

GIN – Update

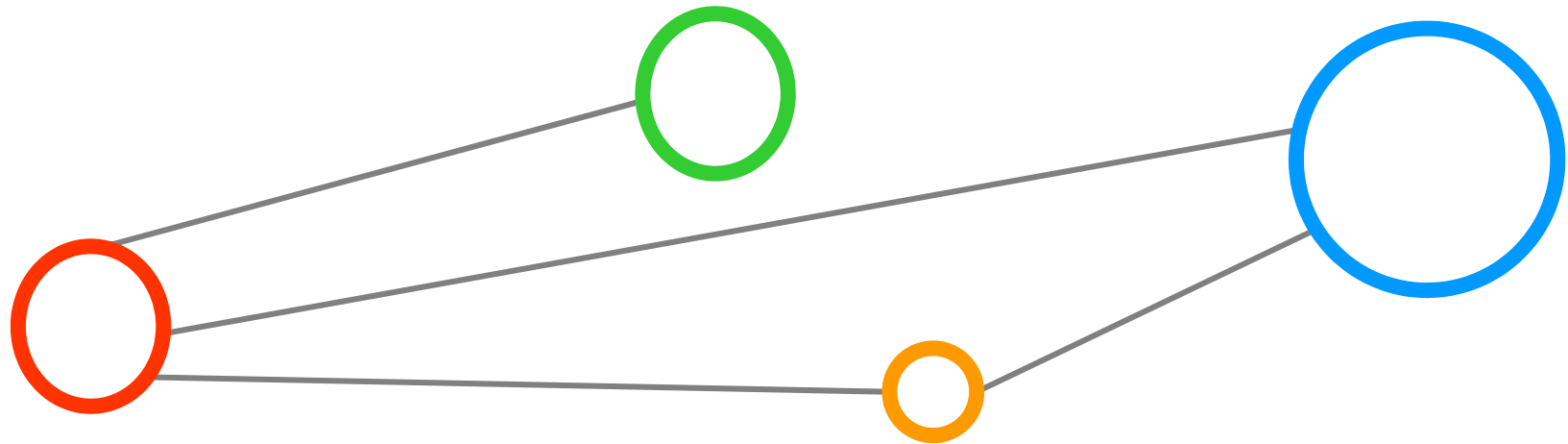
Grid Interoperation Now (GIN)
Community Group
Morris Riedel

