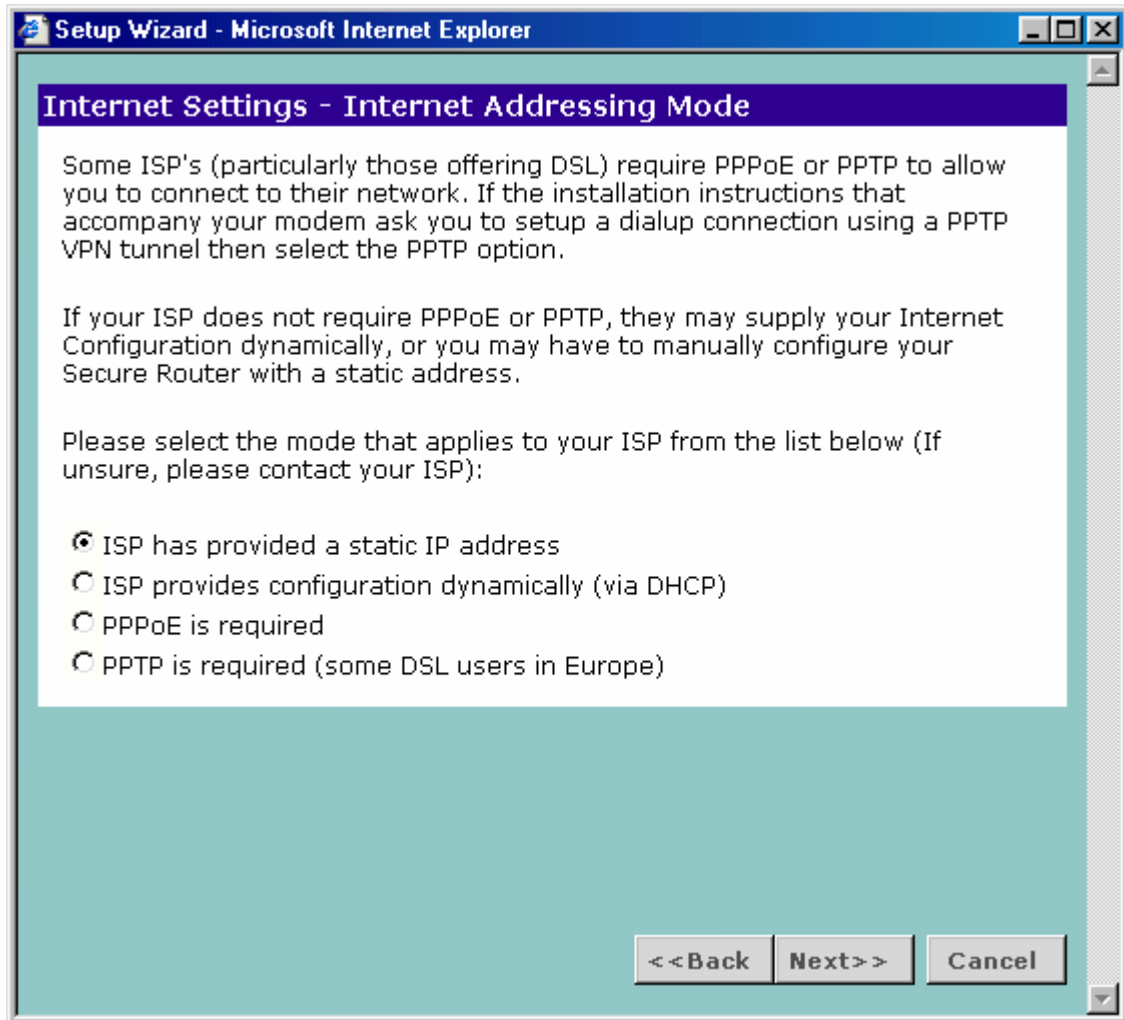
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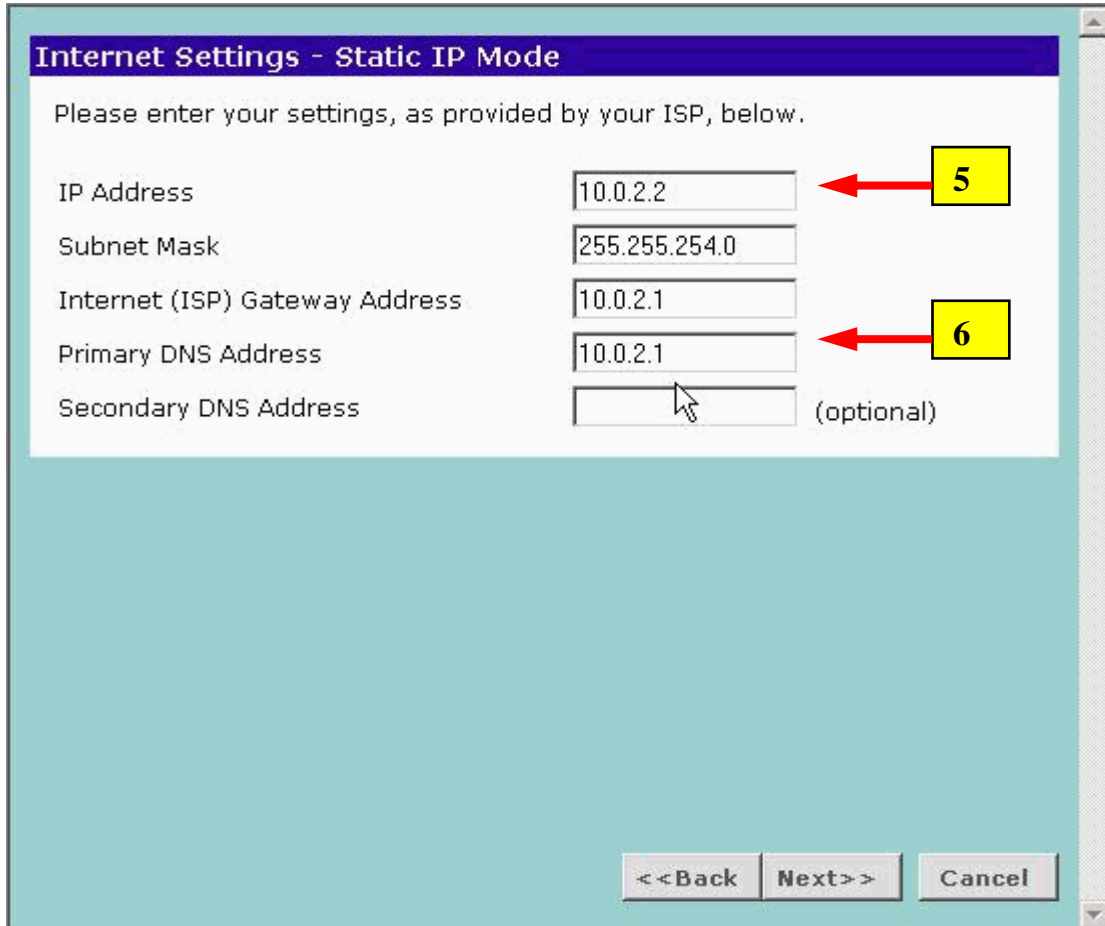
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« ISP » interface definition :



Internet Settings - Static IP Mode

Please enter your settings, as provided by your ISP, below.

IP Address	<input type="text" value="10.0.2.2"/>	← 5
Subnet Mask	<input type="text" value="255.255.254.0"/>	
Internet (ISP) Gateway Address	<input type="text" value="10.0.2.1"/>	
Primary DNS Address	<input type="text" value="10.0.2.1"/>	← 6
Secondary DNS Address	<input type="text"/>	(optional)

<<Back Next>> Cancel

These IP addresses IP are in your configuration form :

- IP Address = parameter 5 @IP_ISP
- Gateway & DNS = parameter 6
- Subnet mask = fixe (255.255.254.0)

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« LAN » interface definition:



