



# SUPPORT PROCEDURE

Salt Fiber - Technical Support

## ABSTRACT

This document introduces the Fiber concepts we have implemented at Salt, and aims at being a support for your overall understanding in order to propose an excellent experience to a customer when he reaches you for a question, a problem or a complaint.

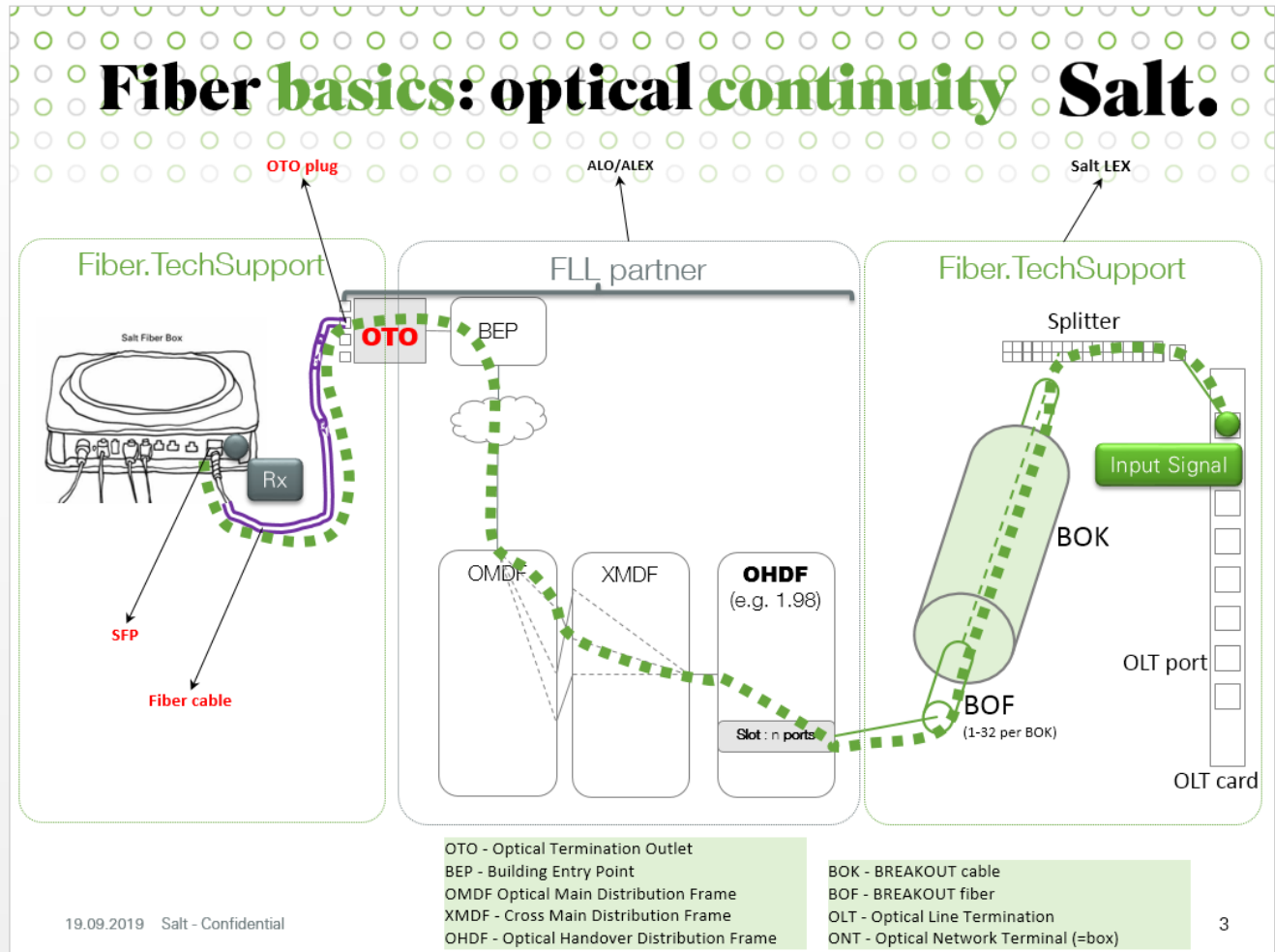
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Salt Fiber - Presentation and Troubleshooting guide

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## A. ARCHITECTURE OVERVIEW



*The optical Signal is emitted by OLT at OLT port, goes through splitter, through the BOK/BOF up to the OHDF port. At OHDF, the signal is handed over to our FLL partner, up to the OTO plug, where it goes through the Fiber cable up to the SFP plugged on the Fiber box. If the signal arrives, the customer can see its level of reception (Rx) on the Fiber box GUI.*

## B. RULES

## GENERAL

- 1) Follow this procedure to handle your interactions with a Fiber customer.
- 2) Salt fiber is a fix product; the service is delivered from Salt to the Box. To be relevant, any technical discussion or investigation between You (for Salt) and the Customer (for the Box) must be done with the Customer in front of the Box.
- 3) Whenever this does not allow you to handle the customer interaction in a good way, please feedback to me (with some details on your need, the context, and actions you have tried). This is especially important regarding our efficiency objective, so that customer gets a resolution in a timely manner. This also implies that when you have to request information to the customer, you request everything you are aware of at the first opportunity. This also implies that when the customer is not able to provide you with it, you propose him to call back once at home and in front of the box.

- 4) Salt will provide technical support to the customer as long as he uses the Salt Fiber Box and end devices only in his network; this excludes presence of a hub, a switch, a wireless repeater (PLC, WLAN) or an access point. In addition, whenever we prove that another device is behaving correctly, the customer will have to get support from his problematic device provider and not from Salt.

