



Opening the gateway to Ireland's education e-infrastructure

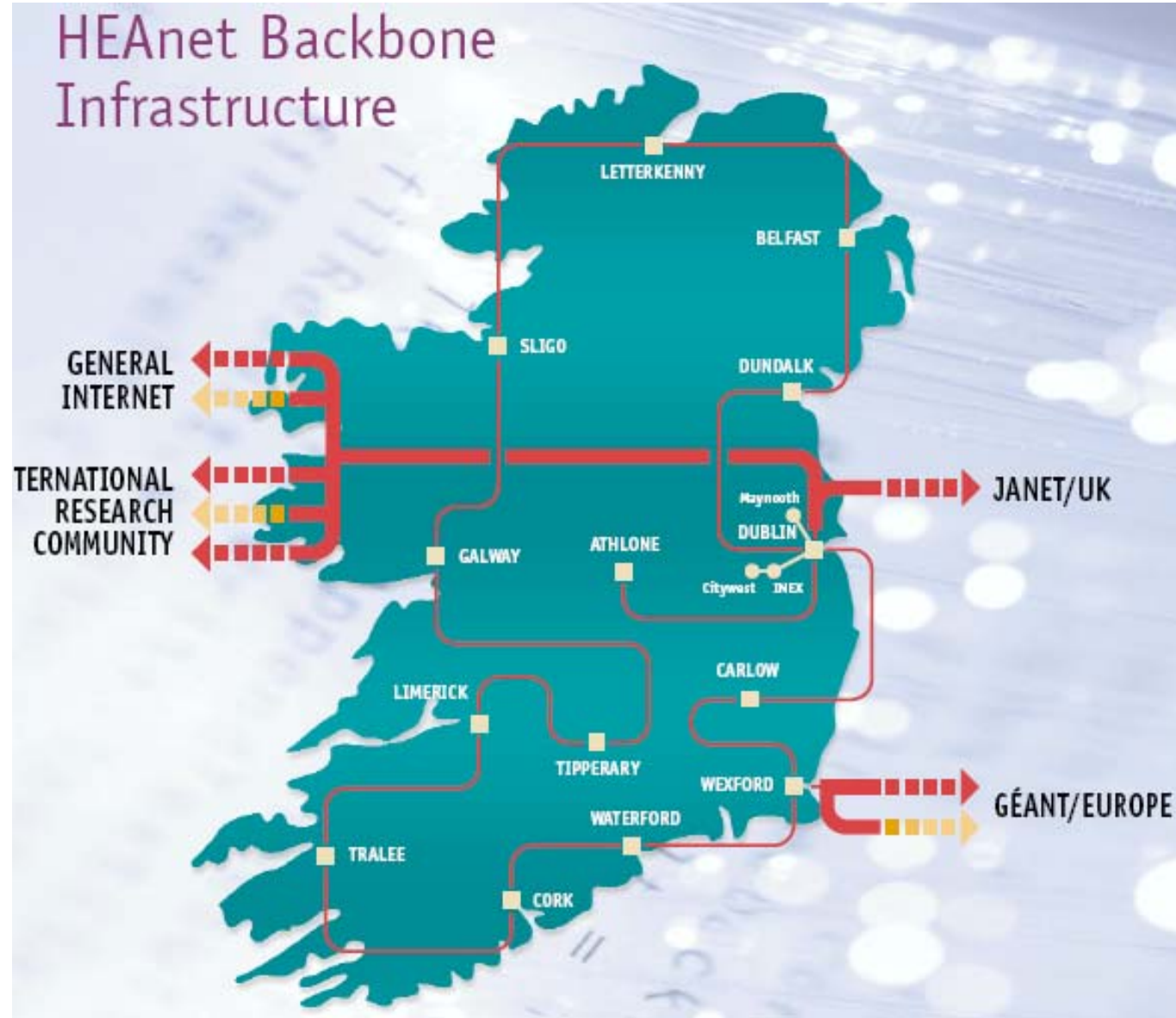
First IDEM Convention 31st March 2009

John Boland, Chief Executive, HEAnet



- *HEAnet - Ireland's NREN - Background*
- Project beginnings and funding
- Purpose of the federation
- Federation members & protocols
- Special features in our federation
- Pilot project & Wizard
- Inter-federation prospects
- HEAnet National Networking Conference 2009

- All Universities & Institutes of Technology
- Dublin Institute of Technology
- Research Agencies :
 - National Cancer Registry, Environmental Protection Agency
 - ...
- NCI, NCRI, HEA, NUI, NQAI
- CAO, HETAC, IRCSET, NCAD
- HRB, EPA, RIA ...
- 4,000 primary and post-primary schools, through Dept. of Education & Science



