Design Title

Authors

Date

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# 1 Overview

This section explains the motivation of the work, providing the status quo and the problems associated with it. The editions this design affects are also mentioned here (ie. open source, community edition, enterprise edition). This section also proposes the high level solution to the problem.

# 2 Goals

This section explains the detailed goals and minimum requirements for the design. It should also include any non-goals of the design which would be expected from a reader. This also includes some high level functionality or performance gains which were initially specced in the Product Requirements Document (PRD). Before designing the feature, a simple proof of concept should be attempted to see if the PRD can be satisfied.

# 3 Use Cases

This section explains the use cases which will be enabled by the implementation of this design. This section should be from the perspective of a user and how they would be able to interact with the feature described.

# 4 Design

This section explains the high level changes proposed to achieve the design. Changes should be grouped by project components or in another logical way which makes the design easy to follow.

If applicable, the design should be broken down into separate phases which each delivers incremental value. The first phase should achieve the minimum requirements outlined in the goals.

If applicable, alternative approaches should be noted and evaluated for different sections of the design.

# 5 API Changes

This is a section detailing any user facing or internal APIs added to components, including configuration changes. Any changes to user facing components are mentioned here (ie. WebUI, command line). If no changes are made, it should be stated in this section.

Changes should be formatted in a reader friendly manner. A 1 cell table should be used to contain the code blocks and monospace font should be used when writing code.

|  |
| --- |
| // This is a code block |

# 6 Compatibility

This section explains any compatibility assumptions or limitations. This should apply to compatibility between versions and editions. For designs which affect both enterprise and open source, this section should call out any significant deviations and strategies to avoid divergence as well as the separation between open source and closed source.

This section also analyzes any dependency changes (ie. pom file changes). In particular, the addition of new external libraries should be justified.

# 7 Security

This section explains any security considerations which must be taken into account. If there are no security implications, it should be stated explicitly here.

# 8 Implementation Detail (Optional)

This is an OPTIONAL and possibly REPEATED section which dives into a specific implementation detail in the design. Diagrams, code snippets, and other figures are encouraged.

# 9 Failure Analysis

This section explains the various failure cases which the design must tolerate as well as failure cases the design neglects to address. Each failure should be noted with the expected behavior as well as ideal behavior, and if different, what effort is required to bridge the gap.

This section should also outline any potential risks due to the implementation of this design such as performance loss, undesired behavior, and system instability.

# 10 Test Plan

This section details the tests which will be added to ensure the quality and maintainability of the implementation. Unit tests, integration tests, and autobot tests should be considered if applicable. In addition, any new functionality to support testing should be noted.

# 11 Engineering Estimate

This section details the estimated engineering cost of the overall design, divided into the phases outlined in the design portion as well as time for the test plan and any additional deployment details.

# 12 Sign Off

This section is for reviewers to sign off on the document. The design is considered complete after the required reviewers have signed off on the document. Reviewers should be determined beforehand (ie. during PRD or engineering planning). After all reviewers have LGTMed the document, reviewers should take a look at the final document and promote their LGTMs to Approved unless unsatisfactory changes have been made between their last review and the final draft. For large designs, the designer lead would schedule a face to face meeting with all reviewers to get LGTM. The design should have been reviewed before by all reviewers and the “First Pass Reviewed” column should be updated.

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| Reviewer | LGTM | Iteration Requested | Date |
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