## BOX & ACCESSORIES

- 1) The Salt Fiber box must always be powered (230V) and plugged (SFP, Fiber, OTO) at a customer during all lifecycle of a ticket, please mention it to customer at first interaction.
- 2) Therefore, if a customer left his box in a Store without a box replacement in progress (cf. VTI / Customer events' log), replace his box (Justification: "Forced replacement ; <SO\_ticket\_ID> ; Sales agent mistake").
- 3) Customer must use only material/accessories provided by Salt (power adapter, SFP, fiber cable, ethernet cable), and not use any kind of hub, switch, repeater or access point (it it's the case, he shall unplug this material and give you updated information).
  - a. Wrong power adapter: can lead to box malfunctions
  - b. Wrong SFP: will lead to box malfunctions
  - c. Wrong fiber cable: can lead to signal attenuation (Bad or No signal instead of Good or Acceptable signal) and therefore line cuts, slowness or instability
    - i. Fiber cable is fragile
    - ii. Fiber cable has its own specifications (LC/APC-SC/APC 3.0-9/125 SM G.657 A2)
  - d. Wrong ethernet cable: can lead to slowness

## CUSTOMER PROFILE

- 1) Line must be activated in VTI (email "service up and running" sent to customer).
- 2) Line must be usable (Billable, Active, not suspended due to collection process).
- 3) A message "Collection event – Account barred for non-payment" or "Collection event – Payment received, account reactivated." would tell you if a technical case can be open (it is a non-sense if line is barred).
- 4) POM processes must be completed (if any process is running or paused or in error, this must be handled first).
- 5) No box swap shall be in progress.

## TICKETS

- 1) Tickets must contain contractor in external ticket ID field.
- 2) If you update a ticket with some information (LED status, Rx in GUI ...) that has not just been retrieved through a system or a customer interaction, please specify who (customer, 1<sup>st</sup> level, 2<sup>nd</sup> level) gave this info, and on which date.
- 3) Check previous tickets of the customer, and as much as possible mention the IDs of these tickets in your message. Also:
  - a. If the customer issue is already tracked in a ticket (not "Permanently Closed"), update that one instead of creating a new one.
  - b. If the customer issue is not already tracked in a ticket (not "Permanently Closed"), create a new one instead of updating another ticket that was created for another reason.

## II. BOX REPLACEMENT

1. Before doing a box replacement, check that there is no box replacement already in progress.
2. If a box has been replaced for one reason, do not swap twice the box for same reason, except in case of epidemic failures (Wifi invisible, Non-stop reboot, Wifi register impossible, Booting issue, Dead power): it is probable that the issue is on customer context side - thus you shall work with the customer to have a better understanding, then could assign the ticket to 3<sup>rd</sup> level.
3. You shall always instruct the customer to bring back his old box, in original casing and with all original accessories, in a Salt Store.
4. When 3rd level asks to "intercept" the box, you shall know in which store the customer will return the box, contact the store with cc Jeff a/o the or someone from his team.
5. Pay attention to "Evidence" and "Comments" and put as justification text in VTI: "Reason ; <SO\_ticket\_ID> ; Sub-Reason", as shown below

Reason (text from table)	SO ticket#	Sub-Reason (text from table or from 3rd level in ticket update)
Wifi invisible	; 8765473 ;	UMC MAC 2.4GHz and 5GHz not shown

### A. EPIDEMIC FAILURES

Reason	Sub-Reason	Evidence to get before the swap & Comments
<b>EPIDEMIC ISSUES - FOR ANYONE FOLLOWING THE RULES</b>		
Booting issue		<b>- 1st possibility</b> step 1: power green, fiber red, no other LED starting, n the rear of the box, all the green LEDs of the LAN ports are switched on even if no LAN cable is plugged, and stay on <b>- 2nd possibility</b> step 1: power green, fiber red, no other LED starting <b>- 3rd possibility</b> step 1: power green, fiber red step 2: all LEDs for one second step 3: power green, no other LED starting in the first 90s after it was powered
Dead power		even after swapping power adapter and checked on another electric mount the box does not boot (no LED at all)
Non-stop reboot		a video in SO ticket where we can see that no USB device is plugged and the box always reboot: step 1: power green, fiber red step 2: all LEDs for one second step 3: back to step 1
Wifi invisible		Afer reset, the Salt Wifi network is not visible by Apple TV Or 3 <sup>rd</sup> level confirms issue remotely
Wifi register impossible		a video in SO ticket of a device trying to authenticate on WLAN, the device does not link, and no "wrong password" message

## B. OTHER ISSUES

Reason	Sub-Reason	Evidence to get before the swap & Comments
ALL ISSUES - FOR ANYONE FOLLOWING THE RULES		
Broken by customer	Broken inside	a video in SO ticket where we can hear some noise when the box is shaken
	SFP blocked inside	a video in SO ticket where we can see that the SFP can not be removed anymore
	SFP sink	a photo or a video in SO ticket where we can see that the tiny blue sink on the SFP is broken
	WLAN/WPS/DECT button	a video in SO ticket where we can see that: - WLAN can not be set on/off when push < 5s - or WPS can not start when push > 5s - or DECT pairing can not start when push > 5s
FLL partner	incriminated box	customer insists for new box (technician outside Salt told the box is faulty) - please report to FixNet activation w/ contractor and ALO/ALEX ticket number
Forced replacement	IT systems	when there was an issue in POM process NETWORK_CPE_SENDING and a new box must be sent
	Sales agent mistake	when customer returned his box to a Store, and no box swap ongoing for this customer
Logistics	Damaged	a photo or a video in SO ticket where we can see that the box arrived damaged at the customer
	Lost	when the package was lost by the post
	Not delivered	when the customer did not receive the box (wrong address, no pick-up) etc. and the box is back to ALSO in the stock
Other	Broken box (optics not shown)	2 photos in SO ticket: one where we can see that the SFP is well inserted and one where we can see that the GUI does not display the Transceiver values in the Fiber tab
	LAN ports	a video in SO ticket where we can see that a LAN port has no blinking LED when he plugs an active device.
	Management	when you get instruction from Thierry/Jeff or a CxO to replace a box
	Social media	when the customer insists in a public area, on Facebook or Twitter, to get his box replaced
	WLAN deactivates itself	a video in SO ticket where we can see that the WLAN LED switches from ON to OFF and stays OFF (without Power saving option configured of course: AFTER reset)
Wifi stand-by		a picture in SO ticket where we can see that the device of the customer stays connected to the box Wifi, there is no exclamation mark besides the Wifi icon, internet is ko available
Wifi weak	Distance	When the customer clearly describes that wifi (2.4GHz or 5GHz) is visible only if he's close (<3m) to the box, and not further.
Wifi weak	Speed	When the customer sends an evidence of SpeedTest app result below 20Mbps in 2.4GHz or below 50Mbps in 5GHz, with the Apple TV on which all available updates are installed. 1) Clear issue in SuperOffice 2) Box to Crissier for tests → re-use or Arcadyan bug (new/update)
ADDITIONAL REASONS - 3 <sup>rd</sup> level only !		

