Science Network Resources: Distributed Systems

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Directory - Brief overview information about whole data sets
Catalog - More detailed information about whole data sets
Inventory - Information about individual granules or elements of the data set
WHAT IS A PROTOTYPE INTERNATIONAL DIRECTORY?

PURPOSE

- An online information system for rapid and efficient identification, location, and overview information on data sets of interest to the science community
- Initial place to search for data - leading to catalogs and inventories having more detailed information about the data
- Automated network links to other systems having more detailed information and possible additional capabilities

FEATURES

- No training needed
- Open, free access
- Interdisciplinary
- Earth and space science data
- International
- Data center/archive descriptions
- Campaign/project descriptions

MASTER DIRECTORY
<table>
<thead>
<tr>
<th>ADVANTAGES OF ON-LINE DIRECTORIES</th>
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<tr>
<td>• Provides data information to the science community 24 hours per day</td>
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<td>• Contains up-to-date information on the well-known data as well as the lesser-known data sets in remote locations</td>
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<td>• Allows quick information sharing among the interconnected directories via Directory Interchange Format (DIF) files</td>
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<td>• Permits immediate links to other on-line information systems which provide more detailed information</td>
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<td>• Information can be periodically extracted onto CD-ROM or floppy disk format for use in personal computer systems</td>
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INTERCONNECTED DIRECTORY ASSUMPTIONS

- Directory service will be provided free of charge to the science community

- The DIF files will be used as the standard of directory information exchange

- DIF files submitted to one node will be distributed, through an established procedure, to all nodes of a directory system

- DIF files will be reviewed at procedurally-determined locations according to standards defined for the system

- Copies of the final, reviewed DIF entry are retained at the reviewing location and by the DIF author. The author copy is the master copy.
DIF - EXCHANGE FILE FOR DIRECTORY INFORMATION

Description of a data set is written in the Directory Interchange Format (DIF) then passed among directories and automatically loaded

| Entry_ID:    |        |
| Title:       |        |
| Source_Name: |        |
| Sensor_Name: |        |
| Start_Date:  |        |
| Stop_Date:   |        |

DIF:
- A standard developed by Catalog Interoperability Working Group (federal agency and academic representatives)
- Simple ASCII text file
- Usually 2-3 typed pages in length
- In use by federal agencies, academia, European countries, Japan, Russia
- Described in DIF Manual (contact Jim Thieman)
- Maintained under change control

MASTER DIRECTORY
DIRECTORY INTERCHANGE FORMAT

- SPECIFIES SYNTAX STANDARDS [PARAMETER: VALUE]

- SPECIFIES THE PARAMETERS CONSTITUTING A MASTER DIRECTORY ENTRY:
  - TITLE
  - START AND STOP DATA
  - SENSOR
  - SOURCE
  - INVESTIGATOR AND TECHNICAL CONTACT
  - DATA CENTER
  - CAMPAIGN OR PROJECT
  - STORAGE MEDIUM
  - PARAMETER MEASURED
  - DISCIPLINE KEYWORDS
  - SPATIAL COVERAGE
  - LOCATION KEYWORDS
  - GENERAL KEYWORDS
  - REFERENCES
  - SUMMARY

MASTER DIRECTORY
INFORMATION CONTENT OF DIF AND DIRECTORIES

Descriptive Title
Brief Summary/Abstract
Data Source Name (Spacecraft, Platform, etc.)
Sensor Name
Start/Stop Date
Storage Medium
Discipline/Subdiscipline
Parameters Measured
Location Name
Latitude/Longitude Coverage
Bibliographic References
Name, Address, Phone, etc. for:
  Investigator
  Technical Contact
  Data Center Contact
Data Center Name
Quality

MASTER DIRECTORY
Percentage of Directory Entries by Discipline
January, 1990

- Astronomy: 14%
- Earth Science: 12%
- Planetary Science: 6%
- Solar Physics: 4%
- Space Physics: 64%

Total Entries = 768
(includes some multi-discipline entries)

MASTER DIRECTORY
DIRECTORY INTERCONNECTIONS STATUS AT GSFC

PRESENT

ADC - Astronomical Data Center
EDC - EROS Data Center Data Ordering Mailbox
IUE FACILITIES - IUE Processing Facilities
LEDA - ESA Land Observations Data Inventory
NCDS - NASA Climate Data System
NODS - NASA Ocean Data System
NSSDC - NSSDC Data Ordering Mailbox
OMNI - Interplanetary Medium Database
OCEANIC - Ocean Network Information Center
PDS - Planetary Data System
PLDS - Pilot Land Data System
SDCS - SAR Data Catalog System
TOMS - NIMBUS-7 Total Ozone Mapping Spectrometer Data
Assorted Dynamics Explorer Data Set Catalogs

Note that there are approximately 40 data systems/centers now described in
the directory. The ones above can be connected to automatically from the
directory through the LINK command.
FUTURE

BRUNET REQUEST - UCLA Space Physics Data System
CEOS PID - CEOS Prototype International Directory System (Europe, Japan)
IRPS - Image Retrieval and Processing System (Washington Univ.)
NASA ARIN - NASA Aerospace Research Information Network
NASA GISS - NASA Goddard Institute of Space Studies
NASA RECON - NASA REmote CONsole - (NASA Scientific and Technical Information Database)
NOAA NESDD - NOAA Earth Systems Data Directory
UA - GEODATA CENTER - University of Alaska Fairbanks/GeoData Center
USGS ESDD - USGS Earth Science Data Directory
The number of staff reflects the role of GSFC as a coordination point for software and database content. (Not all personnel are full-time)
ACCESS TO DIRECTORY AT GSFC

SPAN

$ SET HOST NSSDCA
USERNAME: NSSDC

INTERNET

TELNET 128.183.10.4
USERNAME: NSSDC

OMNET

GOTO NSSDC

DIAL-IN LINES

Dial 301-286-9000
CONNECT 1200 (or 2400 or 300)
Enter several carriage returns
ENTER NUMBER
MD
CALLING 55201 (or 55202)
CALL COMPLETE
Enter several carriage returns
USERNAME: NSSDC

ITALICS INDICATE RESPONSE FROM THE COMPUTER

MASTER DIRECTORY