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WG LTS - Deep Dive

What Are We Releasing, Why, How Is It Best Integrated, Validated, & Supported??!

What is WG LTS



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- Discussion, path-finding, proposals
- Does Kubernetes need a longer support term?
 - Yes?
 - ...Architect & propose modified support lifecycle to k8s developer community
 - No?
 - ...Architect & proposed better coping mechanisms for user base

<https://git.k8s.io/community/wg-lts>

What LTS



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- **LTS == Long Term Support**
- A documented support policy
- Identifies the **length** and **type of support** for releases, eg:
 - “security and bug fixes for 2 years”, or
 - “bug fixes for 1 year plus critical security fixes for 1 additional year”
- “Long” is typically > 1 year
 - Short Term Support (STS) streams are usually also present
 - “Short” is typically measured in months

Possible benefits of LTS



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- Users: longer production deployment, more time to transition onto and off of a stable release, better cross-release compatibility
- Vendors: centralized, subject matter expert led bug and security fixes happen once in upstream, instead of in parallel at each vendor
- Developers: added test coverage give early visibility to compatibility issues

Possible risks, costs of LTS



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- Human staffing
- Test matrix growth
- Added technical complexity of
 - Insuring API stability over longer timespans
 - Upgrading between more distant releases

Survey: What do you want?



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- <https://www.surveymonkey.com/r/kubernetes-support-survey-2019>
- Targeted Kubernetes cluster...:
 - users
 - operators
 - developers
 - software vendors
 - hosting providers
 - open source software contributors
- 334 respondents **during Q1 2019**

Survey: Who is “you”?



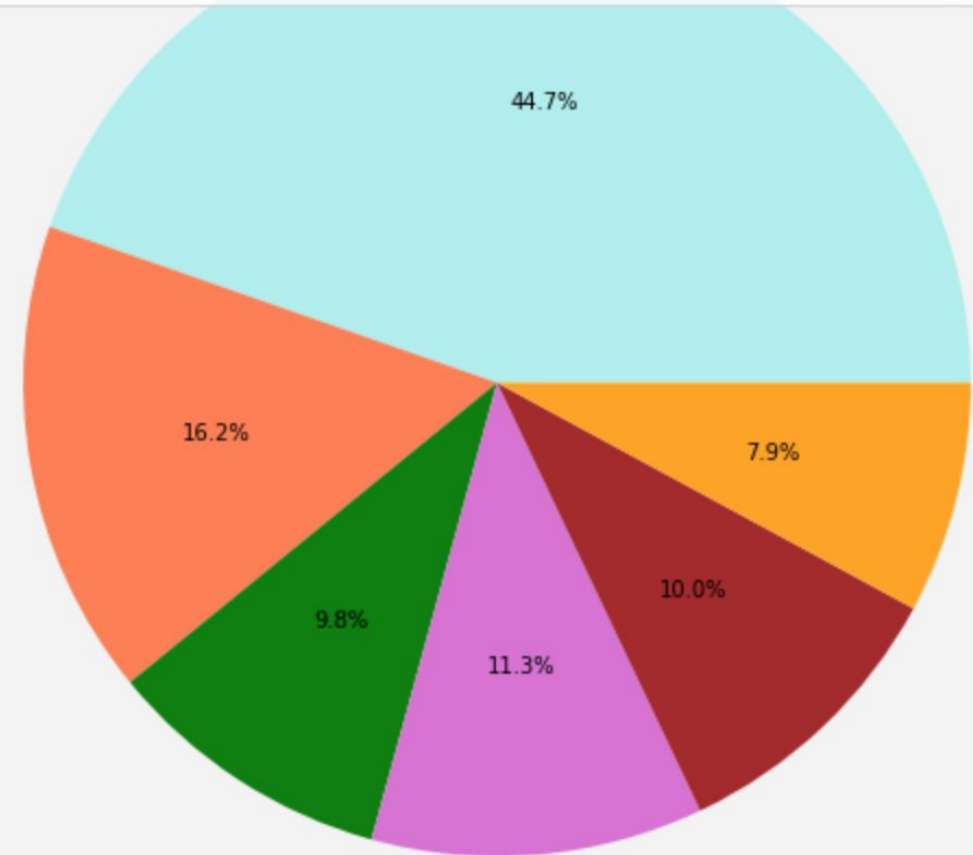
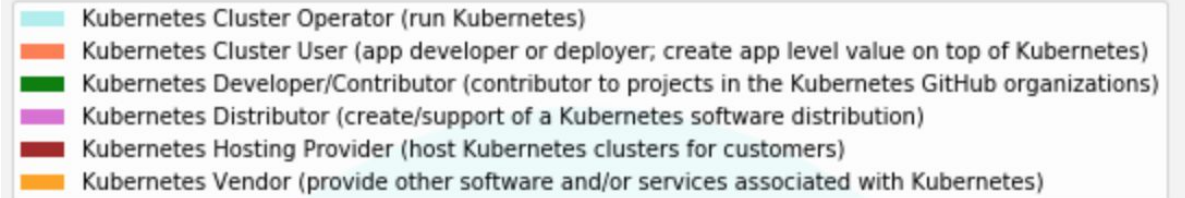
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- Cluster User: 45%
- Cluster Operator: 16%
- K8s Dev/Contributor: 10%
- Distributor: 11%
- Hosting Provider: 10%
- Vendor: 8%



