PERFORCE

Version everything.

Perforce Git Fusion

Enterprise Git Management without Compromise

Git offers great flexibility for individual developers but increases complexity for large teams. As projects expand in size, you might struggle to manage repository splits and merges, and be challenged by the ensuing repository chaos. It can be difficult to gain visibility across all projects and teams, enforce uniform access control, and achieve scale without a lot of manual effort. Workarounds, manual merges and home-grown wrappers help, but you'd be making compromises along the way.

Not anymore.

Perforce Git Fusion offers a comprehensive solution for managing Git environments, while offering advanced capabilities that make your Git experience vastly superior. Most importantly, Git Fusion is non-invasive to your developer workflow, and requires ZERO modification to your daily development activities.

Key Benefits

1. Active visibility into all projects
2. Uniform access control
3. Detailed version history and auditing
4. Easy repository reorganization
5. Scale without complexity
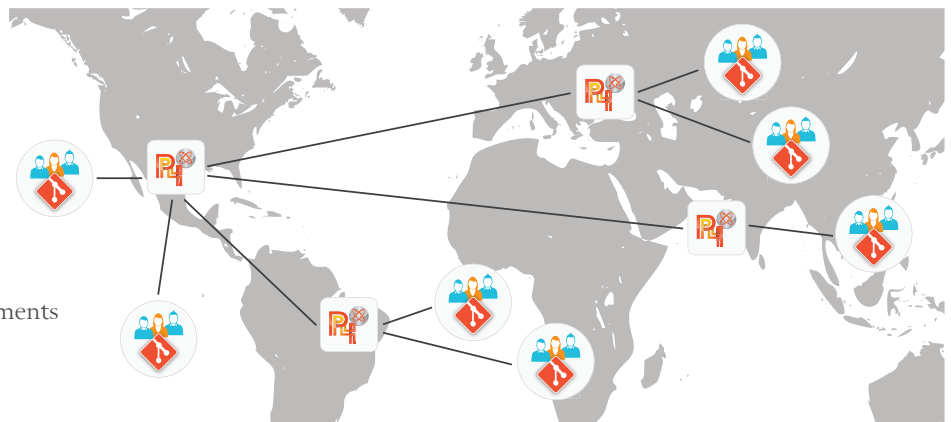6. Interoperates with existing Perforce environments

Figure 1: Supporting Git users worldwide.

Key Capabilities

Cross-project Visibility

Git Fusion connects with multiple Git repositories to provide a common view of your entire development environment. Whether local or globally distributed, you can easily gain insight into the dependencies between repositories, branch histories, and fine-grained audit logs for all changes submitted across your distributed Git environment.

Access Control

Using Git Fusion, you can extend central access control policies across your distributed environment. Git Fusion not only enables uniform repository-level read access control, but also file-level write access control. Thus, you can ensure that your IP is protected at all times and rogue elements cannot disrupt your development processes.

Massive Scale

Only Git Fusion enables you to carve out multiple overlapping repositories at will to support thousands of users and hundreds of gigabytes of data. You can distribute users across different repositories or compartmentalize development. Git Fusion coordinates changes across the environment all the way to the backend, ensuring codeline integrity without manual intervention.

Enterprise Performance

Git Fusion is optimized to power high-speed continuous delivery. It can serve thousands of concurrent requests across petabytes of data, with reliability that's been proven at the world's leading Cloud services and technology providers. For example, the build and test cycles for Git-originated projects can be sped up using the Perforce backend. This also gives teams the flexibility to leverage a variety of pre-tested continuous integration tools that are optimized for Perforce (e.g., Jenkins).

Fast Global Access

Git Fusion fosters collaboration on a global scale. Data replication puts information closer to the users who need it. Each site can have the full set of data it requires—from any combination of data in Perforce and Git—even if the logical and geographical structures of the project don't line up. That's true as you grow from 2 users in an office to 10,000 users on 5 continents. For teams large and small, Git Fusion makes no sacrifices in IP security or compliance, as security is applied consistently for every user at every location.

Repository Remapping

Git Fusion introduces powerful, new capabilities for reusing and sharing code without using complex submodules. With repository remapping, you can create new Git repositories at will. Selectively use elements from multiple repositories to combine and create highly customized Git repos. Merge small repos, split big ones, and reuse elements from either Git or Perforce projects.

Unlike standalone Git, Git Fusion retains histories and audits regardless of repository remapping. No matter what, all changes can be tracked to the origin.

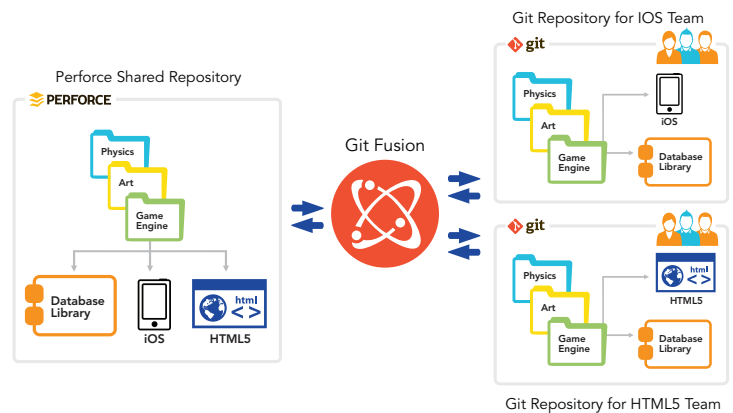If you're in an industry that relies on component development, then Git Fusion is a must.

Figure 2: Customize Git repositories with Git Fusion. See how the pieces fit together—game engine, iOS app, HTML5 front end—in Perforce.

Hybrid Approach

Git Fusion allows you to co-mingle your Git and Perforce environments into a single mainline without disrupting existing developer workflows. Your automation toolchain can leverage a single, scalable backend, while users of Git and Perforce continue using their preferred workflows and tools. With Git Fusion, developers can store their code and any other binary assets in either Git or Perforce and easily switch back and forth. This allows developers to:

- Overcome binary barriers in Git
- Offload binaries to Perforce while continuing to store code in Git
- Use Perforce's advanced suite of tools, including time lapse and revision graphs against Git-based assets

perforce.com/git-fusion