## III. GENERAL

### A. VIDEO & BASIC OPERATIONS

#### Installation

FR: <https://www.youtube.com/watch?v=z9aL-arjRJw>

DE: <https://www.youtube.com/watch?v=UFBwdVRnc-E>

IT: <https://www.youtube.com/watch?v=zIWOCqCiAxM>

#### Correct fiber cable plugging

<https://www.youtube.com/watch?v=1Ac1P5kM4EI&t=55>

**Access to GUI** Open a browser and call the URL: <http://192.168.1.1>

1. Not possible due to epidemic failure → swap
2. Not possible due to customized box settings/password → reset
3. Not possible due to an error in browser → check if '/login.htm' was automatically added to the URL. If not, customer has to add it manually, so that URL is <http://192.168.1.1/login.htm>

**Capture Rx/Tx** - GUI > Expert > Overview > Fiber - <https://www.youtube.com/watch?v=vB61nkVrqi0>

- VTI health dashboard
- Box-management

**Backup box configuration** GUI > Expert > Administration > Restore/Save/Upload Setting > Backup Fiber Box

**Reboot box** *Warn the customer that it will cut the call if customer calling from his VOIP line*

- GUI > Expert > Administration > Reboot > Reboot Fiber Box
- Unplug power, replug, wait for power and fiber led stable - a firmware could be downloaded, it would trigger a second reboot

**Reset box** *Warn the customer that it will cut the call if customer calling from his VOIP line & he will have to set his modified settings again, the password for admin user will be reset to value 'admin'.*

- GUI > Expert > Administration > Restore/Save/Upload Setting > Restore to Factory Defaults (see §
- While power on, insert a pin for 5 seconds into the reset area besides the power plug, wait for power and fiber led stable - a firmware could be downloaded, it would trigger a 2nd reboot

**Check SN**

- GUI > Standard > Overview > Version
- Below the box, string after "S/N:" (SFAAXXXXXXX)
- VTI health dashboard, check Box SN (not TecRep SN)
- Box-management, check Box SN (not TecRep SN)

**Check Firmware version**

- GUI > Standard > Overview > Version
- VTI health dashboard
- Box-management

### B. WI-FI/WLAN ON BOX

Band	Range	Interferences	Speed	Max. devices	Item	Specifications
2.4 GHz	Better	More risks	Lower	64	Standards	IEEE 802.11 b/g/n
					Frequency Band	2400 ~ 2483.5MHz
					MIMO	4x4
					Channel bandwidth	20/40 MHz
					Data Rate	Up to 600Mbps
5GHz	Lower	Less risks	Better	64	Standards	IEEE 802.11 a/n/ac, wave 2
					Frequency Band	Band 1: 5150~5250MHz Band 2: 5250~5350MHz Band 3: 5470~5725MHz
					MIMO	4x4
					Channel bandwidth	20/40/80MHz
					Data Rate	Up to 2.2 Gbps(by 1024 QAM)
					MU-MIMO client configuration	Four 1x1 Two 2x2 One 2x2 + two 1x1

## C. WI-FI/WLAN TOOLS & ARTICLES TO READ

PC Windows (Windows 7/8/10)	MacBook (macOS 10.10+)	PC (Linux)	Android
NirSoft WifiInfoView (free): click on Channel column to sort and identify less used channel	NetSpot (free)	LinSSID	Wifi Analyzer
NetSpot (free): discover (top-left) > Details (bottom-left) > Channels 2.4 GHz or Channels 5 GHz and observe less used channel			WiFi Moho (free)
Acrylic Wifi Home (free): in the bottom-half part of the screen, 2.4GHz Networks or 5GHz Networks			

1. Best article <https://www.duckware.com/tech/wifi-in-the-us.html>
2. What's the Difference Between 2.4 and 5-GHz Wi-Fi (and Which Should I Use)? <https://www.howtogeek.com/222249/whats-the-difference-between-2.4-ghz-and-5-ghz-wi-fi-and-which-should-you-use/>
3. An interesting article by developer of the app Wifi Analyzer <http://a.farproc.com/wifi-analyzer>
4. **Apple bluetooth interference to WiFi** <https://support.apple.com/fr-fr/HT201542>
5. Digitec article in French on CPL repeaters "Estimez-vous heureux si vous obtenez 10% de la performance annoncée." <https://www.digitec.ch/fr/s1/page/comparons-les-cpl-2000-mbps-mais-bien-sur-7671>
6. Digitec article in German on Powerline repeaters "Wer zehn Prozent der versprochenen Leistung erhält, darf glücklich sein" <https://www.digitec.ch/de/s1/page/powerline-vergleich-2000-mbps-da-lachen-ja-die-huehner-7671>

## D. VOIP INFORMATION

Salt Fiber comes with 3 services on the Salt Fiber Box : Internet + TV + Telephony

The Salt Fiber Box **telephony works in MGCP (not SIP)** protocol between MGCP client (installed on the box) and MGCP server (installed on Salt servers) via the VOIP VLAN. Residential customer devices can connect to the MGCP client via FXS port (wire) or via DECT base (wireless). Note that a DECT device can also connect to the box on FXS port via its base. Anything else is not supported by default.

