

Troubleshooting IP networking problems using F-Link & FIPAT

About this document

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- 1 - Frama IP-Connectivity Analysis Tool
 - 1.1 - Purpose
 - 1.2 - Result
 - 1.3 - Advanced Functions
- 2 - Using the F-Link
 - 2.1 - F-Link Finder Tool
 - 2.2 - F-Link Status Page
 - 2.3 - F-Link Webpage Event Log
 - 2.4 - Results

1 - Frama IP-Connectivity Analysis Tool

1.1 - Purpose

The Frama IP connectivity analysis tool (FIPAT) behaves similarly to Frama Matrix F series, analyzing the customer's IT environment and producing a report containing the details of the various connectivity steps from the LAN towards the FO2 server environment. It enables easily finding and solving a common set of typical network errors.

Frama IP-Connectivity Analysis Tool V2.0.0

F R A M A SMART MAILING

Technician: Enter Name

Customer Settings

Country: Switzerland

Fs-Serial-No.: FS Serial Number

Customer: Customer Name

Reference: Reference

Test Parameters

Intel(R) 82579LM Gigabit Network Connect

Use FS Link Speed

Change Mac Address

Use static Ip Address

Use static DNS Entries

Use Proxy Server

Analysis

```
[Start: Local Area Network Tests]
> Verify loopback ... Loopback is available.
-> Loopback is available.
> Verify GateWay Configuration ...
> Ping to "192.168.0.1" ...
  Trail Nr. 1 ... ok
  Trail Nr. 2 ... ok
  Trail Nr. 3 ... ok
  Trail Nr. 4 ... ok
->ok
-> GateWay is available.
> Verify DNS Configuration ...
> Testing primary DNS ...
  Ping to "192.168.8.101" ...
  Trail Nr. 1 ... ok
  Trail Nr. 2 ... ok
  Trail Nr. 3 ... ok
->ok
> Testing secondary DNS ...
  Ping to "192.168.8.201" ...
  Trail Nr. 1 ... ok
  Trail Nr. 2 ... ok
  Trail Nr. 3 ... ok
->ok
-> DNS is available.

[Start: Internet Tests]
> Sending request to "http://www.frama.com" ... ok
> Sending request to "https://www.google.de" ... ok

[Start: Reverse Proxy Tests]
> Sending request to "https://fo2.frama.com" ... ok
> Sending request to "https://test.fo2.frama.com" ... ok

[Start: Backend Tests]
> Test IP-GateWay [Generic] ... ->ok
> Test IP-GateWay country specific [Switzerland] ... ->ok

-----
Result overall: succeeded!
```

Results

All tests succeeded!

