IPR, Policy, and Code Collaboration at OAI

Accelerating Two Ecosystems, Symbiotically Connected

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OAI Workshop
San Diego
November 9, 2022
Standards and Open Source Have Distinct Roles

• In the context of standards, **Open Source** allows the most freedom to build enabling code, implementations, and tools that enable and accelerate standards adoption.

• In contrast, **Standards** creates a baseline for interoperability across different competing implementations.

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### Open Source

**Meritocracy**
cyurrency is based on code contributions; often based on non-differentiated implementations or contributions which accrues a contributor advantage when commoditized.

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### Standards

**Focused on enabling horizontals as core to its mission**

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**Standards and Open Source Have a Complimentary Relationship**
SDO Software and Open Source Software:

Ongoing Interactions
Upstream/Downstream vs. Adjoining Spaces
Standards Development and Implementations

Inside the SDO; specification drafting; early stage R&D; conformance criteria

Real-world code creation; tooling and emulation; field improvisation; implementations

Ideal Collaboration Design: the Same Contributors Can Operate in Both Places and in the Same Mode
Standards and Collaborative Code Development
Under the Optimal Conditions - Each Making the Other Better
How to Create Dis-Synergy

• Create a new downstream IP regime that:
  • Prevents upstream standards creators from sharing their expertise
  • Prevents downstream creators from making new investments to solve additional challenges that require further research
    • Entry into verticals
    • Academic research incentives
    • Expensive field trials – sharing the results
    • Creation of tooling and test harnesses

• By:
  • Adopting a narrow definition of open source
  • Using a license that is incompatible with upstream IPR frameworks
Down the Rabbit Hole

More Restrictive (Copyleft) 

GNU GPL … Apache … MIT BSD

More Permissive (Copyright)
The Apache License

- Apache license creates added complexity when you already have an IPR policy – precisely where you need high clarity
  - IP rights holders have already made commitments on their IP through the 3GPP standards development process
- Apache’s patent retaliation provision – is that consistent with SDO policy?
  - Can the code be upstreamed to 3GPP?
- What is a “Work”?
  - Anything copyrightable?
  - Combination claims
- The problem with routine enabling code
  - Broad functionality
  - Often no specification
- Runs counter to objective to quickly create code when you already have an IPR framework
**Issue:** under Apache 2, Contributors grant patent rights to their Contribution - and combinations of the Contribution with the Work - but the scope of Work is ambiguous.

**Relevant Question:**
- If one modifies File Alpha (see red box below) what is the “Work”?
  - Is it code in all hosted projects that are licensed under Apache 2? Probably not.
  - Is it all code in Project 1? Is it designed to work *with* another project? What if Project 1 is designed to be *compiled with* Project 2?
  - What if there are different branches are targeted at different platforms?
  - Is it the file that was actually modified by the Contribution?
  - Additional issue: what about future versions? As the Work gets modified, to what extent do patent rights (if any) carry forward?

**Build Flow:**
- Build 1.0 → Build 1.1 → Build 1.2 → Build 2.0

**Diagram:**
- Hosting Organization
  - Project 1
    - Subsystem A
      - Branch X
        - File Alpha
          - Mod to File Alpha
    - Subsystem B
      - Branch X.1
        - File Beta
OpenAirInterface Software Licenses
The OAI Public License 1.1

A Pragmatic Approach

• Contributors agree to license their Essential Patents on a royalty-free basis to study, testing and research purposes

• Otherwise Contributors maintain promise to license Essential Patents under FRAND
  • But new FRAND obligations will be required when they make code contributions and those contributions necessarily infringe additional patents of theirs
  • This is on top of the obligations made at the 3GPP level

• All OAI contributor agreements are consistent with the OAI Public License 1.1
An OAI Advantage

We Avoid the Bottleneck
An OAI Advantage

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We Avoid the Bottleneck
Takeaways

• When creating a code collaboration project, seek compatibility both upstream and downstream
• Seek to eliminate points of friction
• In a standards-centric coding project, where possible, don’t try to rearticulate the fundamental framework
• Allow the ecosystem to operate as intended
  • Standards – horizontal enablement
  • Open Source – vertical enablement
• Need both to be at their best without diminishing the other
• Avoid religious debates
• Focus on the code
Thank You

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