Salt telephony is delivered through the internet connection, this is called VoIP (= Voice Over IP), this is different from ISDN or PSTN. The VoIP protocol we currently use is MGCP, this means the customers cannot use a SIP phone on the Salt Fiber box VOIP line.

However, if our customers have a SIP telephony provider, they can use another telephony solution than the one provided with the box, but in that case Salt does not support installation or usage of this service. In the roadmap, the SIP is currently high level planned around December, so I would not even mention this to a customer, taking into account all the Bugs not yet fixed by Arcadyan.



## IV. OBSERVATION OF THE SALT FIBER INSTALLATION STATUS

### A. POWER LED (GREEN STABLE: OK)

This LED indicates if the Salt Fiber Box power circuit is effective. If this is not the case, perform the following tries in order:

1. Plug all according to the installation video
2. Plug another device to the electric wall mount (to check if the wall mount is working)
3. Change the power adapter in Store
4. Box swap "Dead power ; <SO\_Ticket\_ID>"

### B. FIBER LED (GREEN STABLE: OK)

This LED indicates if the Salt Fiber Box optical circuit is effective, meaning that the optical continuity between the box and the Salt optical equipment (OLT), through the fiber partner, is ok, and that the box could authenticate on the OLT port where it is plugged. If this is not the case, perform the following tries in order:

1. Check VTI and POM (see § Customer profile)
2. Disconnect all devices, replug installation (Box - SFP - Fiber cable - OTO) according to video (see § Video & Basic operations) and check OTO\_id + OTO\_plug (*⚠ SFP shall only be unplugged/replugged while box has no power*)
3. Reboot box (this will ensure LED display reflects "live" status, and not "in memory" status)
4. Reset box (see § Video & Basic operations)
5. Below an overview of the Rx & Tx values you can expect in box-management or in the customer GUI