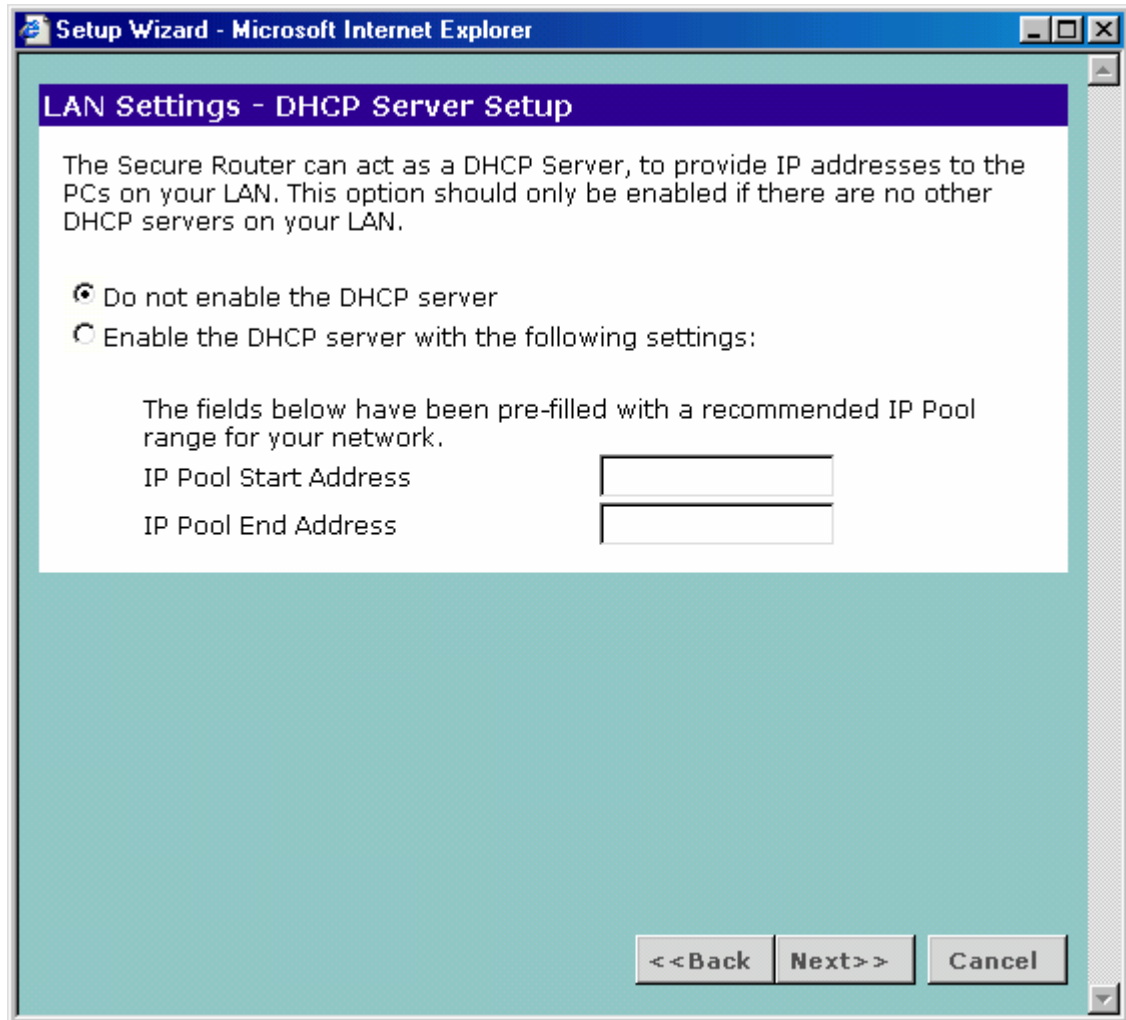
The screenshot shows a dialog box titled "LAN Settings - LAN IP Address". The dialog has a light blue background and a dark blue title bar. The main content area contains the following text: "The fields below show a suggested LAN IP address and subnet mask for your Secure Router. If these values are not suitable, please change them, and then click *Next* to continue." Below this text are two input fields: "IP Address" with the value "138.128.129.254" and "Subnet Mask" with the value "255.255.254.0". At the bottom of the dialog, there are three buttons: "<< Back", "Next >>", and "Cancel". A mouse cursor is pointing at the "Next >>" button.

The IP address(138.128.129.254) and the mask (255.255.254.0) are **constant**. It is the Gateway in the Helios addressing plan.

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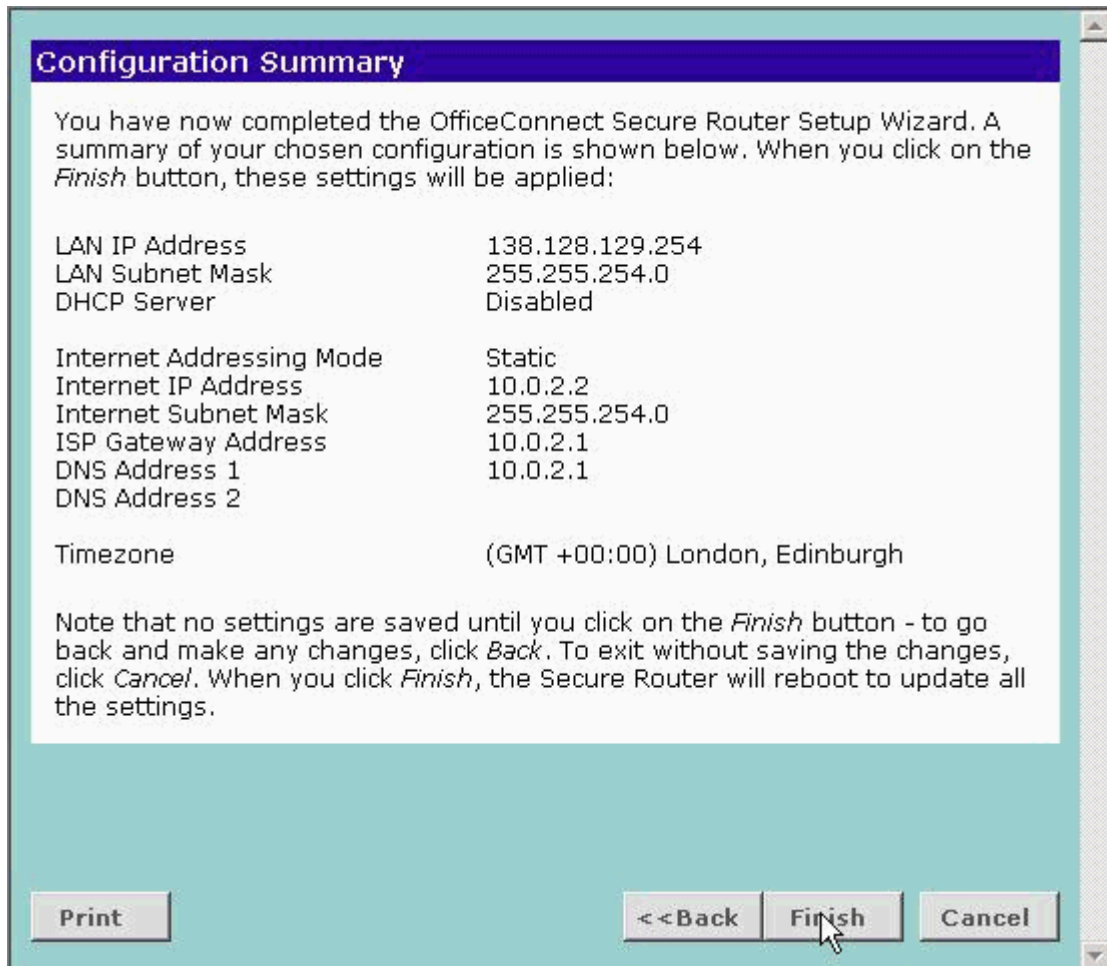
The router is not used as a DHCP server.