GEANT2

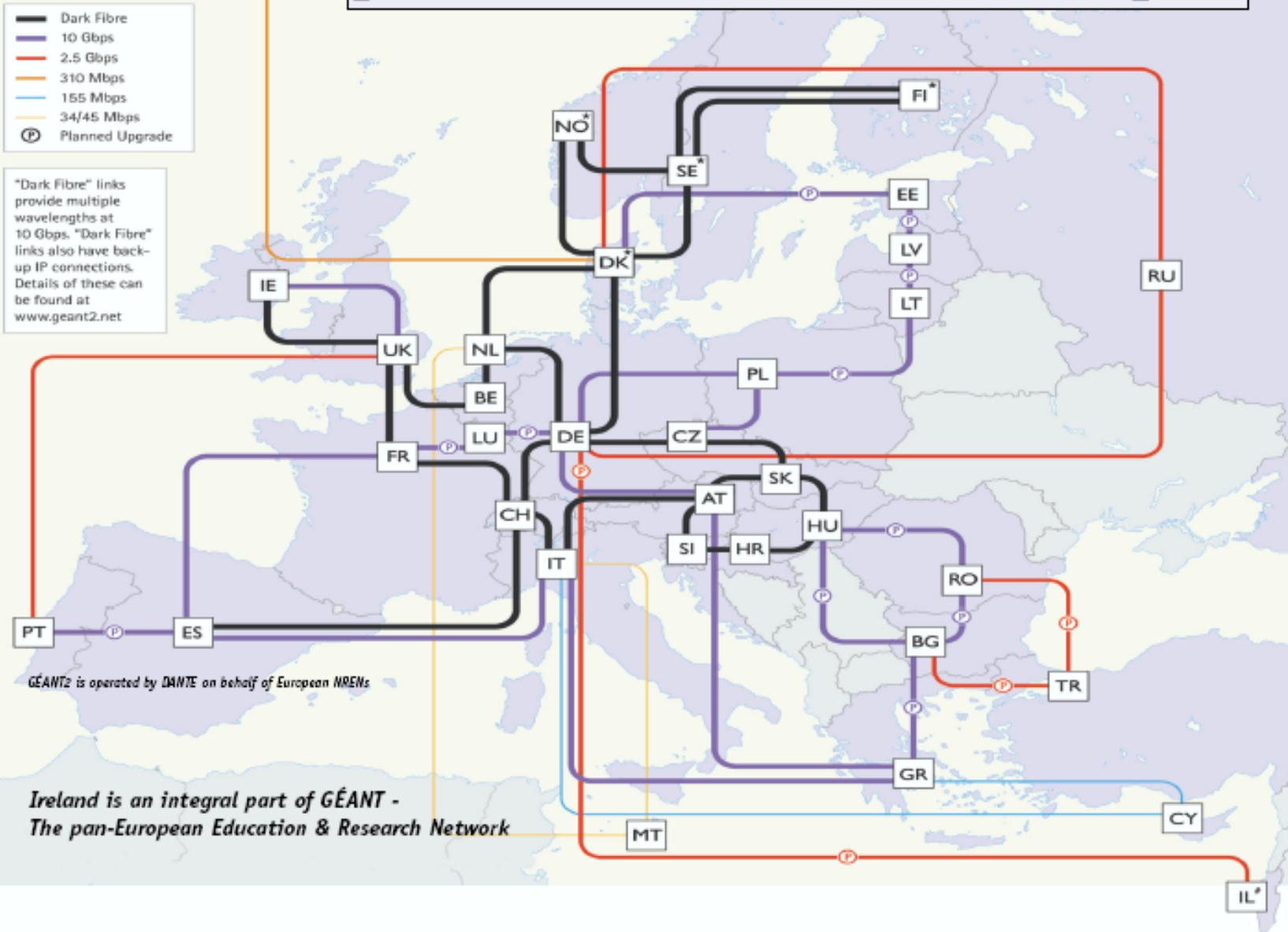
- Dark Fibre
- 10 Gbps
- 2.5 Gbps
- 310 Mbps
- 155 Mbps
- 34/45 Mbps
- Planned Upgrade

"Dark Fibre" links provide multiple wavelengths at 10 Gbps. "Dark Fibre" links also have back-up IP connections. Details of these can be found at www.geant2.net

