



Creating Infinite
Possibilities.

Open Source, a Mindset and How it Has Transformed CPE Stack Software Development using RDK

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Agenda

- What is Open Source development
- Open source development models
- Advantages and challenges of open source
- Open Source Program Office
- RDK project
- Open source in RDK project
- Q/A

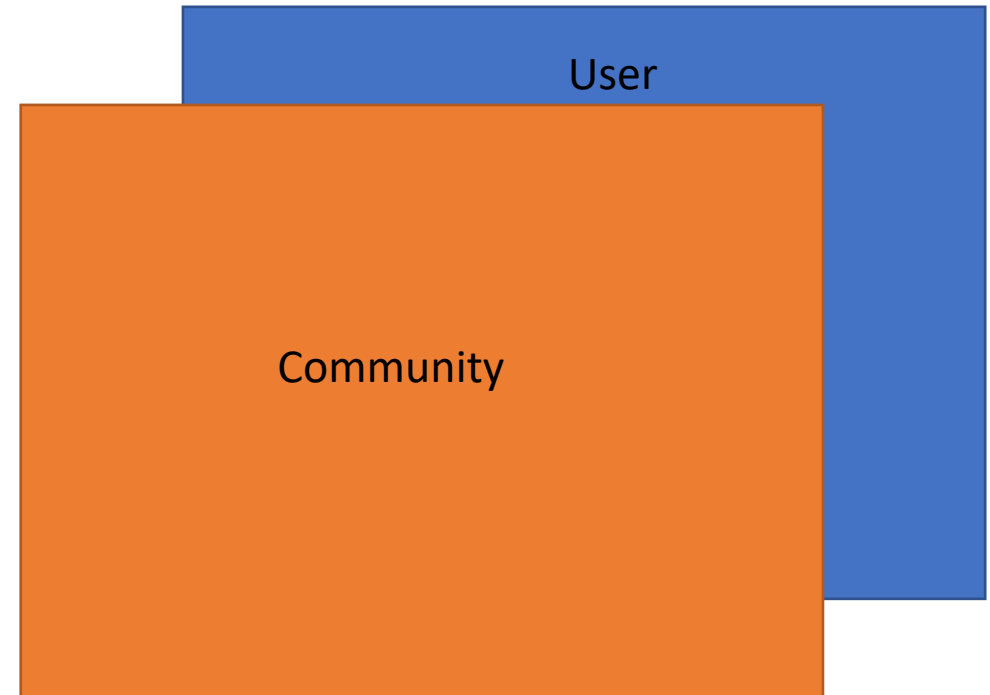
Traditional Development Model (Cascade)

- Requirements
 - End user
- Design
 - Software vendor
- Implementation
 - Software vendor
- Testing/QA
 - Software vendor
- System Integration
 - End user/Software vendor
- Support and Maintenance
 - End user