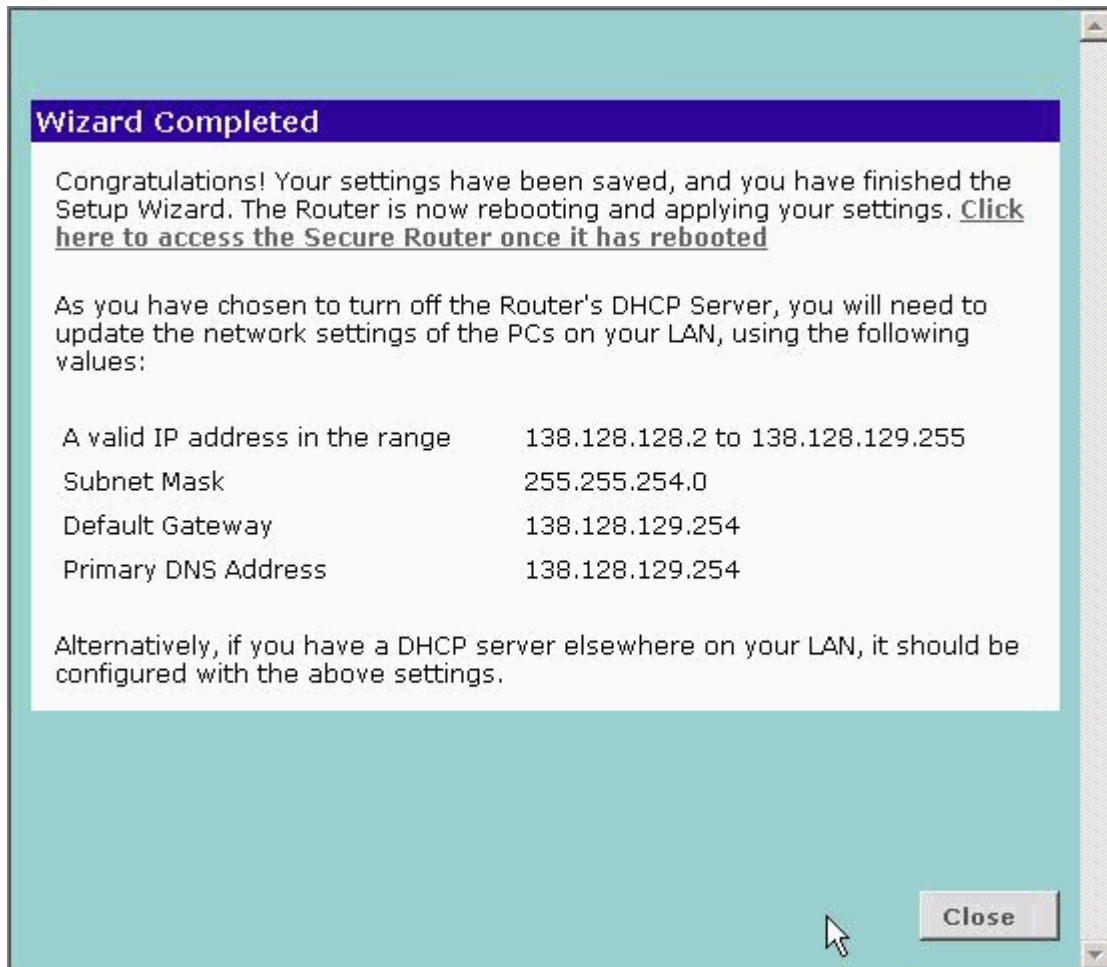


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The following table summarize the input parameters. In the case of errors, use « Back » to correct.
« Finish » validate the current input parameters.





The pre-configuring phase is finished.

=====

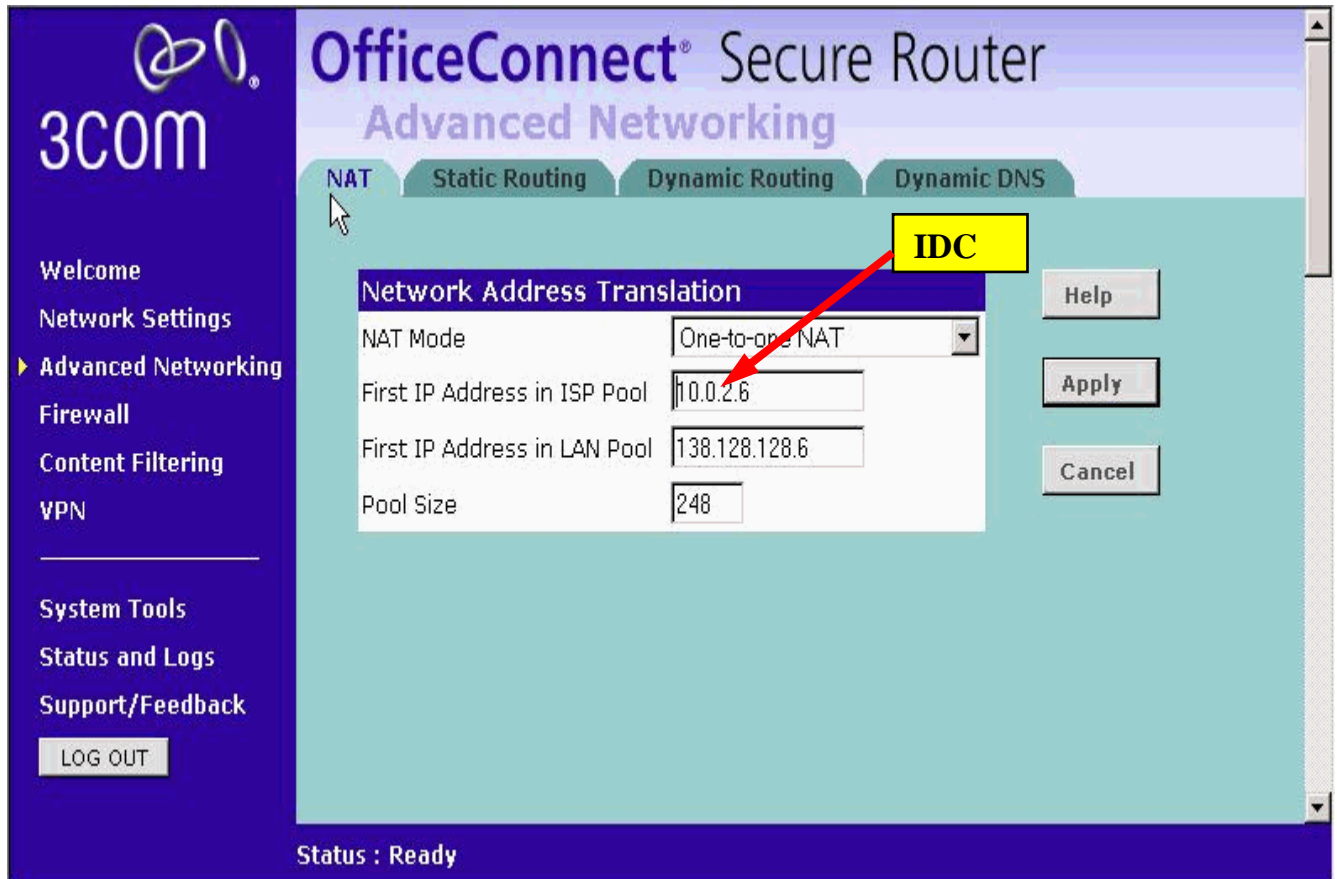
5. Personalizing the NAT router

- Configure the PC with the address 138.128.128.4 & mask 255.255.254.0.
- With Microsoft Internet Explorer, open a connexion <http://138.128.129.254>

Connect (with default password).



Select « Advanced Networking » → « NAT »



The pool ISP address is the format 10.0.IDC.6 where IDC is defined in your configuration (parameter **IDC**). The other input (138.128.128.6 et 504) are constant parameters and represent Helios address in plan.

Validate with « Apply ».

ATTENTION:

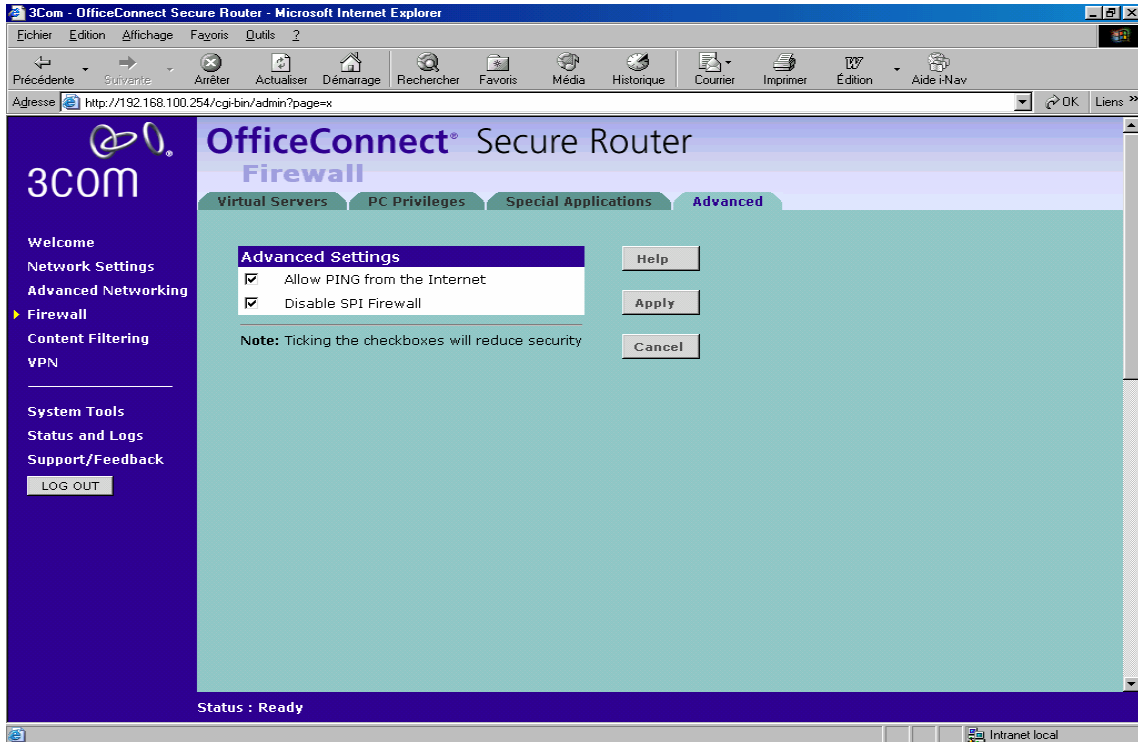
This operation saves the configuration and takes some delay.