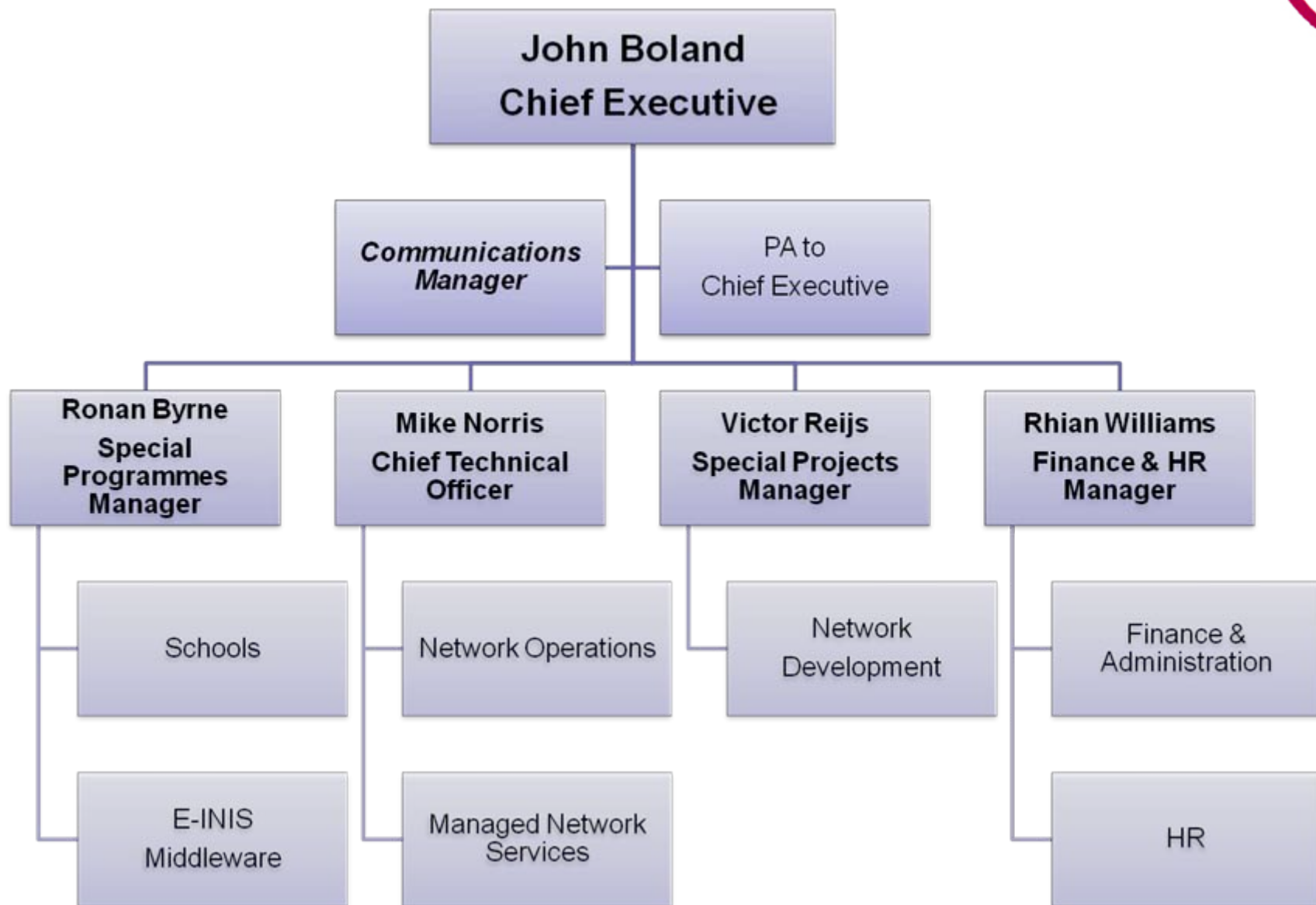
AT Austria	CZ Czech Republic	ES Spain	HR Croatia	IS Iceland*	LT Lithuania	PL Poland	SE Sweden*
BE Belgium	DE Germany	FI Finland*	HU Hungary	IT Italy	LV Latvia	PT Portugal	SI Slovenia
BG Bulgaria	DK Denmark*	FR France	IE Ireland	LI Luxembourg	MT Malta	RO Romania	SK Slovakia
CH Switzerland	EE Estonia	GR Greece	IL Israel*	NO Norway*	NL Netherlands	RU Russia	TR Turkey
CY Cyprus							UK United Kingdom

*Connections between these countries are part of NORDUNET (the Nordic regional network)