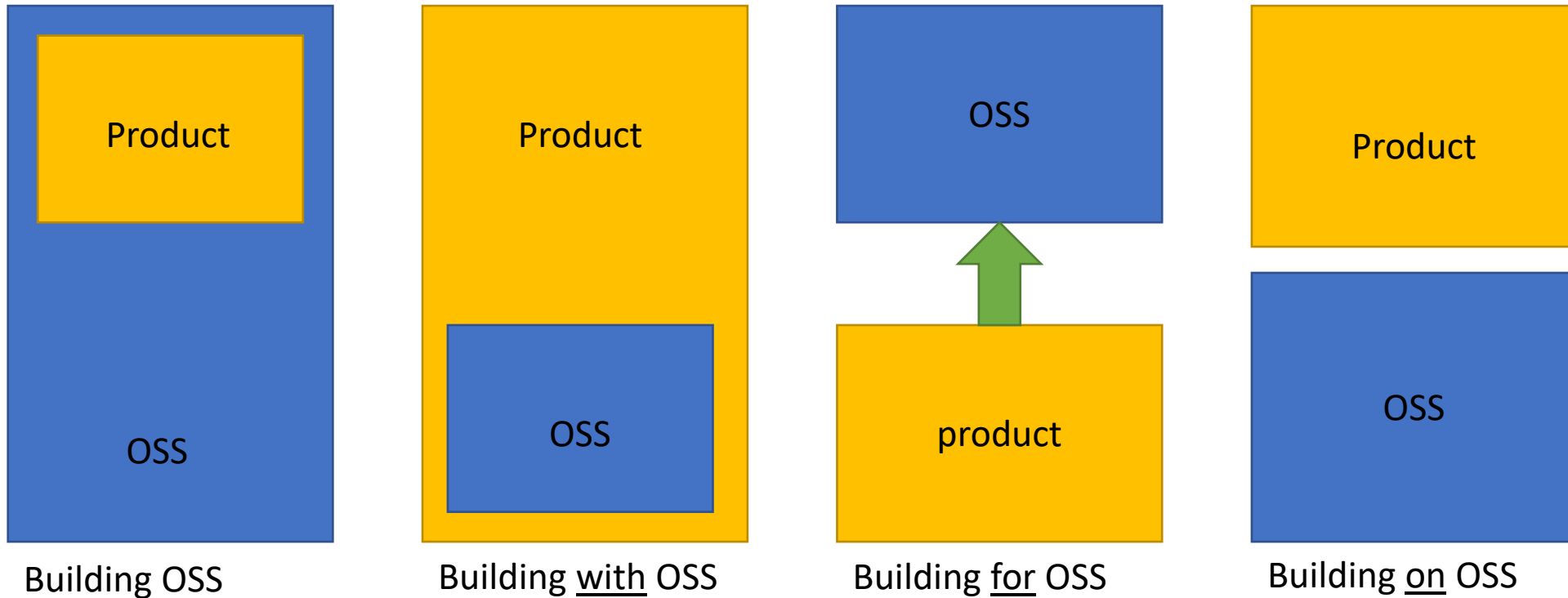


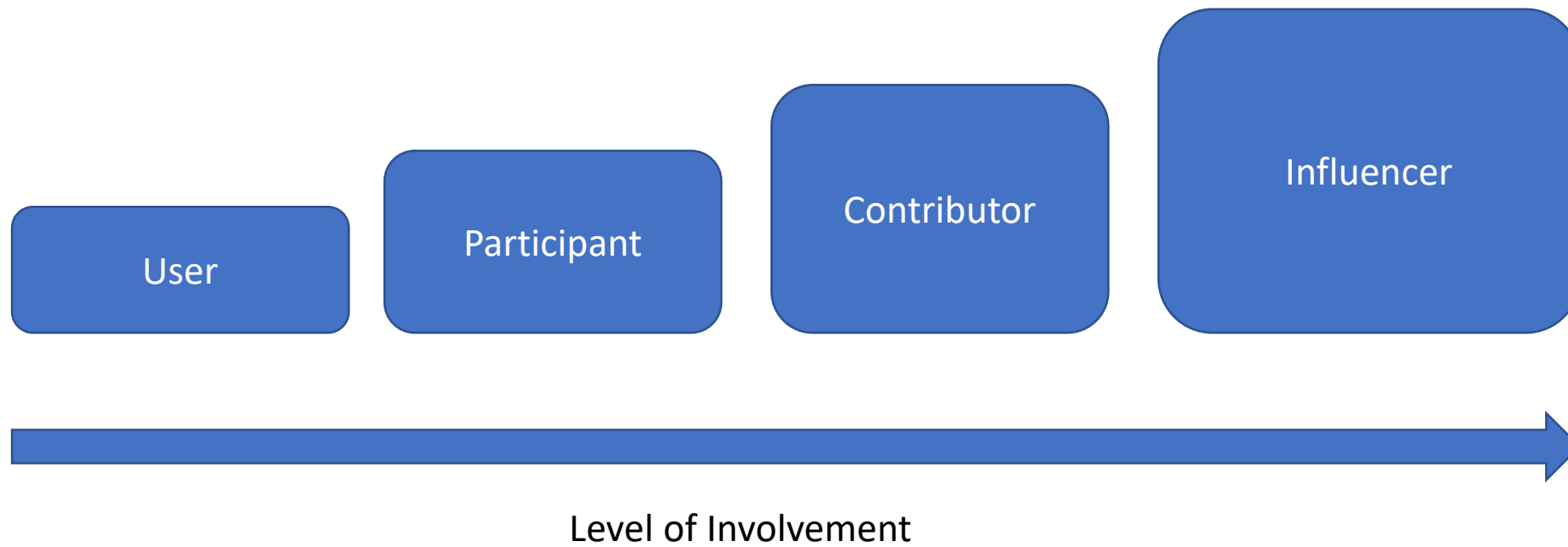
Open Source Development model

- Feature request
 - User/community
- Design
 - User/community
- Implementation
 - User/community
- Testing/Integration
 - User/community
- Deployment
 - User
- Maintenance
 - User



Methods using OSS in products





- User
 - Common starting point, consumption reduces time to market
 - Deploy open source project in products
- Participant
 - Actively engage on communication platforms
 - Attend and sponsor conferences, other community events
- Contributor
 - Hire contributors and committers in communities important to you
 - Invest in community engagement at engineering, product and legal
- Influencer
 - Engage with Standards committees
 - Establish open source foundations or new open source initiatives

- Identify Key OSS elements
 - Common components used across multiple products
 - Compliance efforts e.g., embedded devices
 - Direct upstream contributions to projects used in products
 - Avoid “cool projects”; OSS is a cost center
 - Focus on important, justifiable, and fundable projects
- Open source skills
 - Grow internal talent
 - Hire key developers to quickly gain skills
 - Mentorship programs
 - Outreach internship programs with open source foundations

- Establish Open Source Programs Office
- OSPO activities
 - Act as conduit with open source communities
 - Organization-wide open source policies and processes
 - Internal programs to foster open source mindset
 - Information about community events and conferences
 - Connect teams on OSS activities
 - OSS Developer Training programs
 - Compliance guidelines
 - Contribution guidelines and process
 - Assist in seeding new projects and community building
 - Internal open source conferences and events
 - Relevant community updates

- Establish compliance policy for inbound and outbound OSS
 - Auditing
 - Distributing
 - License manifests
 - Contribution License Agreement
 - OSS obligations
 - OSS license policy
 - License interplay
- Development process
 - Add compliance in CI pipeline
 - Integrate tools with build infrastructure
 - Add tools for software Bill of Materials (SBOMS)

- Modules on OSS policy for whole organization
- OSS Best practices
- Brown bag lunches
- Training
 - OSS licenses
 - Compliance
 - Organization policy
- Checklists
 - Procurement
 - Developers
 - Products

- Code scanning tools
- Internal mirrors for OSS
- SBOM generation
- Process tools for submitting OSS requests and approvals
- IP checkers
- Integration of project management tools