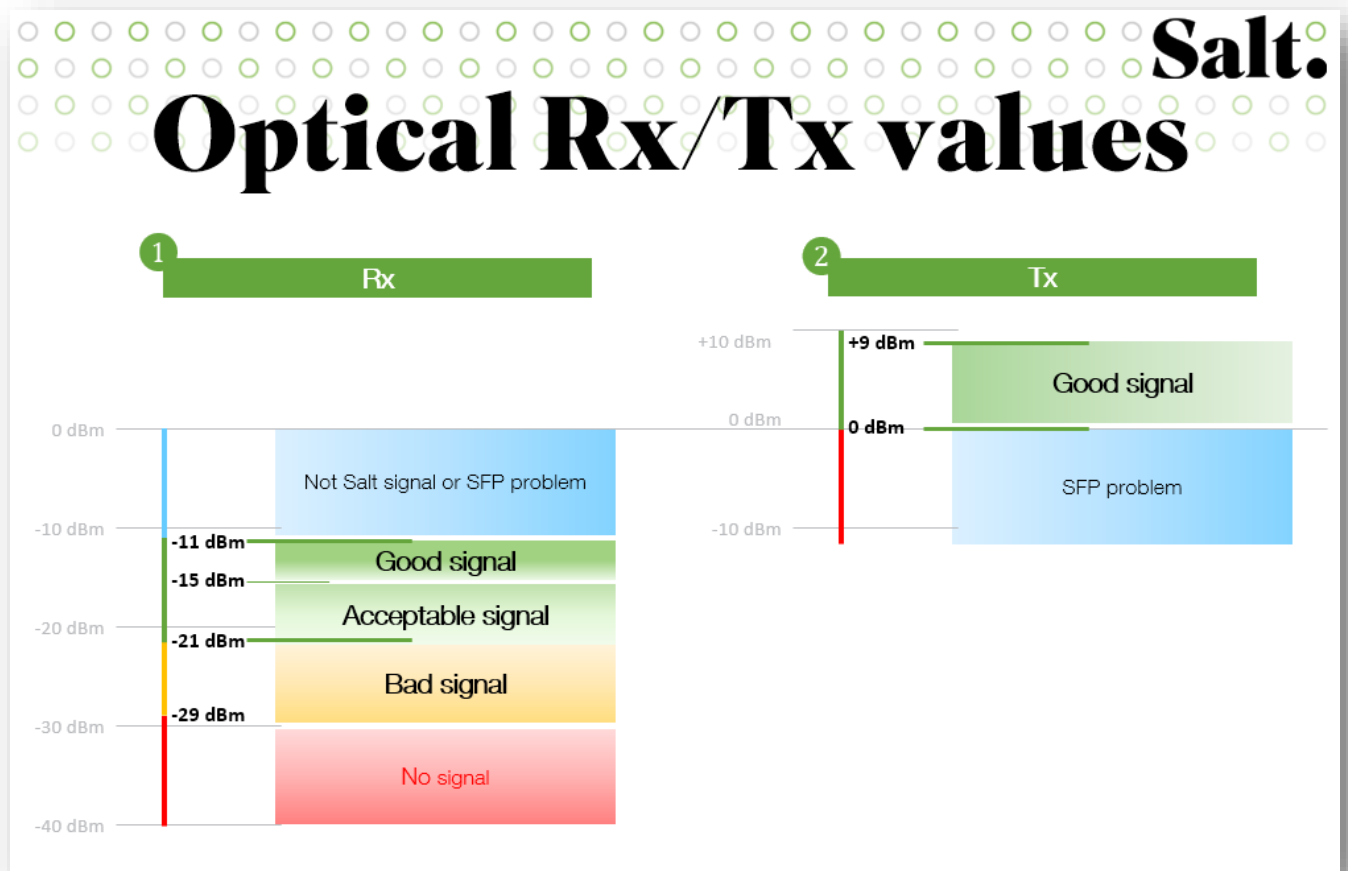


Figure 1 - Rx: signal quality

## FIBER OFF (NO LINK)

1. Check if box faces epidemic failure (see § **Box replacement**)
2. If the box was not swapped recently → Capture Rx (see § **Video & Basic operations**), check the Rx situation using *Figure 1 - Rx: signal quality*
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF" + Rx value as given by customer  
External ticket ID: contractor\_no
  - b) **Bad Rx** or **No signal** → (if fiber cable not recently swapped) **swap the fiber** cable and inform it's fragile
    - (resume after "swap the fiber") →
    - (if customer was never online) → **ALO/ALEX ticket** to know signal measured at OTO
      - (resume after "swap the fiber" & "ALO/ALEX ticket") → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF, never online, cable replaced, ALO/ALEX done" + Rx value as given by customer + (Rx as given by ALO/ALEX) + (ALO/ALEX ticket number)  
External ticket ID: contractor\_no
    - (if customer was once online ) → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF, last online: dd.mm, cable replaced" + Rx value as given by customer  
External ticket ID: contractor\_no
3. If the box was swapped recently (and customer using the new fiber cable) → Capture Rx (see § **Video & Basic operations**), check the Rx situation using *Figure 1 - Rx: signal quality*
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF, box replaced" + Rx value as given by customer  
External ticket ID: contractor\_no
  - b) **Bad Rx** or **No signal** →
    - (if customer was never online ) → **ALO/ALEX ticket** to know signal measured at OTO
      - (resume after "ALO/ALEX ticket") → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF, never online, box replaced, ALO/ALEX done" + Rx value as given by customer + (Rx as given by ALO/ALEX) + (ALO/ALEX ticket number)  
External ticket ID: contractor\_no
    - (if customer was once online ) → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber OFF, last online: dd.mm, box replaced" + Rx value as given by customer  
External ticket ID: contractor\_no

## FIBER RED BLINKING (BOX AUTHENTICATION REFUSED)

1. Capture Rx (see § **Video & Basic operations**), check the Rx situation using *Figure 1 - Rx: signal quality*
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber RED blinking" + Rx value as given by customer  
External ticket ID: contractor\_no
  - b) **Bad Rx** or **No signal** → (if fiber cable not recently swapped) **swap the fiber** cable and inform it's fragile
    - (resume after "swap the fiber") →
      - (if customer was never online ) → **ALO/ALEX ticket** to know signal measured at OTO
        - (resume after "swap the fiber" & "ALO/ALEX ticket") → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber RED blinking, never online, cable replaced, ALO/ALEX done" + Rx value as given by customer + (Rx as given by ALO/ALEX) + (ALO/ALEX ticket number)  
External ticket ID: contractor\_no
      - (if customer was once online ) → **Ticket Tech**  
Owner: Jean-François Béroudiat  
Internal message: "Fiber RED blinking, last online: dd.mm, cable replaced" + Rx value as given by customer  
External ticket ID: contractor\_no

## FIBER RED STABLE (BOX AUTHENTICATION REFUSED)

1. Check if box faces epidemic failure (see § **Box replacement**)
2. Capture Rx (see § **Video & Basic operations**), check the Rx situation using *Figure 1 - Rx: signal quality*
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Fiber RED stable" + Rx value as given by customer  
 External ticket ID: contractor\_no
  - b) **Bad Rx** or **No signal** → (if fiber cable not recently swapped) **swap the fiber** cable and inform it's fragile
    - (resume after "swap the fiber") → **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Fiber RED blinking, last online: dd.mm, cable replaced" + Rx value as given by customer  
 External ticket ID: contractor\_no

## FIBER GREEN BLINKING MORE THAN 1 MINUTE

1. Capture Rx (see § **Video & Basic operations**), check the Rx situation using *Figure 1 - Rx: signal quality*
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Fiber GREEN blinking" + Rx value as given by customer  
 External ticket ID: contractor\_no
  - b) **Bad Rx** or **No signal** → (if fiber cable not recently swapped) **swap the fiber** cable and inform it's fragile
    - (resume after "swap the fiber") → **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Fiber GREEN blinking, cable replaced" + Rx value as given by customer  
 External ticket ID: contractor\_no


## FIBER CYCLING GREEN (BLINKING 23S) THEN RED (STABLE 3S)

1. Check customer is on Huawei OLT (VTI > Offer management > Health check > OLT (nokia/huawei) > Provider )
2. Check in POM if there was a change BOK during fulfilment, if yes → **Ticket Tech "BOK swap during fulfilment"**
3. Check BOX SN with customer (see § **Video & Basic operations**)
4. Compare the SN given by the customer and the SN from VTI (VTI > Offer management > Health check > Fiber FLL > routerSerialNumber)
5. If different
  - a) Make sure box is plugged on customer side
  - b) **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Wrong box, VTI SN: SFAAxxxxxxx, Customer SN: SFAAxxxxxxx"  
 External ticket ID: contractor\_no
6. If same
  - a) Make sure box is plugged on customer side
  - b) **Ticket Tech**

Owner: Jean-François Béroutiat  
 Internal message: "Fiber cycle Green and Red, VTI SN: SFAAxxxxxxx, Customer SN: SFAAxxxxxxx"  
 External ticket ID: contractor\_no