*L includes connection by IP back-up



Organisation Chart





Connectivity	Hosting & Data	Network Mngt.	Application Services
<p>Clients</p> <p>Resilience</p> <p>Internet Transit</p> <p>LAN Extensions</p>	<p>Co-Location</p> <p>Web Hosting</p> <p>Website Hot Standby</p> <p>Wiki Hosting</p> <p>VLE Hosting</p> <p>Software Mirroring</p>	<p>IP Addresses</p> <p>Looking Glass</p> <p>Multicast IP</p> <p>Netflow</p> <p>NTP</p>	<p>.ie Registration</p> <p>DNS</p> <p>Mailing Lists</p> <p>Usenet News</p>
Security	Multimedia	Middleware	Customer Services
<p>Anti-spam</p> <p>Security Scanning</p> <p>CERT</p>	<p>Video Conferencing</p> <p>Video Streaming</p> <p>Video Content Archiving</p>	<p>eduroam</p> <p>Edugate</p>	<p>NOC Helpdesk</p> <p>Proactive Monitoring</p> <p>Professional Services</p> <p>Quarterly Service Reports</p> <p>Conferences & Events</p> <p>Training/Workshops</p>



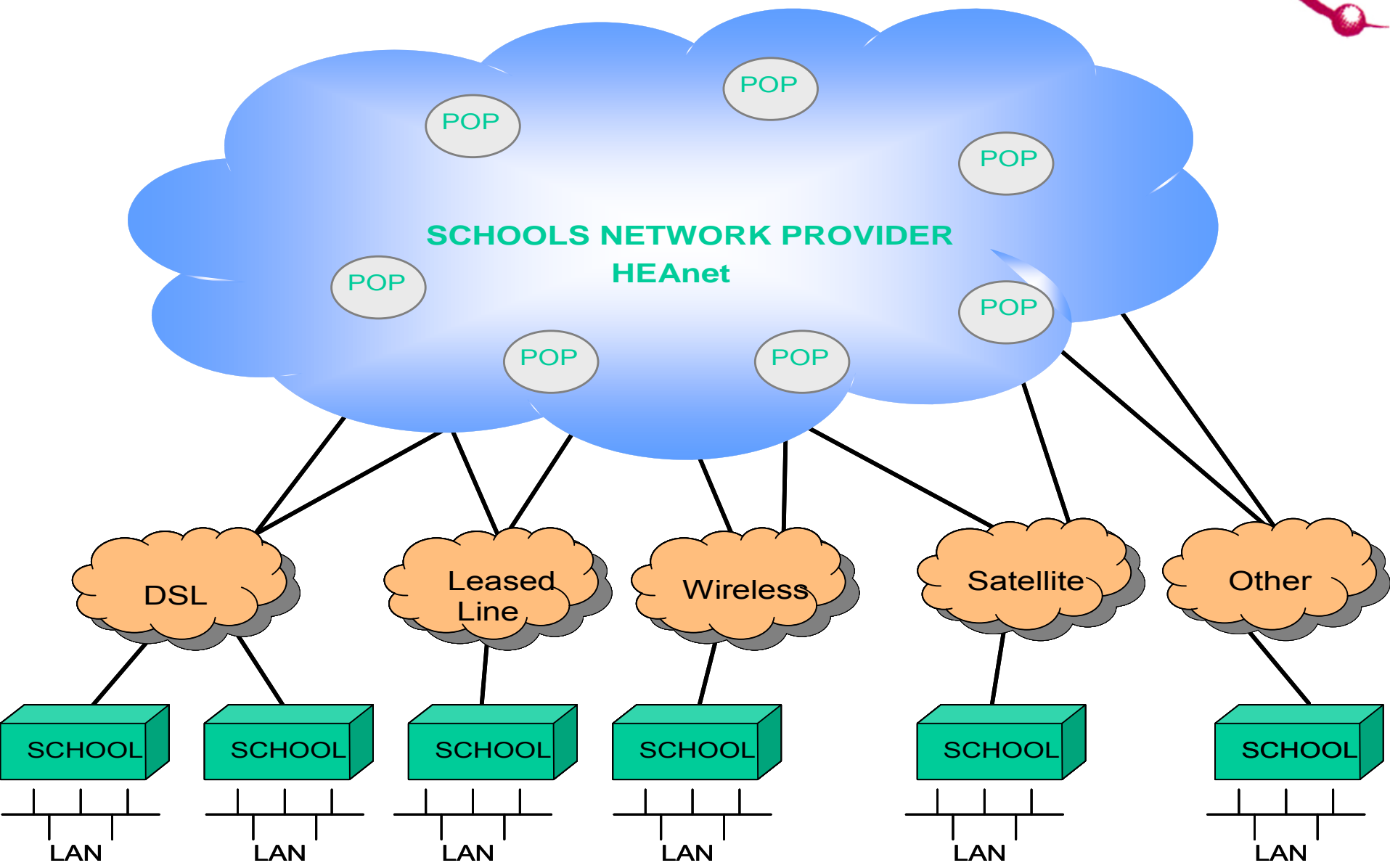
Tánaiste Launches Ireland's most powerful Supercomputer

