



CERA: Data Structure and User Interface

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- The CERA Characteristics
- CERA: Additional Features
- The Running System: Data streams
- The Running System: Inclusion of Foreign Sources
- The Graphical User Interface



CERA-2 Starting Point



Capabilities

- × web enabled
- × linked to data sources

Efficiency

- ★ easy to change/extend in data structure
- × ... and, of course, in content
- little effort for additional software (tools, etc.)
- × easy to adapt to different user interfaces
 - --- KEEP THINGS SIMPLE ---





CERA-2 Development

How does CERA-2 meet these requirements?

- >< by flexible structure: data structure not completely fixed
 - table groups form modules and submodules
 - local extensions for local integration and local needs
- > by flexible content: definable fields and tables
 - definable entry types, contact information types, & various other i.e., definable contents of table groups
 - flexible lists of values (LOV): extensible but controlled
 - necessary: LOVs include attributes "acronym" & "description"
 - free text fields of user-defined contents: e.g., for automated data access
- >< by simple structure: blockwise tablegroups
 - CERA-2 Blocks have similar structure
 - more difficult structures go into CERA Blocks
 - some basic rules:

no <null>s allowed negative topics in the LOVs: "none", "n/a", "not filled"





The Block Structure



Reference

Any publication related to the data togehter with the publication form

Status

Status information like data quality, processing steps, etc.

Distribution

Distribution information including access restrictions, data format and fees if necessary

Coverage

Information on the volume of space-time covered by the data

Metadata Entry

This is the central CERA Block, providing information on

- the entry's title
- type and relation to other entries
- the project the data belong to
- a summary of the entry
- · a list of general keywords related to data
- creation and review dates of the metadata

Spatial Reference

Parameter

Block describes data topic.

variable and unit

Information on the coordinate system used

Contact

Data related to contact persons and institutes like distributor, investigator, and owner of copyright

Additionally: Modules and Local Extensions

Module DATA_ORGANIZATION (grid structure)
Module DATA_ACCESS (physical storage)
Local extension for specific information on (e.g.)

- data usage
- data access and data administration





Some additional features

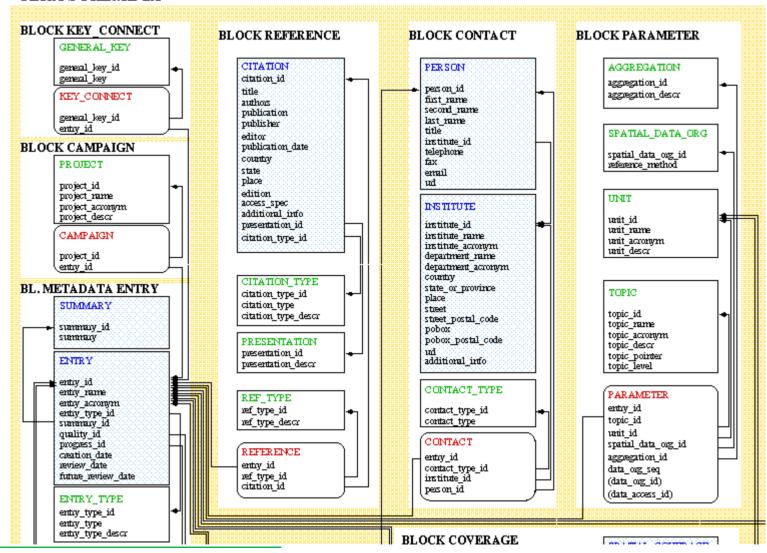
- allows for pointers between CERA Entries: directed or symmetrical relations
- × various views on CERA Modules for the
 - automatted data access and
 - axes description of multidimensional equidistant gridded data
 - including axes consisting of different equidistant patches
- information on in house data processing can be added to every entry