Sometimes the page is frozen, in this case, click on another menu to continue.

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Select « Firewall » → « Advanced »



Select « disable SPI firewall » and « Allow ping » is automatically set on.
Validate with « Apply »

Wait for the config saving and click on « LOG OUT »

The personalization phase is finished.

=====

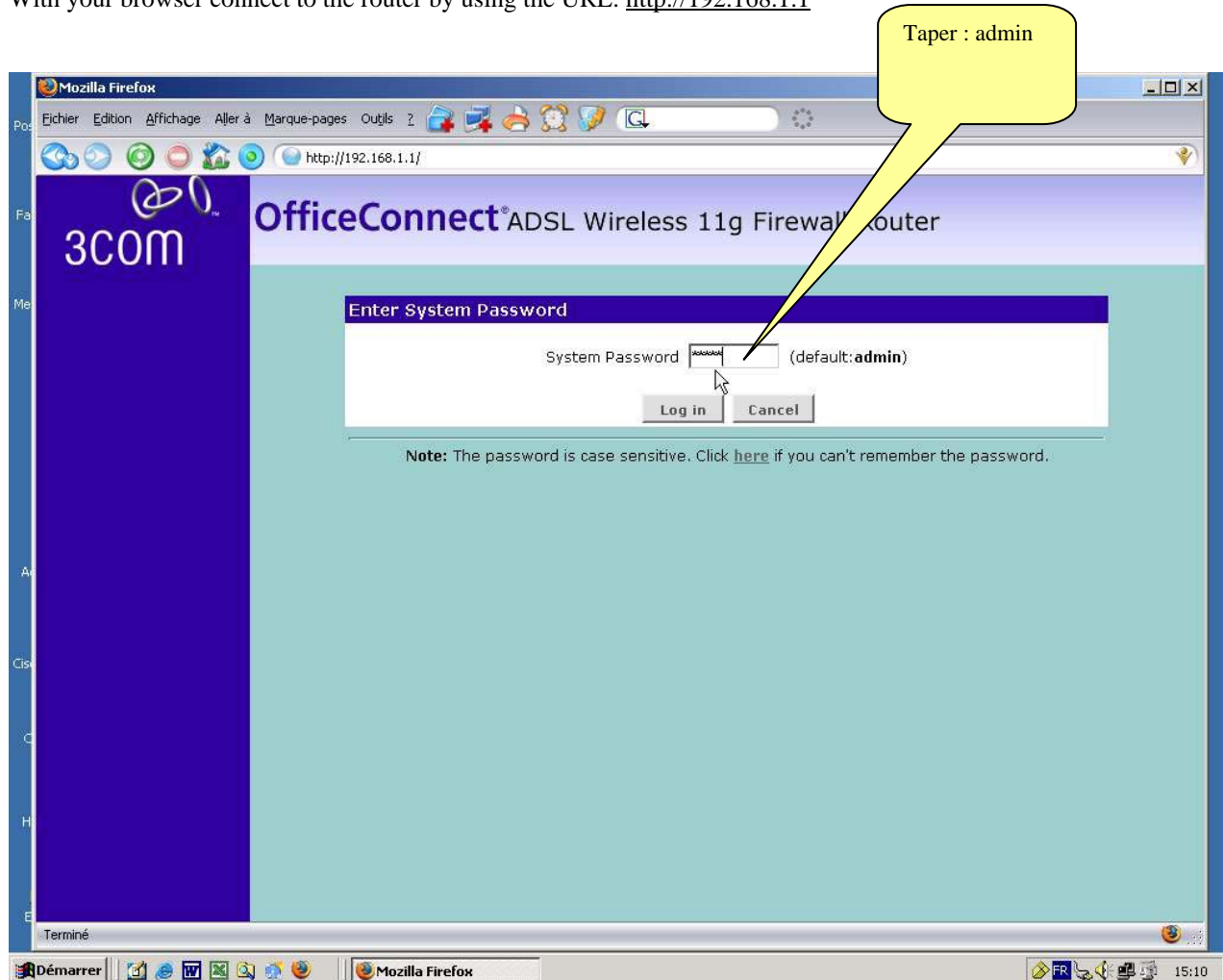
6. Personalizing ADSL router:

- For the ADSL router (ADSL modem), only the modified pages will be shown.

Modify the TCP/IP parameters of the Laptop used for configuring the 3Com ADSL router. Use the IP address 192.168.1.2 and network mask 255.255.255.0

With RJ45 cable (direct), connect the Laptop to one of the 4 Lan ports of ADSL modem.

With your browser connect to the router by using the URL: <http://192.168.1.1>

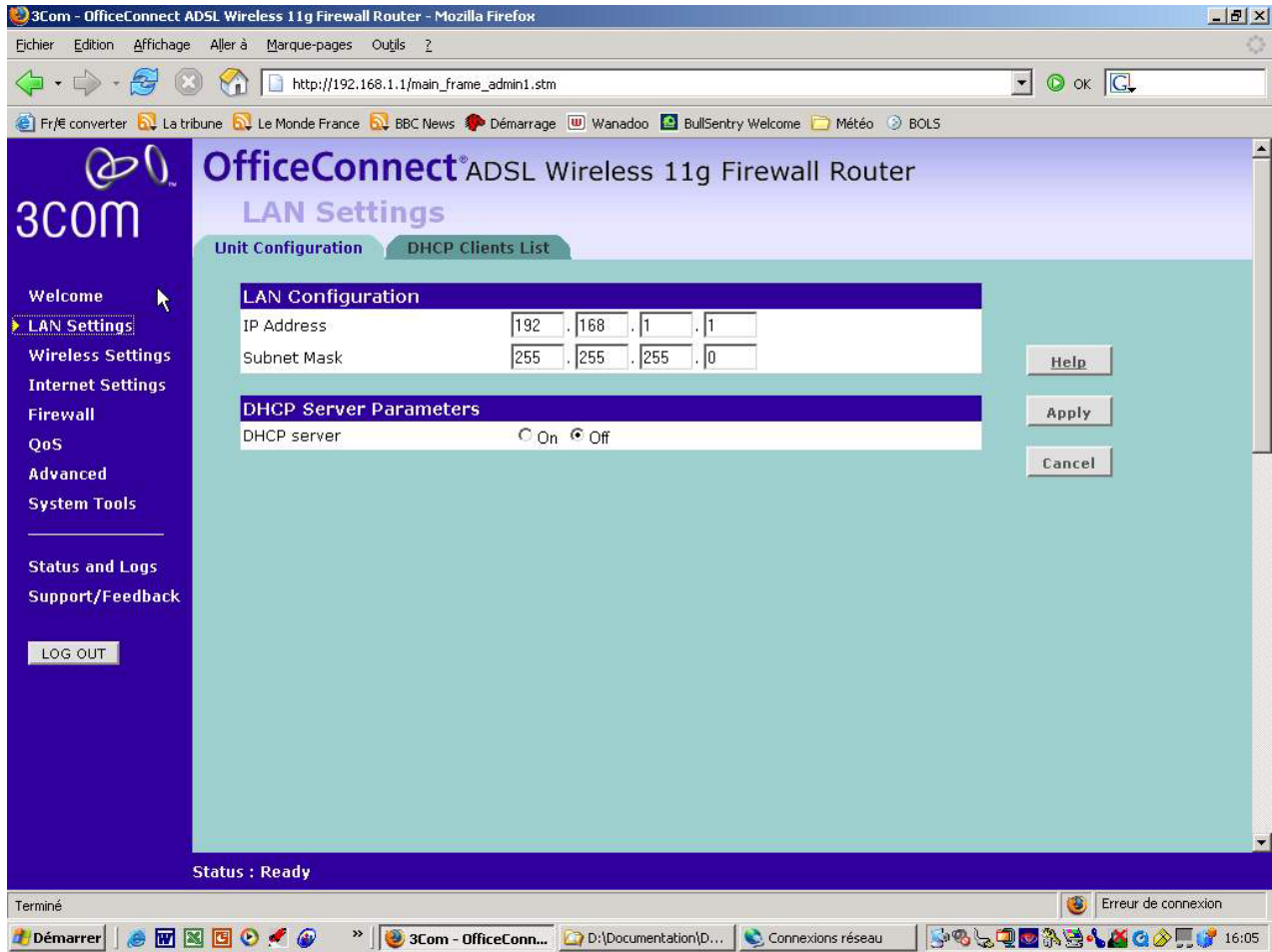


No modify anything. Use the default values (address & mask)

Set off the DHCP server in the « DHCP Server Parameters » section.

