HTTPS for SRM

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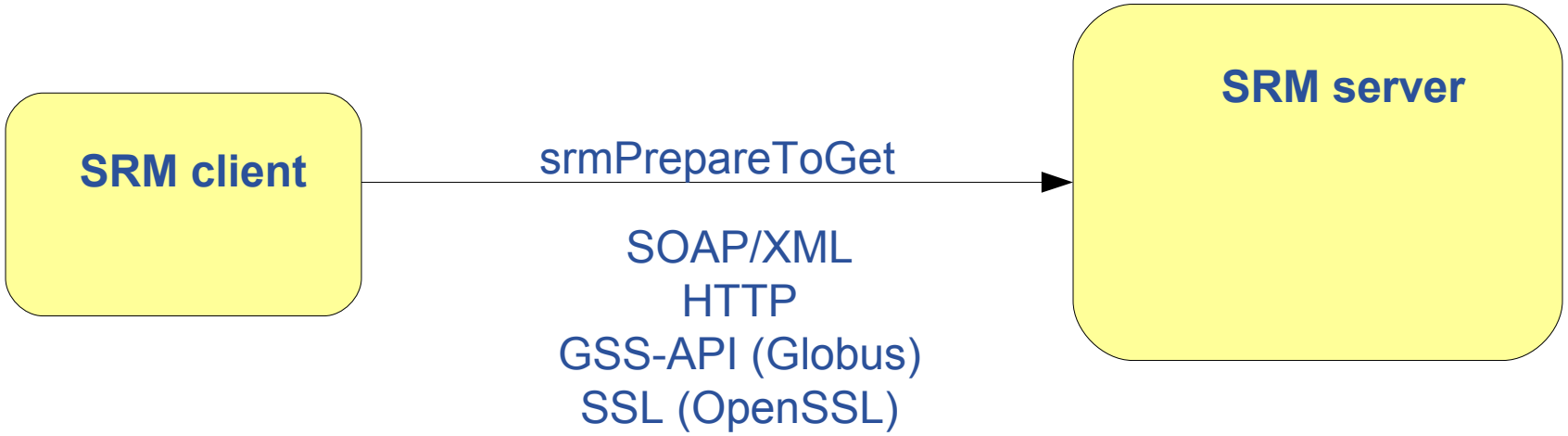
What is SRM?

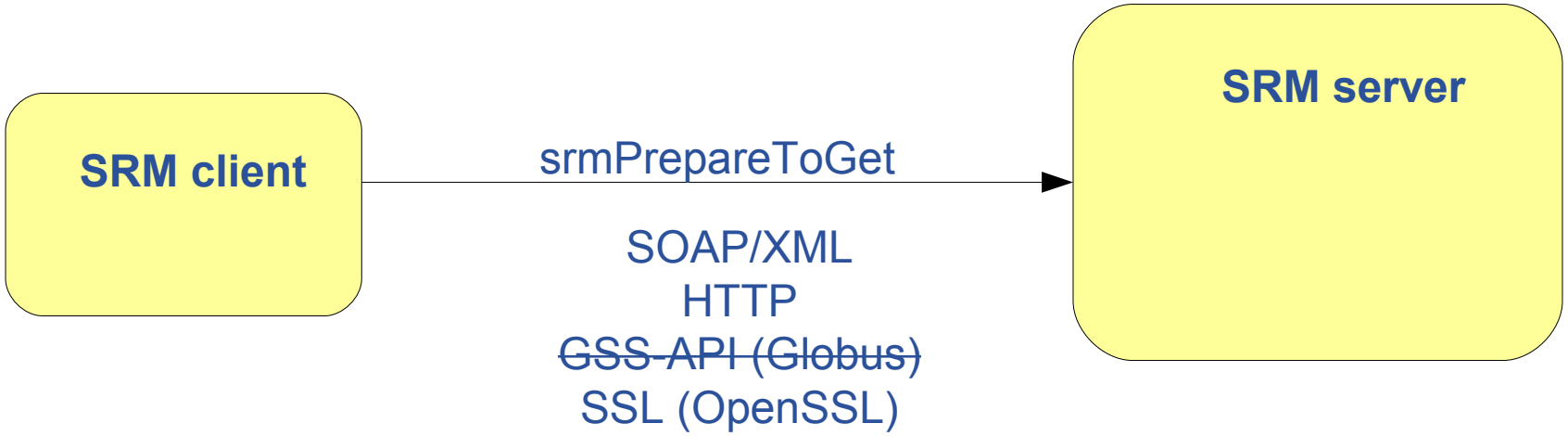
- **Storage Resource Management interface**
  - OGF standard SOAP interface
  - Space management
  - File access (get, put)
  - Name-space handling (ls, mkdir, rmdir …)
- **Implementations**
  - CASTOR (CERN, RAL)
  - DPM (CERN)
  - dCache (DESY, FNAL)
  - BeStMan (LBNL)
  - StoRM (INFN, EGRID)

SRM with HTTPG



- **Acronyms**
  - HTTPG=HTTP via GSI
  - GSI = SSL via GSS-API
- **Reason: delegation**
  - srmCopy
  - authentication with back-end (BeStMan)

SRM with HTTPS



Benefits

- **SSL only clients (Python, third party implementations)**
  - Migration: HTTPG still needs to be supported for years
- **SSL context reuse – performance improvement**
  - Migration: both HTTPG and HTTPS servers for years
- **Simplified maintenance in the long term**

Migration roadmap

- support in servers (HTTPS, HTTPG)
- publishing in information system
- support in clients (HTTPS, HTTPG)
- all servers support HTTPS
- HTTPS only clients
- all clients support HTTPS
- HTTPS only servers (3-5 years...)

Status and Open Issues

- **Agreed in the DESY SRM workshop 2009 May**
- **Prototype based on DPM and GFAL/FTS**
  - Feasibility and performance proof
  - Example code for others
- **Delegation alternatives**
  - Not using delegation
  - Using gLite/GridSite delegation (see FTS)
- **Publishing new HTTPS endpoints**
  - Backward compatibility with existing clients!