sourcegear

PRODUCT INFO

Why build yet another DVCS?

Git, Mercurial and Bazaar are all great, but we don't think they are the last word. This model of distributed development is the future of our industry. Things are just getting started.

This sheet attempts to explain how our vision for *Veracity* is different from what is available in popular DVCS tools today.

Our intent here is not to criticize existing tools or start a war with their fans (especially because Veracity needs to simmer a bit longer before it's ready). We simply know that the easiest way to explain something new is to compare it to something well-known.

Decentralized Database

Veracity goes beyond versioning of directories and files to provide management of records and fields, with full support for pushing, pulling and merging database changesets, just like source tree changesets.

Veracity's decentralized, template-driven database is used for all kinds of administrative data, including user accounts, tags, commit messages, and history. This database is also the platform on which we are building features like work item tracking.

Veracity is bringing the DVCS model to the other stuff that software teams use.

User accounts

Existing DVCS tools have no real concept of user accounts. Enterprise customers need robust administration features like auditing and permissions. Veracity supports these features with a user system built on its distributed database engine.

Pluggable storage layers

Veracity wraps all the actual storage of a repository in an API. This allows different implementations to offer different tradeoffs. For example, an organization may want to use an enterprise SQL database to store repository data on a central server, while developer desktop machines use a simpler filesystem-oriented storage module.

Hash functions

Just as with Mercurial and Git, Veracity identifies all repository objects using a cryptographic hash of the contents. Veracity supports SHA1 like current tools, but is ready for the future with full support for SHA2 and Skein, at 256 or even 512 bits.

File locks

A common complaint about current DVCS tools is poor support for binary files which cannot be automatically merged. In these cases, centralized tools with exclusive file locks are still the right answer. Veracity will address this weakness with an implementation that provides optional exclusive locks when a network connection is available and degrades gracefully in disconnected scenarios.

Robust tracking for rename

Like Bazaar, Veracity assigns every repository object an ID which remains constant when the object is renamed or moved to a different path. This handles the situation where a developer changes both the contents of a file and its path in the same transaction, and is a critical feature for robust merge operations.

Cross-Platform C

From the beginning, we wanted to make it easy to integrate Veracity into all kinds of other systems on a wide variety of platforms. So we wrote everything in C, with Windows, MacOS and Linux all on equal footing. We love Python too, but C is a lowest common denominator that can be ported or integrated everywhere we need to go.

Apache License v2

Current DVCS tools do not yet have much penetration with enterprise customers. We chose the Apache License v2 (instead of the GPL) because we wanted there to be no obstacles for Veracity to be adopted in commercial and enterprise scenarios.

But it's not ready yet. We are dogfooding Veracity here at SourceGear, but as of July 2010, it's really not ready yet for anybody else to use. We are making the source available for enthusiasts who want to follow our progress and participate. But if you need something that is ready to use now, Mercurial, Git and Bazaar offer you three great choices.

About SourceGear

Founded in 1997, SourceGear is a privately held company located in Champaign, Illinois, near the campus of the University of Illinois at Urbana-Champaign. SourceGear's Teamprise product line (Eclipse-based client applications for TFS) was acquired by Microsoft in 2009. SourceGear is best known for its popular product, Vault (and its sister product, Fortress), a Windows-centric version control system positioned as a replacement for Microsoft Visual SourceSafe.

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