Survey: What is run?

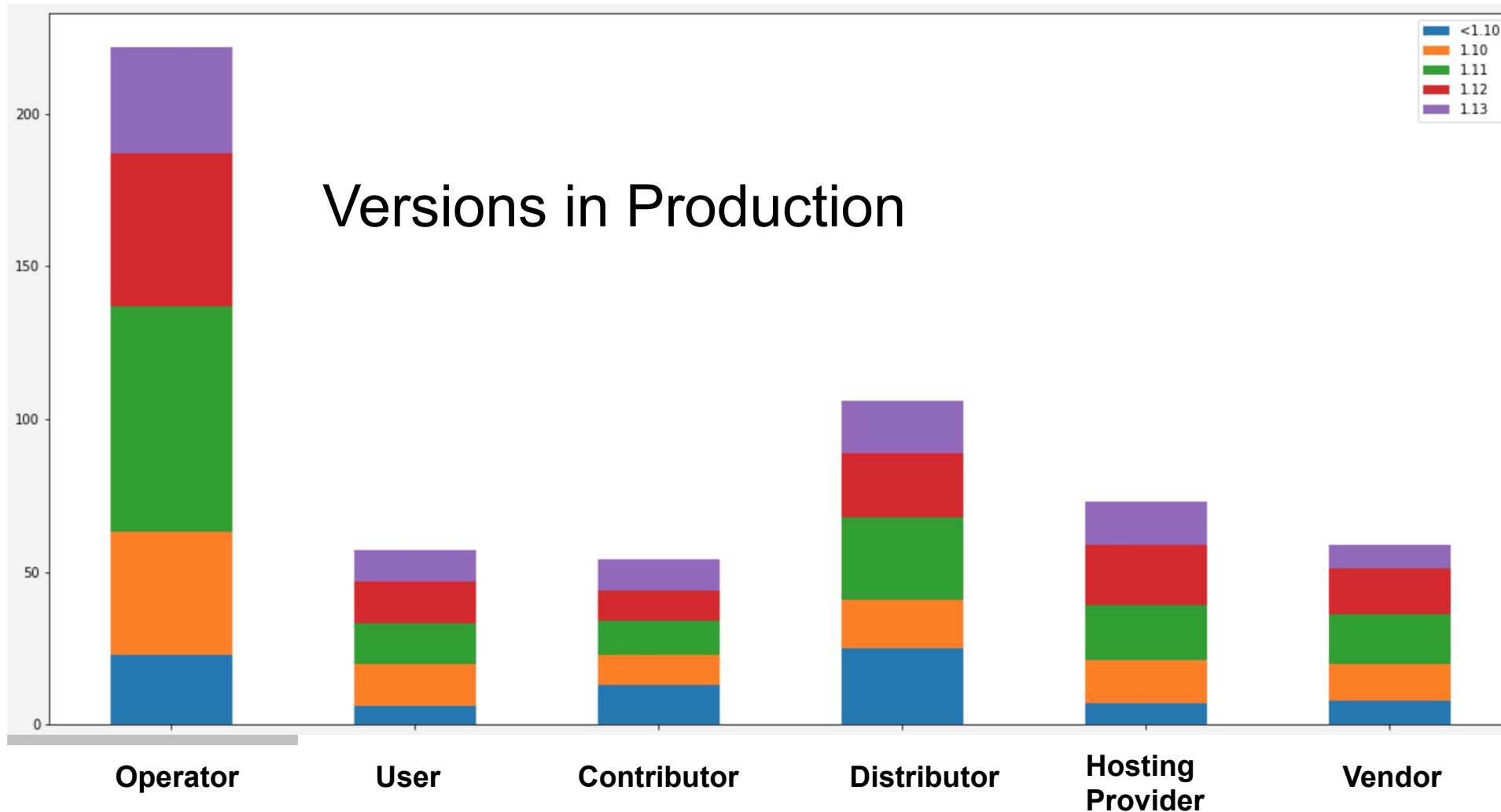


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Survey: