

# **DESIRE II**

## **LDAP Indexing System**

**45 IETF, Oslo**

**LDAP Service Deployment - Take 2 BoF**

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## **DESIRE II**

- **Distributed Index system part of DESIRE II project**
- **Development of a European Service for Information on Research and Education**
- **European Union's Telematics Applications Programme**
- **10 European Partners**
- **Information discovery, integrated in a Web-centered model**
- **Integration of other distributed information services**
- **Metadata management**

## **Distributed Index system**

- **Hierarchical topology**
- **LDAP v3 technology**
- **Managed by the server side**
- **Index server registration**
- **Subset of CIP**
  - **Dataset Identifier (DSI)**
  - **Base URI for generating referrals**
- **Usage of the Tagged Index Object (TIO)**
  - **Tag identifies common attributes of an entry**

# The LDAP Indexing System

DESIRE

LDAPv3 Client

Search request  
LDAP referral

LDAPv3 Indexserver  
virtual db backend

Referral as ldif file

GET <url>  
accept text/ldif

LDAP Crawler

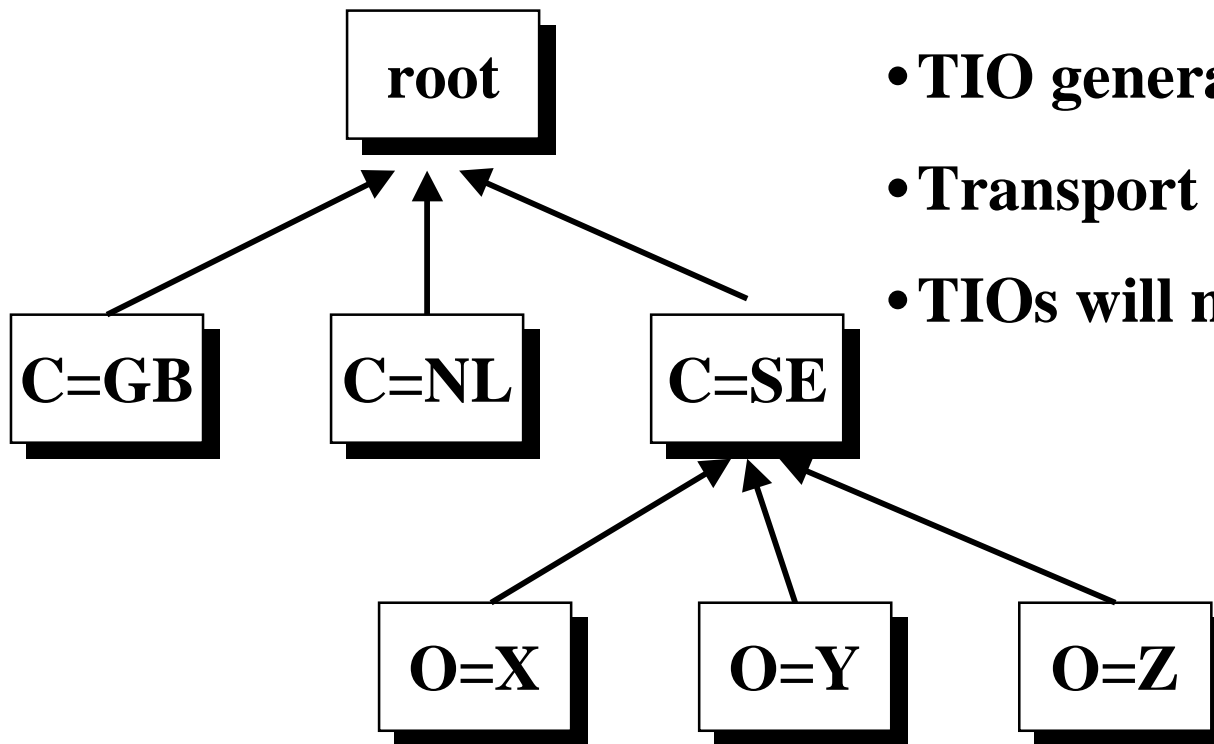
LDAP Server

TIO Server

TIO TIO TIO TIO TIO TIO TIO TIO TIO

HTTP  
LDAP

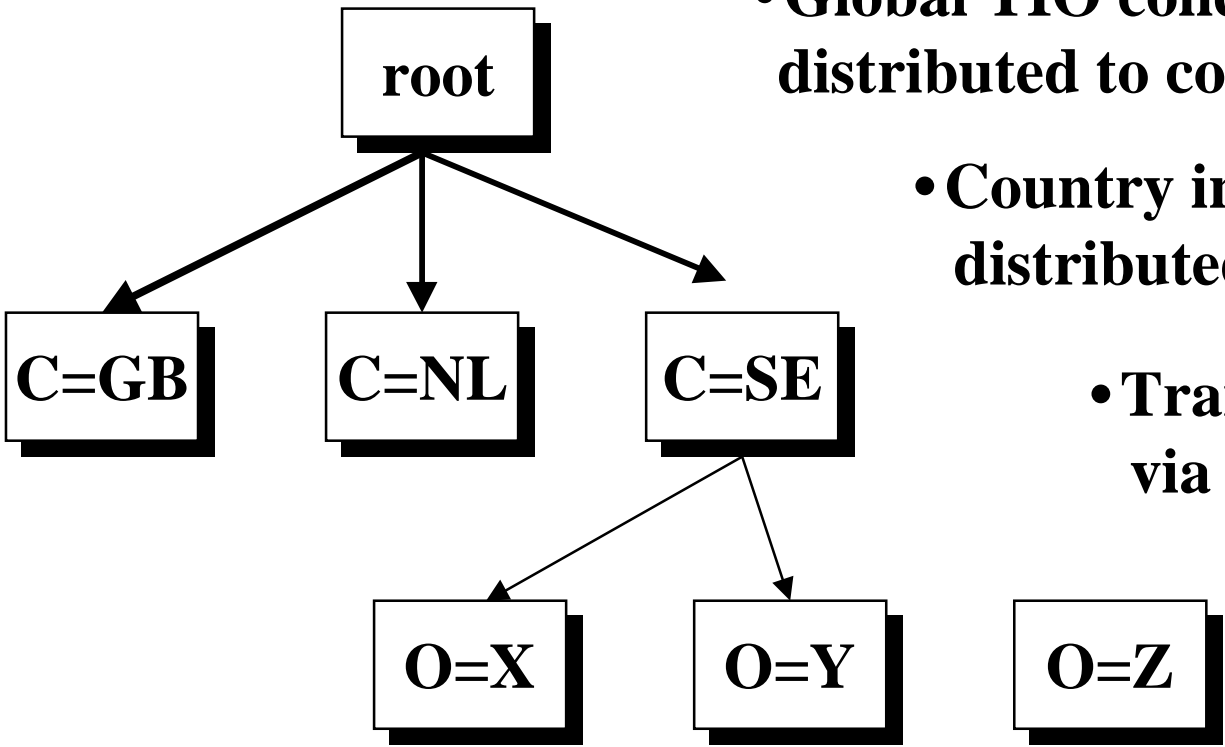
# Index Gathering



- **TIO generated by crawlers**
- **Transport encrypted via HTTP**
- **TIOs will not be aggregated**

