

Introducing

NameFLOW-Paradise

The X.500(93) Pilot



The 1993 edition of X.500

- Is a “real” standard
- Has all Quipu goodies
- Major enhancement over 1988 edition
- Major developers support X.500(93)



The NameFLOW-Paradise Objectives

- The Migration
 1. Introduction of X.500(93) for basic service
 2. Phasing out the Quipu system
- Backwards compatibility is a must
- Promote multi-vendor/multi system Directory

Why the 1993 edition?

- Sufficient functionality
- Basic enhancements:
 - Access Control
 - Replication
 - Schema and knowledge management
- Improvements:
 - New management tools
 - Better interfaces
 - Clean out of data
 - Better response times

Why not the 1988 edition?

- No REPLICATION!
- Intended to have limited scope
 - Emphasis on fully distributed multi-domain system
- No operational and administrative information supported
- No schema publishing

Two Transition Scenarios

- 1. One-Step transition (direct)
Quipu -> X.500(93)
- 2. Two-Step transition (indirect)
Quipu -> X.500(88) -> X.500(93)
- One-Step preferred:
 - only one transition
 - supports Quipu and the 88 edition

Top-Down versus Bottom-up

- Start with root DSA or start with all organisations?
- Top-down:
 - Ripple effect:
First the root -> countries -> rest (*1:50:700*)
 - Expertise and support
- Bottom-up:
 - Need to migrate **all** leaves before nodes
 - Relatively poorly maintained systems
 - Piloting preferred

NP-93 - The Phases

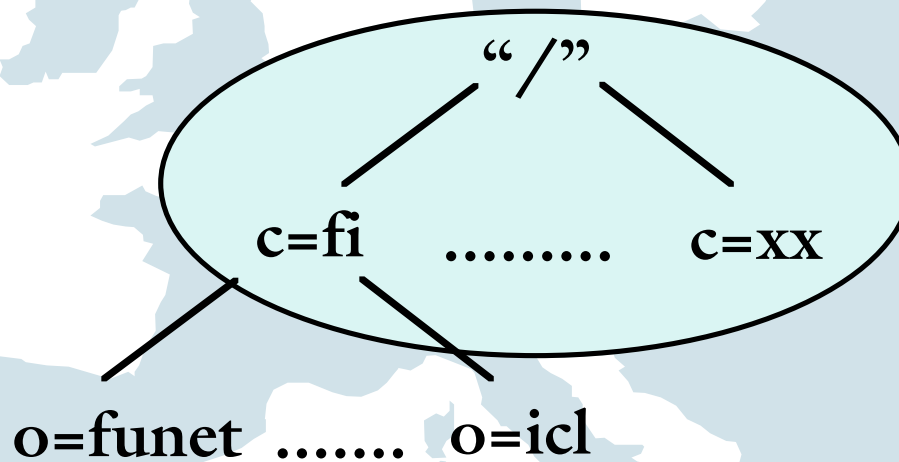
- Phase One
 - Root Context and First Level DSA (Replication)
- Phase Two
 - Interworking and Scaling tests
- Phase Three
 - Big Migration (all DSAs)

Root DSA functionality

- The “good” things
 - + Knowledge management and distribution
 - + Replication engine
- The “bad” things
 - Resolving user queries
 - delegate to subordinate DSAs
 - Provide relaying between different networks
 - Top Level is IP-only
 - Relaying only supported by multi-network domains