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The screenshot shows the web management interface for a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window title is "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox". The address bar shows "http://192.168.1.1/main_frame_admin1.stm".

The interface has a dark blue sidebar on the left with the following menu items: Welcome, LAN Settings (selected), Wireless Settings, Internet Settings, Firewall, QoS, Advanced, System Tools, Status and Logs, and Support/Feedback. A "LOG OUT" button is located at the bottom of the sidebar.

The main content area is titled "OfficeConnect ADSL Wireless 11g Firewall Router" and "LAN Settings". It has two tabs: "Unit Configuration" and "DHCP Clients List". The "Unit Configuration" tab is active and contains two sections:

- LAN Configuration:**

IP Address	192	.	168	.	1	.	1
Subnet Mask	255	.	255	.	255	.	0
- DHCP Server Parameters:**

DHCP server On Off

On the right side of the configuration area, there are three buttons: "Help", "Apply", and "Cancel".

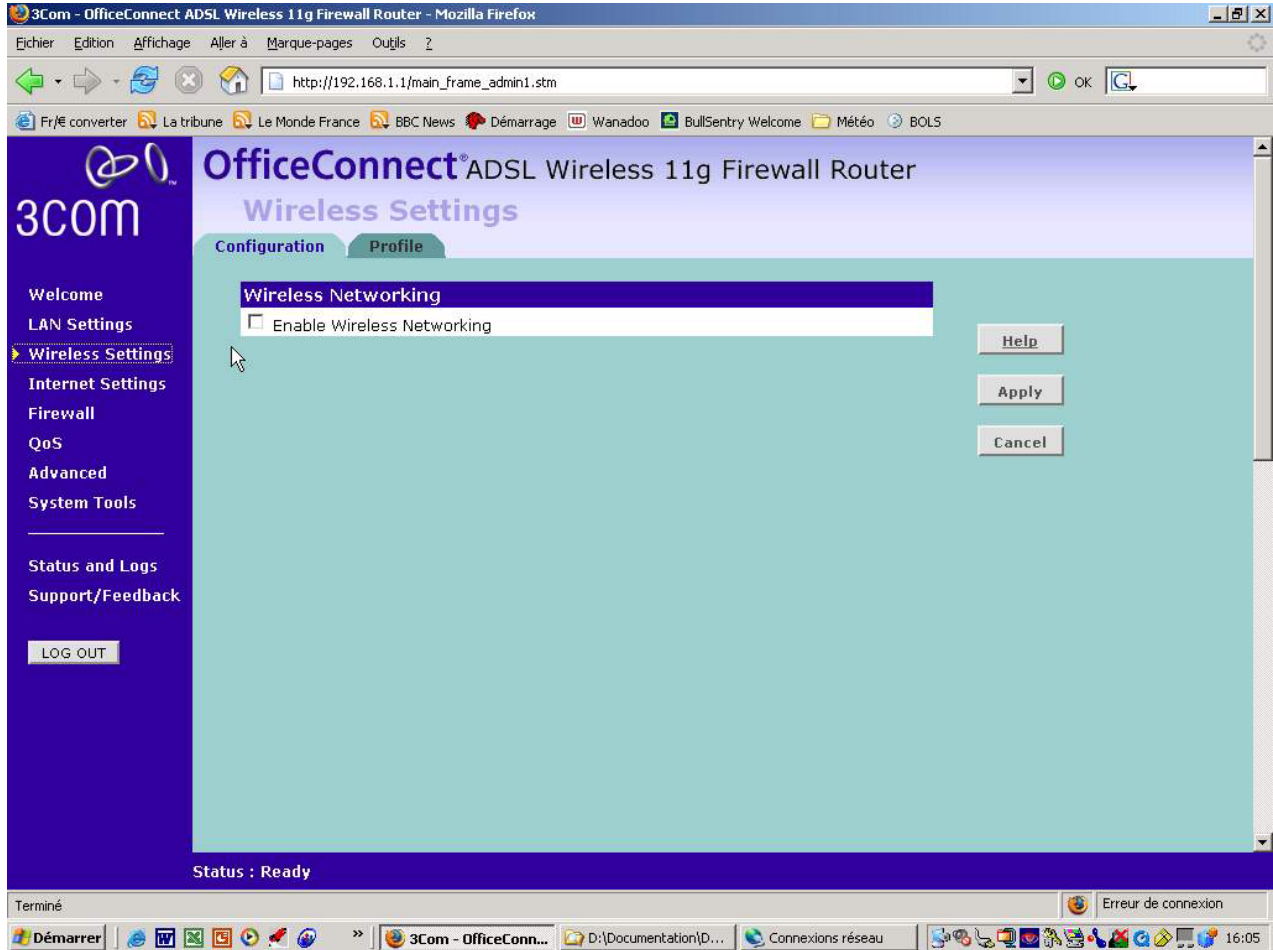
At the bottom of the interface, the status is "Status : Ready". The Windows taskbar at the bottom shows the system tray with a clock reading "16:05" and a network connection error icon.

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Menu Wireless Settings

Set off WI FI parameters. Don't forget to scroll the menu.



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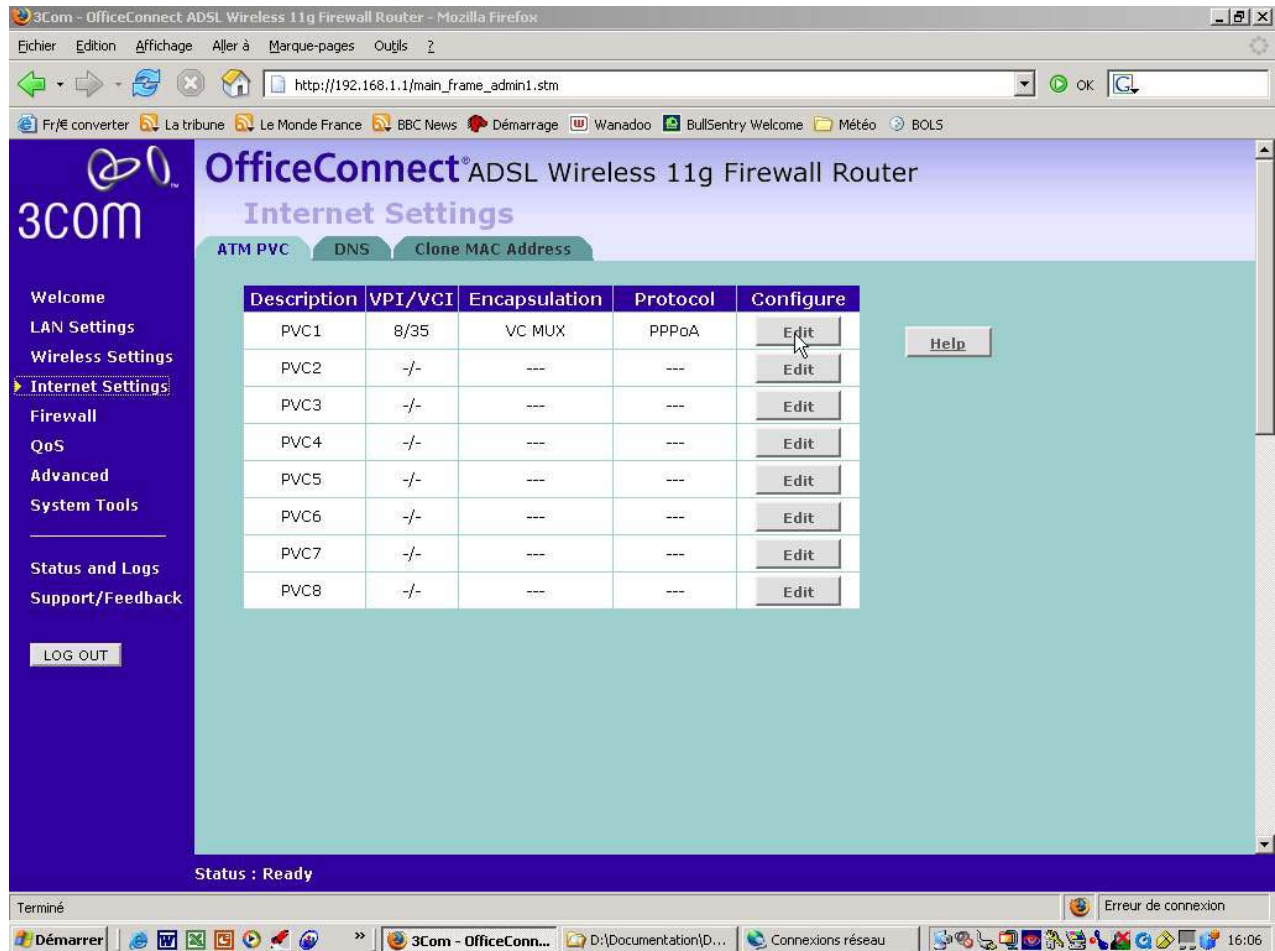
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Internet Settings Menu

