Challenges in migrating a large cgroup deployment from v1 to v2

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Google has a large cgroup v1 deployment and have begun planning our migration to cgroup v2. This migration has proven difficult because of our extensive use of cgroup v1 features. Among the most challenging issues are the transition from multiple hierarchies to a unified one, migration of users who create their own cgroups, custom threaded cgroup management and the lack of ability to transition a controller between v1 and v2 more gradually. Additionally the cgroup v1 features don’t exactly map to ones in cgroup v2 which means that there is additional risk during the migration where non-obvious behavior changes have to be debugged and tracked down. The talk will outline these challenges in more detail and describe approaches taken by us to solve them including proposals for possible changes to ease this migration for other users of the cgroup v1 interface.

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