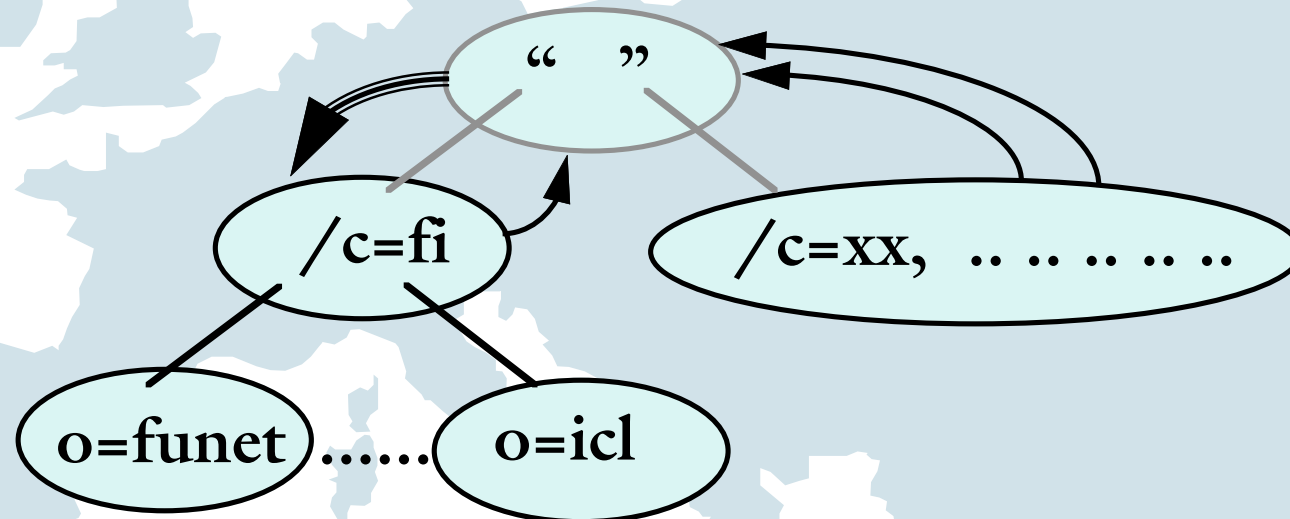
The Root Context

- The problem:
 - Quipu has **one** file (EDB) with all needed information including the “next” level



The Root Context (continued)

- 93 -> Many relations with many agreements (full mesh)
- 93 -> Each DSA is contacted to verify information
- Problem will occur on other levels of the tree



The Root Context (continued)

- Proposed solution by David Chadwick and others:
 - Internet Draft: Managing the Root Context
- Proposed is small replication addition
- Describes problems in fuller detail
- Currently being revised
- Supported by vendors

NP-93: Phase One

- Goal: test X.500(93)Root Context and basic usage
- Tests: basic 88 tests from EuroSInet plus extensions
- Multiple vendors: IC, NEXOR and DEC (3)
- Multiple organisations (10, excluding vendors)
- Organisational DSAs added (multiple levels)
- From user perspective, **not** conformance

NP-93: Phase One - The Tests

- Tests performed:
 - Ease of installation
 - Data conversion (Quipu -> 93)
 - Replication (DISP)
 - Between systems (DSP)
 - Between User and system (DAP and LDAP)
 - Access Control

NP-93: Phase One - The Results

- DAP and DSP work OK
- DISP is only partially implemented (Profile A & B)
- Defect reports not always implemented
- Root Context proposal needs enhancement
- Access Control is fairly complex
- LDAP support can be improved
- Improved DSA Management Tools (GUI)
- Products expected to stabilise in Summer '96

NP-93: Phase One - The Results (continued)

- Some “gory” details: *(note: Most problems are already solved!)*
 - Memory usage: 9-10 Mb (*DISP > 45 Mb!*)
 - DSA deadlock during replication (*60 minutes*)
 - Quipu ACI conversion generates **long 93 ACIs**
 - First Shadow agreements need PhD
 - Interfaces must support Non-ASCII (T.61) chars
 - Transport Selector

NP-93: Phase Two

- When?
 - Autumn 1996
- Who?
 - Everyone testing X.500(93) DSAs
 - Large organisations
- Goal?
 - More vendors, more implementations



DANTE: The Company

- Not-for-profit, independent organisation
- Organising and managing services for European academic networks
- Services offered:
 - The Network: EuropaNET
 - Value-added services:
 - MailFLOW Pan-European Electronic mail coordination
 - NameFLOW-Paradise *The* International Directory Service

NameFLOW-Paradise today

- Collection of well-established national directory services
- Covering:
 - 39 countries world wide
 - 4739 organisations
 - over 2 million entries
- Self-supporting
- Steady growth (40%)
- For and by leading edge community



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