## C. WWW LED (GREEN STABLE: OK)

1. Check VTI and POM (see § **Customer profile**)
2. Check in POM if there was a change BOK during fulfilment, if yes → **Ticket Tech "BOK swap during fulfilment"**
3. Disconnect all devices and replug all (Box - SFP - Fiber cable - OTO) according to VIDEO (see § **Video & Basic operations**) and check OTO\_id + OTO\_plug  SFP shall only be unplugged/replugged while box has no power
4. Make sure there is no LAN loop between 2 LAN ports of the box
5. Reboot box (this will ensure LED display reflects "live" status, and not "in memory" status)
7. Check BOX SN with customer (see § **Video & Basic operations**)

8. Compare the SN given by the customer and the SN from VTI (VTI > Offer management > Health check > Fiber FLL > routerSerialNumber)
9. If different
  - a) Make sure box is plugged on customer side
  - b) **Ticket Tech**

Owner: Jean-François Bérudiat

Internal message: "Wrong box, VTI SN: SFAAxxxxxxx, Customer SN: SFAAxxxxxxx"

External ticket ID: contractor\_no

10. If same
  - c) Make sure box is plugged on customer side
  - d) **Ticket Tech**

Owner: Jean-François Bérudiat

Internal message: "Www OFF, VTI SN: SFAAxxxxxxx, Customer SN: SFAAxxxxxxx"

External ticket ID: contractor\_no

## D. WLAN LED (GREEN BLINKING OR STABLE: WIFI ON)

Wlan led blinking is normal (means activity) ; Wlan led green stable can be a symptom of wifi invisible (no activity)

## WLAN OFF (NO WIFI SSID IS BROADCASTED)

This means that WLAN is de-activated. Below are three ways to get it back.

1. Ask customer to Push WLAN button for 2 seconds to enable it
2. Ask customer to go in GUI > Standard > WLAN > Combined view and toggle the buttons (2.4 and 5GHz) "SSID Enable" so that they are green ("On" is displayed) and click "Save settings"

SSID Enable

On



3. Reset box (if there was a Wifi power saving configuration automatically switching off the Wifi, this will be gone after reset)

## V. INTERNET

Power, Fiber, Www and Wlan LEDs must be ok at this stage

### A. NO INTERNET

1. Check VTI and POM (see § Customer profile)
  - a. If customer is suspended → Pay
  - b. If there was a move → Reset box [see SO 8923058]
2. Connect a device in LAN and access to [www.google.com](http://www.google.com) via a browser
3. Connect AppleTV in LAN and run an app
4. Connect AppleTV in WLAN 2.4GHz and run an app
5. Connect AppleTV in WLAN 5GHz and run an app
6. Install available updates for the device and Restart device (especially important on Smartphones, Tablets, and MacOS)
7. Try another device
8. Try another browser
9. Try another interface (LAN / WLAN 2.4 GHz / WLAN 5GHz)
10. Reboot box
11. Reset box
12. Capture Rx (see § Video & Basic operations), check the Rx situation using [Figure 1 - Rx: signal quality](#)
  - a) **Good Rx** or **Acceptable Rx** → **Ticket Tech**

Owner: Jean-François Bérondiat  
Internal message: "No internet" + Rx + results on above steps + [Figure 2 - Input for No internet](#) filled  
External ticket ID: contractor\_no
  - c) **Bad Rx** → (if fiber cable not recently swapped) **swap the fiber** cable and inform it's fragile
    - (resume after "swap the fiber") → **ALO/ALEX ticket** to know signal measured at OTO
    - (resume after "swap the fiber" & "ALO/ALEX ticket") → **Ticket Tech**

Owner: Jean-François Bérondiat  
Internal message: "No internet" + Rx + results on above steps + table filled  
External ticket ID: contractor\_no

Public IP [from VTI]	URL / IP with problem	When it started?	Description	Interfaces tested	Device brand, model & OS

*Figure 2 - Input for No internet*

### B. SPEED ISSUE (< 80 MBPS IN LAN OR < 20 MBPS IN BOTH WLAN)

1. Apple TV in LAN, Speedtest app, server Salt in the test servers list, > 700 Mbps, line is ok
2. Secondary device on LAN, uninstall antivirus, use Speedtest app (on Windows/macOS/iOS/Android), select server Salt in the servers list, capture full screen screenshot
3. Secondary device on LAN, uninstall antivirus, use <http://salt.speedtest.net/> (on Linux), select server Salt in the servers list, capture full screen screenshot
4. Use Apple TV in WLAN 5GHz, Speedtest app, server Salt in the test servers list, > 200 Mbps, line is ok
5. Secondary device on WLAN 5GHz, uninstall antivirus, use Speedtest app (on Windows/macOS/iOS/Android), select server Salt in the servers list, capture full screen screenshot
6. Secondary device on WLAN 5GHz, uninstall antivirus, use <http://salt.speedtest.net/> (on Linux), select server Salt in the servers list, capture full screen screenshot
7. Use Apple TV in WLAN 2.4GHz, Speedtest app, server Salt in the test servers list, > 80 Mbps, line is ok
8. Secondary device on WLAN 2.4GHz, uninstall antivirus, use Speedtest app (on Windows/macOS/iOS/Android), select server Salt in the servers list, capture full screen screenshot

9. Secondary device on WLAN 2.4GHz, uninstall antivirus, use <http://salt.speedtest.net/> (on Linux), select server Salt in the servers list, capture full screen screenshot
  - a) > 80 Mbps in LAN or > 20 Mbps in **one** WLAN : most probably there is no issue, limitation certainly comes from his device, try to convince the customer using information and examples from this procedure
  - b) ~100 Mbps or ~1Gpps in LAN, limitation certainly comes from his device network interface (100 Mbps / 1000 Mbps)
  - c) < 80 Mbps in LAN or < 20 Mbps in **both** WLAN
    - i. Reboot box
    - ii. Get closer to the box
    - iii. Install available updates for the device and Restart device
    - iv. Reset Box
    - v. Try with another device
    - vi. Capture Rx (see § Video & Basic operations), check the Rx situation using *Figure 1 - Rx: signal quality*
      1. **Good Rx or Acceptable Rx → Ticket Tech**  
 Owner: Jean-François Bérourdiat  
 Internal message: "Speed issue" + Rx + results on above steps + *Figure 3 - Input for Speed issue* filled  
 External ticket ID: contractor\_no
      2. **Bad Rx → (if fiber cable not recently swapped) swap the fiber cable & inform it's fragile**
        - (resume after "swap the fiber") → **Ticket Tech**  
 Owner: Jean-François Bérourdiat  
 Internal message: "Speed issue" + Rx + results on above steps + *Figure 3 - Input for Speed issue* filled  
 External ticket ID: contractor\_no

