

# Multipath TCP Robust Session Establishment (RobE)

draft-amend-tcpm-mptcp-robe-01

Markus Amend, Jiao Kang

[markus.amend@telekom.de](mailto:markus.amend@telekom.de), [kangjiao@huawei.com](mailto:kangjiao@huawei.com)

Huangxian

[huangxian@huawei.com](mailto:huangxian@huawei.com)

IETF-110, March, 2021

# Short Solution Recap

**Regular MPTCP** ☹️

If the initial flow cannot be established, there is no connectivity!

**RobE\_SIM** ⇨

Uses all path simultaneously.

**RobE\_TIMER** 🕒

Uses SYN retransmission timer to try subsequent path.

**RobE\_IPS** ↻

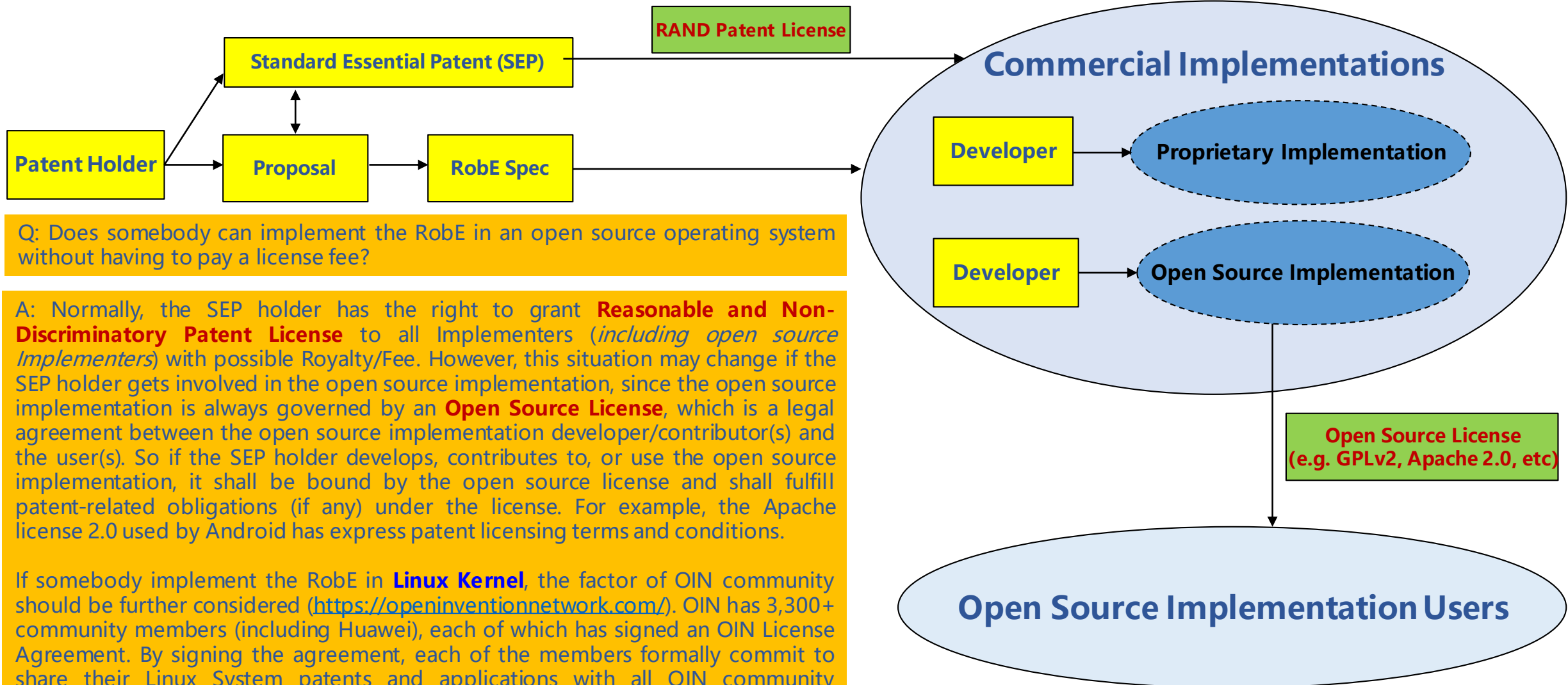
Derives path quality from measurements and select promising path accordingly.

# Issues from ieft-109

**Request WG Adoption, failed, issues from TCPM community include:**

- Issue #1: Does the IPR allow implementation in an Open Source implementation? Please take to mailing list.
- Issue #2: Open source the code will be good.

# Issue #1: License clarification



Q: Does somebody can implement the RobE in an open source operating system without having to pay a license fee?

A: Normally, the SEP holder has the right to grant **Reasonable and Non-Discriminatory Patent License** to all Implementers (*including open source Implementers*) with possible Royalty/Fee. However, this situation may change if the SEP holder gets involved in the open source implementation, since the open source implementation is always governed by an **Open Source License**, which is a legal agreement between the open source implementation developer/contributor(s) and the user(s). So if the SEP holder develops, contributes to, or use the open source implementation, it shall be bound by the open source license and shall fulfill patent-related obligations (if any) under the license. For example, the Apache license 2.0 used by Android has express patent licensing terms and conditions.

If somebody implement the RobE in **Linux Kernel**, the factor of OIN community should be further considered (<https://openinventionnetwork.com/>). OIN has 3,300+ community members (including Huawei), each of which has signed an OIN License Agreement. By signing the agreement, each of the members formally commit to share their Linux System patents and applications with all OIN community members free of charge (i.e., royalty-free) worldwide.

# Issue #2: OSS Status

- Part of RobE\_IPS features have been indirectly open-sourced by Huawei products under:  
<https://consumer.huawei.com/en/opensource/detail/?siteCode=worldwide&productCode=Smartphones&fileType=openSourceSoftware&pageSize=10&curPage=1>
- Implementation demo was presented in ietf-108.  
[https://github.com/markusa/ietf107hackathon-mptcp-robe/tree/master/testbed\\_results\\_july\\_2020](https://github.com/markusa/ietf107hackathon-mptcp-robe/tree/master/testbed_results_july_2020)

# Next Step

**Are the proposed measures and declarations and disclosures enough to proceed towards WG Adoption ?**

- draft-amend-mptcp-robe-01 was submitted in February, 2021

<https://www.ietf.org/rfcdiff?url2=draft-amend-tcpm-mptcp-robe-01>