



LF NETWORKING
Developer & Testing Forum

ONAP: Streamlined Release Process

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<https://lfnetworking.org>



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Agenda

Workshop on streamlining of ONAP's release process, including connection to use cases and requirements

Part 1:

- Observations and Analysis → Discussion
- An alternative ONAP release paradigm

Part 2:

- Reviewing the present release process from the perspective of both alternatives



ONAP

OPEN NETWORK AUTOMATION PLATFORM

ONAP takeaways Feedback from China Mobile

12th January, 2023

Keguang He

Communicate with the network orchestration team

Network Orchestration Team

- Responsible for product development of business orchestration system, network orchestration system and cloud orchestration system.
- Development based on ONAP El-Alto release.

Enhancements to ONAP

Module: A&AI

Replace Janus Graph to Nebula Graph and MySQL

Module: SO

Replace Camunda Engine to Flowable.

New Module: Northbound Adapter

ONAP is not the protal present to end User, use Northbound Adapter to integrate with other northbound system

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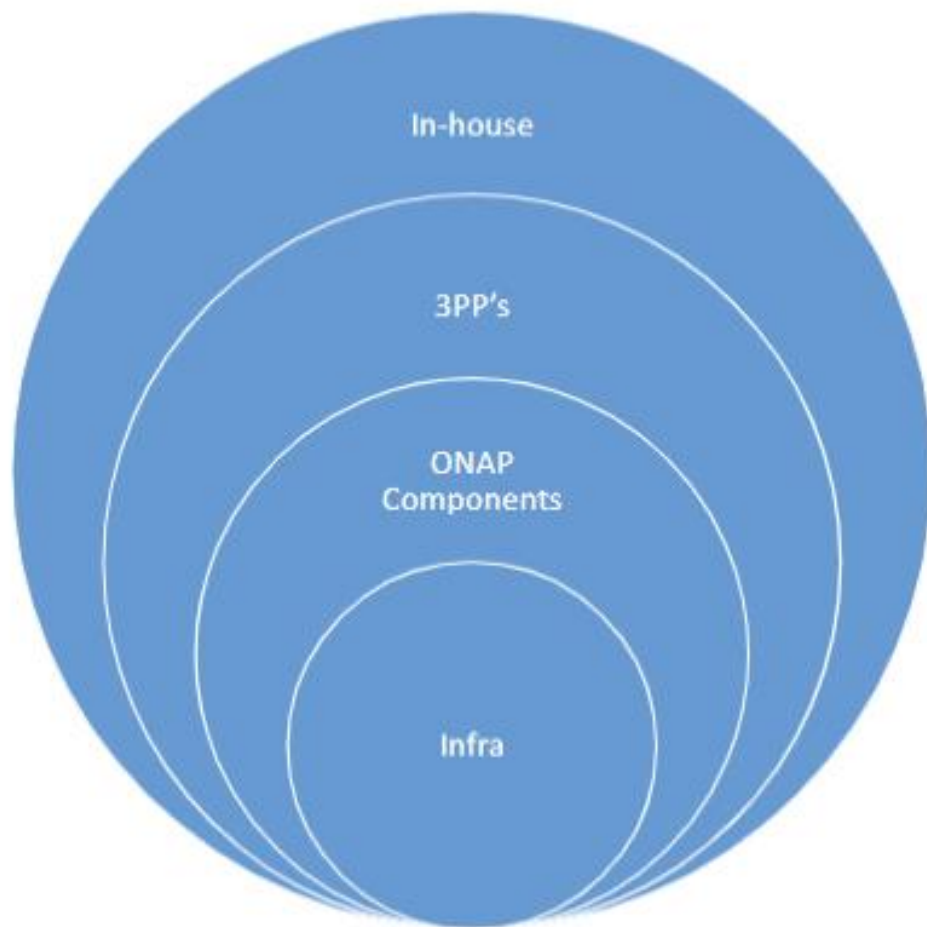


ONAP – Key takeaways from Bell Canada

Ram Krishna Verma

Senior Solutions Architect

How are we using ONAP?



Components Used

- ✓ SDC
- ✓ SO
- ✓ AAI
- ✓ Policy Framework
- ✓ CDS
- ✓ SDNC
- ✓ DMaaP

Use Cases

- ✓ Orchestration
 - Network Slicing
 - Zero touch provisioning
- ✓ Automation
 - Closed Control Loop
 - Open Control Loop

What are the areas of improvement?