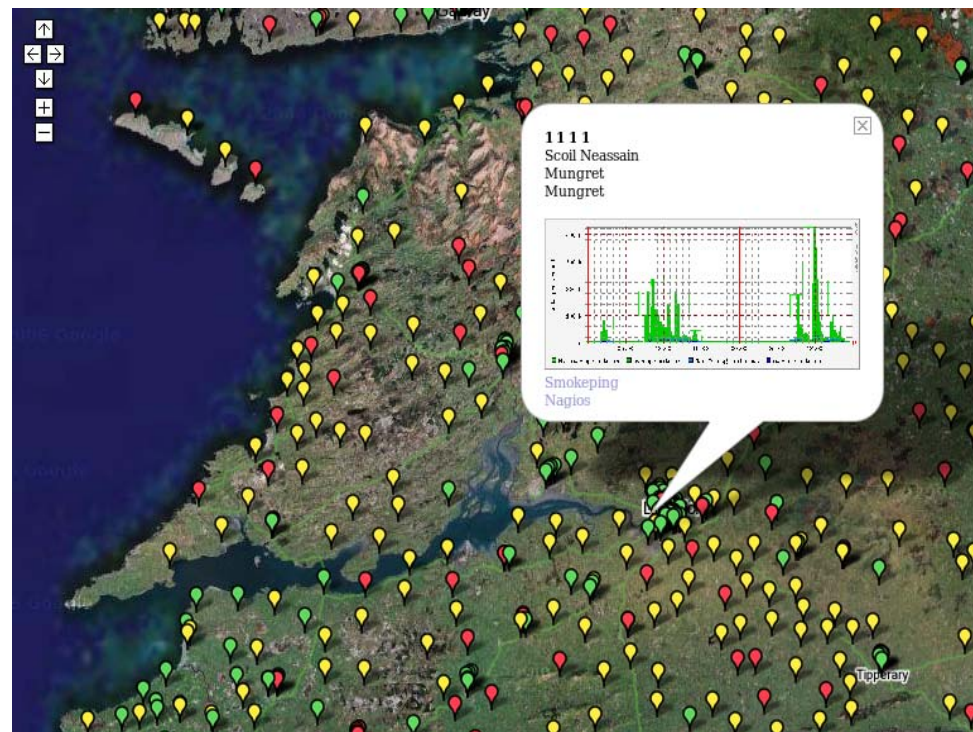
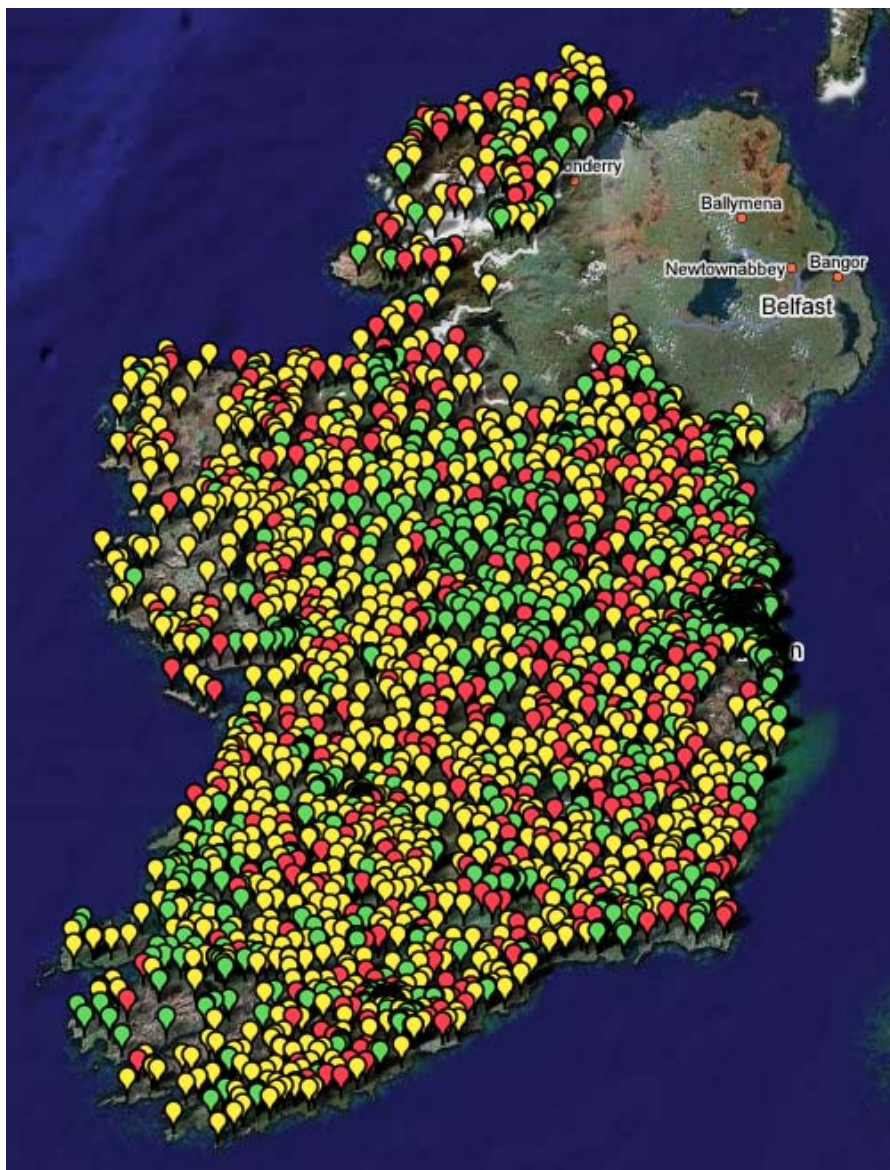
The Tánaiste and Minister for Enterprise Trade & Employment, Mary Coughlan TD, formally launched the IBM BlueGene/P Supercomputer - Ireland's most powerful computer, with Larry Hirst (Chairman, IBM EMEA), Prof. Luke Drury (DIAS) and Mike Norris (HEAnet) at a ceremony in the Royal Irish Academy, Dublin, October 2008