When do you upgrade?



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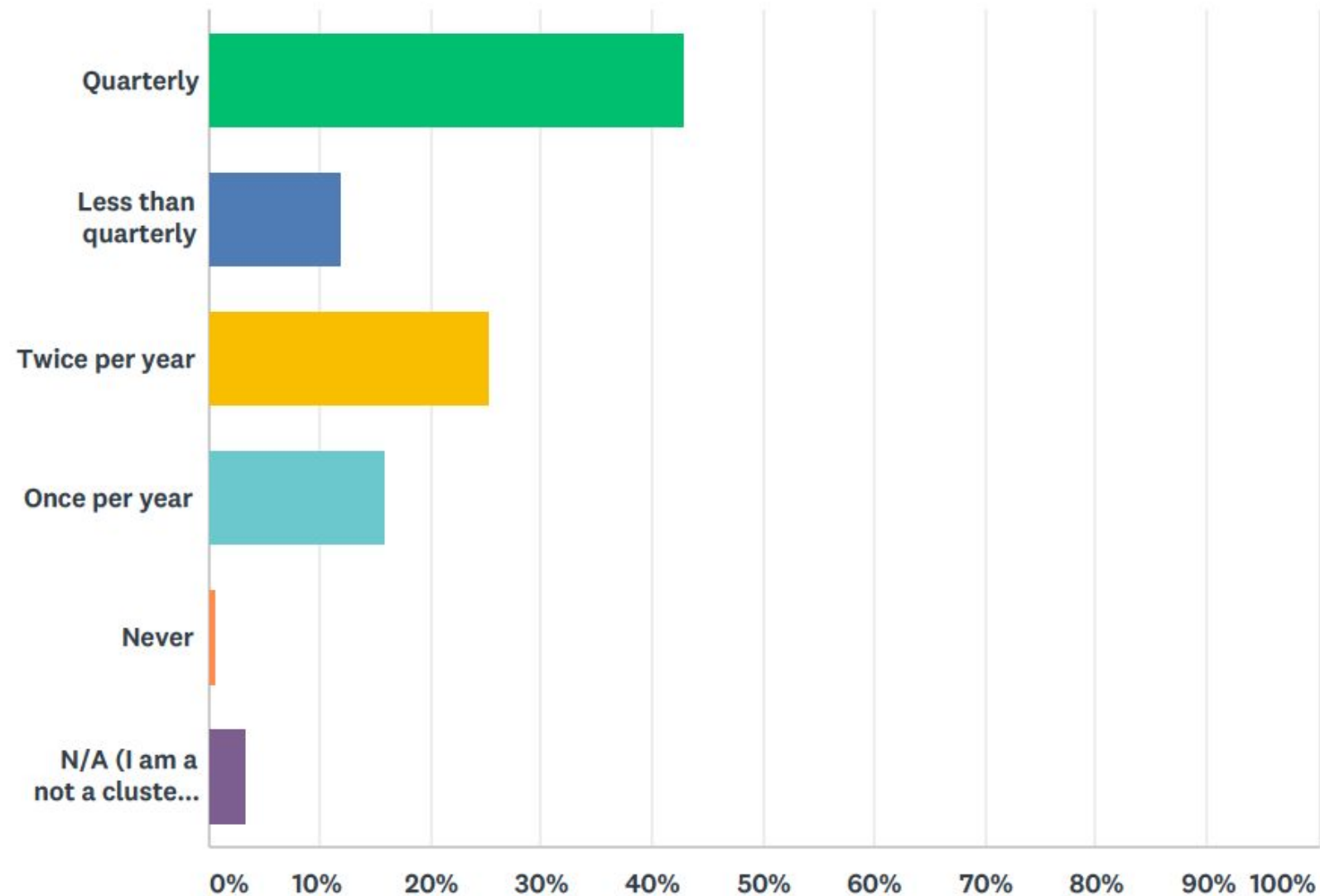