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Outline

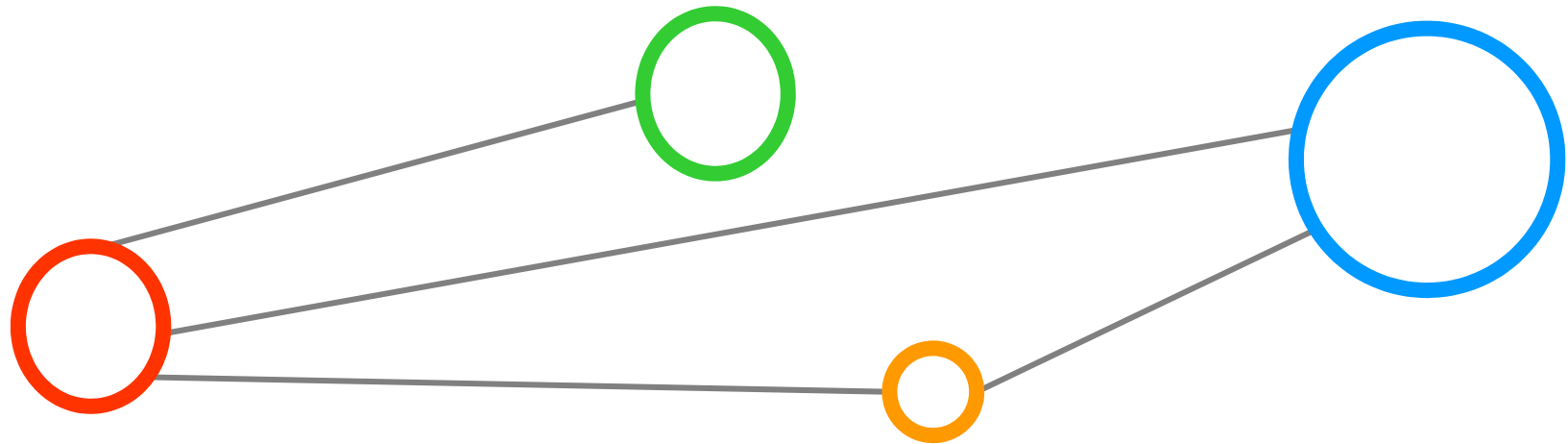


Outline

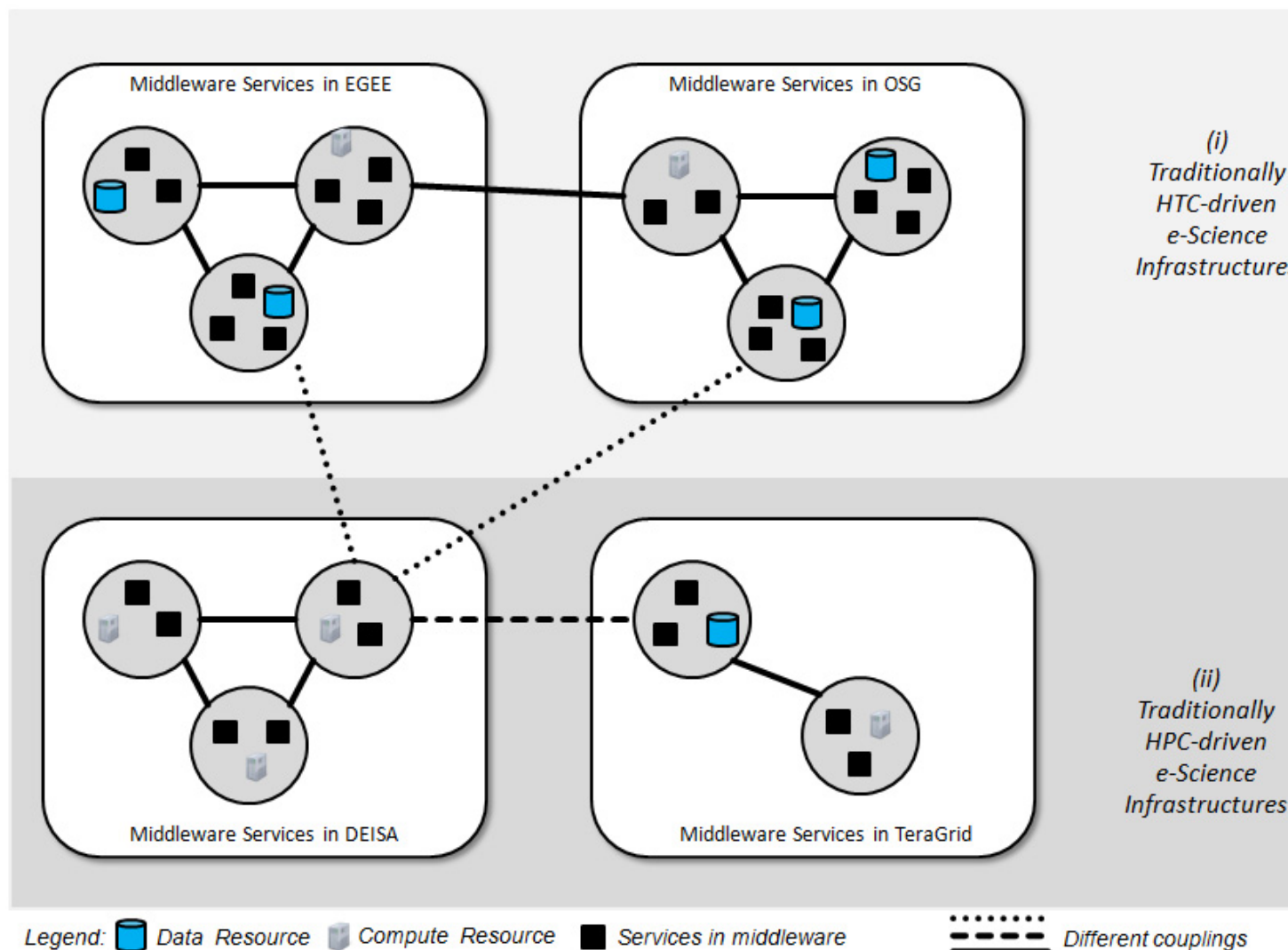


- Welcome & GIN Activities
(Morris Riedel)
- SAGA in context of BES-DEMO
(Andre Merzky)
- ExTENCI Updates
(Dan Katz)
- CHAIN & China Interop Activities
(Giuseppe Andronico)
- EMI Interop Updates
(Morris Riedel)
- RENKEI Updates
(Kazushige Saga)
- EDGI Interop Updates
(Etienne Urbah)

