



# Educational Grid infrastructure: status and plans

Round Table: Innovative IT education: Experience and Trends  
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# Grid education activities

## Semestral educational course in Dubna University

- 3 years of successful experience, more than 200 students
- Grid basics
- gLite middleware
- practical work in the Grid
- scientific research activities of students and PhD students



## Semestral educational course in JINR University Center

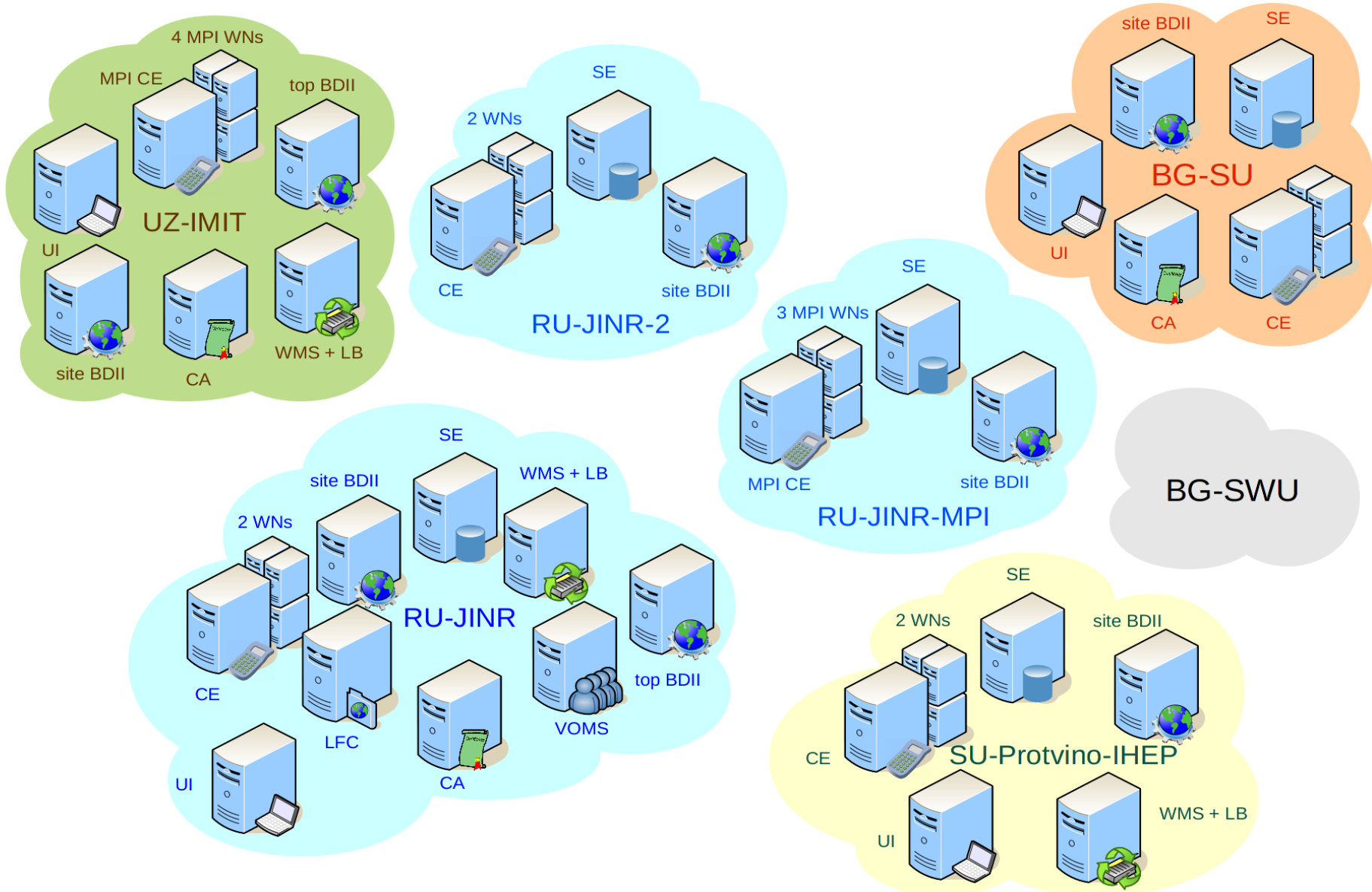
- focus on research activities
- train physicists for their practical work in the Grid