Send Mail Report Generate Technical Report

Local Network Internet Reverse Proxy FO2

Run Test

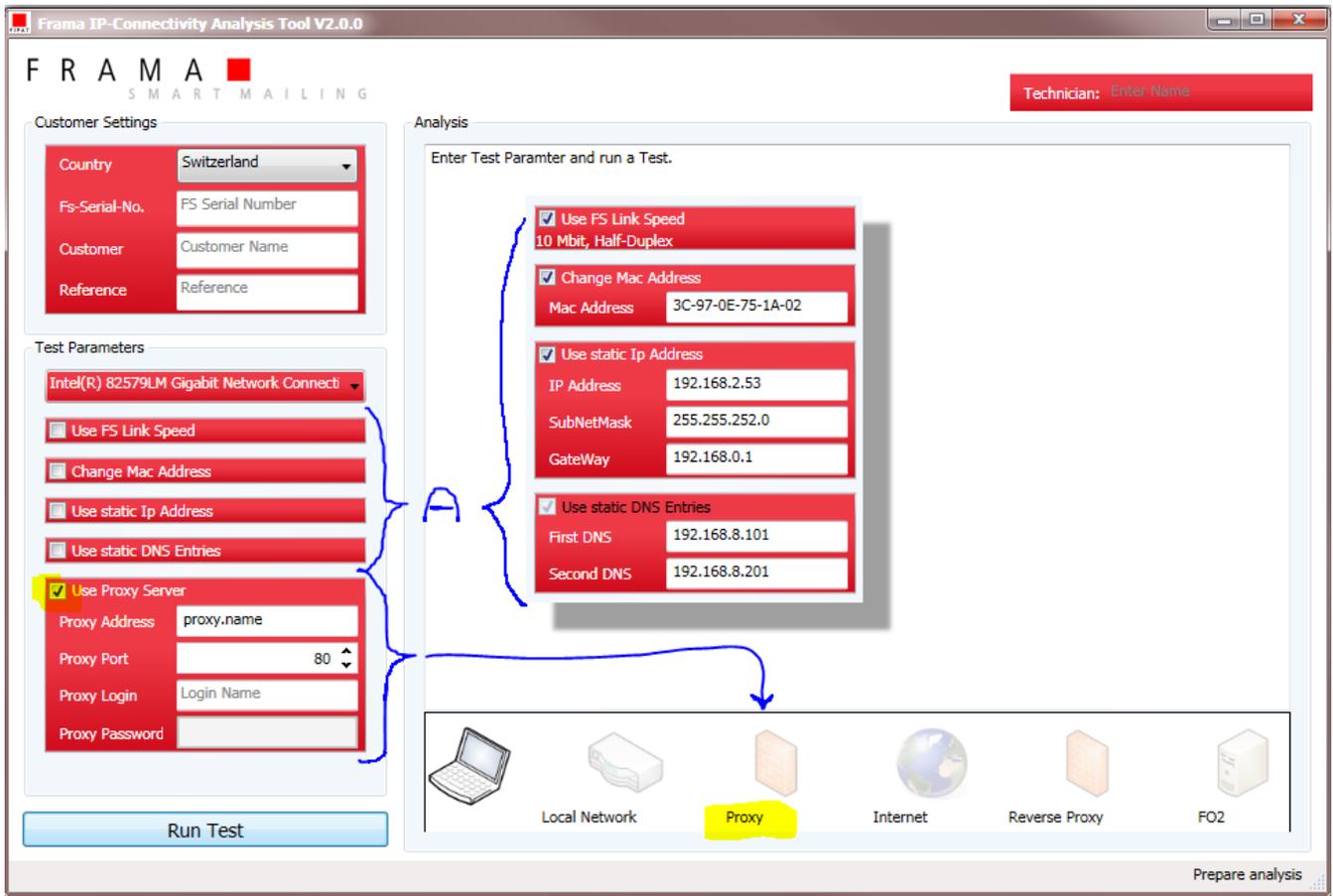
Analysis complete

1.2 - Result

If all four links (*LAN, Internet, Reverse Proxy, FO2*) are declared ok (*green with check mark*) then the probability that a connection from a franking system will be successful is very high. What the FIPAT cannot check is whether the SSL certificate can be verified through the established link; that is something which can only be done using a franking system or a F-Link as detailed in the next section.

1.3 - Advanced Functions

Upon running the application with local administrative rights a new set of parameters become available (**A**). Also the presence of a proxy server can be tested.