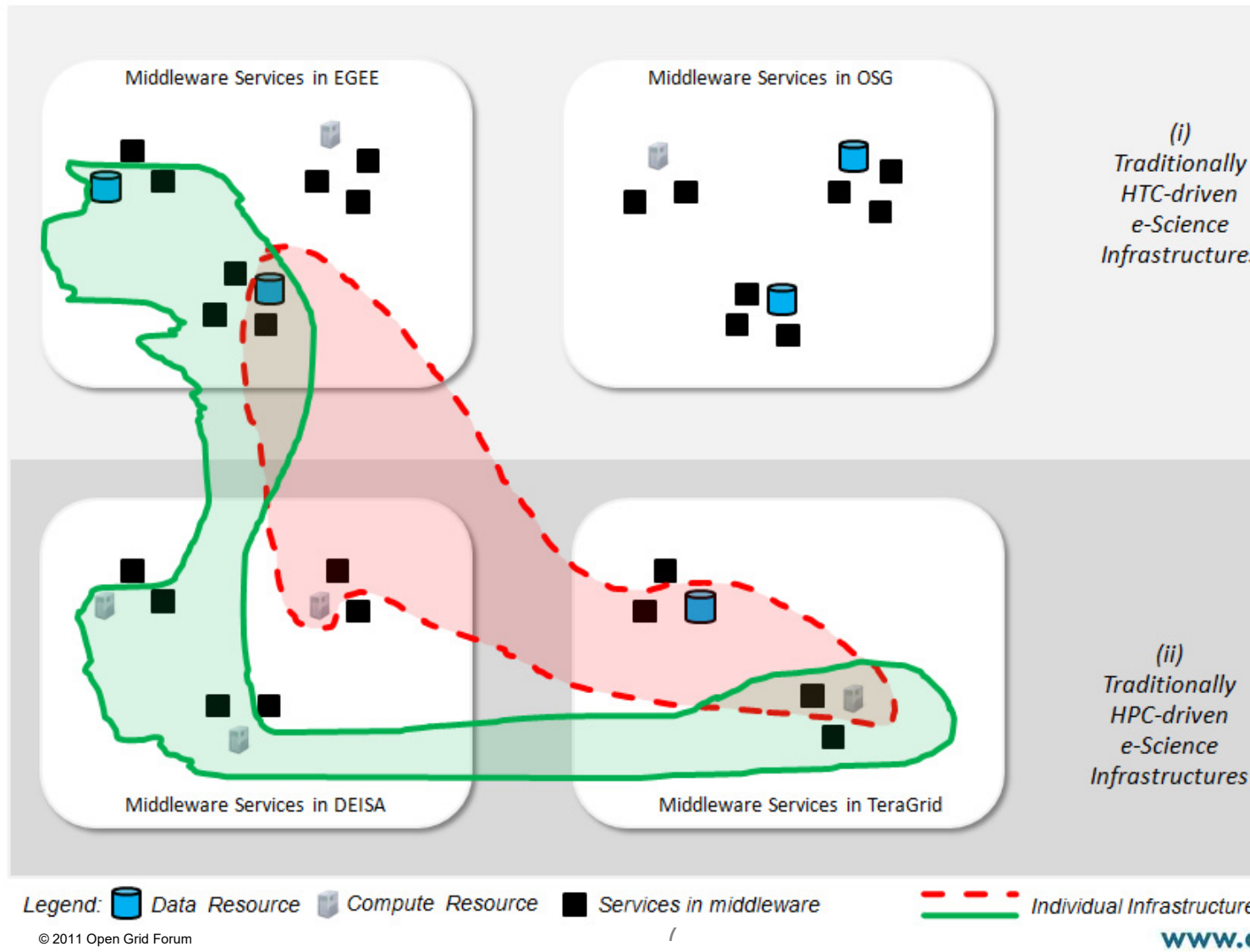
Welcome and GIN Activities



State-of-the-art



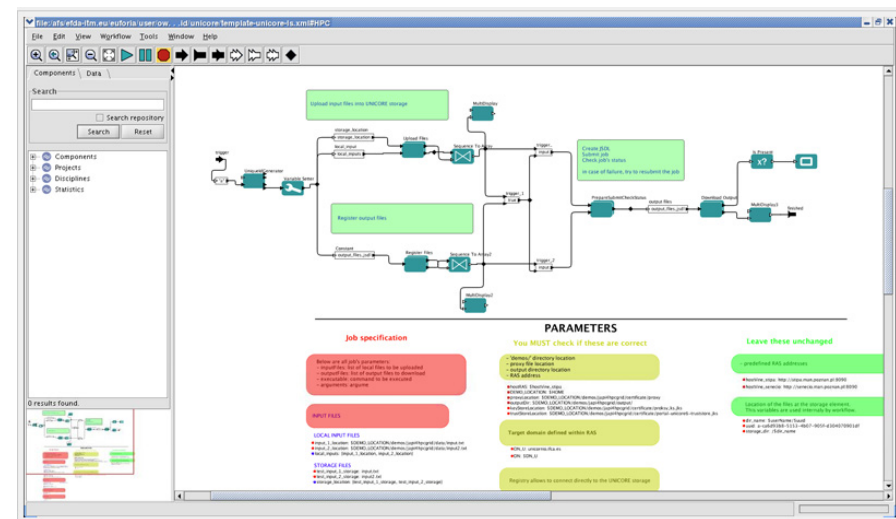
Goal: Network of interoperable Grids



Fusion Science Demonstration



- Interoperability between HPC and HTC computational paradigms
- Applications from the Fusion community
- Using Kepler workflow
- tool with UNICORE & gLite



- Tutorial available:
<http://scilla.man.poznan.pl:8080/confluence/display/uforia/Executing+Grid+workflows>

