

Integrity service

Regularly collecting information about the files in the various pillars, and ensuring that the files are consistent.

 TODO: Obsolete, should be rewritten.

The processes of active bit preservation are essential for true bit preservation in the National Bit Repository. Thus, having a process implement these processes for every Service Level Agreement should be considered essential. This can be achieved, either by deploying the client developed for the National Bit Repository, or by implementing a different process for integrity checking.

The protocol contains functionality for [listing files](#), [retrieving checksums](#) of files in pillars, and [replacing damaged files](#) that can be used to implement this. This functionality area describes the communications and processes needed to ensure active bit preservation.

Integrity user stories

User stories for integrity can be divided into two scenarios:

Integrity communications

Integrity communication covers conversations to collect information about state from the pillars, and conversations to re-establish a consistent state. Furthermore, the integrity will have communication to raise alarms and store logs and audit trails.

- [Collection communication](#)
- [Re-establish communication](#)
- [Integrity log communication](#)
- [Integrity alarm communication](#)

Integrity Client processes

The integrity processes serve to cover collection of information, check of integrity based on collected information, re-establishment of integrity, as well as logging and alarming based on the other processes.

- [Collect integrity inf. process](#)
- [Check inf. is up-to-data process](#)
- [Integrity check process](#)
- [Correct integrity errors process](#)
- [Log integrity inf. process](#)
- [Re-establish inf. process](#)
- [Integrity Cache database](#)
- [Update according to changed SLA](#)

Integrity Pillar requirements

Pillar requirements for integrity mostly correspond to the requirements from the used functionality, but restore after a mass loss may introduce new requirements.

Design Decisions - Integrity







Integrity design discussion

Unresolved issues - Integrity

Integrity service settings

Describes the configuration options found in the Reference settings.

Outstanding issues (16 issues)

| T | Key | P | Summary | Status | Fix Version (s) |
|---|-----------------------------|---|---|-------------------|----------------------------------|
|  | BITMA G-777 |  | Create Integrity command line client | OPEN | Iteration later, Candidate trash |
|  | BITMA G-822 |  | Create Integrity service integration test | OPEN | Iteration later |
|  | BITMA G-903 |  | Statistics should be based on slices based on the file timestamps | OPEN | Iteration later |

| | | | | |
|--|-----------------|--|-------------------------------------|-------------------------------------|
|  | BITMA G-938 |  Integrity reports should contain a listing of new files detected in the repository | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-951 |  It should be possible to view the integrity configuration in the integrity GUI | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-952 |  Merge getFileIDs and getChecksums into one operation | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-953 |  Implement tests for the new Integrity workflow tests | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-961 |  Improved integrity reports | <input type="button" value="OPEN"/> | |
|  | BITMA G-1017 |  Automatic and semi-automatic database migration test | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-1122 |  Rewrite integrity service to use GetFileInfo | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-298 |  Implement Integrity restore functionality | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-786 |  Missing test for Integrity service audit trail | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-829 |  Next and last run in integrity GUI should be persistence | <input type="button" value="OPEN"/> | Iteration later |
|  | BITMA G-860 |  Improve the IntegrityService's handling of new/removed pillars in collections | <input type="button" value="OPEN"/> | Iteration later, Candidate trash |
|  | BITMA G-1054 |  IntegrityDatabase fails with lock-timeout on Derby | <input type="button" value="OPEN"/> | Maybe trash |
|  | BITMA G-1085 |  Collection of FileIDs and Checksums in integrity service should be done independently for each pillar | <input type="button" value="OPEN"/> | |

16 issues