Click on settings section. According to the operators for Internet (FAI) select PPP (PPP over ethernet) or PPPOA (PPP over Atm). Refer to the appendix at the end, there are values to respect for this "settings".

The example bellow is for France Telecom (orange) as FAI.

Click then on « Next »



OfficeConnect[®] ADSL Wireless 11g Firewall Router
Internet Settings

ATM PVC DNS Clone MAC Address

Description	VPI/VCI	Encapsulation	Protocol	Configure
PVC1	8/35	VC MUX	PPPoA	Edit
PVC2	-/-	---	---	Edit
PVC3	-/-	---	---	Edit
PVC4	-/-	---	---	Edit
PVC5	-/-	---	---	Edit
PVC6	-/-	---	---	Edit
PVC7	-/-	---	---	Edit
PVC8	-/-	---	---	Edit

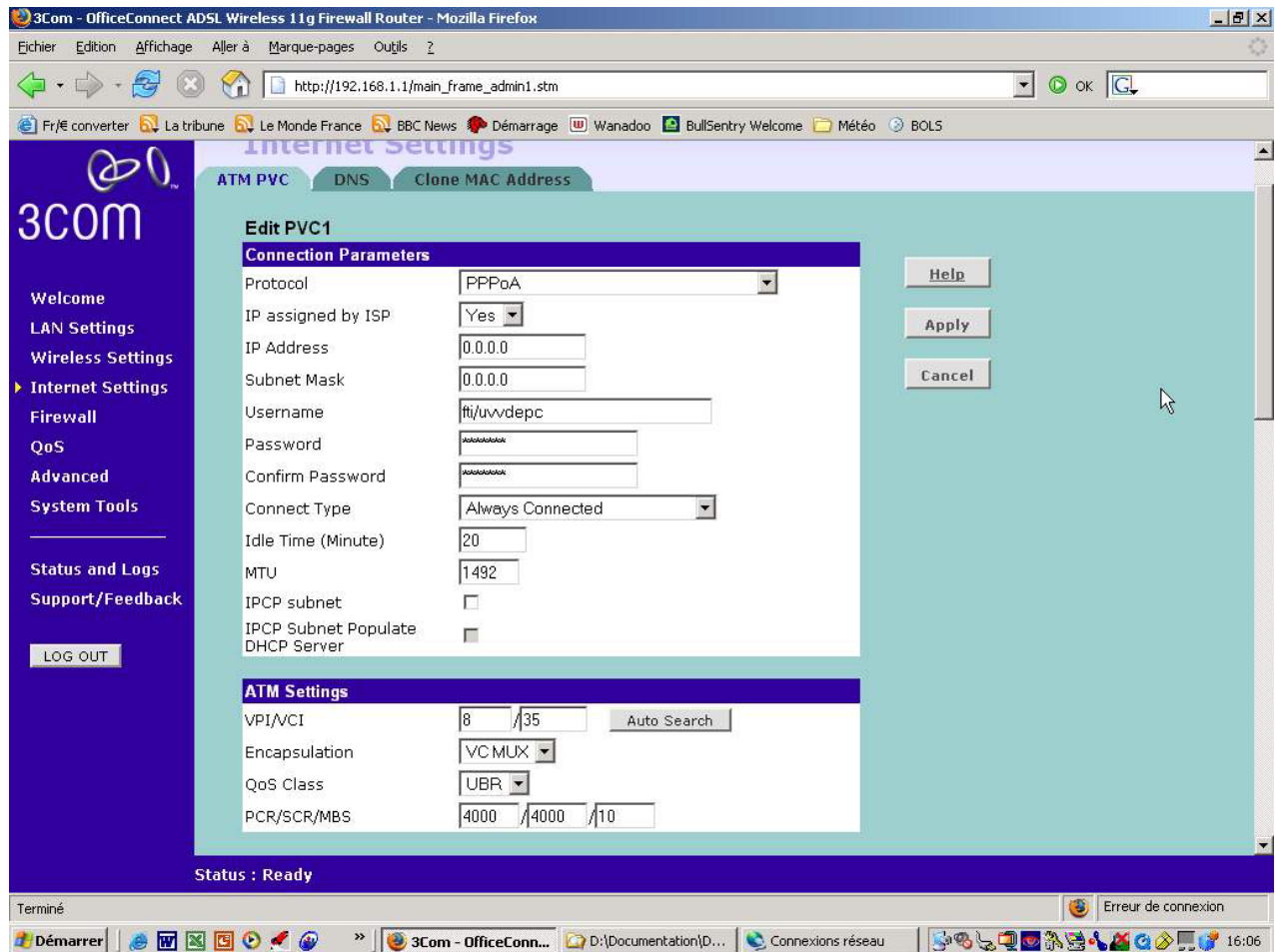
Help

Status : Ready

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The example shows parameters used for Orange. If other FAI, please use the suitable input
Give the « User name » and « password ». These inputs are on the ADSL subscription contract.
Click on « Apply » on the feed page.

