



# 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?

- 3<sup>rd</sup> party copy

srmCopy

- Reserving bandwidth

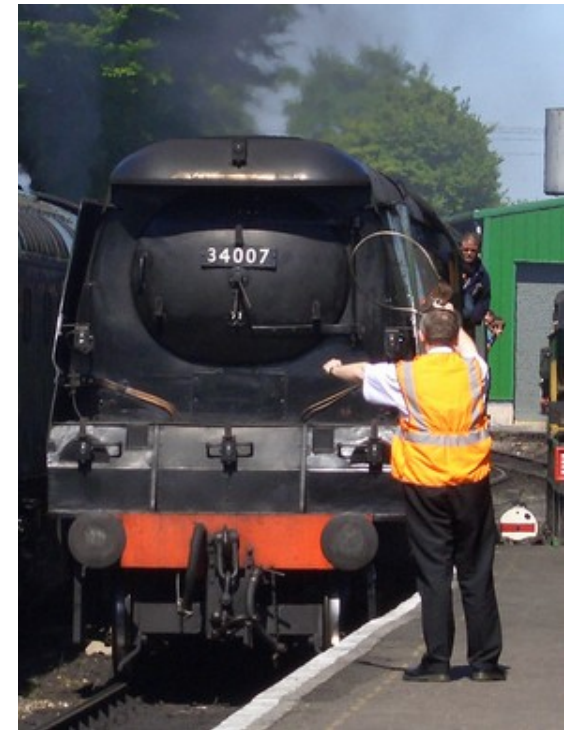
srmPrepareTo(Get|Put),  
srm(Get|Put)Done, srmCopy

- 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	<b>SOAP</b>	<b>Y</b>	<b>Y</b>	<b>N</b>	<b>N</b>	<b>N</b>
GridSite Delegation Service	<b>SOAP</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>
Globus New Delegation Service	<b>REST</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>Y</b>
IVOA Delegation Service	<b>REST</b>	<b>N</b>	<b>N</b>	<b>Y</b>	<b>Y</b>	<b>M</b>

# Current status

- Agreement on SRM-over-SSL
- Servers:
  - Available in EMI-1 as prototype
    - No delegation support.
    - Initially dCache,
    - DPM in 2011Q4
    - StoRM starting work in May, expect for EMI-2 (April 2012)
- 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!

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