The ALICE Project and the RedCLARA Network

Cathrin Stöver, Project Manager
DANTE
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ALICE
America Latina Interconectada Con Europa

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 DGEuropeAid (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
America Latina Interconectada Con Europa

@LIS
EUROPEAID
CO-OPERATION OFFICE

Cathrin Stöver, DANTE, cathrin@dante.org.uk

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

Cathrin Stöver, DANTE, cathrin@dante.org.uk

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

Cathrin Stöver, DANTE, cathrin@dante.org.uk

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

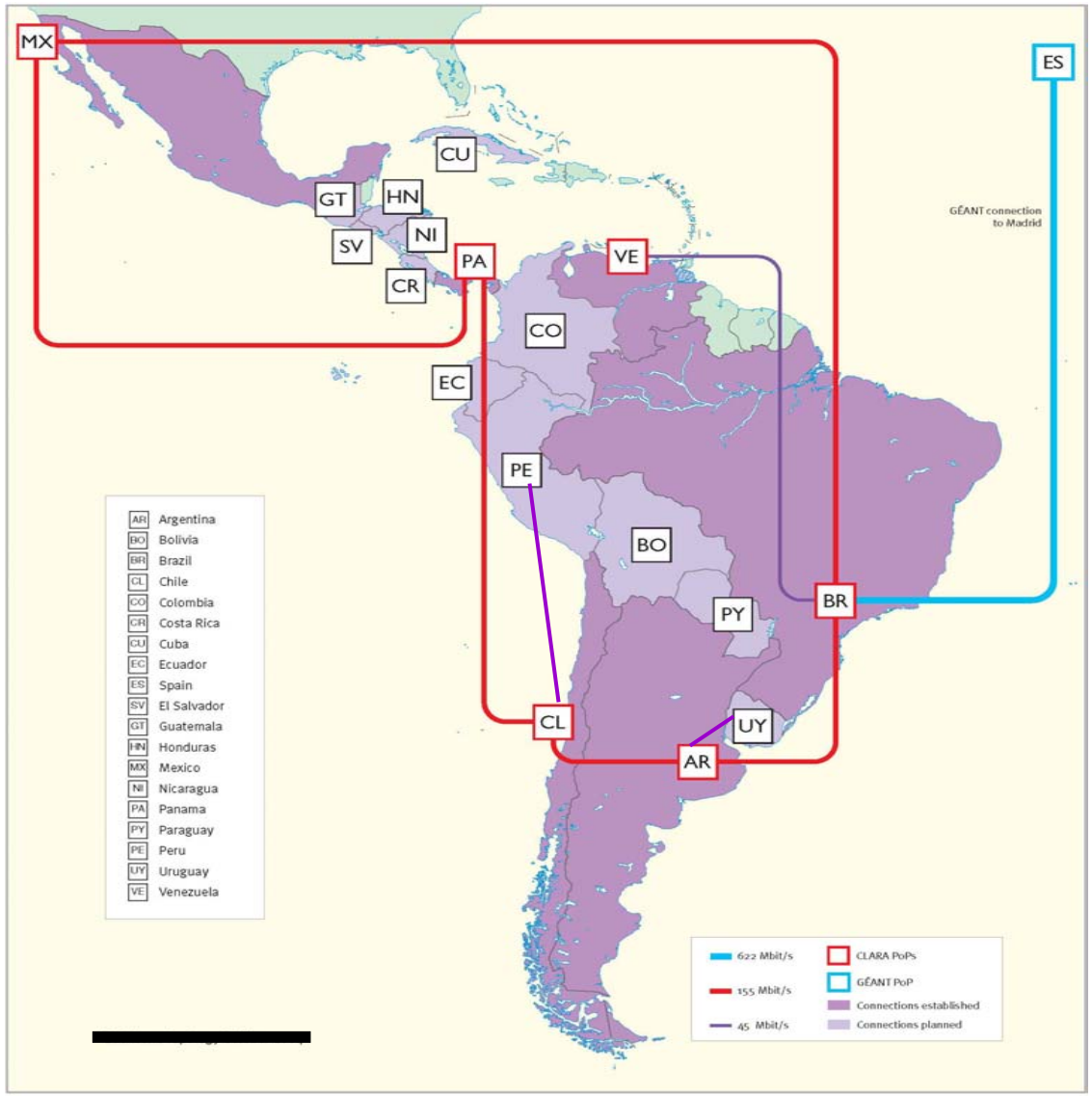
- Training and technical support
  - Twice-yearly meetings of members of RedCLARA-APMs
  - Organised by CLARA-Tec
  - Training sessions organised by CLARA-Tec and supported by technical staff from LA and EU-NRENs and DANTE
  - Funded through the ALICE project

