



SRM over SSL

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Setting the scene

- **SRM**
 - for managing storage
- **GSI**
 - V similar to **SSLv3** but incompatible
 - Clients can delegate
- **Delegation**
 - Allows **SRM** server to act “on behalf of” end-users
 - Creates key-pair on server



Why delegate?

- 3rd party copy

`srmCopy`

- Reserving bandwidth

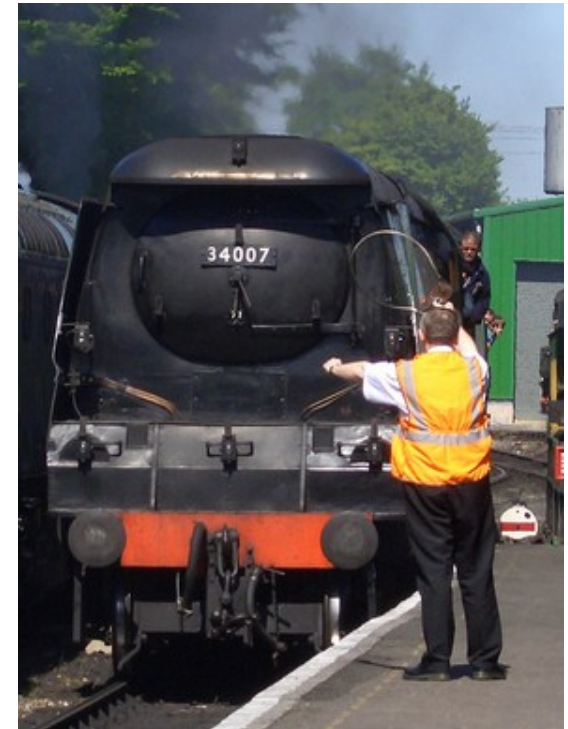
`srmPrepareTo(Get|Put),`
`srm(Get|Put)Done, srmCopy`

- X.509 backed tape

`SrmBringOnline, srmPrepareTo(Get|Put),`
`srm(Get|Put)Done, srmCopy`

- Federated SRM

Everything except `srmPing`.



Why switch from GSI to SSL?

- GSI is **not a standard** (SSLv3 is)
- Coupling delegation with transport negotiation is **inflexible**.
- It's **not widely used** outside of Grid
- Only libraries are coming from a **single vendor**: Globus
- Hard to add advanced features; e.g., **no hardware acceleration**.

What to do about delegation?

- If delegation isn't needed then SSLv3 works fine.
- Delegation requires extra functionality
- Solution is a “service” that allows delegation.



(NB. we're **not** talking about a single, per-site shared service; rather, each service has a common extra API)

Delegation Services

Name	Tech.	C / Native		Java / JVM		Supported
		Client	Server	Client	Server	
Globus Credential Delegation Service	SOAP	Y	Y	N	N	N
GridSite Delegation Service	SOAP	Y	Y	Y	Y	Y
Globus New Delegation Service	REST	N	N	N	N	Y
IVOA Delegation Service	REST	N	N	Y	Y	M

Current status

- Agreement on SRM-over-SSL
- Servers:
 - Available in EMI-1 as prototype
 - No delegation support.
 - Initially dCache,
 - DPM in 2011Q4
 - Due to some refactoring, StoRM starting work in May.
- Clients:
 - Prototype support in dCache clients

Future plans

- Remain **backwards compatible**:
 - Servers will run both GSI and SSL
- SSL support in **all SRM servers software**
 - Move from prototype to production
- Add delegation support
- All clients to support SSL
- Everything ready for EMI-2 (April 2012)



Thank you!

EMI is partially funded by the European Commission under Grant Agreement RI-261611