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Minor
Upgrade
Cadence

Minor == 1.X



Survey: When do you upgrade?



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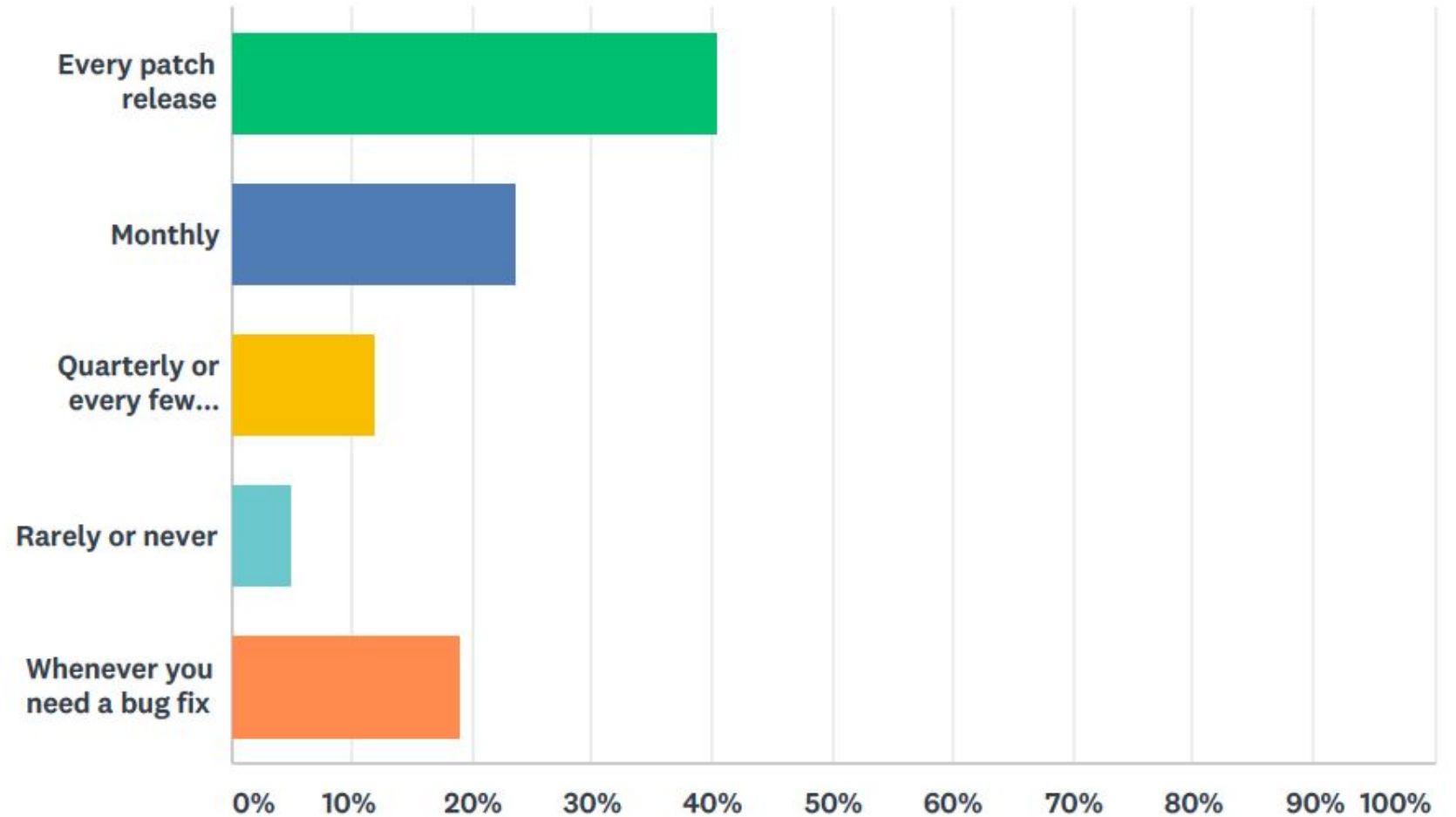
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Patch