**DESIRE**

# Index Distribution

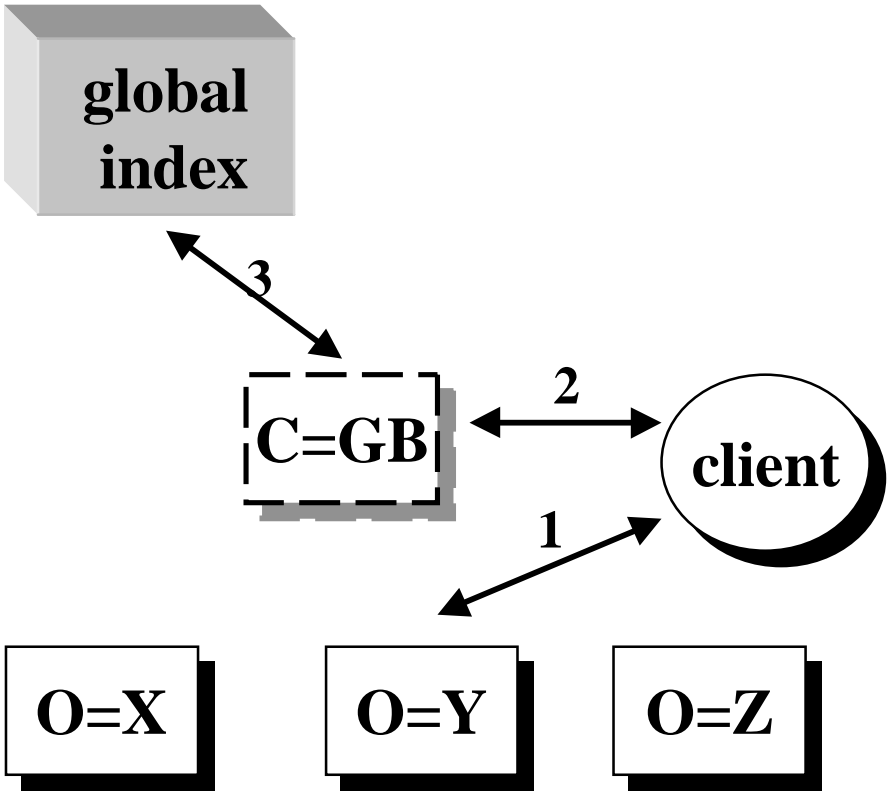


- **Global TIO collection distributed to country level**

- **Country index can be distributed downwards**

- **Transport encrypted via HTTP**

# Query Routing

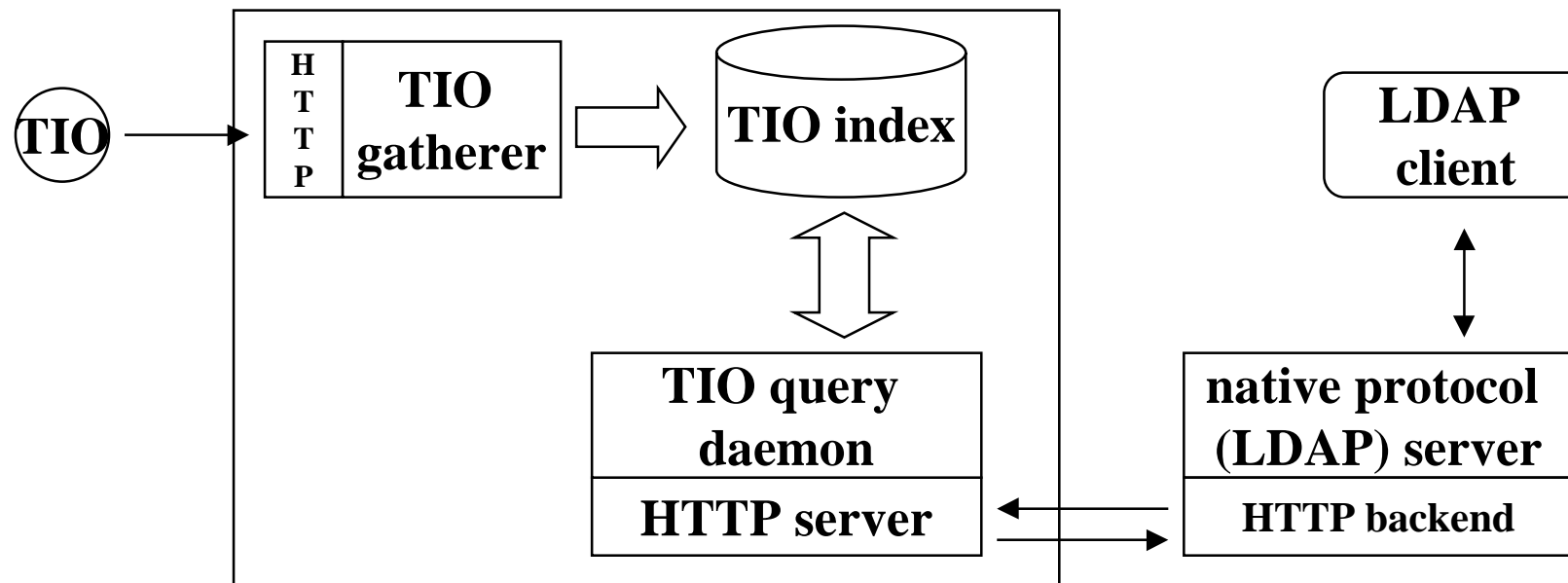


1. Client searches local server
2. Client searches country level server (CLS)
3. CLS looks up the referral index



**DESIRE**

# Referral Server Architecture



**Http request: GET ldap://hostport/c=nl??sub?(cn=\*pers\*) Accept:text/ldif**  
**Http response: Content-Type:text/ldif dn:ref=ldap://host/o=abc,c=nl**

# **Security Requirements**

- **Personal Data are subject to privacy legislation**
- **Public data have different status in collections**
- **We don't want to serve spammers**
- **Participating applications should be known**

## **Security Solutions**

- **All Index objects will be encrypted while on the net**
- **PGP encrypted S/MIME RFC 2015**
  - **Transport protocol independent**
- **Data server registration**
- **Crawler policy stored in the data server**
- **Crawler registration**
- **Referral Server will give back a limited amount of referrals**

## **Partners / More Info**

- **Partners**
  - **SURFnet**
  - **DANTE, Cambridge**
  - **University of Brunel**
- **More Info:**
  - **<http://www.desire.org>**
  - **[Peter.Gietz@directory.dfn.de](mailto:Peter.Gietz@directory.dfn.de)**
  - **[draft-gietz-ldapindex-00.txt](#)**
  - **<http://www.directory.dfn.de>**