From ECS to GCDIS / UserDIS
Richard Meyer

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GCDIS/userDIS Challenges

- Subtle And Not So Subtle Differences In Requirements
- Different Trade-Off Perspectives And Behavior
- Issues Of Reuse Outside Project:
  - Different System Context
  - Different Engineering Groups
  - Attracting Reuse
Interconnection & Interoperation

ECS Contribution
- Interoperability Infrastructure
- Interconnection Layers
- Multi-protocol Support

User

ECS Interconnection Layers

Provider

ECS Interoperability Layer

Request Broker

Service Request

Service Request

Service Providers

Request Description

Advertising Service
Interconnection & Interoperation

GCDIS/userDIS Needs Satisfied By ECS Evolution
• Bandwidth, Quality Of Service Guarantees
• Multicast, Real-Time Continuous Transfers
• Heterogeneous Naming
• Advances In Interoperability Support

GCDIS / userDIS ‘Uniques’
• Much More Heterogeneity (Unknown Targets)
• Very Low-end, Low-cost Connectivity
Distributed Information Management

ECS Contribution
- Distributed Search Agents
- Database Advertisements

GCDIS/userDIS

ECS

Client Services

Local Inf. Mgr.
Data Serv.
Data Serv.

Local Inf. Mgr.
Data Serv.
Data Serv.

SCF
DAAC

Data Provider

Advertising Service Agent
Request Broker

Inter-Site Search Agent

User
Site Interface
Distributed Information Management

GCDIS/userDIS Needs Satisfied By ECS Evolutions
- New Data Types (‘Data Type Servers’)
- Content Based Searching
- Advanced Search Capabilities (e.g., Support ‘Vocabularies’)

GCDIS / userDIS ‘Uniques’
- Availability, Reliability, Data Relevance Issues
- Reliability / Availability Of ‘System Data’
- Much More Heterogeneity
Service Interfaces

ECS Contribution - “Earth Science Desktop”
- Interface To ECS-Like Services
- Interface To Objects Produced By Services
- Internet Services Interface
Service Interfaces

GCDIS/userDIS Needs Satisfied By ECS Evolution
- Configurability (‘Service Description’)
- Adding New ‘Services’ And ‘Objects’
- Accommodation Of Special Interfaces

GCDIS / userDIS ‘Uniques’
- (Re-)Usability Issues
  - More User Interface Paradigms
  - Different User Communities, Needs, Tool Environments
- No Precise Targets
Data Access And Hyperlinks

ECS Contribution
- Direct Channel To Data
- Universal Support For A Universal Reference
- Hyperlink Access To Data And Services
Data Access And Hyperlinks

GCDIS/userDIS Needs Satisfied By ECS Evolution
  • Hyperlink Support In Data Browsing And Other Services
  • Extension to Multi-Media & Collaboration Support

GCDIS / userDIS ‘Uniques’
  • Direct Channels Across Unreliable, Heterogeneous Networks
  • How Universal Is The Universal Reference?
From ECS To GCDIS/userDIS

ECS Can Provide GCDIS/userDIS Components For
- Site-to-Site Interoperation
- Data Providers and Users

ECS Evolution Generally Fits GCDIS/userDIS Needs

Impact Of ‘Uniques’ On Trades Needs To Be Carefully Studied
- Some ECS Components May Need Further Break-Up
- Supporting Low End Of Capacity/...ility Scale May Affect Cost Equation

Challenges Remain
- Will Need GCDIS/UserDIS Policy Input