Public IP [from VTI]	Speed method	Server	Date	DS/US	Interfaces tested	Device brand, model & OS
	salt.speedtest.net / Speedtest app	Salt		129Mbps/131Mbps	WLAN 5GHz	Tablet ; Apple ; iPad mini ; iOS 10.2

Figure 3 - Input for Speed issue

## C. CUTS

1. Install available updates for the device and Restart device
2. Try another device
3. Try another browser
4. Try another interface (LAN / other LAN port / WLAN 2.4 GHz / WLAN 5GHz)
5. Try with Apple TV
6. Reboot box
7. Reset box (and check reset effectiveness: WLAN Airtime Fairness & WMM APSD must be deactivated)
  - a) OK on LAN but cuts in WLAN: scan neighbourhood and configure WLAN to use a less used channel, there is no QoS in WLAN
  - b) OK on WLAN but cuts in LAN: check if the Salt cable is used / change LAN port / change LAN cable in Store / swap box
  - c) Capture Rx (see § Video & Basic operations), check the Rx situation using *Figure 1 - Rx: signal quality***Error! Reference source not found.**
    1. **Good Rx or Acceptable Rx → Ticket Tech**  
 Owner: Jean-François Bérourdiat  
 Internal message: "LAN cuts" + Rx + results on above steps  
 External ticket ID: contractor\_no
    2. **Bad Rx → (if fiber cable not recently swapped) swap the fiber cable & inform it's fragile**
      - (resume after "swap the fiber") → **Ticket Tech**  
 Owner: Jean-François Bérourdiat  
 Internal message: "LAN cuts" + Rx + results on above steps  
 External ticket ID: contractor\_no

## D. WEB ISSUE (PAGES LONG TO BE DISPLAYED OR NOT DISPLAYED AT ALL)

Surfing experience is degraded (slowness observed), customer complains that some services, apps, or web pages do not load/display as usually

1. Try in LAN / WLAN 2.4GHz / WLAN 5GHz
2. Reboot Box
3. Install available updates for the device and Restart device
4. Try another device
5. Reset box
6. → **Ticket Tech**

Owner: Jean-François Bérondiat

Internal message: "Web issue - LAN" or "Web issue - WLAN 2.4GHz" or " Web issue - WLAN 5GHz" + results on above steps + *Figure 4 -*

*Input for Web issue* filled

External ticket ID: contractor\_no

Public IP [from VTI]	URL / IP with problem	When it started?	Description	Interfaces tested	Device brand, model & OS

*Figure 4 - Input for Web issue*

## VI. WIFI

1. Power, Fiber, Wwww and Wlan LEDs are all green stable.

### A. INVISIBLE

1. Check WLAN is activated (VTI dashboard or box-management) or activate both WLANs (to activate: router configuration or push WLAN button for 2 to 5 seconds to enable it or reset box)
2. Ask customer to launch Apple TV and search for available Wifi, ask customer if the Salt\_2GHz\_xxxxxx and Salt\_5GHz\_xxxxxx are displayed.
3. **Ticket Tech "Wifi invisible"** with info that Wifi invisible is suspected + **specify which band** (2.4 GHz / 5 GHz / 2.4GHz and 5 GHz) + **detailed list of tested devices + screenshot of Apple TV (step 6 above)**

### B. REGISTER IMPOSSIBLE

1. Install all available updates for the device (OS or FW) and Restart device  
*Be careful, sometimes if the device missed old upgrades, you can't get directly to the latest one. Example, if the device is on 1.1 and 1.5 exists, maybe the device can't jump directly to 1.5 but shall goes through 1.2, 1.3, 1.4 then 1.5*
2. If customer has the problem with a **Mac**, running Mojave, release OS X 10.14.2 or 10.14.3, ask the customer to **upgrade to latest version** (10.14.4 currently) - *more in fo at <http://osxdaily.com/2018/11/19/fix-macos-mojave-wifi-problems/>*
3. If customer has a **Mac** (Mini, MacBook Pro), and faces some times the error "Connection timeout / The Wi-Fi network "Salt\_5GHz\_ xxxx" requires a WPA2 password", (btw the workaround consists in deactivating and reactivating wifi or delete this wifi network on the Mac), ask the customer to Open System Preferences / Network / WIFI / Advanced / TCP/IP and then click the Renew DHCP Lease - *more in fo at <https://discussions.apple.com/thread/250040087>*
4. If customer has the problem with an **iPhone**, running iOS 12.3.1, ask the customer to **reset network settings**: Settings > General > Reset > Reset network settings - *more info at <https://www.youtube.com/watch?v=H8gOa7tL2oM> (this will restart the iPhone and delete previously recorded WLAN networks and passwords)*
5. if customer has the problem with a **PC** in Windows 10, ask customer to **reset network adapter**: Windows > Settins > Network & Internet > Status > Network reset > Reset now - *more info at <https://www.youtube.com/watch?v=moZkFMNKvtE> (this will restart the PC and delete previously recorded WLAN networks and passwords)*
6. if customer has the problem with an **"old/other" device**, (at least this helped with Fairphone and Samsung A5), ask customer to **change wireless authentication method** on the box for the desired band (2.4 GHz or 5GHz or both): GUI > Standard > WLAN > Combined view > Authentication method = "WPA-Auto-Personal" &