Upgrade

Cadence

Patch == 1.X.Y



Survey: What problems?



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- **Technical blockers:**
 - time/difficulty of testing
 - managing test escapes
 - plugins, TPRs, or CRD compatibility & forward porting
 - time to roll out upgrade
 - upgrade tools issues
 - version specific bugs
- **Non-technical blockers:**
 - freeze windows
 - required approvals
 - learning about new release

Survey: What support is desired?



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- Seamless in-place upgrade
- Well documented, gradually rolled out behavior
- Stable v1 REST APIs
- Apps run with minimal/no change across cluster versions

Upgrade Cadence Options



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- Faster?
- Or Slower?
- Faster and Slower?

Upgrade Cadence Options



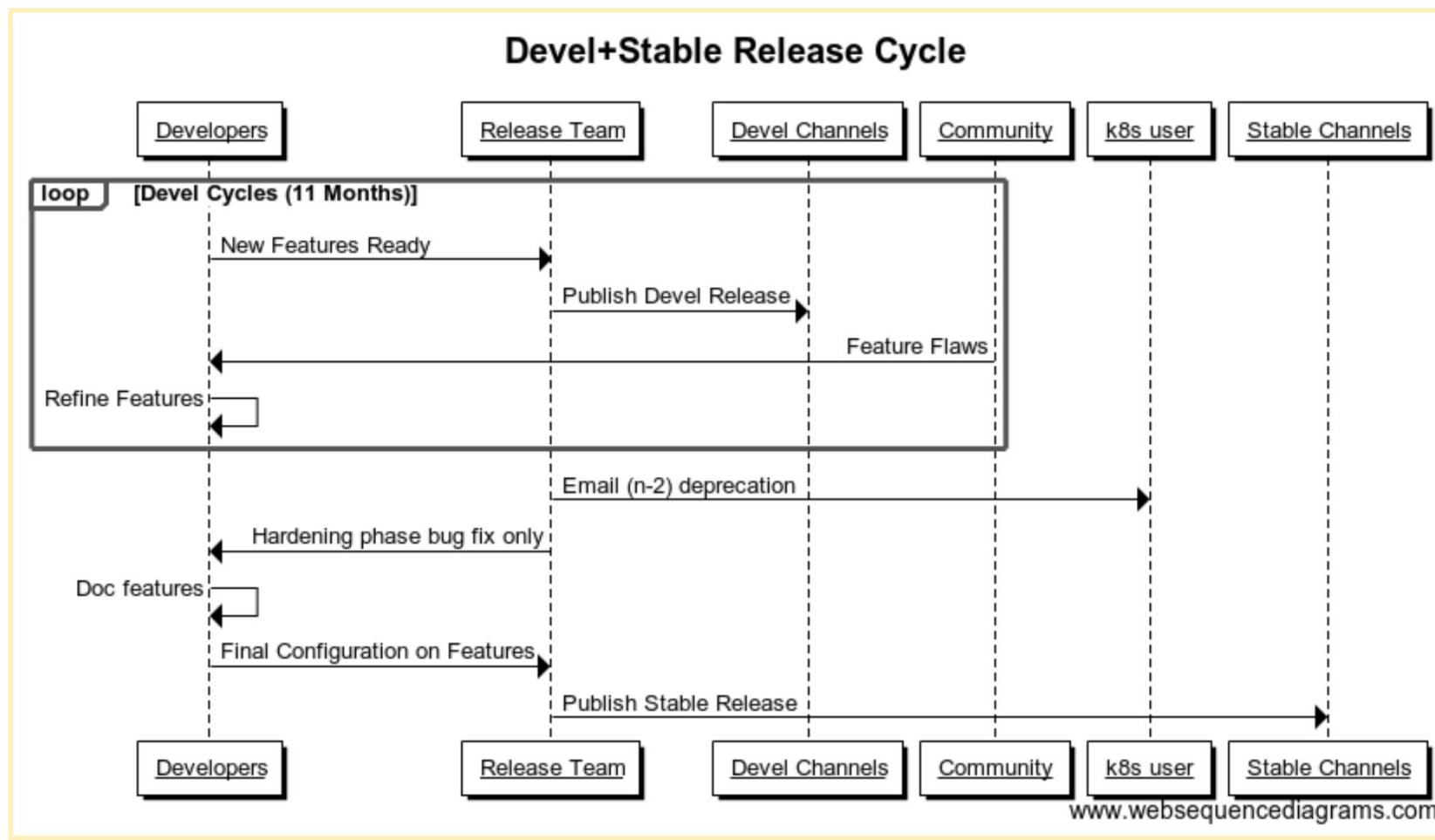
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- Faster & Slower: <http://bit.ly/k8s-lts-dev-stable>