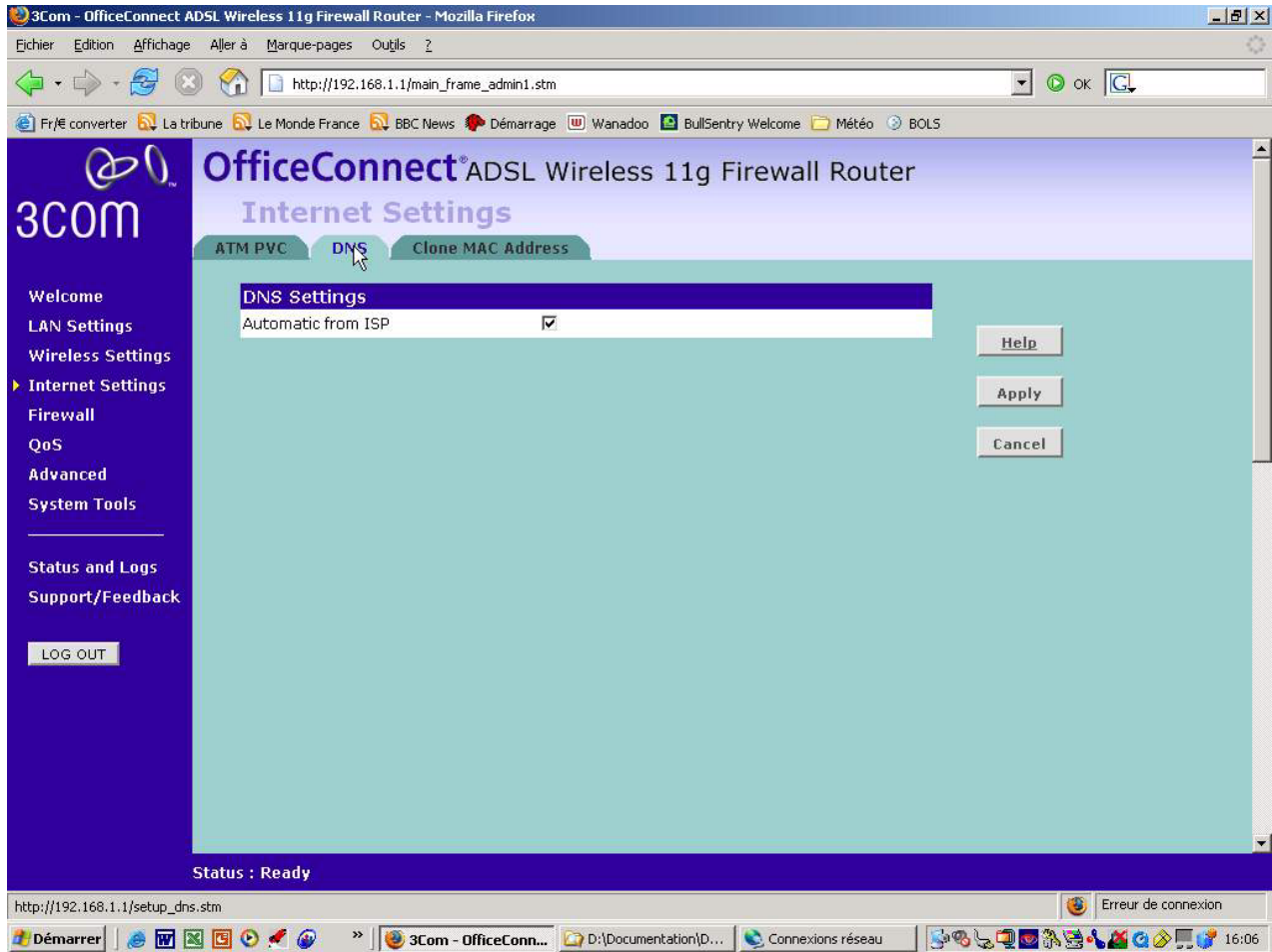


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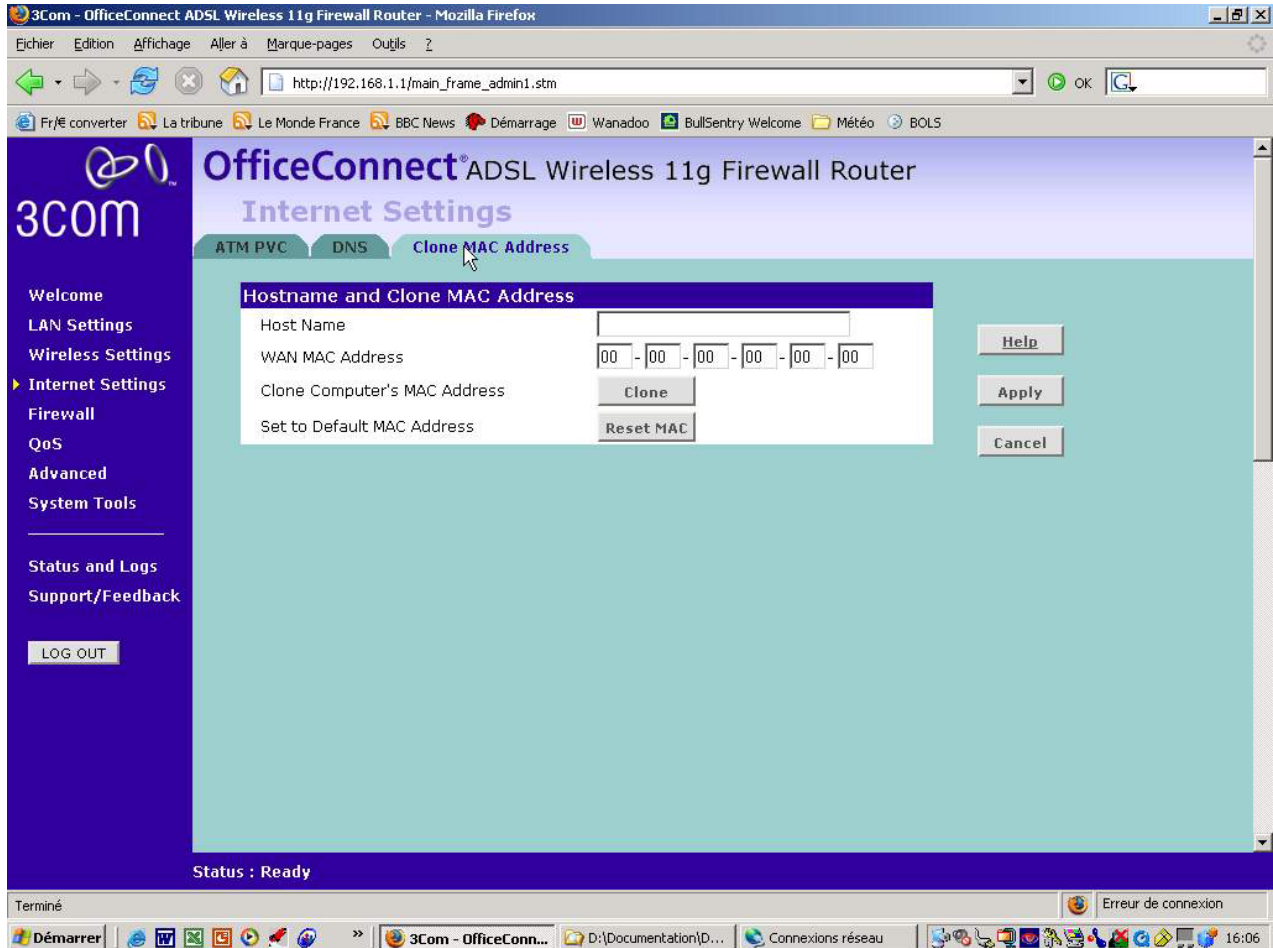
For FT (orange) noDNS to define. Validate « Automatic from ISP »



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To be define according to the FAI. For FT (Orange), no change.



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Define the Firewall Level as : LOW

3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox

http://192.168.1.1/main_frame_admin1.stm

OfficeConnect[®] ADSL Wireless 11g Firewall Router

Firewall

PC Privileges URL Filter Content Filter Server Control

SPI Special Applications Virtual Servers DMZ Schedule Rules

Protection Level

Firewall level Low

Alert by e-mail

Your E-mail Address :

SMTP Server Address :

User name :

Password :