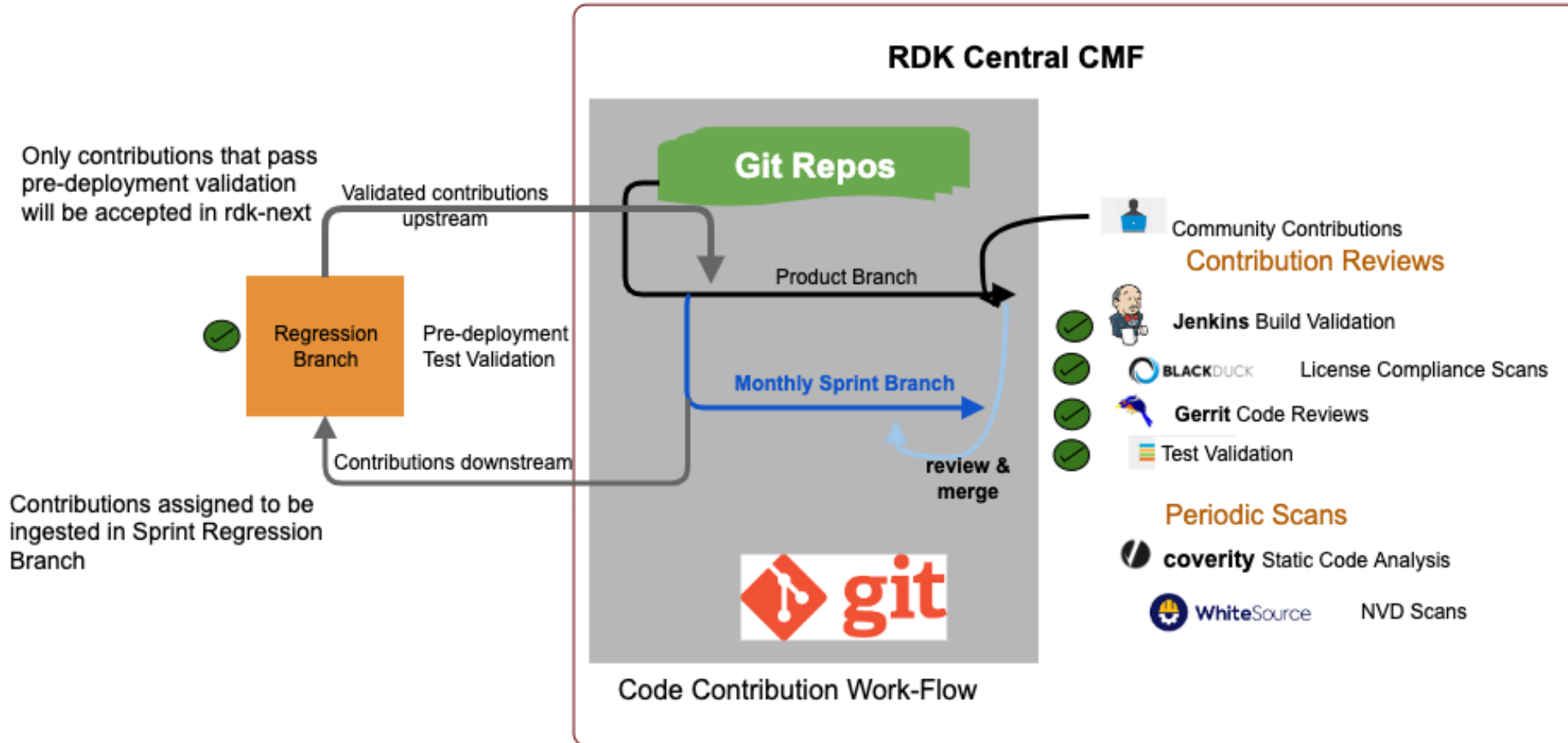
- Join OSS foundations of interest
- Join and participate in standards organizations of interest
- Seed new projects and communities
- Adopt “open first” approach

RDK

- RDK (Reference Design Kit) is software platform for CPE
- RDK profiles
 - Video (RDKV)
 - Broadband (RDKB)
 - Camera (RDKC)
 - RDK for Extenders
 - Future RDK profiles
- Source code managed at <https://code.rdkcentral.com>
- Contribution process
- Provides tools and infrastructure for community collaboration
- Hosts regular webinars on different RDK technologies
- Organizes RDK conferences and RDK Tech summits
- Fosters collaboration between RDK users
- Detailed documentation and FAQs and How-To's
- Support and developer on-boarding

- All code licensed under Apache 2.0
- Implicit contribution license agreement.
- Code managed via Gerrit workflow
- Extensive documentation wiki





Source: <https://wiki.rdkcentral.com/display/RDK/Code+Contribution+Process>

- Membership
 - Technical support
 - Training
 - Webinars
 - Preferred reference hardware
 - Community connections



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Thank You!

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