Perennity v7 reporting and audit logging framework

The purpose of this document is to establish a foundation for adding reporting capabilities to Perennity. Until now Perennity only provided limited reporting, e.g. through Jaspersoft based reporting in the Burner GUI and HIPAA audit logging in a text file (optional with BurnerWeb only). This reporting framework aims at providing a web based reporting interface, with flexible export capabilities (e.g. for invoicing by a third party application). Ideally the reporting should be configurable as to which fields should be included (see Detailed Reports section hereunder). The interface should offer general (summary, statistics) views en detailed views.

These are the Perennity modules for which reports could be interesting (in order of importance, whereby the three first ones are most essential):

Server/Portal
- overview of studies received/published (may be needed for invoicing purposes)
  - incl size (data capacity) and type (modalities) of studies published
- numbers per day/month/year
  - day -> detailed report (list of studies received, with detailed information)
  - month/year -> statistics, incl. charts

Media Burner
- overview of discs or USB keys produced (may be needed for invoicing purposes)
  - incl. media type/capacity (e.g. CD, DVD, USB 16GB...)
  - incl. size of studies (data capacity)
- numbers per day/month/year
  - day -> detailed report (list of studies published, with detailed information)
  - month/year -> statistics, incl. charts

Transfer
- overview of studies sent to and received from other site(s)
  - incl. size of studies (data capacity)
  - per site statistics (to/from)
- numbers per day/month/year
  - day -> detailed report (list of studies sent/received, with detailed information)
  - month/year -> statistics, incl. charts

Forwarding
- overview of studies forwarded to other DICOM nodes
  - incl. destination node (AET)

- numbers per day/month/year
  - day -> detailed report (list of studies forwarded, with detailed information)
  - month/year -> statistics, incl. charts
- Only usable in case forwarding orders are safeguarded in the forwarding table!

Study sharing
- overview of studies shared
- numbers per day/month/year
  - day -> detailed report (list of studies shared, with detailed information)
  - month/year -> statistics, incl. charts

Notifications
- overview of sent emails by type
- detailed overview per physician
- emails in error

Replication
- overview of number of replicated files
- replication errors

Data cleaning
- overview of deleted studies
- detailed view shows detailed info about studies deleted and how (automatic based on retention rules, manual by administrator)
- deletion errors

Permissions
- overview of number of studies assigned to physicians
- detailed view shows studies assigned to particular physicians
- permission assignment errors

Security reports
- bottom line: who accessed what, when, from where, which actions were done (view, create CD/DVD, download...)
- security is a major issue nowadays (e.g. HIPAA), our software must be secure and we must be able to provide proof of that

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Detailed reports
- Make the detailed reports configurable with respect to fields to be shown
  - patient tags: name, ID, sex, birthdate,...
  - study tags: study UID, study description, modalities

- - Media Burner: disc capacity used, number of studies per disc, number of images per disc
  - Server/Portal: size of published studies, number of images of published studies
- From...To... date filter
- Export detailed reports to csv, xls, html, txt, json, xml...
- Option to print report
- Automatically send reports by email (e.g. after each month for invoicing purposes)
- Reports must include site ID (serial number)

Check https://portal.gtitmedical.com as example (Reports and Statistics at the bottom left)
Login: admin
Password: Demo2021!

References:
https://beenegarter.com/different-types-of-audits/
https://inspiredelearning.com/blog/hipaa-violation-examples/