Development of NRENs in Latin America

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The RedCLARA Evolution and Present Status
RedCLARA: The LA Network
Provided by ALICE

April 2005
RedCLARA is also connected to the US
Advances in CLARA, the Organization
The Clara Organization

- General Assembly
- Board of Directors
- Executive Director
- Accounting
  - Public Relations
  - Operations (NOC)
  - Engineering (NEG)
CLARA Administration Principles

- Small highly professionalized management team (extremely small for the time being!)
- Subcontract specific functions as needed
  - Accounting and Legal Assistance subcontracted in Uruguay
  - Network Operation to CUDI (Mexican NREN)
  - Network Engineering to RNP (Brazilian NREN)
<table>
<thead>
<tr>
<th>Country</th>
<th>Network</th>
<th>Status</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>RETINA</td>
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<tr>
<td>Brazil</td>
<td>RNP</td>
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<tr>
<td>Bolivia</td>
<td>BOLNET (ADSIB)</td>
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<td>El Salvador</td>
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<td>Paraguay</td>
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<td>Uruguay</td>
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<td>Venezuela</td>
<td>REACCIUN</td>
<td>Operational</td>
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</tbody>
</table>
NREN’s Created during 2004-2005 Period
CEDIA: Ecuador Academic Network

Backbone Node
Aggregation Point
Participant Institution
International Network

45 MBPS
11 MBPS
4 MBPS
RAAP: Peruvian Network

Pontificia Universidad Católica del Perú
PUCP

ACADEMIC
NAP
CISCO 7204

UPCH
2 Mbps
CISCO 3725

UNMSM
2 Mbps
IPEN
CISCO 3725

La Molina
CISCO 3725

UNI
CISCO 3725

RED MPLS
- VPN -

Valores iniciales. Se incrementará

INICTEL
CISCO 3725

10 Mbps
T3
To RedCLARA POP
RAC: Colombia’s Network

IBGP

10 Mbps / 1xSTM1

Clear Channel

RARE-Cartagena

RARE-Bucaramanga

RARE-Bogota D.C

RARE-Cali

RARE-Manizales

RARE-Medellin

RARE-Popayan
RAGIE: Guatemala’s Network

- USAC
- Galileo
- URL
- UMG
- UFM
- UVG
- TELGUA
  TIV6506
  ME+OSPF
RAU2: Uruguay’s Advanced Network

RedCLARA

Universidad ORT
Polo Tecnológico Pando
CUTI
Inst. Invest. Biológicas Clemente Estable
LATU
INIA

Agronomía
Ingeniería
Ciencias
Hospital de Clínicas
Química
Medicina
REACCIUN2: Venezuela’s Advanced Network
REDCYT: Panama’s Network

REDCYT Node Panamá

Cisco 12000
Global Crossing

Cisco 7513
Senacyt

Firewall
Cisco 2950

Switch
Domestic Carrier

Cisco 7513
SENACYT Building

USMA
Univ. Interamericana

UNIPAN

ULAT

UDELAS

MINSA

UTP

Tech Monterrey
RedUNIV: Cuba’s Network

Central Node

INFOMED Node
CUBARTE Node
MINED Node

All Frame Relay Links

RED 1
RED 2
RED 3
RED 24
REDUNIV
RENIE: Nicaragua’s Network

RECLARA

SITUACION DESEADA

RUCFA

UNAN/MANAGUA

UNI

UNA

UNAN/LEON

NREN NIC-I2

RedCLARA
RHUTA: Honduras’s New NREN

Domestic Fiber Network

- COHCIT
- UNITEC
- UNAH
- UNICAH
- Initially Ethernet
- Others
- UPN
Final Remarks

• NREN’s are being created and deployed all over Latin America
• Domestic Operators are highly involved
• Huge differences between countries, both in technical and funding resources
• But all are getting organized, connected inside their countries and connected to RedCLARA
“The ALICE dream is creating a future in LA”

*Free version of Victor Hugo’s words*