

Remplacer sa box Orange par un pfSense

Introduction

Ceci est issue du forum [LaFibre](#) qui elle même est issue de l'énorme travail sur ce [topic](#)

Internet

Il existe deux méthode d'attribution d'IP chez Orange :

- PPPOE : L'ancestrale méthode de chez Orange, ne supporte que l'IPv4 dynamique et est nativement compatible avec pfSense.
- DHCP : Méthode toute jeune, permet l'obtention de l'IPv6 mais non compatible nativement avec pfSense.

Bien évidemment, on va utiliser la méthode du DHCP car l'IPv6 prime.

Étape 1

Il va falloir donc modifier les fichiers suivants :


- dhclient
 - dhcp6c
- > /sbin/dhclient
- > /usr/local/sbin/dhcp6c

Cette étape sera à répéter à chaque mise à jour.

A noter, il faudra peut-être désactiver l'interface WAN pour pouvoir remplacer ces fichiers.

Étape 2

Ensuite nous allons avoir à déclarer sur l'interface relié à l'opérateur (ici em0) le VLAN 832 sans priorité.

VLAN Configuration	
Parent Interface	em0 (4e:cb:e4:b2:52:a7) 
	Only VLAN capable interfaces will be shown.
VLAN Tag	832
	802.1Q VLAN tag (between 1 and 4094).
VLAN Priority	0
	802.1Q VLAN Priority (between 0 and 7).
Description	VLAN internet
	A group description may be entered here for administrative reference (not parsed).

Puis de l'assigné sur l'interface WAN.

Étape 3

Il va falloir transformer son identifiant Orange en base32, pour cela il suffit de lancer le script suivant :

[fti.sh](#)

```
1. #!/bin/bash
2.
3. USERNAME=$1
4. AUTHSTRING=00:00:00:00:00:00:00:00:00:00:00:66:74:69:2f
5.
6. for (( i=0; i<${#USERNAME}; i++ )); do
7.     HEXCHAR=$(echo -n ${USERNAME:$i:1} | od -An -txC | xargs)
8.     AUTHSTRING=${AUTHSTRING}:${HEXCHAR}
9. done
10. echo ${AUTHSTRING}
```

avec pour argument les 7 caractères de l'identifiant Orange (après le fti/).

Étape 4

Nous allons configurer les DHCP.

Pour cela, voici la configuration standard :

General Configuration

Enable

☒ Enable interface

Description

WAN

Enter a description (name) for the interface here.

IPv4 Configuration Type

DHCP

IPv6 Configuration Type

DHCP6

MAC Address

xxxxxxxxxx

This field can be used to modify ("spoof") the MAC address of this interface.
Enter a MAC address in the following format: xxxxxxxxxx or leave blank.

MTU

If this field is blank, the adapter's default MTU will be used. This is typically 1500 bytes but can vary in some circumstances.

MSS

If a value is entered in this field, then MSS clamping for TCP connections to the value entered above minus 40 (TCP/IP header size) will be in effect.

Speed and Duplex

Default (no preference, typically autoselect)

Explicitly set speed and duplex mode for this interface.
WARNING: MUST be set to autoselect (automatically negotiate speed) unless the port this interface connects to has its speed and duplex forced.

DHCP Client Configuration

Options

☒ Advanced Configuration
Use advanced DHCP configuration options.

☐ Configuration Override
Override the configuration from this file.

Hostname

The value in this field is sent as the DHCP client identifier and hostname when requesting a DHCP lease. Some ISPs may require this (for client identification).

Alias IPv4 address

/ 32

The value in this field is used as a fixed alias IPv4 address by the DHCP client.

Reject leases from

To have the DHCP client reject offers from specific DHCP servers, enter their IP addresses here (separate multiple entries with a comma). This is useful for rejecting leases from cable modems that offer private IP addresses when they lose upstream sync.

Protocol timing

Timeout

Retry

Select timeout

Reboot

Backoff cutoff

Initial interval

Presets

☐ FreeBSD default

☐ Clear

☐ pfSense Default

☒ Saved Cfg

The values in these fields are DHCP protocol timings used when requesting a lease.
See here for more information

Lease Requirements and Requests

Send options

@dhcp-class-identifier "sagem",user-class "fSYDSL_Livebox,Internet.softathome.Livebox4",fc3118-auth 00:00:00:00:00:00:00:00

The values in this field are DHCP options to be sent when requesting a DHCP lease. [option declaration [...]]
Value Substitutions: (interface), (hostname), (mac_addr_ascIID), (mac_addr_hexCID)
Where C is U(pper) or L(ower) Case, and D is "-" Delimiter (space, colon, hyphen, or period) (omitted for none).
Some ISPs may require certain options be or not be sent.

Request options

subnet-mask,broadcast-address,dhcp-lease-time,dhcp-renewal-time,dhcp-rebinding-time,domain-search,routers,domain-name-servers

The values in this field are DHCP option 55 to be sent when requesting a DHCP lease. [option [...]]
Some ISPs may require certain options be or not be requested.

Require options

The values in this field are DHCP options required by the client when requesting a DHCP lease. [option [...]]

Option modifiers

vlan pop 6

The values in this field are DHCP option modifiers applied to the obtained DHCP lease. [modifier option declaration [...]]
modifiers: (default, supersede, prepend, append)
See here more information

DHCP6 Client Configuration

Options

☒ Advanced Configuration
Use advanced DHCPv6 configuration options.

☐ Configuration Override
Override the configuration from this file.

Use IPv4 connectivity as parent interface

☐ Request a IPv4 prefix/information through the IPv4 connectivity link

Request only an IPv6 prefix

☐ Only request an IPv6 prefix, do not request an IPv6 address

DHCPv6 Prefix Delegation size

None

The value in this field is the delegated prefix length provided by the DHCPv6 server. Normally specified by the ISP.

