Operational Interoperability in EGI

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- EGI infrastructure providers
- The four pillars of operational interoperation
- Interoperating with EGI
- Conclusions

- EGI infrastructure is the composition of
  - Resource infrastructures
    - Resource centres (sites): contribute resources to one or more infrastructure providers, the smallest operational entity in the model
    - Infrastructure providers (NGIs, EIROs, otherr DCIs): operational entities peering locally with the respective resource centres, and globally with other infrastructure providers and EGI.eu
  - Service infrastructures
    - Global services from EGI to VRCs and NGIs/ROCs)
   - Infrastructure provider services from NGIs/ROCs to VRCs and EGI)

- Stop of operations of **Central Europe regional operations centre** in August 2010. The respective NGI become operational indepentent:
  - May 2010: Poland
  - June 2010: Slovenia, Croatia, Slovakia and Czech Rep.
  - July 2010: Belarus and Hungary (2 Austrian sites under the operations of NDGF)
  - Oct 2010: Switzerland

- Apr 2010: SEE-Grid-SCI countries joined the South East Europe ROC
  - Albania, Armenia, Azerbaijan, FYR of Macedonia, Georgia, Moldova, Montenegro
- New independent NGIs
  - Apr 2010: Greece
  - Jun 2010: Serbia
  - Cyprus, Turkey, Bulgaria, Armenia, Israel and Romania entered this process

- **Asia Pacific** (Australia, China, India, Japan, New Zealand, Malaysia, Philippines, South Korea, Taiwan, Thailand)
- **NDGF**: Austria, Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden, Switzerland (1 site)
- **IberGrid**: Portugal and Spain → South West Europe ROC will be decomissioned soon
- **Belgium-The Netherlands**
  - (Sep 2010) **NGI_NL**
- Evolution of ROCs
  - planning to stop operations by the end of 2010:
    - **Germany/Switzerland**
    - **UK/Ireland**
  - One country/EIRO ROCs:
    - **CERN**
    - (June 2010) **NGI_FR** migrated from one-country region to NGI
    - **Italy** and **Russia**

- Fully integrated international infrastructure providers
  - **Canada**
    - Canada, China
  - **ROC IGALC**
    - Argentina, Brazil, Chile, Colombia, Ecuador, Venezuela
  - **ROC Latin America** (Brazil, Colombia, Mexico)
- External infrastructure providers interoperating at a middleware and operational tool level:
  - **OSG**

