

Software Trend Analyzer

Manage the future of your software

Description

The [Software Trend Analyzer \(SolidSTA\)](#) is a stand-alone, non-intrusive solution for monitoring and investigating software trends. SolidSTA is able to extract and present a number of standard and proprietary metrics, allowing the user to assess the evolution of various software quality indicators for industry-sized software repositories.

SolidSTA presents the analysis results in an intuitive, visually appealing way to enable users to discover trend correlations and make decisions based on factual data.

SolidSTA supports a wide range of data sources and analyses. SolidSTA offers novel software trend analyses based on well-known software metrics (LOC, cyclomatic complexity, object-oriented metrics), as well as an innovative family of evolutionary coupling metrics.

SolidSTA is flexible. It supports CVS and Subversion repositories containing software projects written in any programming language, and is extensible with software analysis and visualization plug-ins for languages-specific code analysis and metrics for C/C++/Java/C#, such as those provided by the SolidFX C/C++ analyzer. SolidSTA can integrate other sources of information, such as Bugzilla databases and other defect tracking and test reporting systems.

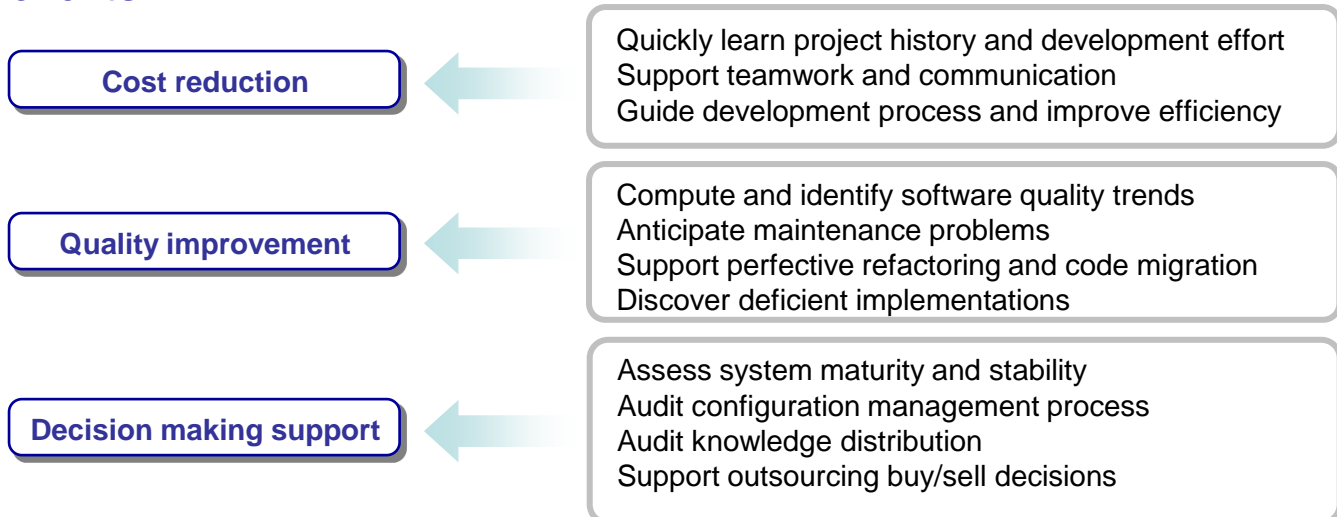
SolidSTA is highly scalable. It can be used to track the evolution of projects with tens of thousands of files, containing code contributed by hundreds of developers, covering a span of up to 20 development years.

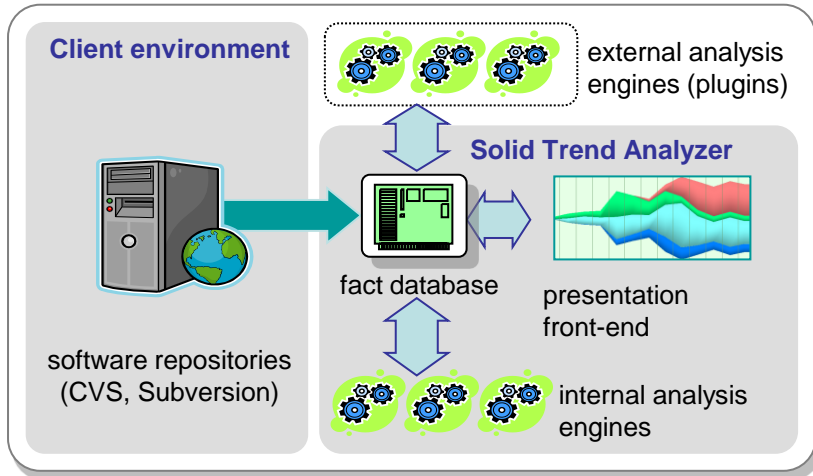
Target users

SolidSTA addresses several roles within a project:

- **Project managers:** enables informed decision making during software acquisition, release, migration
- **Software architects:** supports detection of crosscutting concerns and deficient design code areas
- **Developers:** facilitates familiarization of newcomers with project-specific issues and developer network; improves coding efficiency and quality via change recommendations

Benefits





SolidSTA interaction with the client environment

Integration in client environment

SolidSTA is a non-intrusive tool, easy to integrate in the client environment. SolidSTA requires no changes to the existing development process. It requires only a network connection to the repository which stores the software history. Additional analysis engines can be added as plug-ins during a hot integration. There are no development risks associated with removing SolidSTA from the client environment.

Example use cases

Acquisition decision support

Problem: Shall we buy this software stack?

Approach: Inspect the evolution of code size and complexity. Assess whether the software is in a stable state. Estimate the code maintainability by assessing the effort (code size, activity level, and complexity) required to understand the active and problematic areas likely to require maintenance in the future.

Added value: Supports acquisition decision making by estimating overall quality and post-acquisition costs.

Release planning support

Problem: What is the risk of releasing the software now?

Approach: Identify problematic development areas that may contain faulty code and may require corrective maintenance after release. Investigate the change propagation patterns for these areas, based on project history. Assess the effort (code size and complexity) of understanding all affected areas.

Added value: Supports release decision making by estimating the risk of post-release corrective maintenance.

Team risk assessment

Problem: What is the risk of one or more developers leaving the team?

Approach: Investigate the distribution of knowledge in the project. Assess the effort (based on code size, activity level, and complexity) required from the remaining (or future) team members in maintaining the code of the departing developer.

Added value: Helps manage team-related risks by supporting decision making in large, long-term, multi-site projects

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