Help

Apply

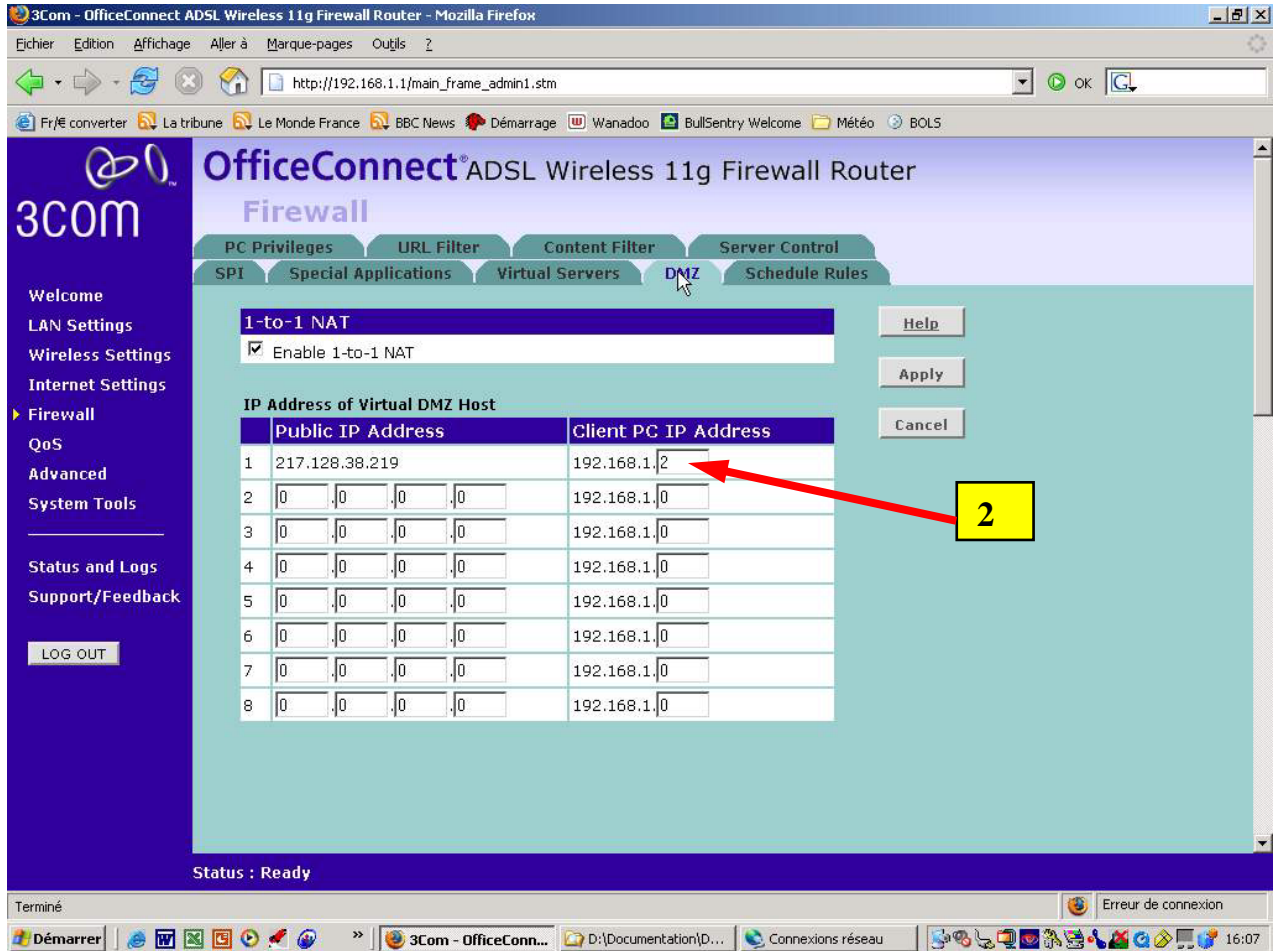
Cancel

Status : Ready

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A DMZ is defined. All Internet traffic is systematically redirected to TCRX. Only TrustWay ciphered frames can pass through the TCRX.



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Invalidate the remote administration of the ADSL router.

3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox

http://192.168.1.1/main_frame_admin1.stm

3Com

Welcome

LAN Settings

Wireless Settings

Internet Settings

Firewall

QoS

Advanced

System Tools

Status and Logs

Support/Feedback

LOG OUT

NAT

- Disable NAT
- Enable IPSEC NAT-T Pass-through

Universal Plug and Play

- Enable Universal Plug & Play

WAN Ping Blocking

- Block ICMP Ping

MSS Clamping

- Enable MSS Clamping

Remote Administration

- Disable Remote Administration
- Enable administration from a **single** Internet Host
Host IP Address: 0 . 0 . 0 . 0
- Enable administration from a **whole Subnet** Internet Host
Host Network Address: 0 . 0 . 0 . 0
Subnet Mask: 0 . 0 . 0 . 0
- Enable administration from **any** Internet Host.

Help Apply Cancel

Status : Ready

Terminé

Démarrer

3Com - OfficeConn...

D:\Documentation\D...

Connexions réseau

16:09

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Set the date, time and time zone

The screenshot shows the web interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window title is "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox". The address bar shows "http://192.168.1.1/main_frame_admin1.stm". The page title is "OfficeConnect® ADSL Wireless 11g Firewall Router" and the sub-page is "System Tools". The "Time Zone" tab is selected, showing the "Time and Time Zone" configuration page. The current time is "October 23, 2006 4:06:50 PM". The base date is set to "October 18, 2006" and the base time is "5:00:00 PM". The "Using Time Server (NTP)" checkbox is checked and enabled. The "Set Time Zone" dropdown is set to "(GMT+01:00)Brussels, Copenhagen, Paris, Vilnius". The "Synchronization Interval" is set to "6" hours. The "Time Server" dropdown is set to "130.149.17.8 - Europe" with the IP address "130.149.17.8" displayed. The "Daylight Savings" checkbox is checked and enabled. The status at the bottom of the page is "Status : Ready". The Windows taskbar at the bottom shows the time as 16:10.

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Status and logs pages :

The screenshot displays the web-based administration interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The browser window title is "3Com - OfficeConnect ADSL Wireless 11g Firewall Router - Mozilla Firefox" and the address bar shows "http://192.168.1.1/main_frame_admin1.stm". The interface has a purple sidebar on the left with navigation links: Welcome, LAN Settings, Wireless Settings, Internet Settings, Firewall, QoS, Advanced, System Tools, Status and Logs (highlighted), and Support/Feedback. A "LOG OUT" button is also present. The main content area is titled "Status" and contains several sections:

- General Information:**

3C number	3CRWDR101A-75
Software version	1.00.00 (USA) (Apr 21 2006 19:10:53)
Boot loader version	0.70.1
Wireless version	N.A.
ADSL modem version	05.00.03.00A
Hardware version	01
Serial number	YAVD77J067A00
- Access From The Internet:**

Firewall	Low Level
Universal Plug & Play	Disabled
Discard ping from the Internet	No
- Internet Settings:**

WAN Connection Type	PPPOA
Status	CONNECTED
Internet IP address	217.128.38.219
Subnet Mask	255.255.255.255
ISP Gateway Address	193.253.160.3
Primary DNS	80.10.246.130
Secondary DNS	80.10.246.3
WAN MAC Address	00-18-6E-06-7A-01

Buttons for "Help" and "Disconnect" are visible. The status at the bottom of the page is "Status : Ready". The Windows taskbar at the bottom shows the time as 16:10 and includes icons for Démarrer, 3Com - OfficeConn..., D:\Documentation\D..., and Connexions réseau.

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The screenshot shows a Mozilla Firefox browser window displaying the administration interface of a 3Com OfficeConnect ADSL Wireless 11g Firewall Router. The address bar shows the URL http://192.168.1.1/main_frame_admin1.stm. The interface has a dark blue sidebar on the left with a navigation menu. The main content area is light blue and contains three tables of settings and status information.

3Com

Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
QoS
Advanced
System Tools
► Status and Logs
Support/Feedback
LOG OUT

LAN Settings

LAN IP address	192.168.1.1
LAN Subnet Mask	255.255.255.0
DHCP Server	Disabled
DHCP Range	192.168.1.2 - 192.168.1.254
LAN MAC Address	00-18-6E-06-7A-00

Wireless Settings

Wireless Networking	Disabled
Wireless Encryption	Disabled
Channel	11
SSID	3Com
WLAN MAC Address	N.A.

Hardware Status

Port	Speed	Duplex
LAN Port #1	No Link	No Link
LAN Port #2	10	Half Duplex
LAN Port #3	No Link	No Link
LAN Port #4	No Link	No Link

Status : Ready

http://192.168.1.1/status.stm

Erreur de connexion

Démarrer | 3Com - OfficeConn... | D:\Documentation\D... | Connexions réseau | 16:10

7. Plugging on the network :

For information, IP protocols used between the TrustWay box (TCRX) and the BICC, are described below:

Filtering Rules:

CLIENT	sens Cnx	Flux	BULL
TCRX	<== <== <== ==> ==> <==>	SNMP trap (UDP p162) Syslog (UDP p514) TFTP connexion (UDP p69) SNMP (UDP p161) TFTP data ICMP (echo)	TDM (129.185.218.11) TDM-Backup (129.182.20.55)
TCRX	<==> <==>	IPSEC-ESP (protocole 50) ICMP (tout type)	TCRX (129.185.218.12)

- Use the Ethernet cable an connect the port « câble DSL » of the NAT router to the TCRX port « Clair ».
- Connect the LAN port of ADSL modem to the TCRX port « Chiffré ».
- Connect the RMA LAN Helios to one of the 4 LAN ports of NAT router.
- Call the BICC for tests.

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Appendix 1

Indication table for « Setting » Internet parameters for French operators. Please check the indications given on the ADSL subscription contract.

Please check the indications for your country operators sets.

ISP	Pays	VPI	VCI (hexa)	Encapsulation	Connexion	DNS
Cegetel ADSL Max 8 Mb	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.94.174.85 212.94.174.86
Cegetel non dégroupé 512 IP/ADSL et dégroupé	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.94.174.85 212.94.174.86
Club-Internet	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	194.117.200.10 194.117.200.15
Free dégroupé 1024/256 (mini)	France	8	36 (24)	4 - RFC1483/2684 Routed IP (IPoA) VCmux	dhclient / dhcpd / static	213.228.0.68 212.27.32.176 212.27.32.177 212.27.39.2 212.27.39.1
Free non dégroupé 512/128 & 1024/128	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.228.0.23 212.27.32.176
Free non dégroupé ADSL Max	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.228.0.23 212.27.32.176
Tiscali.fr 128k	France	8	35 (23)	5 - RFC2364 PPPoA LLC	pppoa	213.36.80.1 213.36.80.2
Tiscali.fr 512k	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	213.36.80.1 213.36.80.2
Télé2	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.151.136.242 130.244.127.162 212.151.136.246
Wanadoo	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	80.10.246.2 80.10.246.129
n9uf tel9com 512 & dégroupé 1024	France	8	35 (23)	6 - RFC2364 PPPoA VCmux	pppoa	212.30.93.108 212.203.124.146 (62.62.156.12 62.62.156.13)

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End of document