

Task Preparation System (TPS)

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Introduction

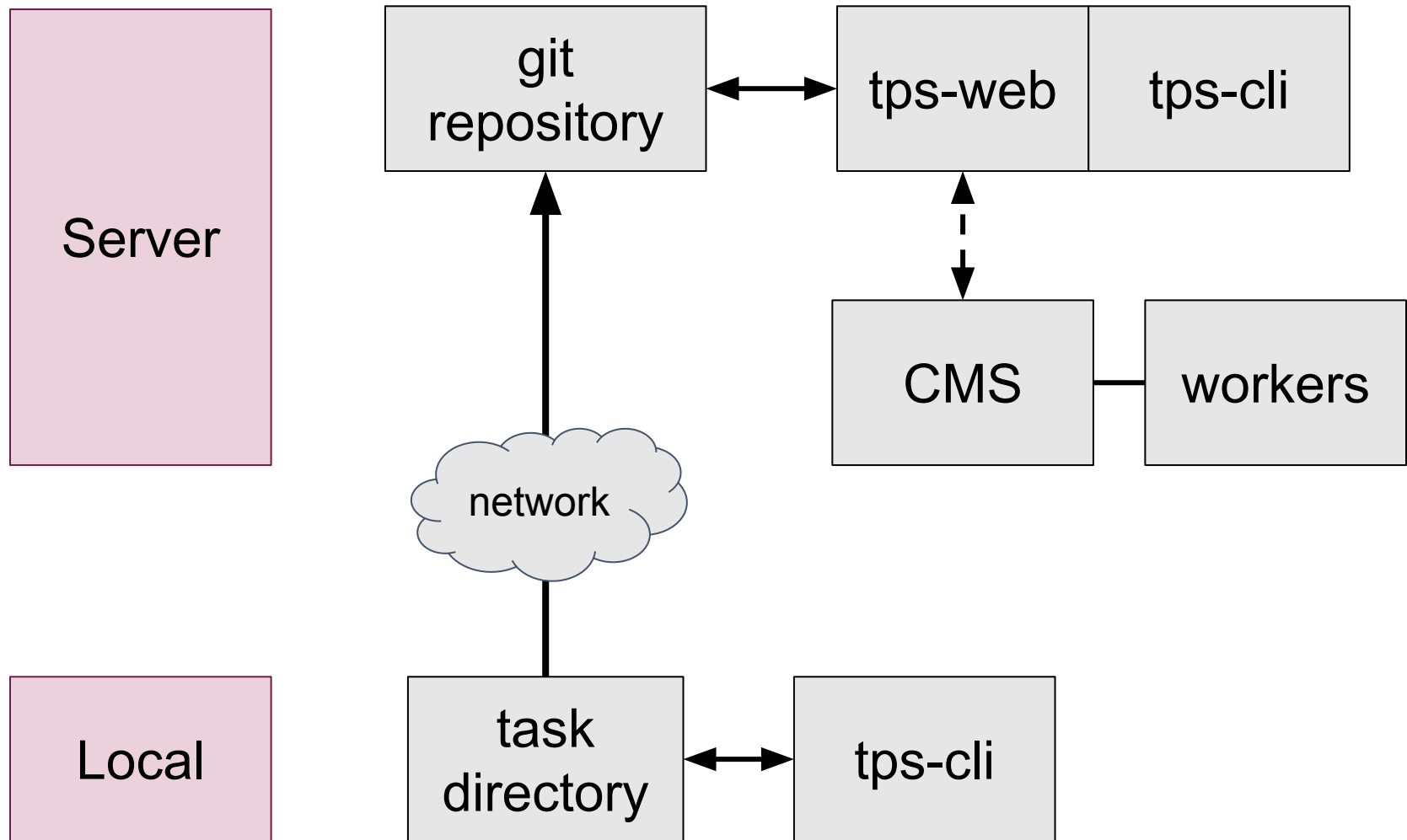
- A tool for preparing tasks of programming contests
- Developed and first used in IOI 2017
- Used in several other competitions such as IOI 2019



TEHRAN – IRAN
2017

- tps-cli: a standalone command-line interface for local (offline) work
- tps-web: a web interface which integrates with tps-cli through git

Architecture



Main Features

- Good old command line
- Simple to use
- Easily customizable
- Open source
- Can be used offline
- Team collaboration as good as git
- Good at detecting errors/warnings

Task Directory Structure

- solution/
- validator/
- gen/
- grader/
- checker/
- public/
- statement/
- scripts/
- solutions.json
- subtasks.json
- problem.json
- tests/
- sandbox/
- logs/

Command Line Interface

- The `tps` command
 - `tps compile solution/book.cpp`
→ `scripts/compile.sh solution/book.cpp`
 - `tps verify`
→ `scripts/verify.py`
- Provides bash completion

Commands in TPS scripts

- verify
- compile
- run
- gen
- invoke
- make-public
- analyze

TPS Web Interface

- Task visualization
- Solution invocations
- Integrating with judging systems
- Discussion forum
- Secure file sharing
- Exporting final packages

TPS Development

- Available open-source on GitHub:
 - tps-cli:
<https://github.com/ioi-2017/tps>
 - tps-web:
<https://github.com/ioi-2017/tps-web>
- Feedback/Contributions are welcome.

Contributors

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Thank you!