WPA Encryption = "TKIP+AES"

7. Reset box
8. Check password is correct (GUI > Standard > WLAN > Combined view)
9. Try another device
10. Unplug all devices and Reset box
11. Get picture of TV with Apple TV trying to connect to WLAN (after box reset)
12. → **Ticket Tech**

Owner: Jean-François Bérouriat

Internal message: "Wifi register impossible" + incriminated WLAN + results on above steps + detailed list of tested devices + screenshot of Apple TV (step 11 above)

External ticket ID: contractor\_no

## C. REGISTERED, NO INTERNET

cf No internet

## D. INSTABLE

cf Cuts

**Sonos** instability reported: as suggested by Sonos support to some customers, ask them to disable Airtime Fairness on the Salt Fiber Box wifi (pre-requisite: wifi authentication method shall be WPA2-Personal): GUI > Expert > WLAN > [desired band] > Airtime Fairness > Deactivate > Disable - *more info* at <https://routerguide.net/airtime-fairness-on-or-off/>

## E. WEB ISSUE (PAGES LONG TO BE DISPLAYED OR NOT DISPLAYED AT ALL)

Surfing experience is degraded (slowness observed), customer complains that some services, apps, or web pages do not load/display as usually

Reboot Box

Install available updates for the device and Restart device  
Try another device  
Reset box

Surfing experience is degraded (slowness observed), customer complains that some services, apps, or web pages do not load/display as usually

1. Try in LAN / WLAN 2.4GHz / WLAN 5GHz
2. Reboot Box
3. Install available updates for the device and Restart device
4. Try another device
5. Reset Box
6. → **Ticket Tech**

Owner: Jean-François Bérondiat

Internal message: "Web issue - LAN" or "Web issue - WLAN 2.4GHz" or " Web issue - WLAN 5GHz" + results on above steps + [Figure 5 - Input for Web issue](#) filled

External ticket ID: contractor\_no

Public IP [from VTI]	URL / IP with problem	When it started?	Description	Interfaces tested	Device brand, model & OS

Figure 5 - Input for Web issue

## VII. SPEED: SOME LAB RESULTS (INCL. ANTIVIRUS & DEVOLO)

Châssis	OS	Network interface	Speedtest App		Chrome 71.0.35				Firefox 64.0.2		IE 11.0.101		Safari 12.0.2	
					without Adblock		with Adblock		without Adblock		without Adblock		without Adblock	
			Download	Upload	Download	Upload	Download	Upload	Download	Upload	Download	Upload	Download	Upload
AMD FX-8150 Eight-Core Proc 3.6GHz RAM 32BG SSD	Windows 7 Ultimate	ASUS XG-C100C 10G	8152 8168 8180 8163	8091 8072 7762 8016	1636 1403 1643	3320 3029 3239	2209 2111 2110	3215 3146 3289	945 1062 925	1450 1208 1433	149 179 214	413 317 446		
Mac mini (2018) Macmini8,1 Intel Core i7 - 3.2 GHz - 32 Go	macOS Mojave 10.14.2 (18C54)	internal 10gbe card	7951 8074 8082	2920 3472 2767	<a href="#">results</a>								8042 8035 8029	2958 2589 2620
			8013 8101 8076	2797 3116 3757									8079 8070 8036	2514 2655 2807
		external Sonnet Solo 10G (TB3)											"webpage is using significant memory"	
Mac mini (2018) Macmini8,1 - Intel Core i7 - 3.2 GHz - 32 Go	Windows	internal 10gbe card	<a href="#">results</a>											
Macbook pro 13 2016 Intel Core i5 - 2.6 GHz - 16 Go		external Sonnet Solo 10G (TB3)	5760 5254 5597	2787 2744 2724	456 630 678	2848 2896 2701			536 538 595	731 701 672			3205 3684 3386	2314 2458 2361
MacBook Pro (Retina, 15-inch, Late 2013) MacBookPro11,2 Intel Core i7 - 2.6 GHz - 16 Go	macOS High Sierra 10.13.6 (17G5014)	external Sonnet Twin 10G 10GbaseT (TB2)	8175 8178 8184 8175 8196	3716 3317 3720 4280 3298			2953 3137 3120	2954 3243 3124					6545 6576 6600	3063 3147 3057
			8070 7931 8163	7782 7924 7752			1730 1866 1991	3131 3351 3673			912 779 903	2677 2183 2277		

Châssis	OS	Network interface	Devolo WIFI 2.4 GHz				Salt box WIFI 2.4 GHz		Salt box WIFI 5 GHz	
			Download	Upload			Download	Upload	Download	Upload
Samsung Galaxy Book Intel Core i5 - 2.5 GHz - 16 Go	Windows 10 Professionnel	integrated WLAN interface	28.46	35.28			70.70	73.52	351.78	380.73
			LAN Devolo (Wifi module)		LAN Devolo (Master module)				LAN Salt box	
			Download	Upload	Download	Upload			Download	Upload
Samsung Galaxy Book Intel Core i5 - 2.5 GHz - 16 Go	Windows 10 Professionnel	integrated LAN interface	94.14	86.25	94.97	90.84			497.11	858.35

Châssis	OS	Network interface	antivirus not installed		antivirus installed and active		antivirus installed but deactivated		antivirus uninstalled	
			Download	Upload	Download	Upload	Download	Upload	Download	Upload
MacBook Pro (Retina, 15-inch, Late 2013) MacBookPro11,2 Intel Core i7 - 2.6 GHz - 16 Go	Windows 10 Ultimate	external Sonnet Twin 10G 10GbaseT (TB2)	8245 8194 8032 7576	7918 7996 7647 7961	2158 2517 1993	6148 6291 7807	1870 2845 3903 4006 3889 3714	8008 8087 8051 7937 8026 8093	7944	8097