- It takes a lot of work to make ONAP work
 - onboarding new developers/users take a long time
 - leveraging ONAP components & platform by new users take a long time & often confusing
 - training materials & documentation are not sufficient
- Upstream contributions specially for PTL's is a full time job
- ONAP is not agile (more of a waterfallish...) - too much bureaucracy, req management takes too much time, leading to exploit side ways approach
- Maintainability of ONAP components upstream is high and demanding - leading to downstream branches in companies
- LCM of components & the platform itself is not well thought of
 - upgradability
 - database migration
 - example: models in SDC cannot be migrated
- OOM charts are not suited for component level upgrades

Words from ONAP end users?

- User friendliness is not up to the mark
- Visibility of requests/operations not available
- Components are not designed flexible enough to accommodate on demand changes
- Components are tightly coupled with each other, allowing very less flexibility to use case owners & solution designers
- Learning curve is very high

Are we planning to continue using ONAP?

Yes with some expectations from the community

- become more modular and flexible
- provide operational & production ready components
- interface with O-RAN and help in solving the puzzle
- interface with Nephio and utilize the capabilities offered
- trim down the overheads and processes creating barriers



ONAP Deployment Feedback

Maggie Cogdell and Justin Garrard

Laboratory for Advanced Cybersecurity Research



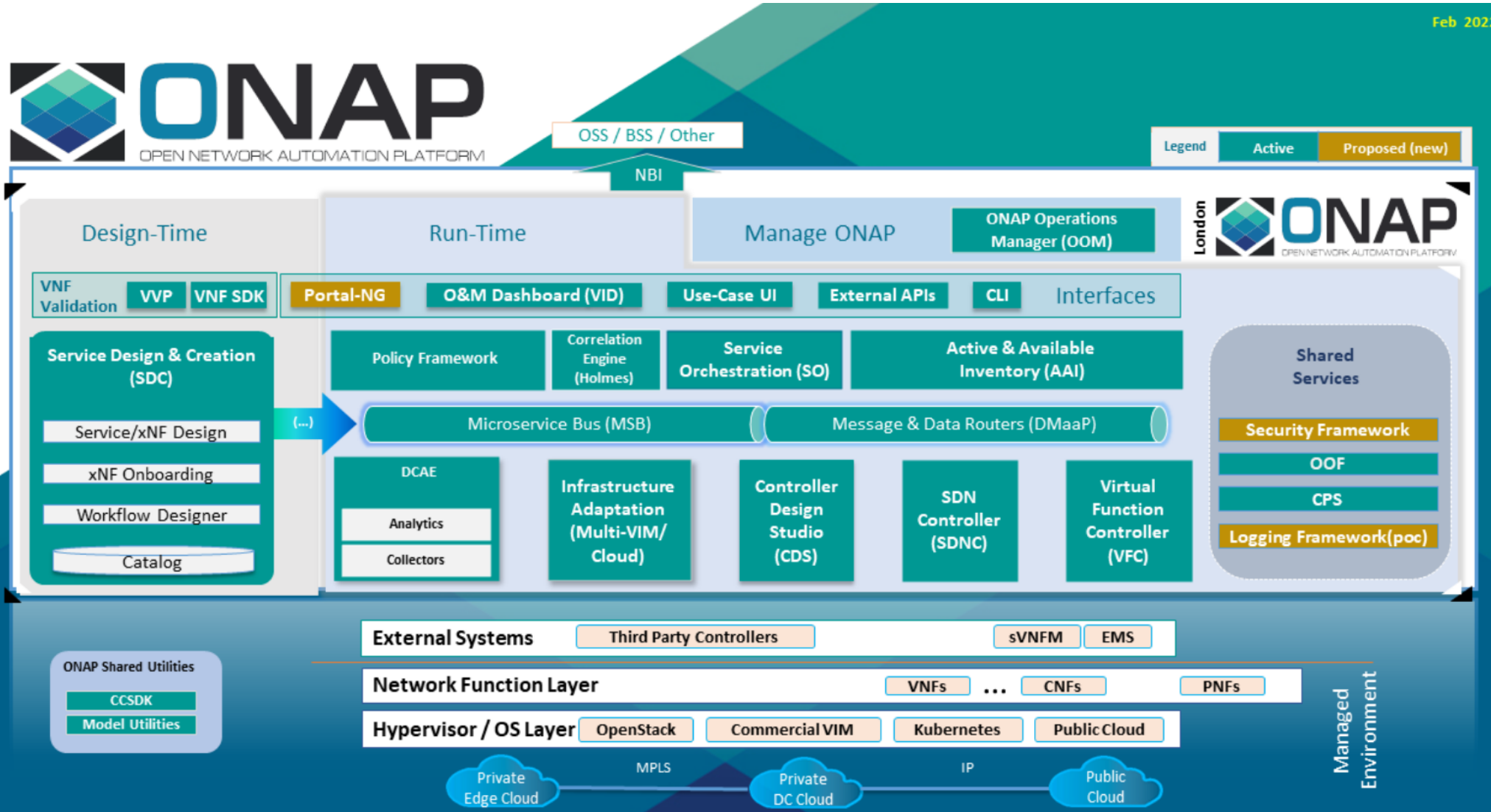
ONAP OOM Deployment and Operations Challenges