Upgrade Cadence Options



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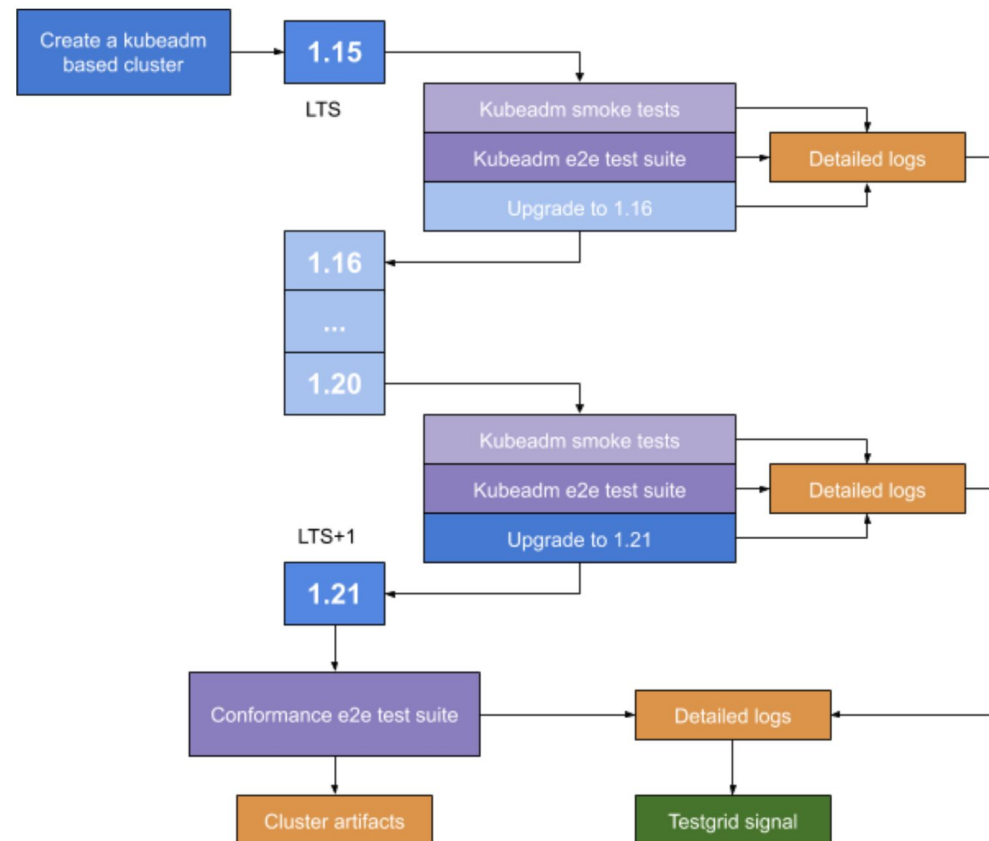


