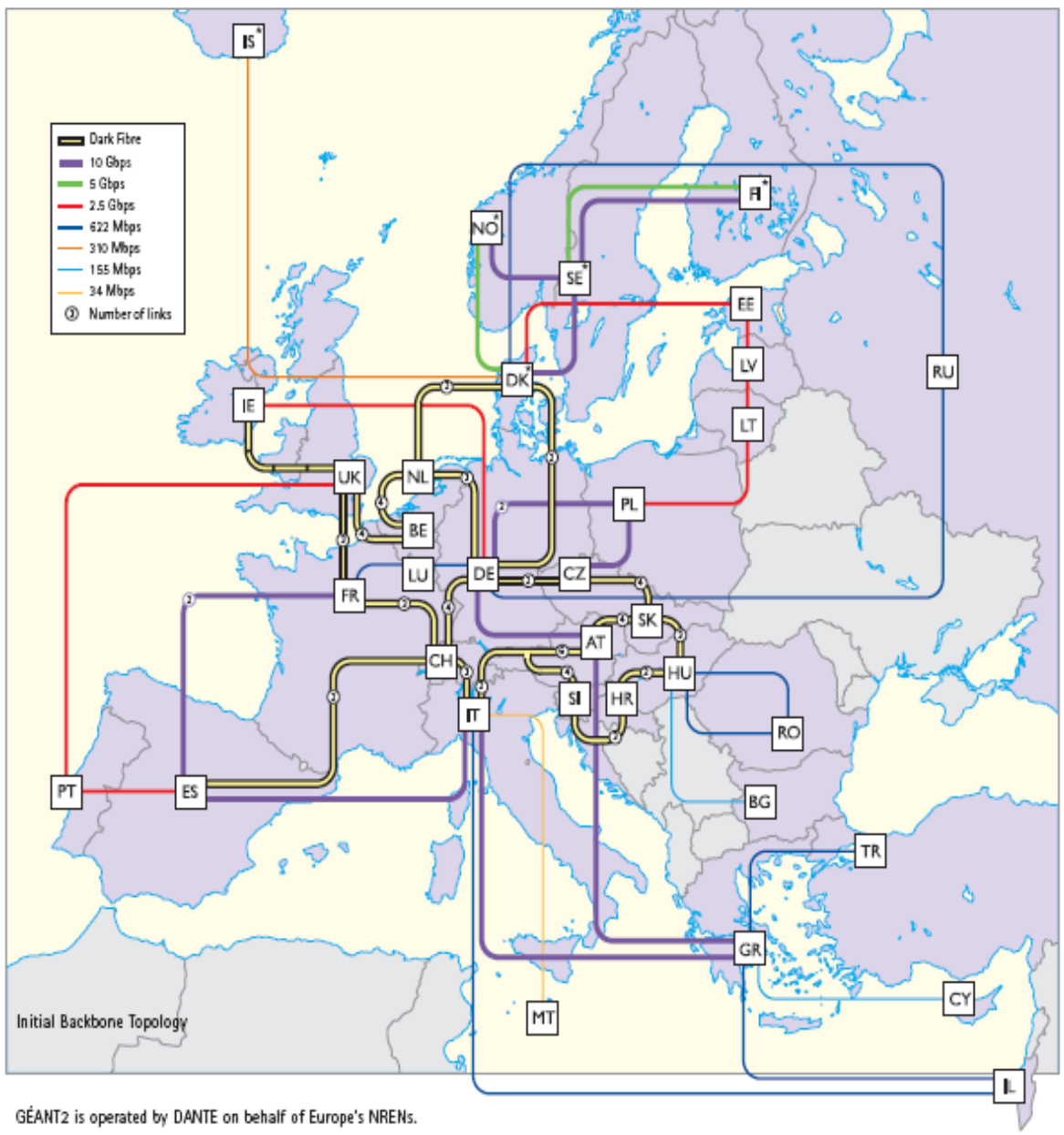
IAG – Israel Academic Grid, EGEE and HEP in Israel

Prof. David Horn

Tel Aviv University

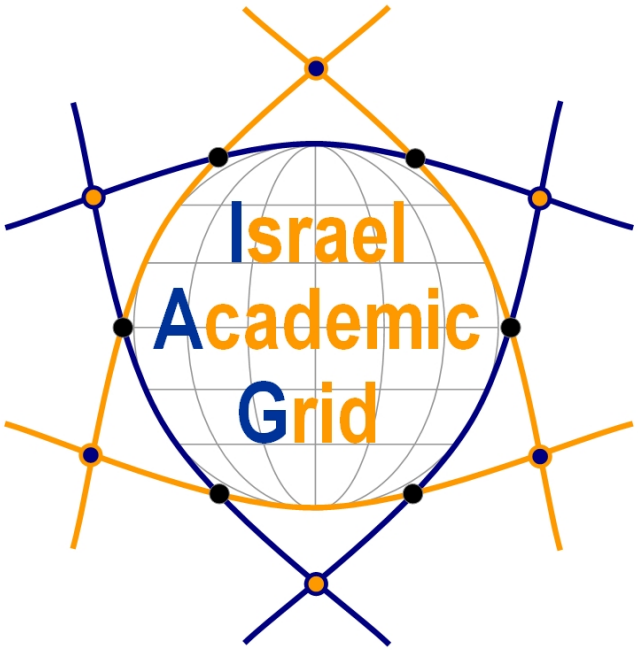
IL in Geant

IL connection upgraded on January 2006 to 1.24 Gb/s



Short History

- **2001 Israel HEP community joins LCG**
- **2003 Israel Academic Grid (IAG) is proposed as a national grid initiative project to Inter University Computation Center (IUCC). Approved Nov 2003.**
- **1.4.2004 EGEE starts operation, with TAU as Israeli partner.**



Short History contd.

