Reference system

Description of the reference system being developed based on the specific architecture defined in the project.

Reference architecture

The reference implementation of the system is shown on the right. The setup shown here includes:

- **Reference Pillar**: The pillars implemented in the BitRepository system.
- **Communication**: The central infrastructure used in the coordination layer.
- **Reference libraries**: Can be used for implementing BitRepository components. The Reference pillar, services and webclient are based on these libraries.
- **Reference services**: The services running in the system for monitoring and aggregation information. All the reference services expose REST interfaces for accessing their functionality.
- **End-user client**: A typical client used by the end-user. The reference web client and command line can be used here for accessing the different functionalities in the system.

Reference code

- **Application design** — Description of the design of the reference Java system developed as part of the project.
- **Building the Bitrepository** — Here you can find information on how to use Maven based build environment to start development on the Bitrepository system.
- **Code guidelines** — Description of the code design we use in the application development
- **Setup of development environment** — Here you can the documentation need to setup a development environment

Reference pillar

The reference code based includes a full implementation of a pillar.

- **Checksum reference pillar** — Provides functionality for running a pillar with a copy of checksums for all files.
- **Full reference pillar** — Provides functionality for running a full pillar with files stored on disk.

Reference clients

Describes the clients in the reference code.

Reference services

Documentation on the concrete services in the reference implementation.

- **Alarm service description** — The alarm service responsibility is to listen for alarms, store and provide access to alarms and alert of received alarms.
- **Audit Trails Service description** — The audit trails service purpose is to collect, store, and secure audit trails, along providing access to them.
- **Integrity service description** — The integrity services purpose is to monitor the state of integrity on a per collection basis. This is done by periodically collecting information about files and their checksums on each pillar. Based on the collected information the state of integrity can be determined.
- **Monitoring service description** — The monitoring service is tasked with monitoring the availability and responsiveness of components in the repository, and sending alarms in case of discovered problems.

Reference settings

Defines the system settings for the reference components.

Reference libraries

The reference libraries serves as the basis of bitrepository.org http://bitrepository.org, and are used as building blocks for the higher level bitrepository.org http://bitrepository.org services and clients.