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Investigation of Repository Replication Models in Globally Distributed
Configuration Management



Problem

- Open source software projects consist of developers or teams separated globally
- CVS is widely used in such projects, provides one central repository model.
 - It requires a server connected to the Internet with wide bandwidth.
 - **It coerces one management policy.**
- They often need to have their own policies of work separated from the project's policy
 - One repository model can't support their work.



Why needs policy separation?

- An example - Linux kernel development
 - Linus Torvalds completely grasps the repository.
 - Many peripheral projects are carried out on their own policies.
 - File systems, Sound systems, Note PC support
 - Each representative of them persuade Linus to inject their outcomes into the kernel.
- Why?
 - Reduce frequency of negotiation and subjects of management.
 - Augment concurrency of work.



Approach

- Policy separation based on replication
 - Replicate the original repository.
 - Work on their replica with their own policy.
 - Pull/push changes between the original and their replicas.
- A tool grafts version trees between repositories
 - It can support various styles of replication and change propagation
 - Developers can write a script with it to perform an appropriate replication model.