

# RPKI MIRO: Monitoring and Inspection of RPKI Objects

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## Monitoring

- Detects infrastructure problems
- Detects misconfiguration
- Detects misbehaving RPKI authorities
- Increases trust in RPKI

## Existing tools

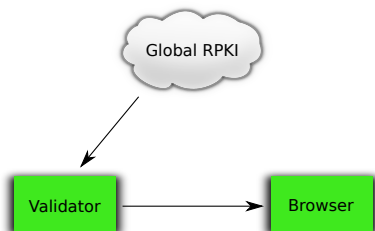
- Not tailored specifically towards distributed monitoring
- Offer limited inspection of non-ROA objects

# RPKI MIRO: Monitoring and Inspection of RPKI Objects

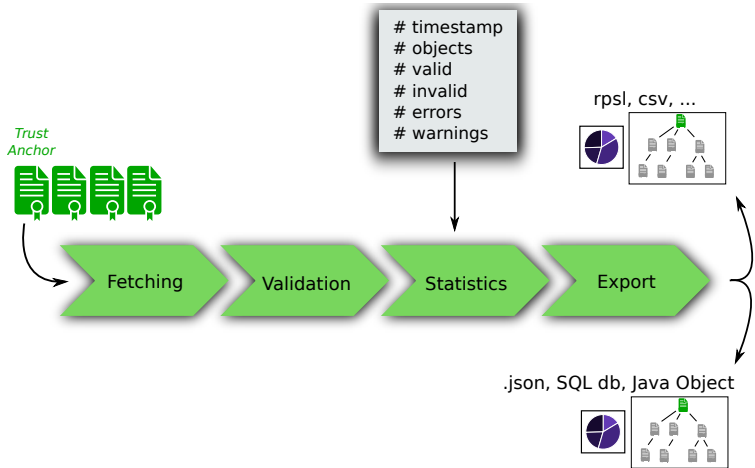
## Two components

- Validator: Easy to use, CLI interface, allows distributed monitoring
- Browser: GUI based web application, allows detailed inspection of RPKI objects

Increased transparency for CA's and RPKI users



# Validator



Resource Certificate | rpki-browser.realmv6.org

RPKI Repository Browser | RPKI Browser | Statistics | About

Filter | Clear Filter | List View | RIPE | 2015-07-23 12:31:15.000320 UTC

- [ripe-ncc-ta.cer](#)
- b1314c89c8803a127d62c83f301292a0474b9e6.cer
- [FyOGwXr4TejAN1WQwc96MoiL\\_U8.cer](#)
- [gPBjgxt0BD4GUrplr1VWvhionL\\_Cg.cer](#)
- 1-7rdwb8PxypZW-u3wQqs1Ka-8AM.cer
- I6xxYswmjaJyu-uhm7a00lezoQ.cer
- T-kEiOzqj\_lq0LJVPFGvVP9ab8.cer
- 9E6mZ56m04rCIZehU-LNPgAlNzl.cer
- tuLYndH6Cw5WwS-PhVCD0UzHDMU.cer
- 1ah40CeqmR-KI4aWIBR7FfSpDs.cer
- ghoZ50\_u51\_qwm2cqj2s\_Qbml4.cer
- ClqAWfCu9wGxne5Q9G8277QsHZE.cer
- eFWBysdKtN9HxmAEVlVn\_nXM6TtB.cer
- EFnUyEhJfVSczGjlmkVCAOG4.cer
- oueFASocCHq65LaNDiSmZ\_kus.cer
- Ey-XtYe79V5rQYiNow11Ed9jWw0.cer
- UY5Zkn8Whom\_h\_ebW1NUbu81Xil.cer
- eoyd0GxhKtT7rIMB-JrpfkWMVa.cer
- F8tReAMZM9p8Xfms9N86GoumMjB.cer
- G45Ppyoz4rKaduYCTB-u3Uzy68.cer
- OHOW3FTWnlq\_VD03hwjDlqc92Vs.cer
- 1-k\_JTIpaay-cQ-WkrlKuTSvGvpY.cer
- wt-OLFStDm7Jgu5roKncv9GRENw.cer
- NLwkkmw58jrnA5BKW5lcOd572M.cer

Certificate	Manifest	CRL		
<p><b>Validation Status:</b> PASSED</p> <p><b>Validity Period:</b> 2015-06-25T12:32:18.000Z - 2020-06-25T12:32:18.000Z</p> <p><b>Errors:</b> None</p> <p><b>Warnings:</b> None</p> <p><b>Subject:</b> CN=ripe-ncc-ta</p> <p><b>SKI:</b> E8552B1FD6D1A4F7E404C6D8E5680D1EBC183FC3</p> <p><b>Issuer:</b> <a href="#">CN=ripe-ncc-ta</a></p> <p><b>AKI:</b> None</p> <p><b>SerialNr:</b> 130</p> <p><b>Filename:</b> ripe-ncc-ta.cer</p> <p><b>Location:</b> rsync://rpki.ripe.net/ta/ripe-ncc-ta.cer</p> <p><b>EE:</b> false</p> <p><b>CA:</b> true</p> <p><b>TA:</b> true</p> <p><b>Public Key:</b> Sun RSA public key, 2048 bits                      modulus: 26417507841994249002335275349968358018749945254465391                      205926068761009836723958150757643247386671351211774764234956599                      2964744256283181720710001310253639648189053828507479750269602219                      467486390643345646310194883112115325168990665138233407957375633                      0511479452362395992462127370230200221247954188869800686659247                      3360864501955776640541896515995072787220387140217946690313140685                      168499902087630681862033378037837987301315508050972687201218992                      578271175746680364944654768705129502345599152376592529203855820                      3290181443214927346958843948831267452037956758611980929057196232                      6274886722691631406065925764413315144468359192704599                      public exponent: 65537</p> <p><a href="#">ASCI download</a></p>				
<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>AS7</li> <li>AS28</li> <li>AS137</li> <li>AS224</li> <li>AS248-AS251</li> <li>AS261</li> <li>AS286</li> <li>AS288</li> <li>AS294</li> <li>AS375</li> <li>AS378</li> <li>AS513</li> <li>AS517</li> <li>AS528-AS529</li> <li>AS544</li> <li>AS553</li> <li>AS559</li> <li>AS565</li> <li>AS590</li> <li>AS593</li> <li>AS569</li> </ul>				

## Current state

- View .cer and .roa in tree structure, .mft and .crl coupled to resource certificate
- Filter for specific objects
- View basic statistics

## Possible future work

- Aggregate Views: Hosted vs. delegated, visualized prefix map, ...
- User configurable event-based alarms
- More meaningful object names in tree-view

What would you like to see?

# Conclusion

## Find out more

- Code is on github: <https://github.com/rpki-miro>
- MIT licensed
- Meanwhile, try out the browser at <http://rpki-browser.realmv6.org/>

## Feedback

- Any feedback is highly appreciated
- After session, or to [andreas.reuter@fu-berlin.de](mailto:andreas.reuter@fu-berlin.de)