- Breakdown of Infrastructure, Deployment, Developer, and User guides on ONAP.org helpful, but still need work. A summary of pain points is below:
- Infrastructure Challenges
 - Kubernetes cluster sizing guidance
 - Kubernetes storage configuration
- ONAP Deployment Challenges
 - Component configuration options
 - Dependencies
 - Initial data configuration (via Helm charts)

Infrastructure Configuration

- The single most challenging component is ensuring an appropriately sized Kubernetes cluster for deployment.
- Worker node disk space should have enough space for all cached container images (at least 80 GB seems to work well in practice)
- Optimal worker node memory to CPU ratios aren't defined
- Network file share configuration options aren't well explained for how to configure in Helm charts.

London Architecture Overview



- what are out?
- AAF
 - Logging Framework
 - MUSIC
 - VID
 - APPC
 - TOSCA Parser
 - DCA Design Studio
 - Portal

Component Modularity & Decoupling (Study Items) – ONAP ARCCOM

ONAP Mainstream Architecture aims to facilitate ONAP adaptation and extensibility for Service Providers / DevOps. The following would be study areas:

- More component/sub-component modularity and independence
- Component interface and behavior normalization / standardization
- Extensible, customizable and substitutional component functions and mechanisms
 - More Choreography patterns (not only orchestration patterns)
- Well-balanced common/platform services vs. autonomous services
- Pick & choose and Aggregation of functions
- Unified and Platform-level security and logging across ONAP and SP OAM & Network Resource domains
- ONAP Mainstream Architecture skeleton outline

The ONAP Potluck

- “Dishes” could come in different shapes and forms
 - Code
 - Testing
 - Documentation
 - Method and process improvements
 - LFN fee
 - Business intent to use ONAP code ?
 -
- Participants share recipes and learn from each other
- There is no “à la carte” menu
- Free lunch is a possibility, but it is beneficial for open-source consumers to engage in the community



Wikipedia:

A **potluck** is a communal gathering where each guest or group contributes a different, often homemade, [dish of food](#) to be shared.

Sense of urgency – my reflection

- ONAP is challenged – face the facts
 - Getting bashed in the industry – even at the ONE Summit in Seattle
 - Managers in member companies – moving people to new assignments
 - People focusing on the next new thing
 - Only a few companies are actively contributing
 - Not likely that we can attract a large number of new contributors
- Suggested actions
 - Right-size the ambition level
 - Be opportunistic regarding use cases → SMO (O-RAN)
 - Modularize
 - Create autonomous projects – abandon the platform releases → “traditional” open-source
 - “Umbrella” activity to drive collaboration, global requirements and best practices

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An open-source community
can mature and move slower,
but it can never afford to be in
defense mode



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Consumability of open source projects

Monday, 13th of February 2023, 13:00 UTC

What is consumability?

- What problem is solved by the project? The project should solve a problem. A clearly identified problem important not only to us. A shared problem.
- People can find and use the artifact of our project
 - It needs to be simple to adopt

What is consumable in ONAP?