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- Slower:

<http://bit.ly/k8s-lts-kubeadm>



Upgrade Cadence Options



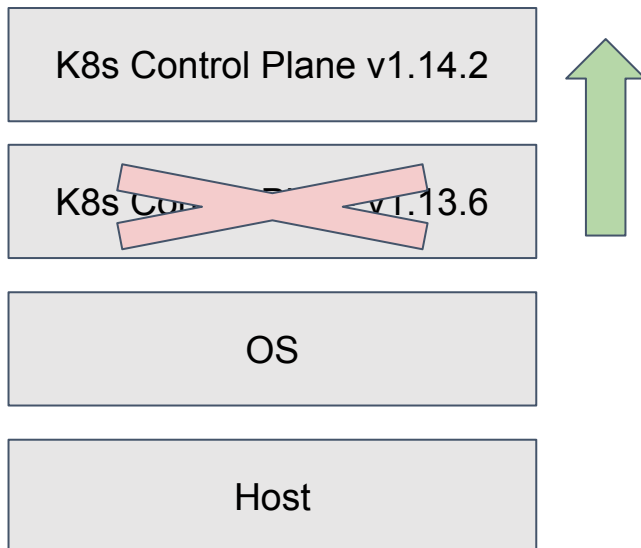
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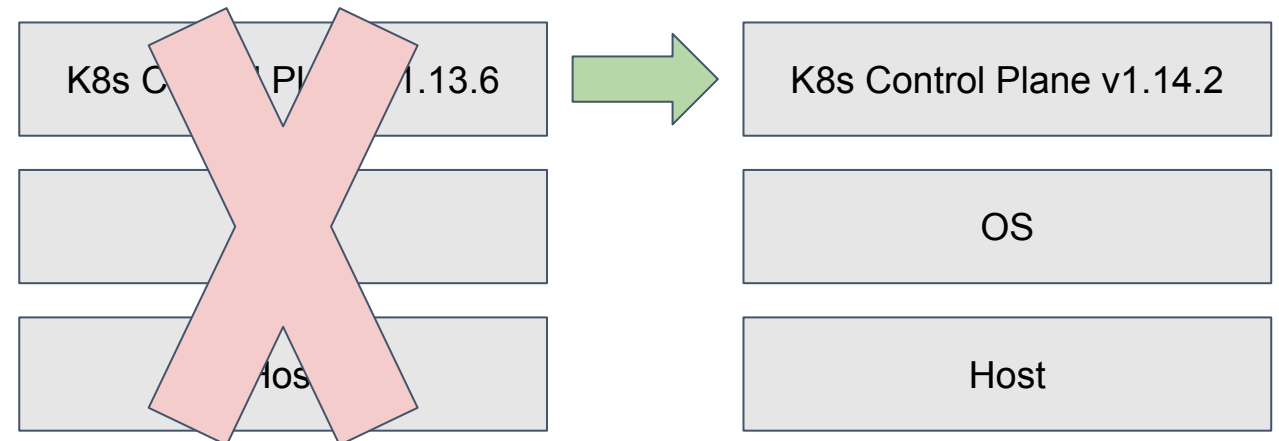
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- In-Place?



- Immutable Infrastructure?



Discussion



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- What do you want...?

<https://git.k8s.io/community/wg-lts>