- Integration of African countries under discussion

PRODUCTION Number Of Sites Per Date
January-2010 and September-2010

Start of EGI-InSPIRE
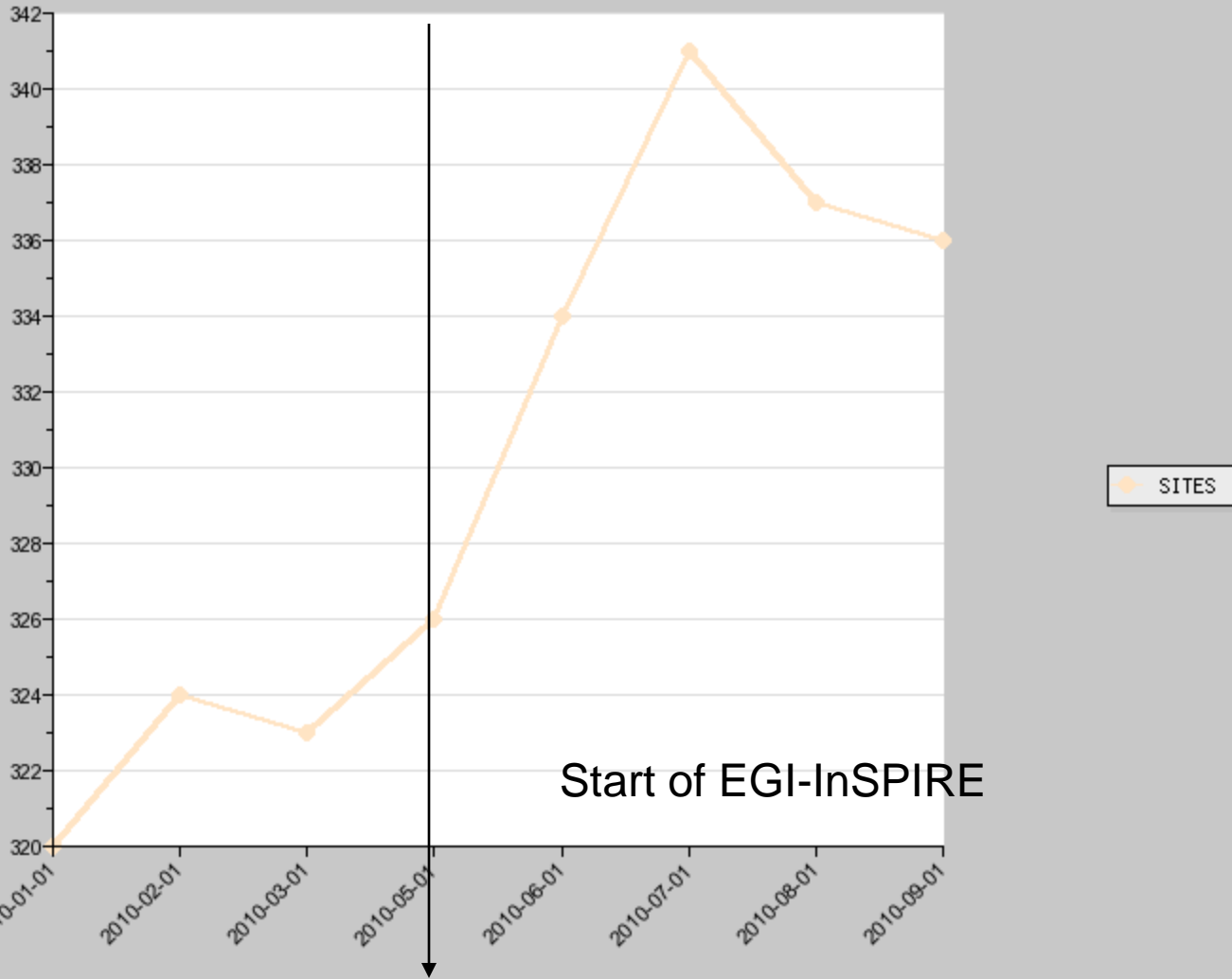
-From 290 to 336
15.8 % increase

-From 52 to 59
countries

Operational interoperation

- Operational interoperation relies on common interfaces deployed across different service infrastructures
  - Monitoring interface: to check for functionality and availability of relevant Grid services across different service infrastructures, common data semantics and da formatting
  - Accounting interface: to collect usage records of heterogeneous services and provide the tools for future sustainability
  - Communication interface: to easily exchange information between different monitoring and accounting domains
  - Management interface: to keep information on Grid topology and manage Grid nodes
  - Support interface: to assist international user communities spanning multiple infrastructures

- For infrastructure providers that are not part of the EGI Council, OLAs will be defined in the framework of a MoU

- In the Infrastructure Provider MoU the signing parties commit to
  – endorse a common set of (existing) procedures and policies
  – mutually provide services as defined in the related OLAs
  – Participate to the Operations Management Board

- OLAs will be introduced to formally define services offered and the corresponding committed quality of service
  - Infrastructure provider → EGI: the services the infrastructure provider will offer to international Virtual Research Communities and the EGI operational community at large, for example:
    - Grid middleware core services (e.g. VOMS, LFC, top-BDII)
    - Operational services (e.g. Monitoring and accounting infrastructure, helpdesk, support, etc.)
  - EGI → Infrastructure provider: the services that EGI will offer to the infrastructure provider, for example:
    - Central operational tools (GOCDB, operations dashboard, operations portal, etc.)
    - First and second line support
  - EGI (NGIs and EGI.eu) – VRC for example:
    - VRC-specific services (e.g. Training, application porting, VO dashboard and related dedicated monitoring infrastructure, etc.)
    - VRC dedicated middleware services

Conclusions