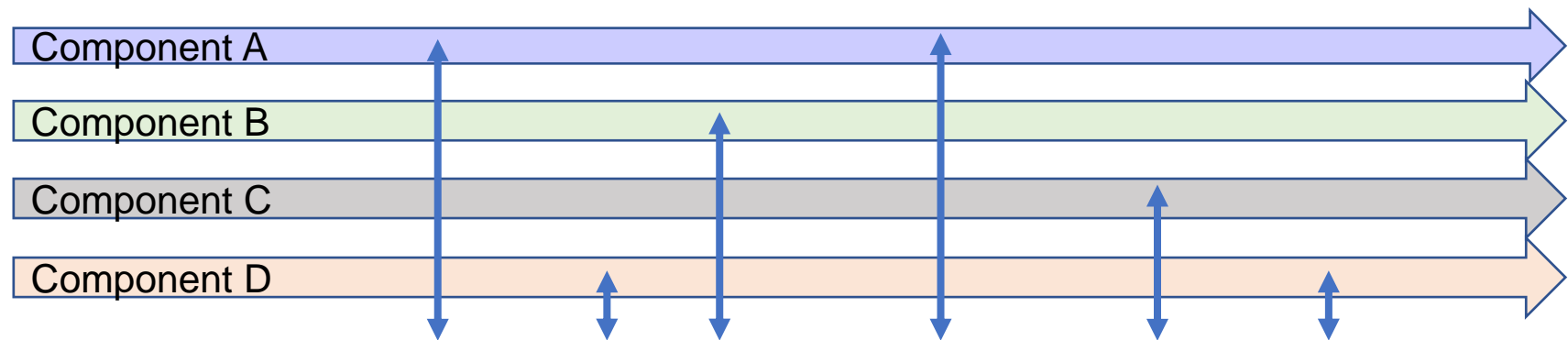
- Individual components (run by self organising teams)
 - The teams dictate their own processes and timelines
 - Centers of excellence
 - Flexible dialogue with users
 - Continuous development and responsive deliverables
- Cluster of components guided by use cases
 - Bringing greater value than individual components
 - Useful in marketing
- Platform
 - Limited to demos, PoCs and field trials
 - No smooth upgrade
 - Attracting a lot of requirements. The scope is way beyond what can be expected from a “normal” open-source community
 - Would need an army of designers to bring to an acceptable level, based on vendor experiences

We need to get more agile and better at managing expectations

Proposed Alternative Process

Projects → Components

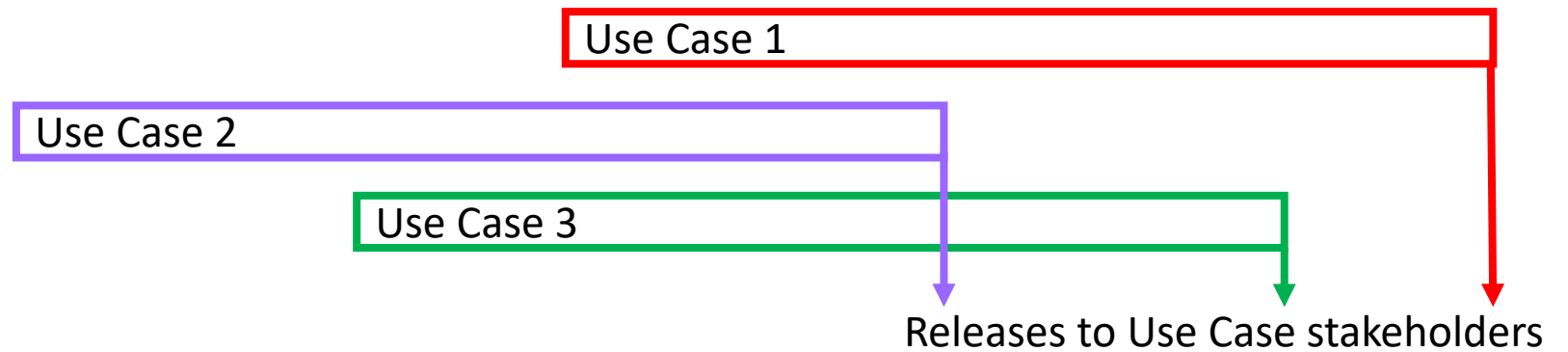
- Continuous development
- Dedicated team lead by the PTL