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



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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"

Cathrin Stöver, DANTE, cathrin@dante.org.uk

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?

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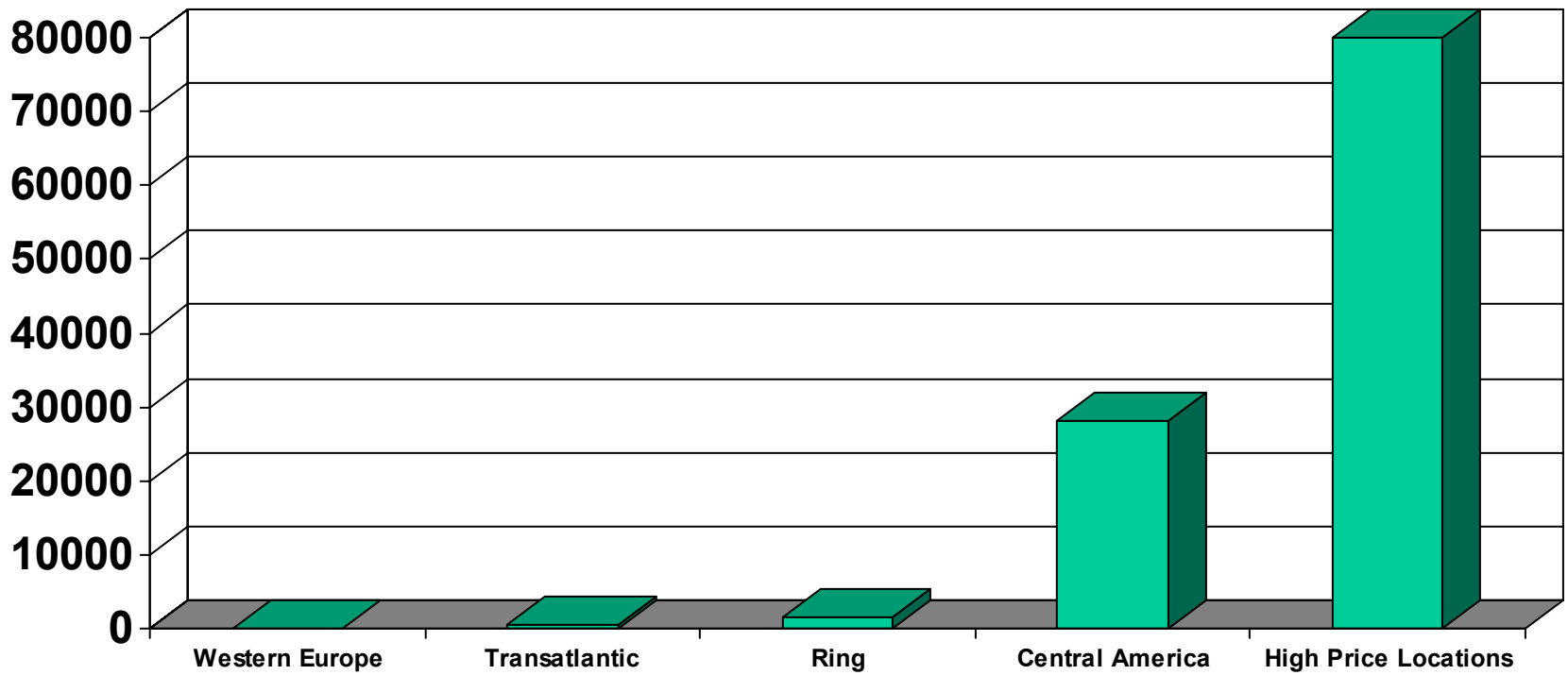
Average Pricing for 1Mbps/year



