O-RAN Collaborative
Software Licensing from
Standards Specifications

July 2021
Overview

• Background
• Standards Collaboration Copyright License (SCCL) Description
• Application example
Challenges and Limitations for O-RAN Collaboration with Software Communities

- "Open source" software communities need to use *and modify* code derived from portions of SDO specifications that are software-like in nature
  - Formal specification descriptions of interfaces and protocols (e.g., ASN.1, YANG, XML)
  - Reference code (e.g., for Codecs in 3GPP SA)
  - Example communities: O-RAN Software Community, OAI, ONF

- Commercial and research implementors need access to the code in the same way with clear copyright rights for purposes of implementation
  - Internal/proprietary
  - Shared publicly
  - Shared confidentially

- SDOs need protections from improper use and loss of control (Golden Copy authority)
  - Use by organizations with contrary objectives (e.g., replace or undermine the 3GPP PHY/MAC) breaks interoperability function of standards
  - Need to ensure that software use downstream remains compatible with the SDO’s IPR policies
  - Fragmentation by downstream derivations that become de facto standards
  - Modifications that are contrary to the evolution of the standards
  - Long-term harmonization between software versions and the specifications
Standards Collaboration Copyright License option

- Standards Collaboration Copyright License (SCCL) Version 1 (06/2021)
- Novel Standards Collaboration Copyright License (SCCL) is proposed:
  - Primarily for SDOs to share code-like portions of specs (and associated documentation) for these use cases
  - Clearly copyright only; no patent rights conveyed
  - License must be maintained in an unaltered form downstream to be effective
- For software communities:
  - Easily understood, conventional copyright rights to copy, modify, and distribute source, binary, and docs derived from (or associated with) the code shared by the SDO(s)
- For implementors:
  - Clear rights to use and modify the code
  - Clear rights to share modifications to code and docs publicly, privately, for any purposes consistent with the standards
- For all:
  - Clear and ring-fenced rights to take any changes to code or docs that you create or rightfully receive back to the SDO as contributions for reintegration
- For SDOs:
  - Limitations on use and sharing of code, binaries, and docs to the scope of the standards’ intent
  - Rights to ensure harmonization of changes that happen to the source/docs through reintegration into the standards
  - License refers back to SDO policy page URL
Collaborative License Use Cases

- O-RAN Alliance, OSC, and Downstream Project Collaboration
  - Generalizes to any software community
Use Case: O-RAN Alliance, OSC, and Downstream Project Collaboration (Potential Implementation)

- **O-RAN TS**
  - YANG, ASN.1, etc. “Code”
  - [Re-integration Process] (Possible, but not required)
  - [Approved Pull Request In lieu of CR]

- **O-RAN Contribution**
  - Directory SCCL (O-RAN)
  - YANG, ASN.1, etc. “Code”

- **OSC**
  - OSCP Repo SCCL (O-RAN)
  - Fork
  - YANG, ASN.1, etc. “Code”
    - [with changes]
  - OSC Repo Apache 2.0
  - O-RAN SL Repo

- **3rd Party**
  - Repo SCCL (O-RAN)
  - Repo Apache 2.0
  - Repo O-RAN SL

- **OSC Participant**
  - (Possibly Change Developer, not required)
  - [Approved Pull Request In lieu of CR]

- **O-RAN Member**
  - (Possibly Change Developer, not required)

- **Potential for re-integration with subsequent compliance to O-RAN IPR Policy**

- **Ability to use for open software purposes, e.g., forking and modifications**