Continuous deliveries with direct feedback from users

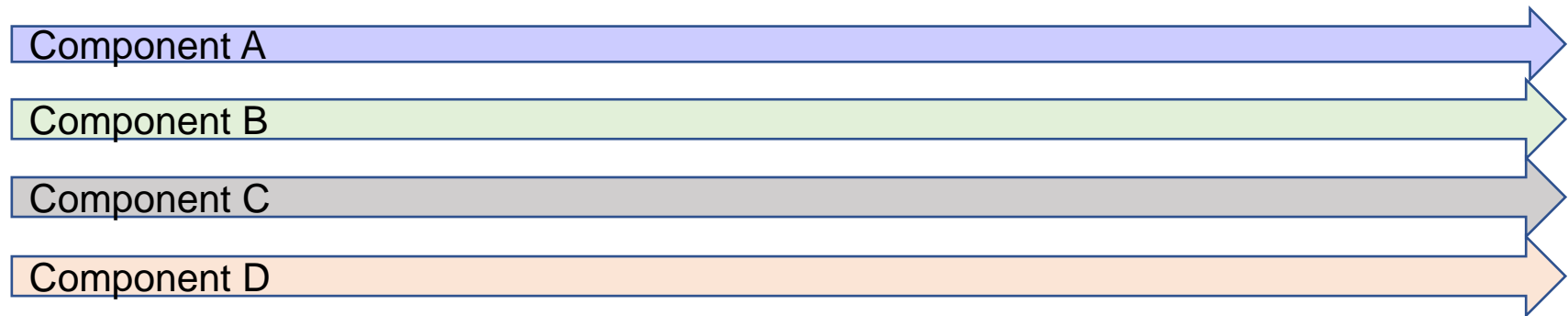
Proposed Alternative Process

Use cases with associated requirements



Projects → Components

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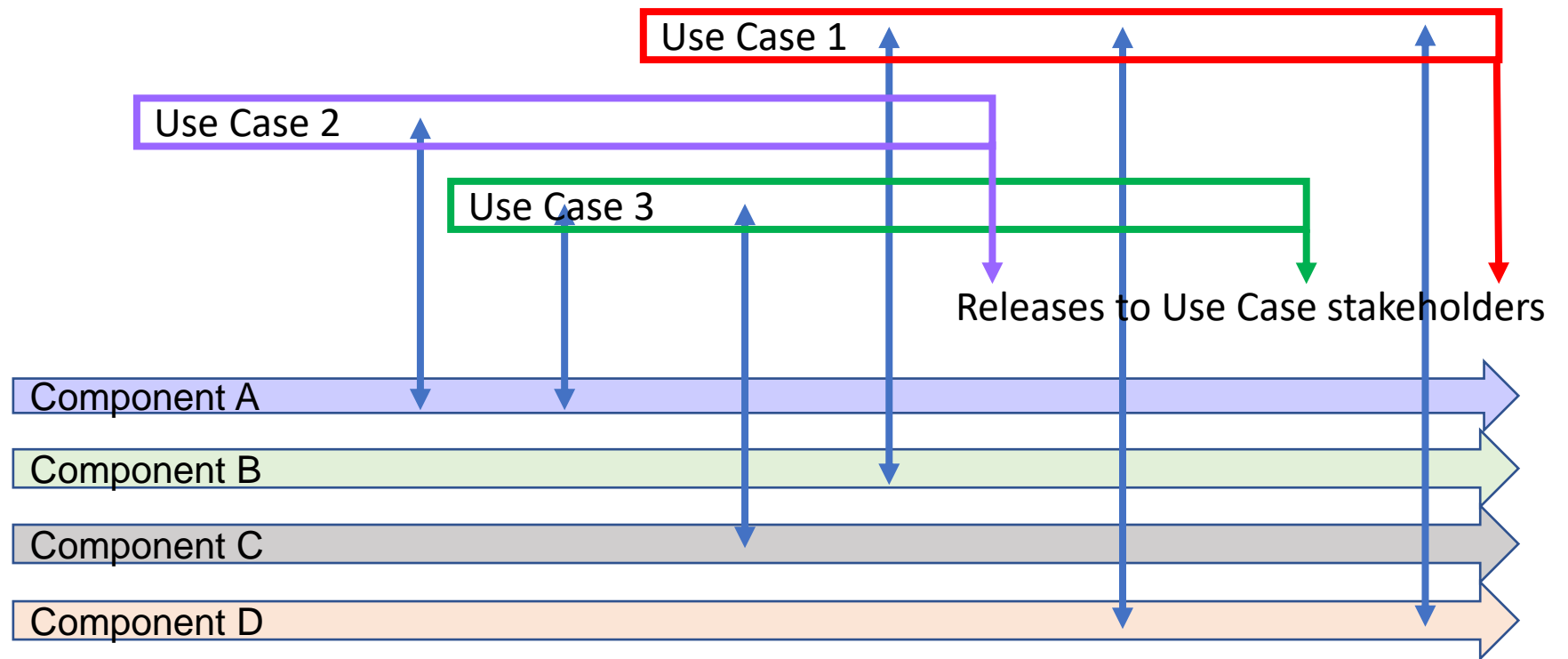
Proposed Alternative Process