## Grid administrators training courses (on demand)

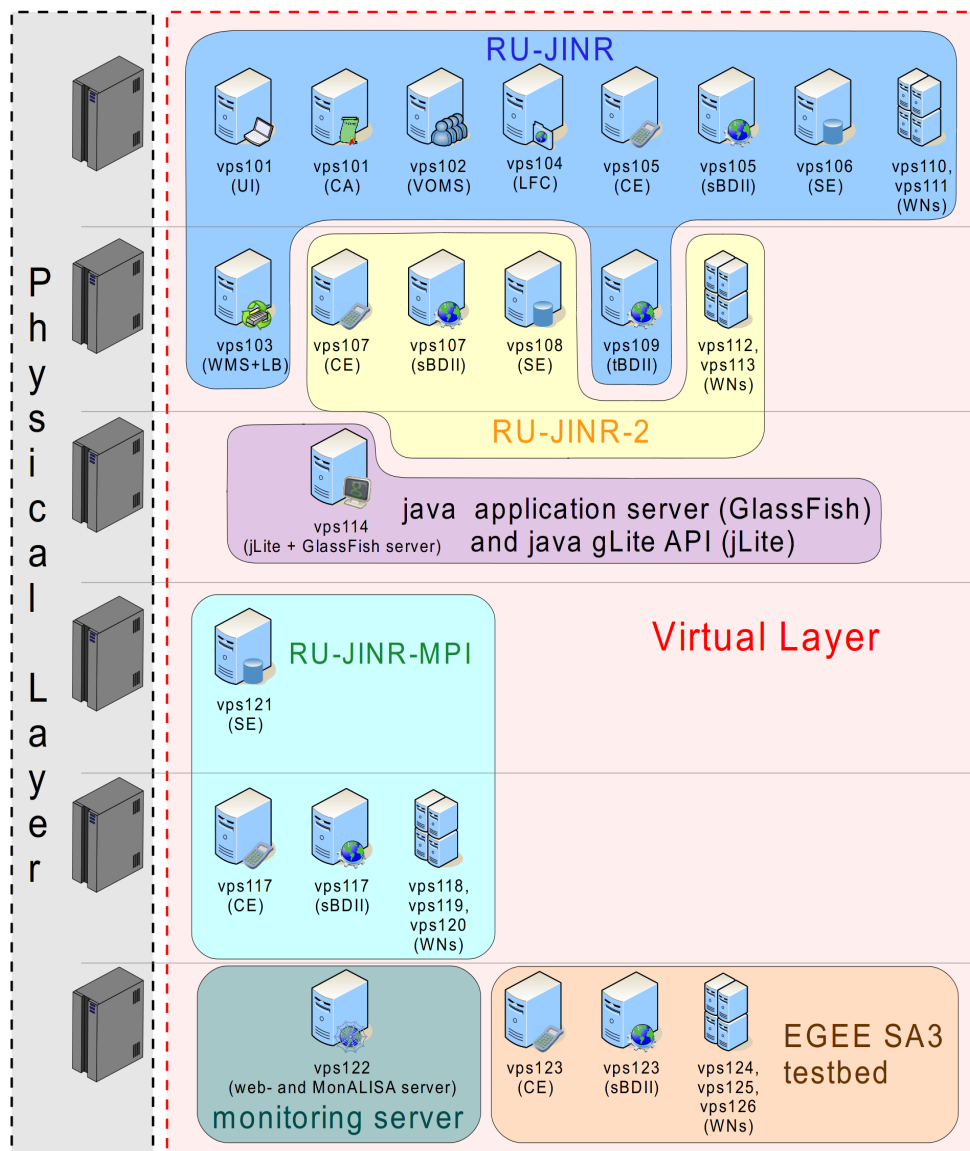


# Distributed infrastructure





# Inside the machinery



- 6 working sites already
- Some services are deployed on virtual hosts
  - JINR: OpenVZ manager - 6 physical servers, 27 virtual nodes, 3 grid sites
  - Tashkent: OpenVZ, worker nodes are on physical machines
  - Protvino: XEN virtualization
- Main core Grid services are in Dubna (CA, WMS, VOMS, top BDII)



# Research and development projects

- **Grid-oriented applications development on the basis of SOA**
  - grid-oriented application for data quality processing (parsing, cleansing, standardization, enrichment etc.) on a large volumes of data
  - grid service for minimum spanning tree computation
- **Grid service for storage and processing of stream video**
- **Molecular dynamics simulation on parallel Grid clusters using MPI technology**
- **gLite services testing within EGEE SA3 activity (gLite clusters for parallel computations)**

**and other projects...**



- **Grid technologies educational portal (including distributed learning facilities):**
  - detailed user guide on working with educational grid infrastructure
  - lectures, methodical materials
  - interactive tests for each topic
  - full-featured web access to the Grid infrastructure
- **Deployment and making courses on the other grid environment – Globus Toolkit 4**
- **Educational course on grid applications and services development**
- **Evaluation of modern virtualization technologies and migration JINR educational infrastructure to them**
- **Integration of new sites to the infrastructure**
- **Innovative grid projects support**



## <https://gridedu.jinr.ru>

- Grid trainings information
- some administration guides
- probing and testing infrastructure
- monitoring of gLite testbed
- shell access to gLite user interface