

Exporting data from your experiment site: LHCb experience

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Problem definition

Online



?



Offline



DIRAC

THE INTERWARE

Problem definition

- **As many different problems as VO**
- **Still, some common points**
 - Make the file available on the grid
 - Remove it from the source storage?

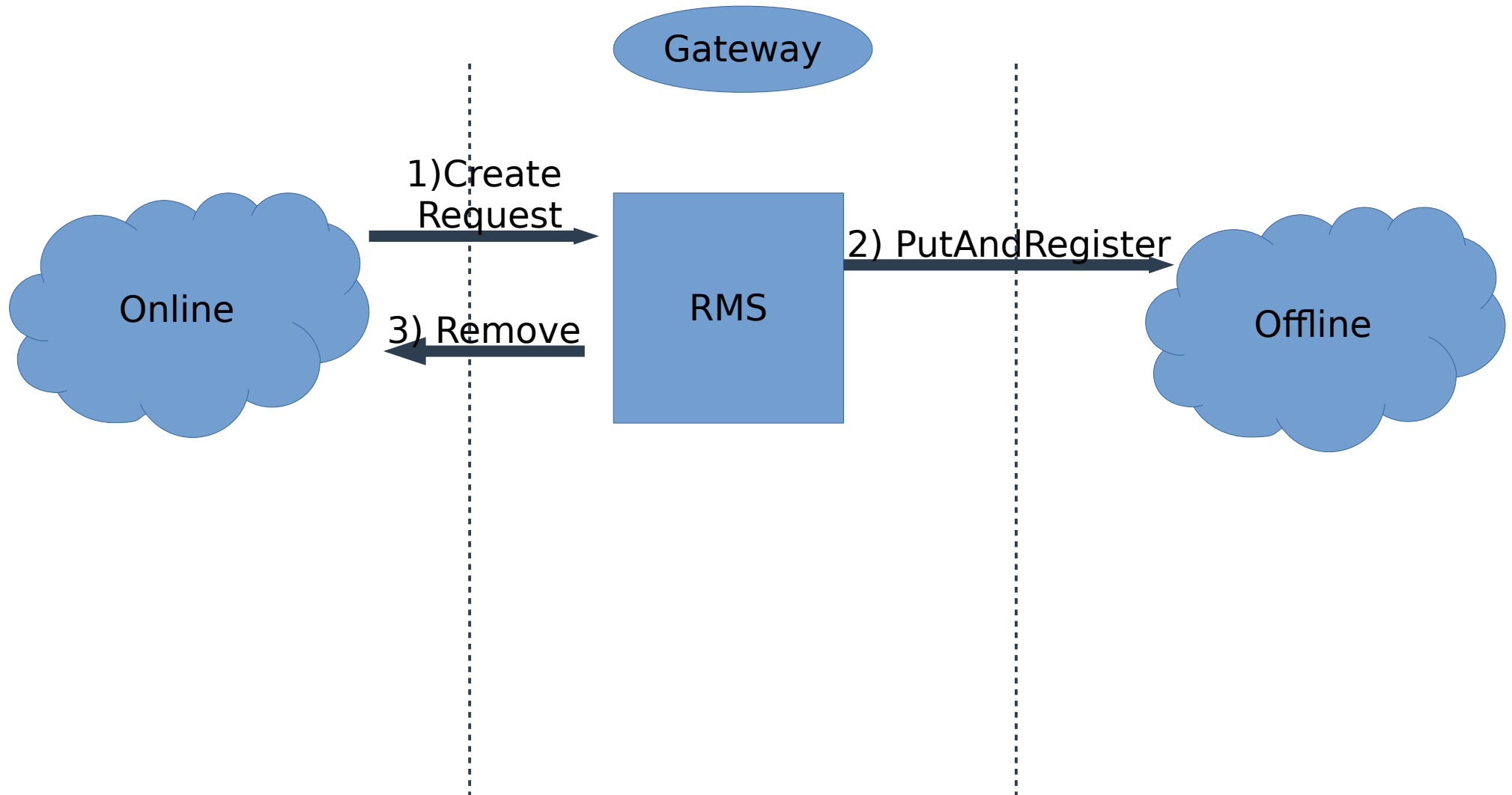
Requirements

- **You need a gateway**
 - Has access to (part of) the Online realm
 - Has access to (part of) the Grid realm (DIRAC installed, has a certificate, etc)
 - Has direct access to the files (NFS or any POSIX mounted FS will do)

Vanilla DIRAC solution

- **The Request Management System is the solution:**
 - Can “take a file and upload it”
 - Can “remove a local file”
 - Just one Request with two operations
- **More details [here](#)**

Vanilla DIRAC solution



Where things get tricky

- **Step 1: create request. How ??**
 - Your Online software can use DIRAC calls
 - Find a common interface (Message queue, db, file, etc)
 - Exotic solutions (inotify, etc)

LHCb (old) solution

- **Pretty much what I described before...**
- **.. but a bit more paranoid**
 - Verifies that the file is properly migrated on tape before moving on (RAWIntegrity system)
 - Asynchronous removal done by the Online code
- **Direct calls between Online code and LHCbDIRAC**
- **Details here (ADD LINK)**

LHCb solution

- **Changes driven by filesystem performance issues**
- **RMS removed, replaced by synchronous transfers**
 - DataManager class exposed via pure xmlrpc
 - Retry logic already in the Online software
 - Direct from memory copy
- **RAWIntegrity logic stays the same**
- **Details here (ADD LINK)**