Use cases with associated requirements

Each **Use Cases Owner** is responsible for negotiating the scope with the PTLs of the used components

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Proposed Alternative Process

Global Requirements Best Practices

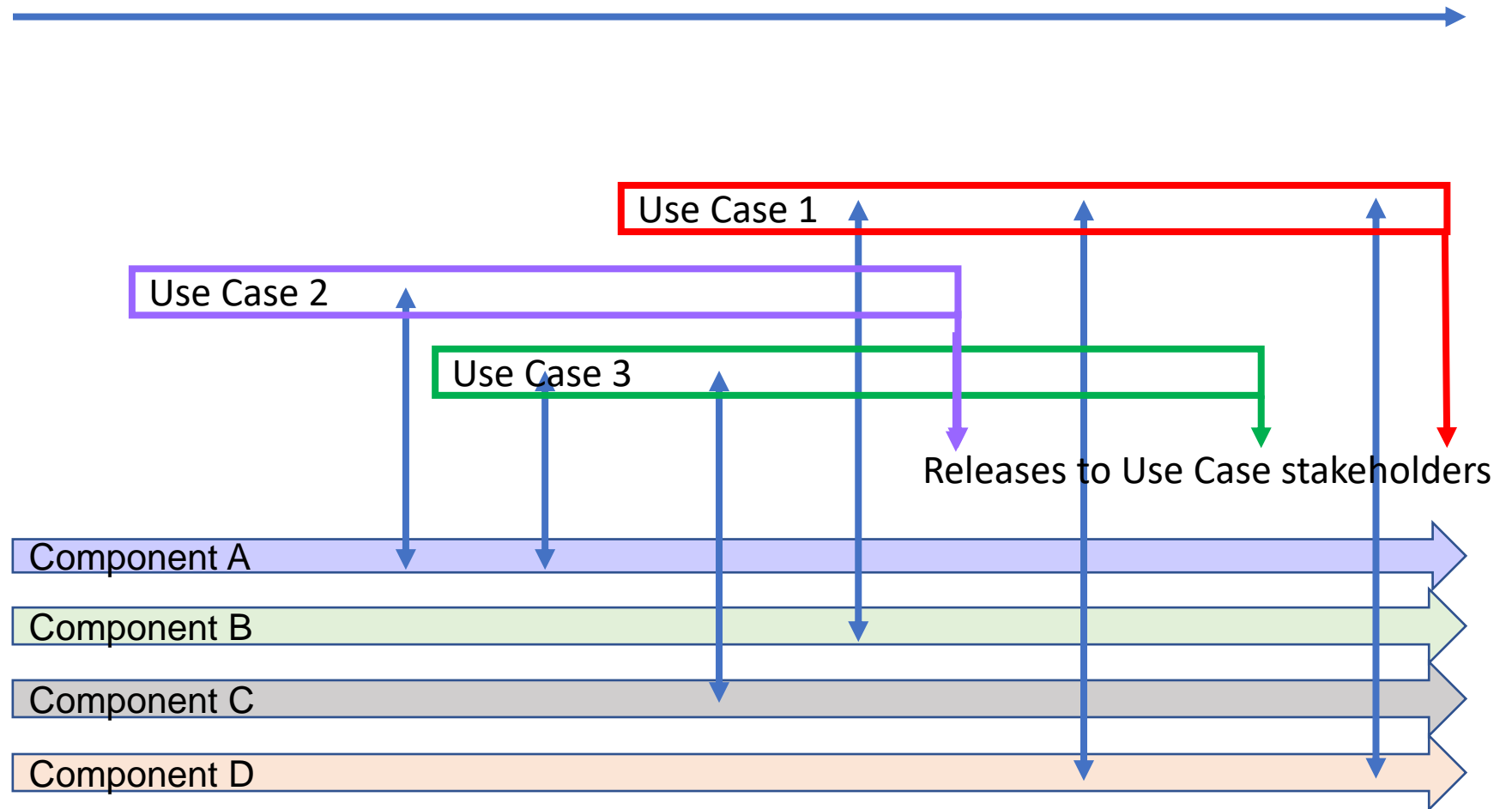
Continuous improvements
led by **Sub-committees**