- Phase 1 Roll-out to 10,000 students and staff underway:
- O2 deal rolled out from 01 September 2008...
- O2 report uptake is approx. **5,000** with a run rate of 50 per day
- 93% have opted for 12 month contract, at €13 per month









HEAnet STRATEGIC PLAN 2008 - 2013

'Lighting the Future'

Edu gate

Gaining Access
to Education

- Government (Forfas) report – evaluated success and further research infrastructure needs
- National Development Plan 
- Application for funding of mini-grants for IdP's and SP's approved (*but paused*)
- Other revenue streams under consideration.



- Initially...

- Foster collaboration*



- Now...

- Enable shared services.*
 - Enable SaaS*
 - Supplement GRID/HPC*
 - Validate student identity (e-commerce)*
 - Alternative to Athens AM*



Athens login.

- IdP's
 - ***Any*** entity within Ireland with a student body
- SP's...
 - ***Any*** entity providing services to institutions
 - ***Any*** entity providing services to students

- IdP's

- *Open to primary/second level schools (single IdP)*

- SP's...

- *Commercial entities offering a 'student discount'*
- *GRID to supplement existing authorisation*
- *HPC hosted applications can authenticate users without knowing the users passwords*

- Schools

- *A single directory holds all student accounts for primary and secondary schools*
 - This makes it easy to **exclude** adults from school services.
 - And **exclude** school children from third level services
- *Releasing a students personal information not possible for those under the age of consent*

- **Student discount**

- *It is currently impossible to give an online discount to students without paperwork.*
- *IdP's could charge commercial operators for each identity validated.*
- *Or the federation could have a higher entry fee for such commercial operators.*

(This is one of the revenue streams under consideration)

- Initially...
 - *SAML1/SAML2/ADFS/Shibb1.3 and 2.0*
- Now
 - *SAML2 with specific binding/protocol*
 - Interoperability between SAML implementations...
 - ...allowing commercial SAML products...
 - ...alongside open-source

Microsoft



- Why SAML2?