- **11.7.2004 Minister of Science accepts committee recommendation of budgeting IAG and improving bandwidth to Geant.**
- **Feb 2005, TAU JRU (joint research unit) approved within EGEE, including four more institutes participating in IAG: IUCC (NREN), Technion, Weizmann Institute, Ben Gurion University.**

Financing realized only as one-time contribution to harware in 2006

Achievements in 2004

- We participate in two EGEE work packages: SA1 (grid maintenance) and NA3 (induction)
- Two grid sites were created in July 2004, one at Weizmann institute of science and one at Tel Aviv University.
- Technical forum established with participants from 5 universities
- Certificate authority established
- First grid Induction workshop with 60 participants took place Dec 04

Developments in 2005/6

- New grid sites established at Open University and at the Technion
- Number of CPUs has reached the level of 100.
- GILDA site has been established.
- Established grid-CERT in IUCC
- Expansion of IAG in computational power enabled by budget from Ministry of Science.

Plans for 2006/7

- Establish new grid sites at Ben Gurion University and at IUCC.
- Increase considerably CPU power and storage so that IAG can provide Tier-2 services to the ATLAS collaboration in LHC.
- Increase Biomed grid activity in IAG
- Get recognition as a national research infrastructure facility.

Present Sites in IAG/EGEE

Production sites	CPU	Storage
Weizmann	50 CPUs	100GB
Tel Aviv University	22 CPUs	70GB
Technion	18 CPUs	100GB
Open University	10 CPUs	120GB
Sites in certification process		
Ben-Gurion University	6 CPUs	160GB
IUCC (IL NREN)	12 CPUs	1 TB

Upgrade plans within 2006

- **Additional processors in K SI2K to arrive this year**
  - WI: 90
  - TAU: 75
  - BGU: 75

  In approx. 100 cores…

- There exists storage of more than 10TB in research groups but it is not on the grid

some activities April-September 2006

- **SA1.3 First line support for operational problems in region:**
  - Maintenance of continuous operation in IL sites
  - Support national users
- **TSA1.4: Grid security and incident response**
  - Regional security coordination
  - Participation in OSCT and other security activities
- **SA1.5: VO, application, and user support**
  - GGUS on-duty shifts
  - Issue certificates and helping users to use the EGEE middleware
  - Initiate the regional software installation process
  - Supported VOs: ops, dteam, biomed, zeus, ilc, atlas, cms, lhcb, see, eumed
  - Training users in (2) workshops
  - Plan gridification of application (neuron, consurf, siteengine,)
  - Orientation new SA1 personnel

Increasing computing power

- **Challenges:**
  - Incorporate in our sites diverse clusters from university computer classes (automatic maintenance is difficult)
  - Computers are used in Win during working days and should run Linux by night and week ends

- **Solution:**
  - All computers boot from one system image on the net:
  - Maintenance ~2 computers for each cluster

But one still needs a large reliable backbone of dedicated CPUs to guarantee continuous service...

HEP duties for ATLAS-IL

- **ATLAS: Israel will provide a "Tier-2" service**
  - Our share (i.e. ~1%) of the ATLAS simulation
  - Computing and file storage resources for Israeli ATLAS researchers
  - Maintenance of ATLAS code
  - most Israel ATLAS physics analysis and dedicated simulations and specialized reconstructions
  - some part of TGC monitoring

Staff: 22-24 senior staff, 15 postdocs and students

Processing needs for 2007

Foreseen grid needs for ATLAS-IL

January:	2007	2008	2009	2010
Processing power				
increase over previous year	35%	51%	51%	63%
or, for 2007, % of 2008				
increase of CPU (KSI2k)	163	302	237	442
total CPU power (KSI2k)	163	465	702	1145
Disk storage				
increase over previous year				
or, for 2007, % of 2008	32%	217%	68%	57%
increase in disk space (TB)	60	130	129	183
total disk space (TB)	60	190	319	502

- Financing has not been guaranteed yet

IAG - summary

- IAG serves as the basis of a JRU within EGEE, led by TAU who is the EGEE partner
- IAG coordinates activities of sites owned by different institutes
- IAG has functioned so far through the cohesive force provided by EGEE
- IAG has not reached yet an independent and sustainable status (central funding) as befits a National Grid Initiative
- Website: iag.iucc.ac.il

IAG sites in Israeli universities

iag.iucc.ac.il