



Fact-Sheet UNICORE 6 alpha (“UAS”)

Context

- UNICORE Grid Middleware
- System for managing Grid resources and computational jobs

Description

- One experimental implementation of UNICORE 6 alpha (Java 5 version)
- System running an embedded XNJS as UAS execution backend
- WSRF-Lite as WS-RF implementation and hosting environment
- System supports different file transfers: Baseline, RandomByteIO, StreamableByteIO
- The UAS can be used with the GPE application client

UAS Architecture

- Main class to start is `de.fzj.unicore.uas.UAS`
- UAS Supported File Transfers:
 - BaselineFileTransfer: `de.fzj.unicore.uas.fts.BaselineFileTransferImpl`
 - RandomByteIO: `de.fzj.unicore.uas.fts.byteio.RandomByteIOImpl`
 - StreamableByteIO: `de.fzj.unicore.uas.fts.byteio.StreamableByteIOImpl`
- Uses common modern libraries such as commons*, stax, xerces, jetty, picocontainer, xfire, ...
- WSRF Lite libraries represent the WS-RF implementation for the UAS architecture
- Sideremark: This WSRF-Lite is completely independent from the perl WSRF::Lite from OMII-UK
- HSQL is used for persistency, a java-based database (<http://www.hsqldb.org/>) like Apache Derby
- XNJS libraries represent the XNJS as embedded UAS backend

Configuration

- **policy.xml**: XNJS security policy file (e.g. deny anonymous job ctrl., anybody can query job status)
- **roles.properties**: password to role mapping
- **simpleidb**: an XML-based example IDB with preinstalled applications defined in JSDL (<POSIXAPPLICATION>), furthermore several TargetSystemProperties (e.g. TotalCPUCount)
- **uas.config**: config file for UAS, e.g. WSRF-lite config path, XNJS configuration, embedded or legacy TSI, Registry locations, UAS Targetsytem-sitename, path to default storage server, one single XNJS for all Targetsystems, UAS security handler
- **wsrflite.xml**: Configuration of WSRF-Lite for the usage with UAS, e.g. Persistency settings for HSQLDB (or memory), ssl settings, “services deployment” such as the UAS services and Registry
- **xnjs.xml**: XNJS Engine configuration, TSIFactory, Execution, ResourceChecker, Authenticator, PolicyManager, ActionStorageFactory, ProcessingChain (JSDL, JSDL_STAGEIN, JSDL_STAGEOUT) – other XNJ properties: filespace, statedir, idbfile, numberofworkers, policy file

Links

- <http://www.unicore.eu>

Contact

- Bernd Schuller, FZJ, Germany (b.schuller@fz-juelich.de)