- *Industry converging on SAML2*
- *Benefits of SAML2 could not be utilised while older/proprietary protocols were excluded*
- *We expect SAML2 to be the dominant protocol by the time interoperability becomes an issue.*
- *ADFS 'moving' to SAML2 (let's see Microsoft Geneva...).*

- Self-managed IdP
 - *No fee (for HEA funded institutions)*
 - *Small fee (for non HEA-funded)*
- Managed or Hosted IdP.
 - *Additional fee*
 - *Shibboleth 2.x*

- Self-managed SP
 - *No fee for HEA funded institutions*
 - *Membership fee for non HEA-funded*
- Managed or Hosted SP.
 - *Additional fee*
 - *Shibboleth 2.x and simpleSAMLphp*



- User consent recommended
- Local and embedded WAYF permitted
- Hourly metadata updates.
- Wizards



- Shibboleth and simpleSAMLphp Wizards
 - *Configuration can be difficult for those new to these SAML implementations.*
 - *Wizard interface is designed to make configuration easier for administrators.*
 - *Wizard outputs downloadable configuration files*
 - *The wizards are based on SWITCH RR**

- IdP default release policy...

Attribute Name	Required Policy	Desired Policy
eduPerson Targeted ID (mandatory) ?	Release ▾	Release ▾
eduPersonScopedAffiliation (mandatory) ?	Release ▾	Release ▾
Entitlement (mandatory) ?	Release ▾	Release ▾
Principal Name (mandatory) ?	Release ▾	Don't release ▾
Business phone number (optional) ?	Don't release ▾	Don't release ▾
E-mail (optional) ?	Don't release ▾	Don't release ▾
Given name (optional) ?	Don't release ▾	Don't release ▾
Surname (optional) ?	Don't release ▾	Don't release ▾
User ID (optional) ?	Don't release ▾	Don't release ▾

- View IdP's specific release policies.

Home Organization	Resource	Federation Partner
HEAnet	HEAnet Edugate Pilot Resource Registry	
HEAnet	o2 Online Store	x

Attributes																
	eduPersonScopedAffiliation															
	eduPersonTargetedId															
	eduPersonPrincipalName															
	eduPersonEntitlement															
	homePhone															
	mail															
	o	R														
	eduPersonAssurance															
	homePostalAddress															
	ou															
	employeeNumber															
	uid															
	givenName	R														
	surname	R														
	postalAddress															
	eduPersonOrgUnitDN															
	eduPersonOrgDN															
	eduPersonAffiliation															
	mobile															
	telephoneNumber	D														
	preferredLanguage															

Audience						
Universities	URS	Hospitals	Libraries	VHO	Others	
a	a	a	a	a	a	a
a	a	r	r	r	r	r

Legend

Required | Desired

allowed | rejected
home org specific

- Call for participation
- Response from GRID and some institutions
- Workshops
- Another call for participation
 - *Response from small group of IdP and SP's including HPC*
- Technical trial commenced

- Pilot project will continue in parallel to
 - *Call to libraries*
 - *Further workshops*
 - *Additional pilot participants*

