



**Collaboration over datasets replication
CINES/BnF**

**Olivier Rouchon (CINES)
Laurent Duplouy (BnF)**

{ BnF

Context and objectives

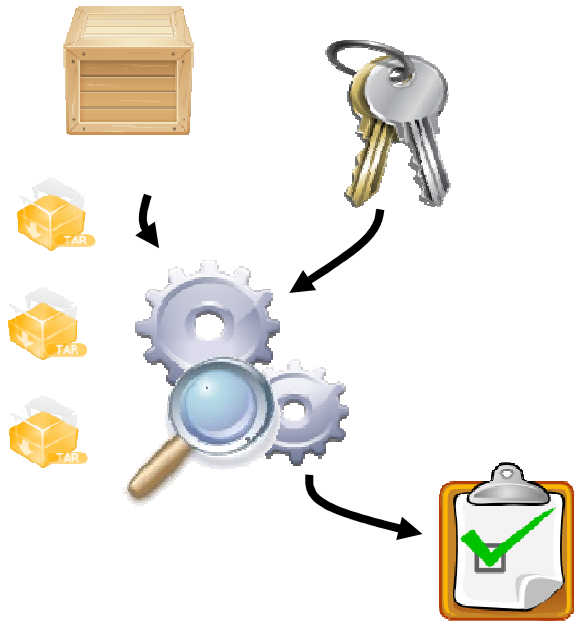
- Have a third storage site to :
 - Take away data from the main site (over 500 km)
 - Improve the disaster recovery plan
 - Have high security for preservation data
 - Decrease risk of catastrophic events (eg. Magnetic bomb attack, earthquake, epidemic disease, ...)
- In a win-win context

Requirements / Specifications (1)



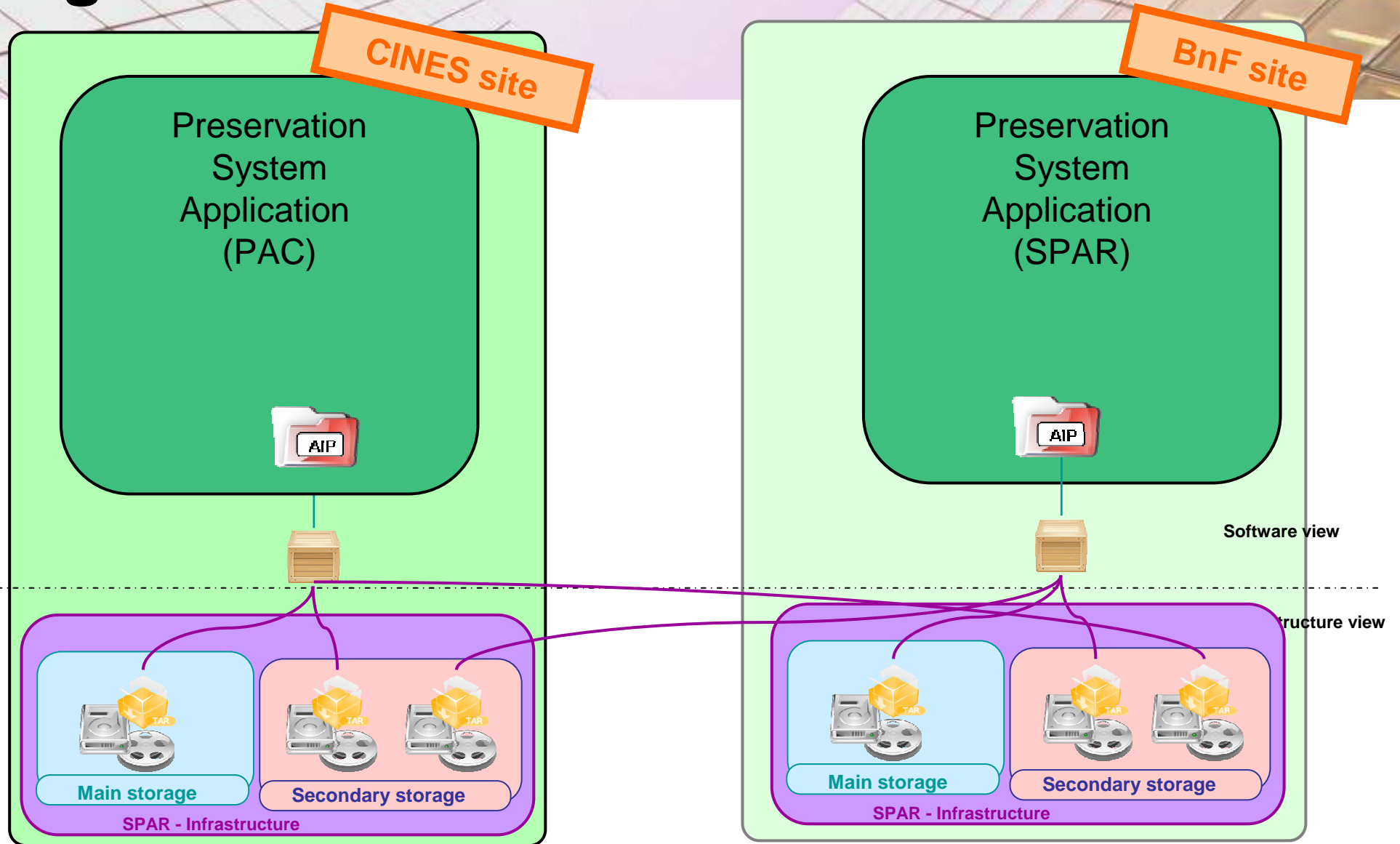
- Ensuring storage sustainability
- Ensuring manufacturers independence
- Ensuring the infrastructure changes seamlessly
- Managing technological obsolescence
- Decoupling logical and physical storage