BES-DEMO History & Plans

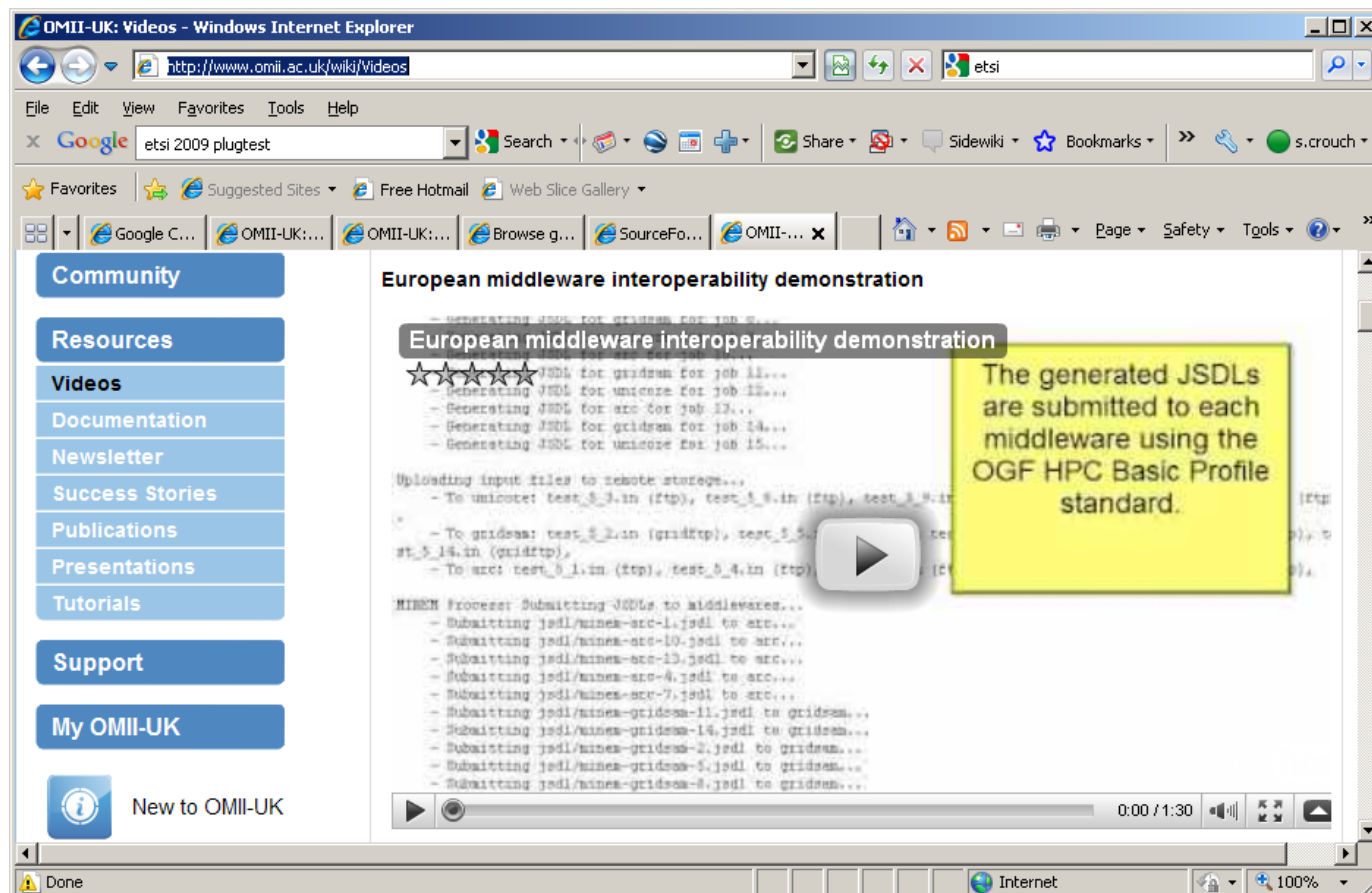


- GIN members demonstrating BES in action with multiple middleware and applications
- Initially shown at OGF27, Banff, Canada, Oct 09
- SuperComputing, Nov 09
- ETSI Plugtests, FZJ, UK AHM, Dec 09
- OGF28, OGF30
- Recent Discussions to extend the demo
 - Other applications
 - More middleware
- Plan demo at Supercomputing 2011 and OGF33