2 - Using the F-Link

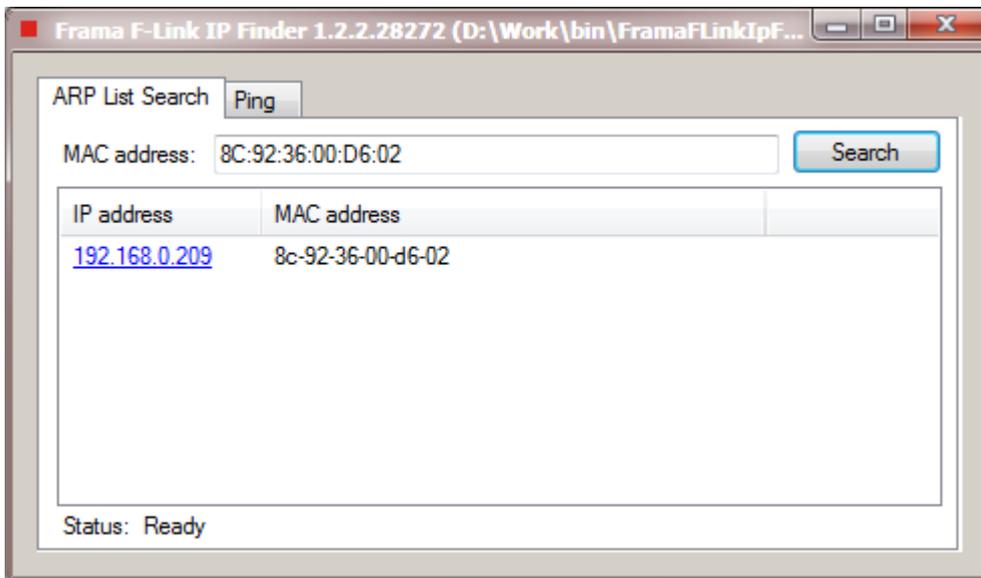


Unlike the FIPAT software application which only runs in the context of a PC, using a F-Link device enables to verify the reverse proxy SSL certificate used by Frama AG. This is made thanks to the hard-coded certificate present in the firmware of the F-Link. In order to use the F-Link you will need knowing its MAC address. For example here for the LAN module we have **8C:92:36:01:E9:2E**



2.1 - F-Link Finder Tool

The F-Link finder application (Links on www.frama.com: doc, bin) makes it easier to find the IP address of any F-Link device connected on the same LAN and address range to where the F-Link finder Windows application is running. When the MAC address is known searching is quicker.



Upon clicking on the above link (*192.168.0.209 in this example*) you will be asked to enter a user and password (*factory defaults are: admin, admin*)

2.2 - F-Link Status Page

After login the Management website will appear in your web browser as default. The status page can be obtained by navigating the "F-Link Settings" tree of links on the left side:

← → ↻ 🏠 ⓘ 192.168.0.209/home.asp

Frama F-Link

- F-Link Settings
 - Management
 - LAN Settings
 - Wireless Settings
 - Site Survey
 - Administration
 - Status**
 - System Log
 - Event Log
 - F-Link Log

Frama F-Link Status

This page shows the current status and some basic settings of the device.

System Information	
Firmware Version	F-Link 3-0-1 / Image 1-0-25 (Jan 4 2016 13:38:26)
System Up Time	0 days, 1 hours, 57 mins, 38 secs
System Time	Tue Mar 7 15:25:11 UTC 2017

Wireless Information	
Status	Radio OFF

IP Settings	
Connected Type	DHCP
IP Address	192.168.0.209
Subnet Mask	255.255.252.0
Default Gateway	192.168.0.1
DNS1	192.168.8.101
DNS2	192.168.8.201
MAC Address	8C:92:36:00:D6:02

F-Link State	
State	Ready To Connect
State S91	S91 OFF

Proxy Settings	
Proxy Method	No Proxy

IMPORTANT! Proxy servers using SSL-interception require a specific rule in order to allow a transparent communication (franking system via F-Link to FramaOnline2) via https port 443. That specific rule is to allow a correct identification of FramaOnline2 (https certificate) for the franking system.

2.3 - F-Link Webpage Event Log

2017-03-07 13:28:35.154 ConnectivityCheck Fo2TimeCheck=200&Fo2PingCheck=200

Frama F-Link

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- F-Link Settings
 - Management
 - LAN Settings
 - Wireless Settings
 - Site Survey
 - Administration
 - Status
 - System Log
 - Event Log**
 - F-Link Log

Event log

Refresh

Event Log:	

2017-03-07 13:28:35.154 ConnectivityCheck	Fo2TimeCheck=200&Fo2PingCheck=200

2.4 - Results

The presence of **"Read To Connect"** in the F-Link status page or of **"ConnectivityCheck Fo2TimeCheck=200&Fo2PingCheck=200"** in the F-Link event log page is a proof that all network conditions required for a successful connection using a F-Link. The franking systems of the Matrix range are slightly different than F-Link with regard to TCP/IP so a successful connection using a F-Link will be a very useful indication, but not a final proof.
