The ALICE Project and the RedCLARA Network

Cathrin Stöver, Project Manager
DANTE
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Overview of ALICE

• The objective of ALICE is to create a regional Latin American research networking infrastructure and its interconnection to GEANT
• 03 June 2003 – 31 May 2006 (with possible extension)
• Funded with Euro 10M from DG Europe Aid (80%) and Euro 2.5M from the connected LA-NRENs
• Coordinated by DANTE
• Partners in Europe: GARR, FCCN, RedIRIS and RENATER
• Partners in Latin America: CLARA and 18 LA-NRENs
ALICE Management

- **DANTE**: coordinating partner
  - Fund holding
  - Tender negotiations
  - Contractual agreements (providers, suppliers, but also LA-NRENs)
  - Relationship to EC (deliverables, reports, etc.)
  - PR
  - Sustainability

- **CLARA**:
  - Sustainability
  - PR and end-user database development
  - Support for tender negotiations
  - Support for LA-NRENs
  - RedCLARA Technical Management
RedCLARA Technical Management

- **CLARA-TEC**
  - Members of all LA-NRENs
  - Overview of NEG and NOC activities
  - Training and Technical Support

- **CLARA-Network Engineering Group**
  - awarded after internal tender to the Brasilian NREN, RNP
  - 3 full-time staff
  - Responsible for implementation of circuits and introduction of new services
  - Funded through ALICE project
RedCLARA Technical Management

- CLARA Network Operations Centre
  - Awarded after internal tender to the Mexican NREN, CUDI
  - 3 full-time staff
  - Responsible the day-to-day Operations of RedCLARA
  - Funded through ALICE project

- Training and technical support
  - Twice-yearly meetings of members of RedCLARA-APMs
  - Organised by CLARA-Tec
  - Training sessions organised by CLARA-Tec and supported by technical staff from LA and EU-NRENs and DANTE
  - Funded through the ALICE project
ALICE Achievements so far - I

- RedCLARA interconnecting the NRENs of Argentina, Brazil, Chile, Mexico, Peru, Uruguay and Venezuela
- Interconnection between RedCLARA and GEANT in Europe
- First packets crossed the Atlantic on 31 August 2004
ALICE/
RedCLARA Topology
May 05

Cathrin Stöver, DANTE, cathrin@dante.org.uk
ALICE Achievements so far -II

• Creation of CLARA organisation
• Creation of CLARA-Network Engineering Group and CLARA Network Operations Centre
• Creation of technical working groups in CLARA-tec
• Organised Training for LA-NREN engineers on
  – Network Security
  – IPv6
  – LACNIC
• Launch of RedCLARA at the EU-LAC IST summit in Rio, November 2004
Implementation

• ALICE project has three year duration
• Implementation of connectivity started one year after the start of ALICE (June 2004)
• Difficulties in Implementation:
  – Import of equipment
  – Housing facilities
  – Coordination between partners
• Enormous Learning Curve for all – as an engineer from CLARA put it:

  “RedCLARA boldly went where no other Latin American had gone before”
Current Issues

• Central American connectivity
  – local loop challenges
  – Tijuana PoP challenge
• Andes Connectivity
  – Contractual agreement for Ecuador and Colombia
• Remaining countries (Bolivia, Cuba, Honduras and Paraguay)
  – Still very high connectivity costs
• Sustainability after 2006?
Average Pricing for 1Mbps/year

- Western Europe
- Transatlantic
- Ring
- Central America
- High Price Locations

Cathrin Stöver, DANTE, cathrin@dante.org.uk
Impact of Negotiations on Price per 1Mbps/year

Ecuador

Uruguay

Av.Pricing 2003
Best Offer 2005

Av.Pricing 2003
Best Offer 2004
Impact of Negotiations

- Negotiations are successful when the local NREN is closely involved.
- Even more successful when local NREN is at the same time building internal infrastructure.
- Break-through achieved in Ecuador, Colombia and Uruguay.
- Difficult situation still in Bolivia, Paraguay and Cuba.
Impact on Sustainability

- Only cost-based prices for infrastructure can ensure long-term sustainability for RedCLARA covering all of Latin America.
- Competition on International connections in Latin America much less fierce than in Europe.
- Price decreases will not be as drastic as we have seen in Europe.
- = higher prices in countries with less economic power = digital divide; needs governmental support.
Thank You!

- More information:
  
  [www.dante.net/alice](http://www.dante.net/alice)
  [www.redclara.net](http://www.redclara.net)