The CERA Core



CERA SCHEME 2.5

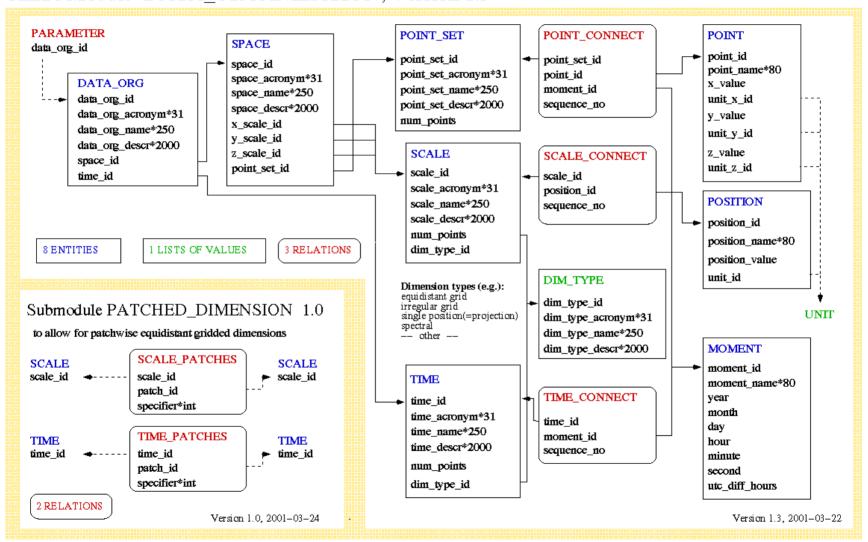




A CERA Module

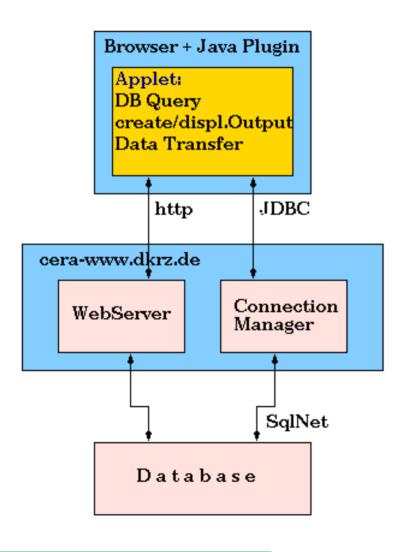


CERA Module DATA_ORGANIZATION, Version 1.3



Data Streams





Access Client realised as web-based Java Applet.

Middleware layer provides applet and DB connection

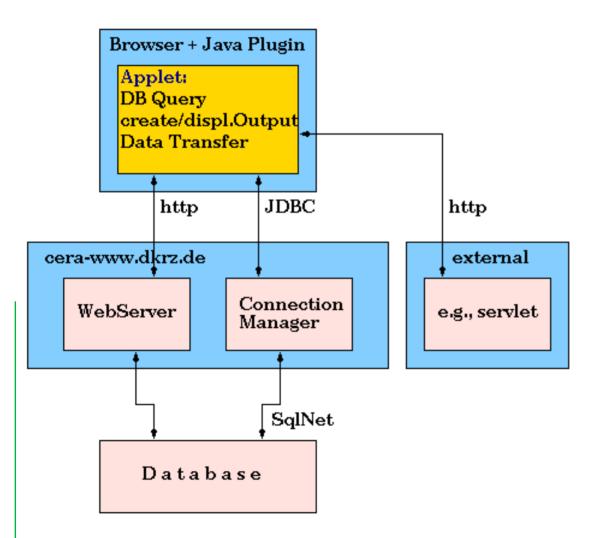
DB-Server for catalogue operations and climate data retrieval.





Inclusion of other Data Sources





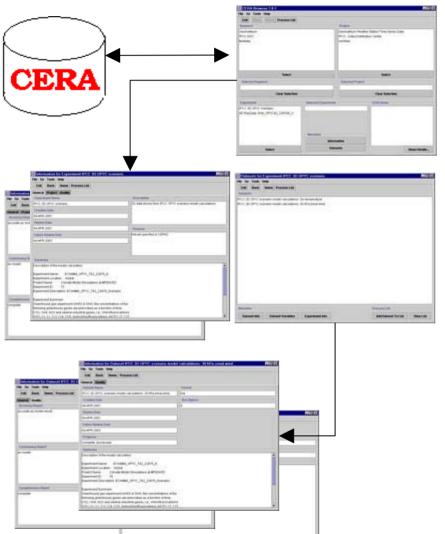
Client applet receives foreign data URI from CERA-2 DB

Foreign server provides DB data by http:
German Aerospace Centre



The User Interface





Selection via CERA meta data:

- selection of the experiment (=model run)
- display of meta data: experiment, quality, datasets
- selection of the dataset
- display of dataset information
- add datasets to "process list"
- download from tape archive to data server
- dowload to the client
- F. Toussaint (WDCC, Hamburg) / 11.11.03 / 11



User Needs



