

# The FORT RPKI Validator

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# Background: FORT Project



## FORT project

FORT is a routing security initiative by LACNIC and NIC.MX for a free and open Internet.

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The banner features a dark blue background with a blurred bokeh effect of warm lights. A hand holding a smartphone is visible on the right side. The text is in large, bold, white capital letters.

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# Components of FORT (<https://fortproject.net/>)

## Monitoring Tool

FORT Monitoring is an open access, digital tool used to document routing incidents in Latin America and the Caribbean and identify regional trends in route hijacks.

## RPKI Validator

FORT validator is an open source RPKI validator. This solution allows operators to validate BGP routing information against the RPKI repository for use in router configuration and resolution.

# Why ? Wait! Another RPKI Validator ?

When we decided to to start working on our validator the choices for RPKI relying party tools were, well, *limited*.

During that period of time several great projects have become reality.

“Genetic” diversity in software is always **good**.

# FORT Validator

## FORT description:

- Repository validation and RTR Server
- Written in C
- Compiles and runs on Linux and \*BSD
- MIT licensed

## Roadmap:

- 27-ago-2019: Versión 1.0
- 29-oct-2019: Versión 1.1
- Q1-2020: Versión 1.2



Routing Technology for a Free and Open Internet

Powered by  NIC MÉXICO and  lacnic



<https://github.com/NICMx/FORT-validator/>

# FORT Validator: RFC Support

[Source: <https://nicmx.github.io/FORT-validator/intro-fort.html> ]

(Some) Implemented RFCs:

- SLURM, Validation-Reconsidered, Ghostbusters, Policy Qualifiers, BGPSec certificates

Notably missing:

- RRDP (coming Q1 2020 with version 1.2), RFC 8630 TALs

# FORT Validator: Supported Platforms

## Debian-Based:

- Debian 10 **Passed**
- Ubuntu 18.04.2 LTS **Passed**

## BSD-Based:

- FreeBSD 12.0 **Passed**
- OpenBSD 6.5 **Passed**

## RedHat-Based:

- CentOS 7 **Passed**
- Fedora 30 **Passed**

## Slackware-Based:

- Slackware (current) **Passed**

## OpenSUSE:

- OpenSUSE Leap 15.1 **Passed**

# FORT Validator: Installation



Installing on debian-like OSes:

1. Get and install dependencies

```
# apt install autoconf automake \
```

```
build-essential libjansson-dev libssl-dev pkg-config rsync
```

2. Download / Clone code from GitHub and “configure && make”

```
$ wget
```

```
https://github.com/NICMx/FORT-validator/releases/download/v1.0.0/fort1.0.0.tar.gz
```

```
$ ./configure && make && make install
```

**THERE ARE DOCKERFILES AND A DOCKER IMAGE (FOR VERSION 1.1.2) !  
TRY: docker pull carlosm3012/fort-validator:1.1.2**



# Running the FORT Validator

Standalone:

```
fort --tal <file or folder containing TALs> \  
    --local-repository <local caching directory> \  
    --mode=standalone \  
    --output.roa=<CSV containing ROAs>
```

With RTR server enabled:

```
fort --tal <file or folder containing TALs> \  
    --local-repository <local caching directory> \  
    --server.address <binding address for RTR server> \  
    --server.port <RTR server port>
```

# FORT Validator: Memory Usage

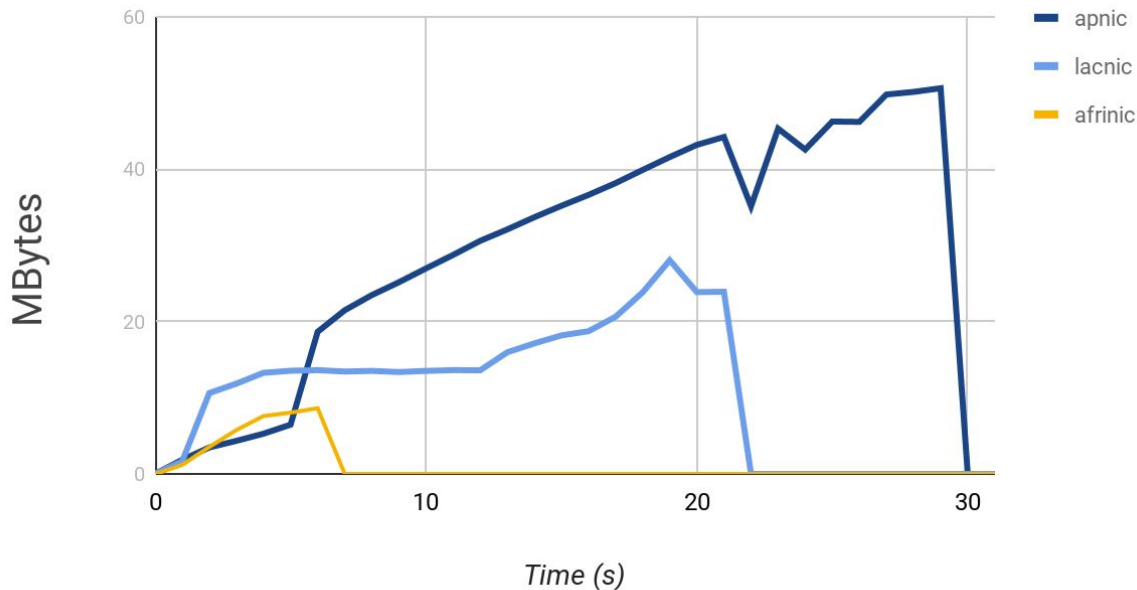
Test description:

- Validation runs for apnic, afrinic and lacnic repos

Environment:

- Docker image based on debian:buster
- Host: macOS 10.15.1

Memory Usage (MB)



# Thank You!



- If you like the idea of having a new validator in your toolchest, please help us test it!
- **Send us bugs!**
- Debian package is already included in debian unstable