Russian RuTier2 Cluster – *status and plans*

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1. Russia to the WLCG MoU
2. Russia in the World-Wide Grid
3. RuTier2 Cluster: planning, parameters
4. Networking

RuTier2 Cluster

Conception:

Cluster of institutional computing centers with **Tier2 functionality** operating for **all four** experiments - ALICE, ATLAS, CMS and LHCb

Basic functions: **analysis; simulations; users data support**
plus some Tier1 functions

Participating institutes:

Moscow	**ITEP, SINP MSU, RRC KI, LPI, MEPhI…**
Moscow region	**JINR, IHEP, INR RAS**
St.Petersburg	**PNPI, SPbSU**
Novosibirsk	**BINP**
…	

RuTier2 status – WLCG MoU

Financing Agencies:
    Federal Agency on Science and Innovations (FASI)
    Joint Institute for Nuclear Research (JINR)

Tier2 Facilities to install in Russia for ALICE, ATLAS, CMS and LHCb

Russia and JINR representatives in C-RRB:
    Yu.F. Kozlov (FASI) and V.I. Savrin (SINP MSU) for Russia
    A.N. Sisakian   for JINR

Representatives in WLCG Collaboration Board:
    V.A. Ilyin (SINP MSU),   alternative V.V. Korenkov (JINR)

RuTier2 status – *WLCG MoU (cont.)*

WLCG MoU has been delivered to FASI in February 2006.

The MoU could be signed offially only by issued of the Federal Government Action to FASI. From February the official approval is in progress:

✓ *May 2006   approved by FASI and sent to Ministry of Finances and to Ministry of Foreign Affairs*

✓ *September 2006 approved by Ministry of Finances*

✓ *November 2006 returned from MFA for improving the Russian version, end of November sent to MFA again*

✓ *12 Dec waiting MFA approval*

We need in reminding letter from CERN addressed to the Chief of FASI S.N. Mazurenko!

RuTier2 – WLCG Megatable (2008)

Now   CPU

DISK

		KSI2K	TB
RU/RDIG	ALICE	910	283
RU/RDIG	ATLAS	1000	515
RU/RDIG	CMS	1120	390
RU/RDIG	LHCb	1035	273

We are revising these figures according to the modified resource requirements by Experiments:

CPU - small changes, Disk – reduce on 50%, Tape – No

RU/RDIG	ALICE	700	150
RU/RDIG	ATLAS	800	200
RU/RDIG	CMS	800	200
RU/RDIG	LHCb	700	100

?

draft

T1s for RuTier2:

- **result of regular T1-T2 planning procedure**

  ALICE -   FZK (Karlsruhe) to serve as a canonical T1 for Russian T2 sites

  ATLAS -   SARA (Amsterdam) to serve as a canonical T1 for Russian T2 sites

  LHCb CERN facilities to serve as a canonical T1 center for Russian T2 sites

- **CMS: in May 2006 FZK has got a decision that they have no facilities to serve Russian CMS T2s.** In this urgent situation the solution has been found by RDMS, CMS and LCG management:

  CERN agrees to act as a CMS T1 centre for the purposes of receiving Monte Carlo data from Russian and Ukrainian T2 centres. CERN will also act as the distribution point for access to CMS general AOD and RECO data.

  Moreover, CERN will act as a <u>special-purpose T1 centre</u> for CMS, taking a share of the general distribution of AOD and RECO data as required. In particular, CMS intends to use the second copy of AOD and RECO at CERN to improve the flexibility and robustness of the computing system, and not as a general-purpose T1.

International Connectivity

International connectivity for Russian science are based today on

2.5 Gigabit/s   Moscow - St-Perersburg - Stockholm.

Moscow Gigabit Network Access Point (G-NAP) for R&E networks has been put into operation in the middle of 2005.

Connectivity with Europe:
   GEANT2 PoP (connected to Moscow G-NAP) has been opened in November 2005 with 2x622++ Mbps links to GEANT PoPs. Now, from Dec. 2006 2.5 Gbps. Plan from mid2007 to have 10 Gbps.

Connectivity with USA, China, Japan and Korea - GLORIAD project:
   622 Mbps   Chicago-Amsterdam-St-Petersburg-Moscow
   155 Mbps Moscow – Novosibirsk – Khabarovsk – Beijing
   Plans: 2006 622 Mbps – 1 Gbps,   2007   1-2.5-10 Gbps

REGIONAL CONNECTIVITY

Moscow   1→10 Gbps   (ITEP, RRC KI, SINP MSU, …LPI, MEPhI),

IHEP (Protvino)   100 Mbps fiber-optic (to have 1 Gbps in 2006)

JINR (Dubna)   1 Gbps f/o (update to 10 Gbps in mid 2007)

BINP (Novosibirsk)   45-100 Mbps   (GLORIAD++)

INR RAS (Troitsk)   1 Gbps in beg. 2007

PNPI (Gatchina)   1 Gbps started

SPbSU (S-Peterburg)   1 Gbps

Our pragmatic goal to 2007:
- all RuTier2 sites to have at least 100 Mbps f/o dedicated for network provision of RDIG users,
- 1 Gbps dedicated connectivity between basic RDIG sites and 1 Gbps connectivity to EGEE via GEANT2/GLORIAD.