Requirements / Specifications (2)

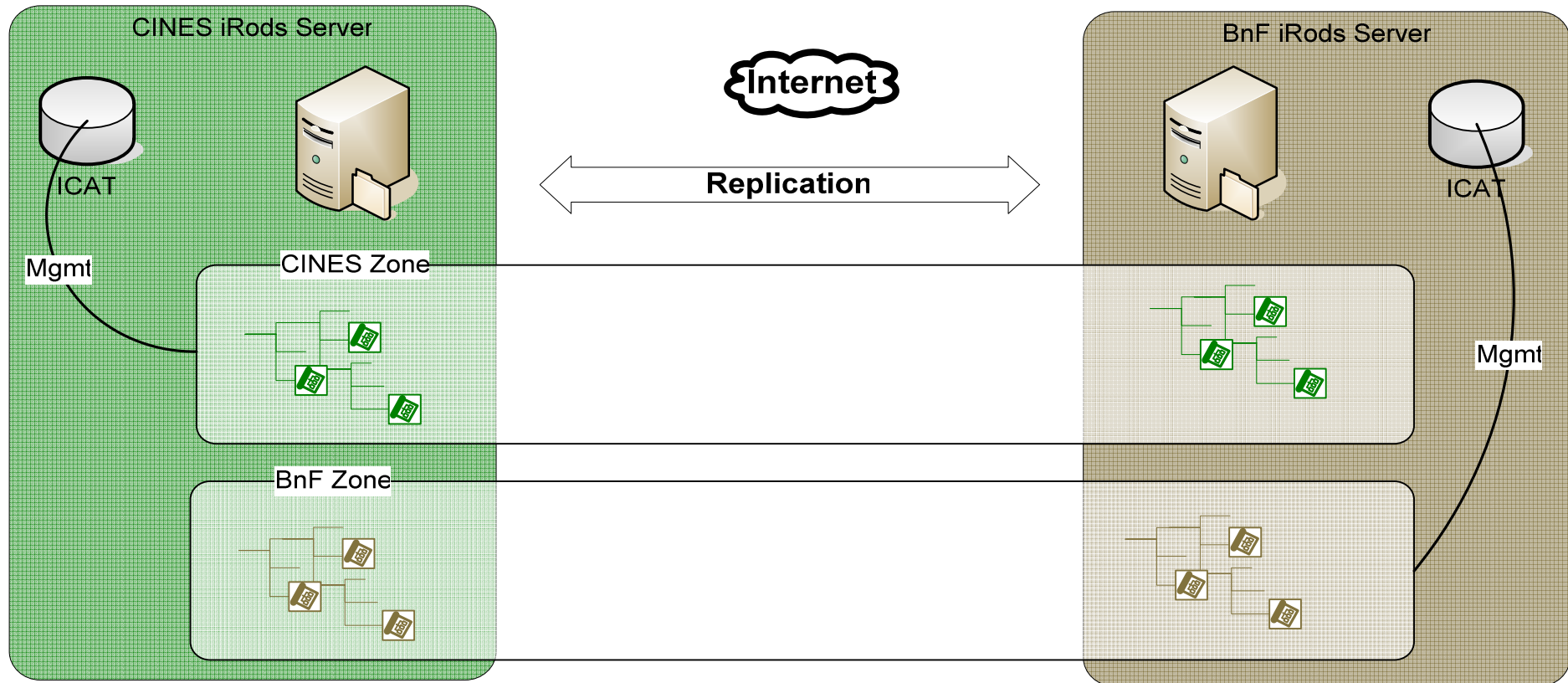


- Secure transaction between the two site through VPN
- Ensure records integrity for each I/O (via irules)
- Audit by irules according defined policy
- Automate various replications and copies of records
- Ensure audits of records
- Implement self-healing in case of corruption
- Manage site remotely

Logical view



Technical view



Opportunity

- Building block for a cross institutional cloud storage
- Establishing the French iRods community
- Demonstrate win-win situation
- Share / spread knowledge on iRODS

Lessons learnt

- Difficulties to kick-off the project
 - Different understanding of the objectives on both sides
 - Different level of expertise on the technical solution (iRODS)
- Once overcome, quick progress with planned activities
- Win-win case (1 for 1 Tb archived) needs careful / recurrent planning

Next steps

- Consolidate the proof of concept
- Replicate real production data
- Open grid to other repositories
- ...