BES-DEMO Video Available



- Video at <http://www.youtube.com/watch?v=C0UGZ6V8nNM>



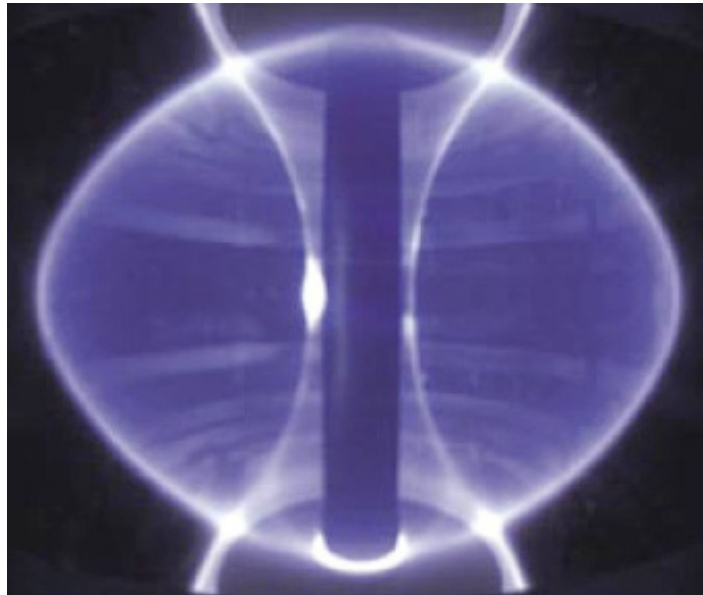
Standards in Use



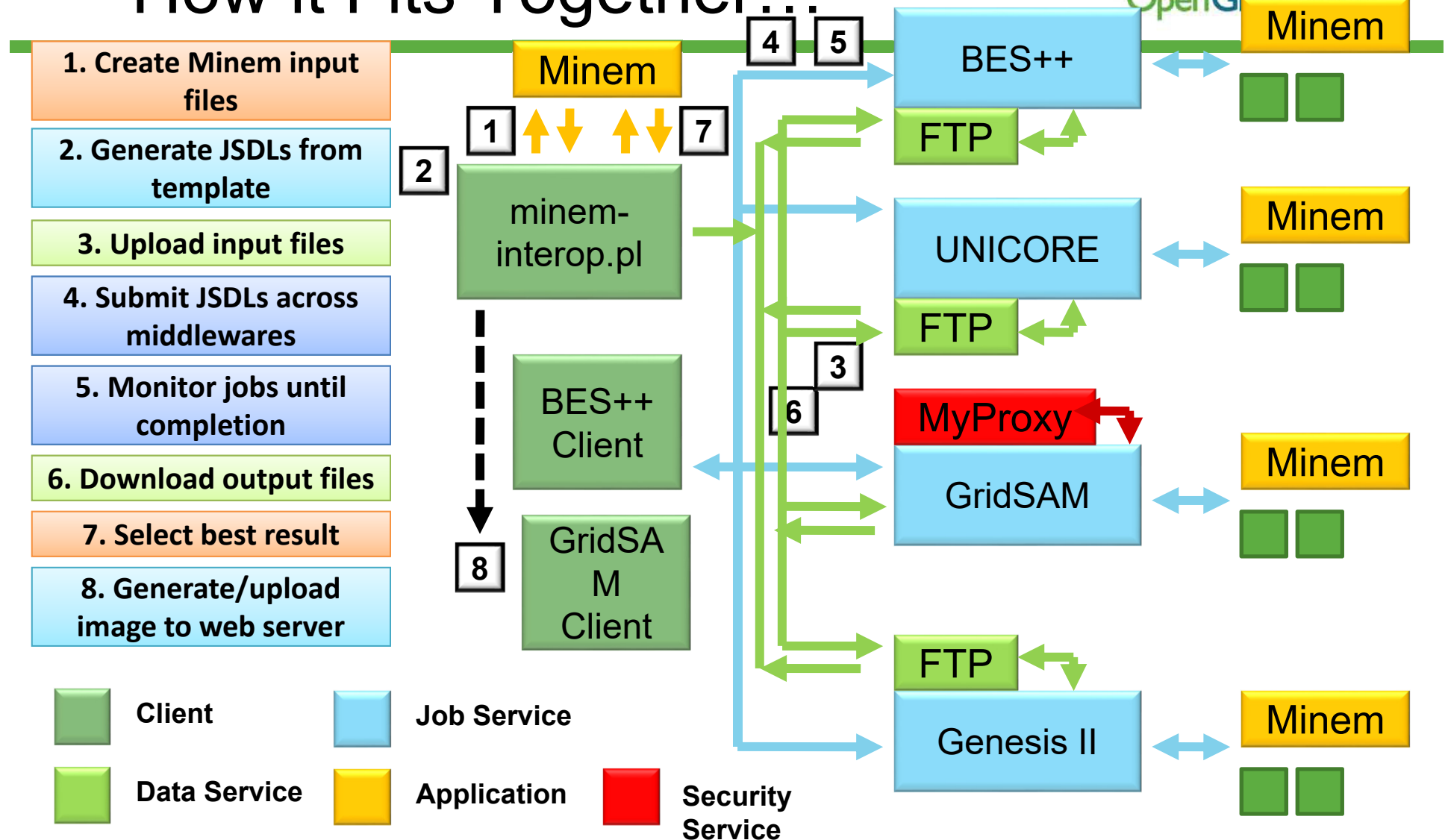
- HPC Basic Profile v1.0
 - OGSA BES (Basic Execution Service) v1.0
 - JSDL (Job Submission Description Language) v1.0
 - HPC Profile Application Extension v1.0
- HPC File Staging Profile
- Data protocols used is ftp
 - Only suitable common protocol across all platforms!
- Security:
 - Direct middleware
 - certificate CA trust (just import CAs)
- Application:
 - Physics: Plasma Charge Minimization
 - Total system energy minimization of point charges around the surface of a sphere