- Expected Outcomes

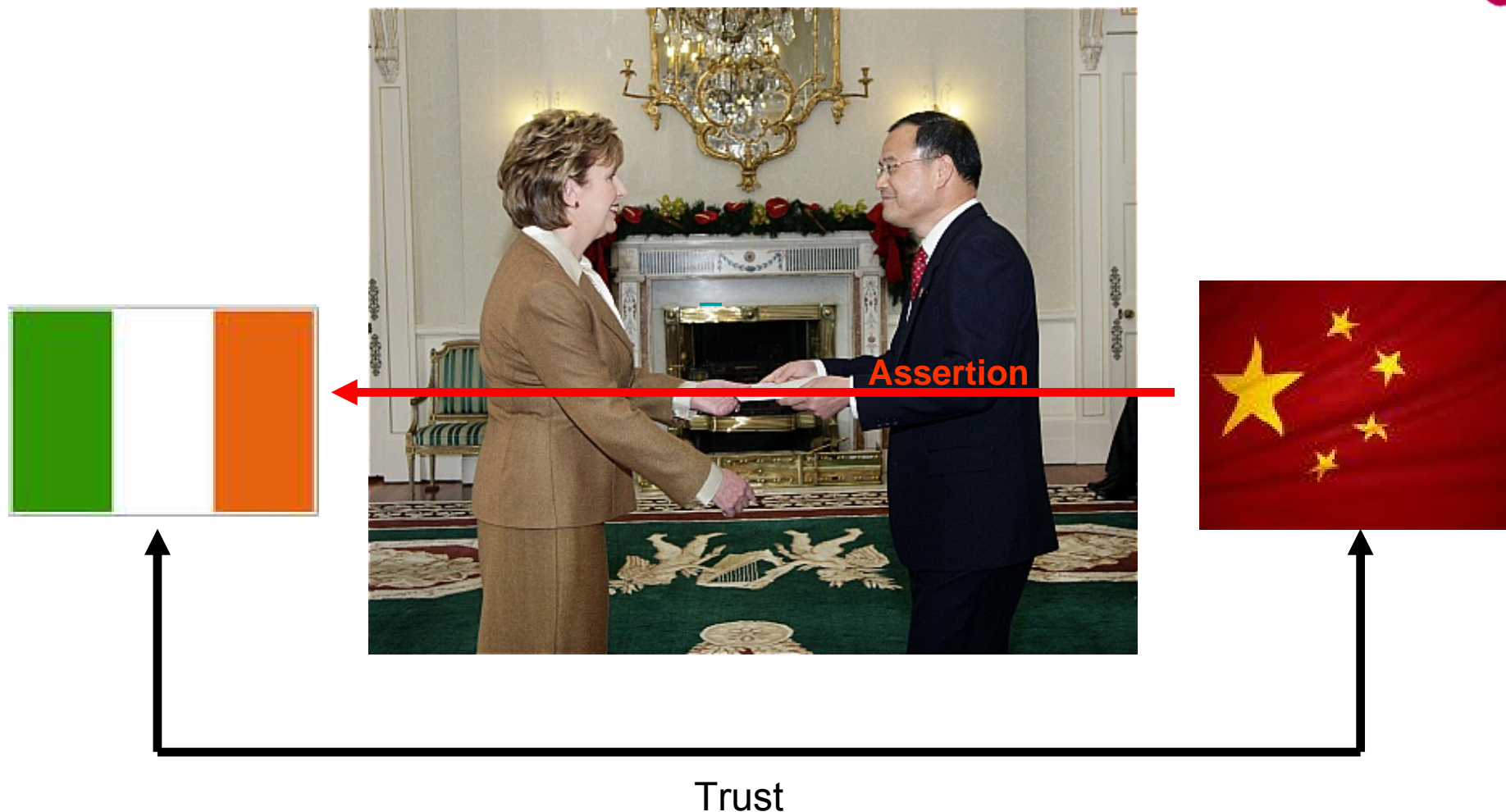
- *Technical*

- Agreed Attribute Schema
 - Agreed Protocol/Binding

- *Policy*

- Agreed Rules of Membership
 - Agreed Membership criteria
 - Agreed model to steer the federation in the future
 - Agreed production launch date.

How does federated identity work?



- Bilaterally

- *Attribute schema based on UK Federation Schema to ease bilateral federation.*
- *UK Federation will be ready for SAML2 in the future*

- **Multilaterally**

- *As number of Bilateral agreements grow an inter-federation agreement will emerge.*
- *Technical solution may be based on SAML2 metadata mergers where possible*
- *eduGAIN where not possible*
- *IDEM and Edugate?*



Final words...



- Do not let your students enter their student passwords into services operated by 3rd parties
- Use SAML for SSO - everywhere!
- '*Deve supportare l'accesso federate*' in your Tenders
- Do you have resources of interest to us and *vice-versa*?
- Do we have a users of interest to you and *vice-versa*?

The logo for the Cork Institute of Technology (CIT), consisting of the letters 'CIT' in white on a red square background.

Institiúid Teicneolaíochta Chorcaí
Cork Institute of Technology



EuroCAMP (Basic)

18-19 May 2009

Cork, Ireland

***How to build
single sign-on systems***

HEAnet's National Networking Conference **2008**

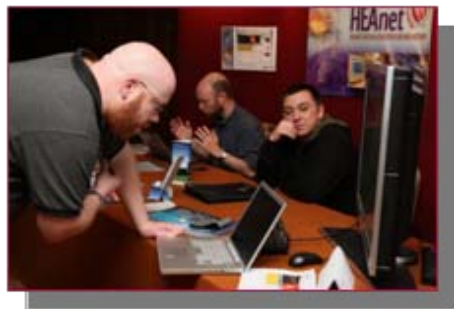
*Technological Advances
in Networking and Strategic
Planning*

Lyrath Estate Hotel, Kilkenny, 13th - 14th November 2008

Conference Speakers



- **Google**
- **O2**
- **Amazon**
- **Nokia Siemens**
- **Internet 2**





HEAnet's 2009 National Networking Conference

12th and 13th November 2009

Kilkenny, tbc !

Other Italy – Ireland Collaborations !



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