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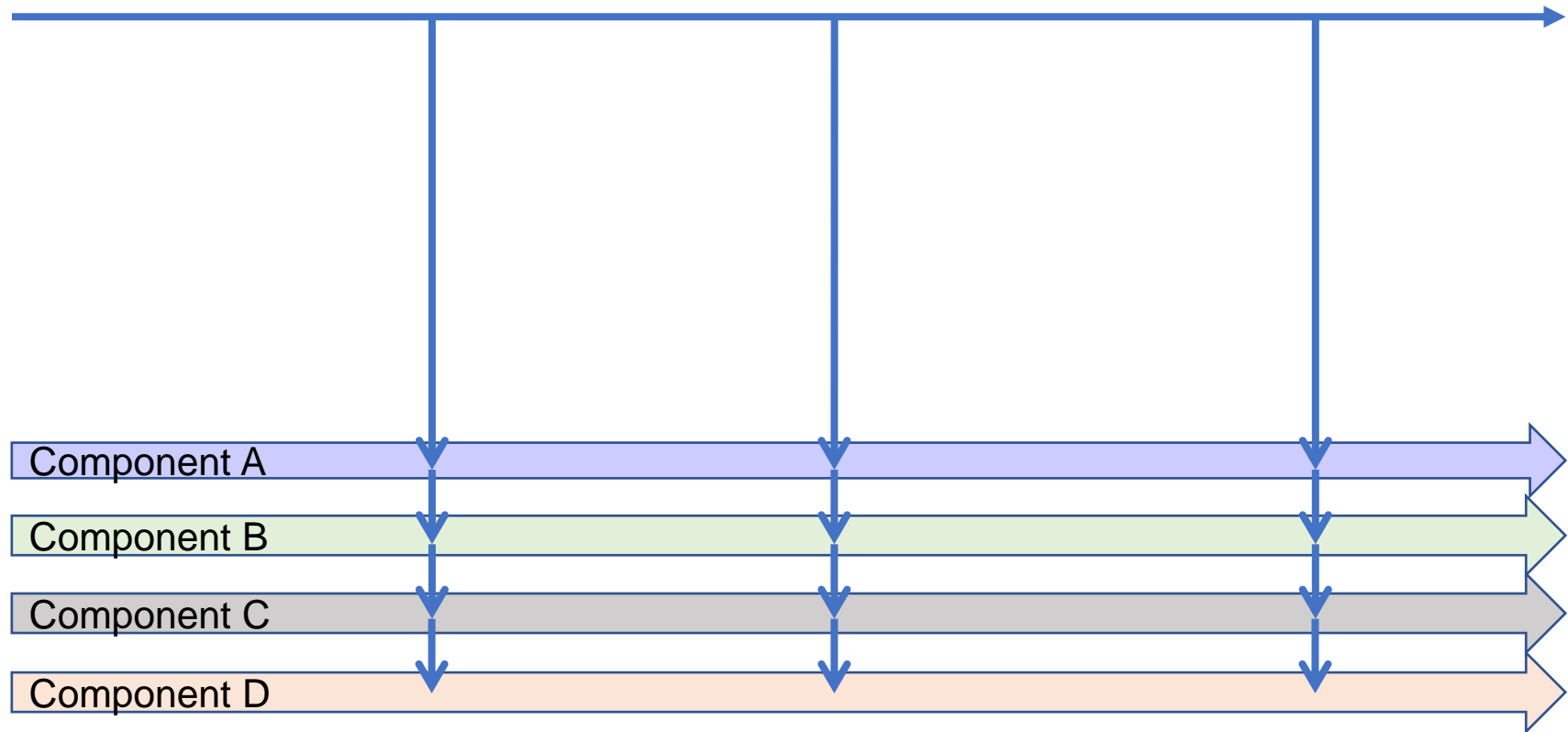
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[Release Management task Review - Google Docs](#)