Plasma Physics Application

- Physics: Plasma Charge Minimization
- Total system energy minimization of point charges around the surface of a sphere
- Takes advantage of multiple HPC-BP endpoints



How it Fits Together



Client/Service Compatibility



Service	BES++ Client		GridSAM Client	
	Invocation	Application	Invocation	Application
ARC	✓	✓		
BES++	-	-		
Genesis II	✓ (working solution!)	✓ (working solution!)	✓	✓
GridSAM	✓	✓	-	-
MS Compute Cluster	✓		✓	
RENKEI				
SMOA Computing	✓	✓	✓ (working solution!)	✓ (working solution!)
UNICORE	✓	✓	✓	✓

Demo Extension (1)



- Use LSU SAGA Client
 - SAGA BES adapter currently in development (File-staging work in progress)
 - Schedule across BES/non-BES endpoints (i.e. Globus, gLite)
- Initial GLUE2 service discovery
 - e.g. using Grimoires service has prototype support for GLUE2 XML Rendering
 - Move towards compliance testing
- Resources:
 - Move to production grid infrastructures where possible

Demo Extension (2)

- Interface:
 - Driven through a workflow engine
 - e.g. Taverna 2 Application abstraction to be able to interface other applications
- Security:
 - Currently, 'Static' trust set up of security
 - Proper VO set up (attribute-based authorization?)

Next Steps

- Prepare for OGF33 demonstration
- Fusion Demo – Check who is on board?
 - Morris & Marcin
- BES Demo - Check who is on board?
 - Morris & Steve & Shahbaz, others?
 - Do we have time for extensions?
 - A couple of Production Sites more
 - XSEDE demo: UNICORE & GENESIS (not much preparation)
 - PRACE
 - HPC- file Staging Extension (FSE)
 - FutureGrid (Demo infrastructure already included)
- Prepare for SC2011 demonstration
- Check who is on board?
 - Morris, others?
 - Do we have time for extensions?
 - Goal: FSE with SAGA (Shahbaz, Steve, etc.)

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