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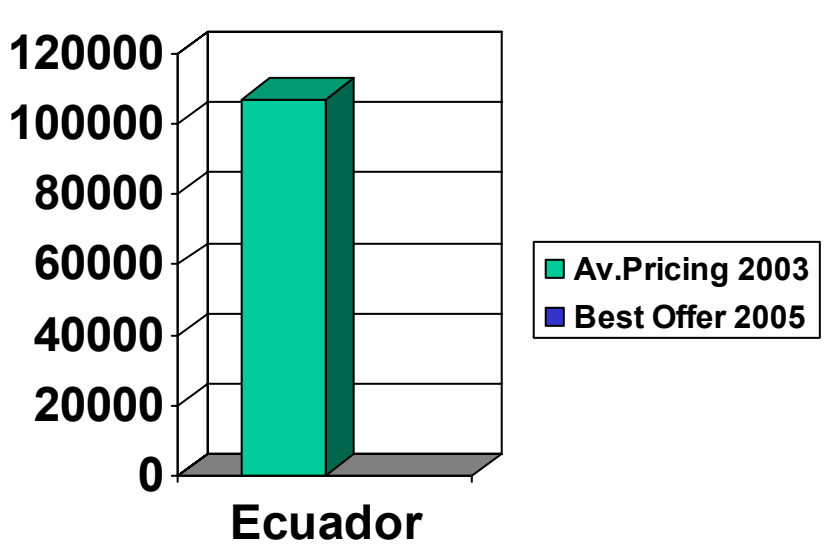
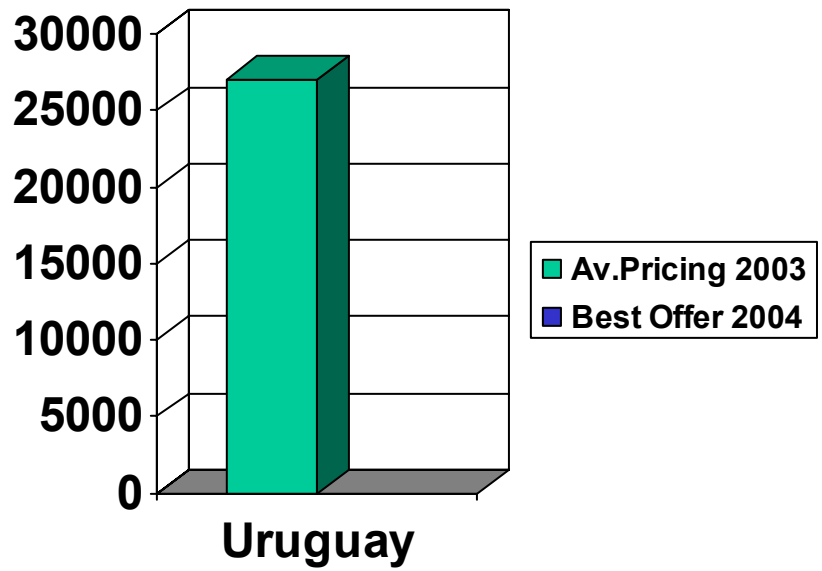
Impact of Negotiations on Price per 1Mbps/year





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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

Cathrin Stöver, DANTE, cathrin@dante.org.uk

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

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Thank You !

- More information:

  www.dante.net/alice
  www.redclara.net

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