Send IPv6 prefix hint

☐ Send an IPv6 prefix hint to indicate the desired prefix size for delegation

Debug

☐ Start DHCP6 client in debug mode

Do not wait for a RA

☒ Required by some ISPs, especially those not using PPPoE

Do not allow PD/Address release

☐ dhcp6c will send a release to the ISP on exit, some ISPs then release the allocated address or prefix. This option prevents that signal ever being sent

DHCP6 VLAN Priority

☐ Enable dhcp6c VLAN Priority tagging
Normally off unless specifically required by the ISP

Background (BK, 0)
Choose 802.1p priority to set.

Advanced DHCP6 Client Configuration

Information only

☐ Exchange Information Only
Only exchange informational configuration parameters with servers.

Send options

ipd 0,raw-option 15 00:2b:46:53:56:44:53:4c:5f:6c:69:76:65:62:6f:78:2e:49:6e:74:65:72:6e:65:74:2e:73:6f:66:74:61:74:68:6f:6d:65:2e

DHCP send options to be sent when requesting a DHCP lease. [option declaration [...]]
Value Substitutions: (interface), (hostname), (mac_addr_ascIID), (mac_addr_hexCID)
Where C is U(pper) or L(ower) Case, and D is "-" Delimiter (space, colon, hyphen, or period) (omitted for none).
Some DHCP services may require certain options be or not be sent.

Request Options

DHCP request options to be sent when requesting a DHCP lease. [option [...]]
Some DHCP services may require certain options be or not be requested.

Scripts

Absolute path to a script invoked on certain conditions including when a reply message is received.
[filename[:/]]filename.ext[]

Identity Association Statement

☐ Non-Temporary Address Allocation

id-assoc na ID

IPv6 address

p1time

v1time

☒ Prefix Delegation

id-assoc pd ID

IPv6 prefix

p1time

v1time

Prefix interface statement

0

8

Prefix interface sla-id

sla-len

Prefix Interface

LAN

Select the interface on which to apply the prefix delegation.

Authentication statement

Authname

Protocol

Algorithm

RDM

Keyinfo statement

Keyname

Realm

KeyID

Secret

Expire

See here more information

Reserved Networks

Block private networks and loopback addresses

☒
Blocks traffic from IP addresses that are reserved for private networks per RFC 1918 (10/8, 172.16/12, 192.168/16) and unique local addresses per RFC 4193 (fc00::/7) as well as loopback addresses (127/8). This option should generally be turned on, unless this network interface resides in such a private address space, too.

Block bogon networks

☒
Blocks traffic from reserved IP addresses (but not RFC 1918) or not yet assigned by IANA. Bogons are prefixes that should never appear in the Internet routing table, and so should not appear as the source address in any packets received.
Note: The update frequency can be changed under System > Advanced, Firewall & NAT settings.

Avec dans le **Send Options** IPv4 :

```
dhcp-class-identifier "sagem",user-class  
"+FSVDSL_livebox.Internet.softathome.Livebox4",rfc3118-auth  
XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX
```

dans le **Request Options** IPv4 :

```
subnet-mask,broadcast-address,dhcp-lease-time,dhcp-renewal-time,dhcp-  
rebinding-time,domain-search,routers,domain-name-servers,rfc3118-auth
```

et dans le **Send Options** IPv6 :

```
ia-pd 0, raw-option 15  
00:2b:46:53:56:44:53:4c:5f:6c:69:76:65:62:6f:78:2e:49:6e:74:65:72:6e:65:74:2  
e:73:6f:66:74:61:74:68:6f:6d:65:2e:6c:69:76:65:62:6f:78:33,raw-option 16  
00:00:04:0e:00:05:73:61:67:65:6d,raw-option 6 00:0b:00:11:00:17:00:18,raw-  
option 11  
XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX
```

A noter que le XX:XX est le contenu obtenu l'étape 3.

Vous devriez recevoir une IPv4 et un /56 IPv6.

Étape 5

Il faudra ajouter la route suivante pour pouvoir profiter de l'IPv6 :

Edit Gateway	
Disabled	<input type="checkbox"/> Disable this gateway Set this option to disable this gateway without removing it from the list.
Interface	<input type="text" value="WAN"/> Choose which interface this gateway applies to.
Address Family	<input type="text" value="IPv6"/> Choose the Internet Protocol this gateway uses.
Name	<input type="text" value="WAN_V6"/> Gateway name
Gateway	<input type="text" value="fe80::ba0:bab%em0.832"/> Gateway IP address
Default Gateway	<input checked="" type="checkbox"/> This will select the above gateway as the default gateway.
Gateway Monitoring	<input type="checkbox"/> Disable Gateway Monitoring This will consider this gateway as always being up.
Gateway Action	<input type="checkbox"/> Disable Gateway Monitoring Action No action will be taken on gateway events. The gateway is always considered up.
Monitor IP	<input type="text"/> Enter an alternative address here to be used to monitor the link. This is used for the quality RRD graphs as well as the load balancer entries. Use this if the gateway does not respond to ICMP echo requests (pings).
Force state	<input type="checkbox"/> Mark Gateway as Down This will force this gateway to be considered down.
Description	<input type="text"/> A description may be entered here for reference (not parsed).
<input type="button" value="Display Advanced"/>	

A noter qu'il faudra changer le nom de l'interface par la votre.

Étape 6

Vous pouvez désormais mettre des IPv6 fixe a vos adresses LAN de votre pfSense et activer le Router Advertisement.

Vous avez la complète liberté sur vos préfixes.

Télévision



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