

BSSE System and Software Engineering

Call data Acquisition and Distribution Integrated System

(CADIS)

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CADIS GENERAL OVERVIEW

CADIS is a system which provides data acquisition and processing capabilities transparently across a local or wide area network. CADIS systems can be configured according to a customer's needs from a single stand-alone system to a large network-wide system, from a single processor system to a fault-tolerant system. A smaller configuration can be upgraded to a larger system.

CADIS introduces a number of concepts going beyond the state-of-the-art of current data acquisition and processing systems in order to provide autonomous functions at high degree of automation to minimise human intervention, especially at the remote sites.

CADIS systems simplify operations and reduce operational costs. Especially, in case of a distributed system the available automated operations are making system maintenance much simpler. Autonomy allows to continue execution in case of occurrence of (anticipated or non-anticipated, sporadic) faults without the need for immediate human intervention. CADIS may even issue telephone calls to the operator to ask for further advice or to inform about the system status. Hence, a network of data acquisition and data processing units can easily be operated and maintained from a central site.

Finally, CADIS is built on top of a generic, reusable platform which can easily be configured for other application areas as well like for control and status monitoring of terminal units connected via air to a number of sites (remote sites and/or central site).

Fig. 1 shows the logical chain of data acquisition, processing, archiving and retrieval as supported by CADIS: the data are acquired from a data source via a number of possible line types by running a standard or customer-specific protocol. The kernel does customer-specific processing of the data (including storage into data files). Optionally, data may be stored into a (commercial) SQL data base and retrieved by a graphical user interface (GUI). The system can either be commanded by on-line or file inputs.

The functionality covered by this logical structure can be transparently distributed over a network dividing the whole system e.g. into a number of remote sites and a central site. The granularity of distribution is shown by Figs. 2 and 3. It is important to outline that from each such site another site can be accessed like in a case where the remote functionality would reside on the local site.

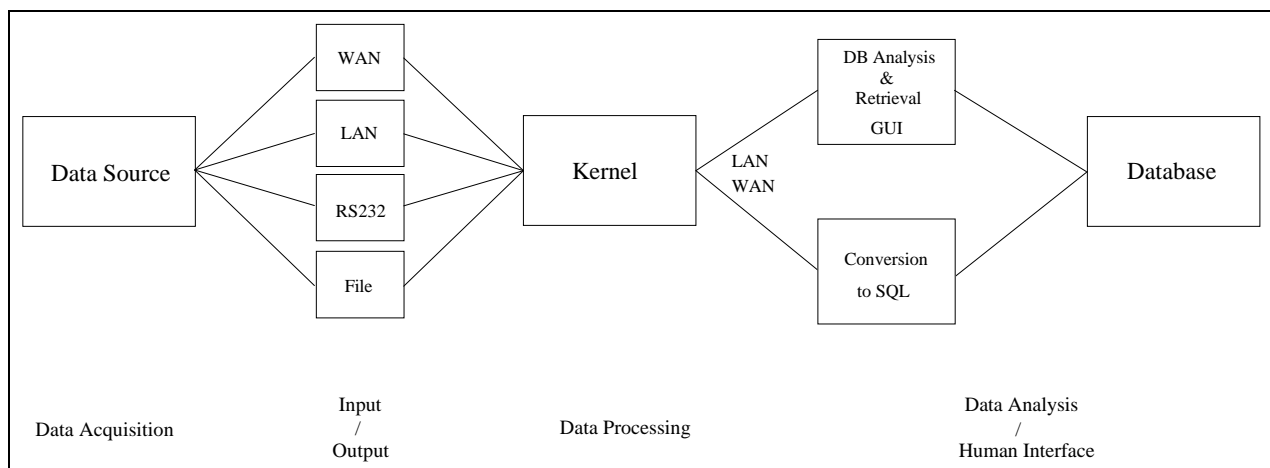


Fig. 1: Principal Structure of CADIS

Fig. 2 indicates which part of CADIS may reside on an independent site. The allocation of such CADIS substructures to processors is freely choosable by a customer according to his specific needs: all parts may run on the same processor, all parts may run on different processors, or some may run on the same processor.

What can be migrated within a network is:

1. the data acquisition part
2. the data processing part
which can be specifically configured for a certain site
3. the database
of which the SQL converter and the database can again be seperated, if needed
4. the GUI providing reports and spreadsheets
which may multiply be instantiated within the network,
i.e. a (remote or local) database can multiply be accessed from the same or other sites at the same instant

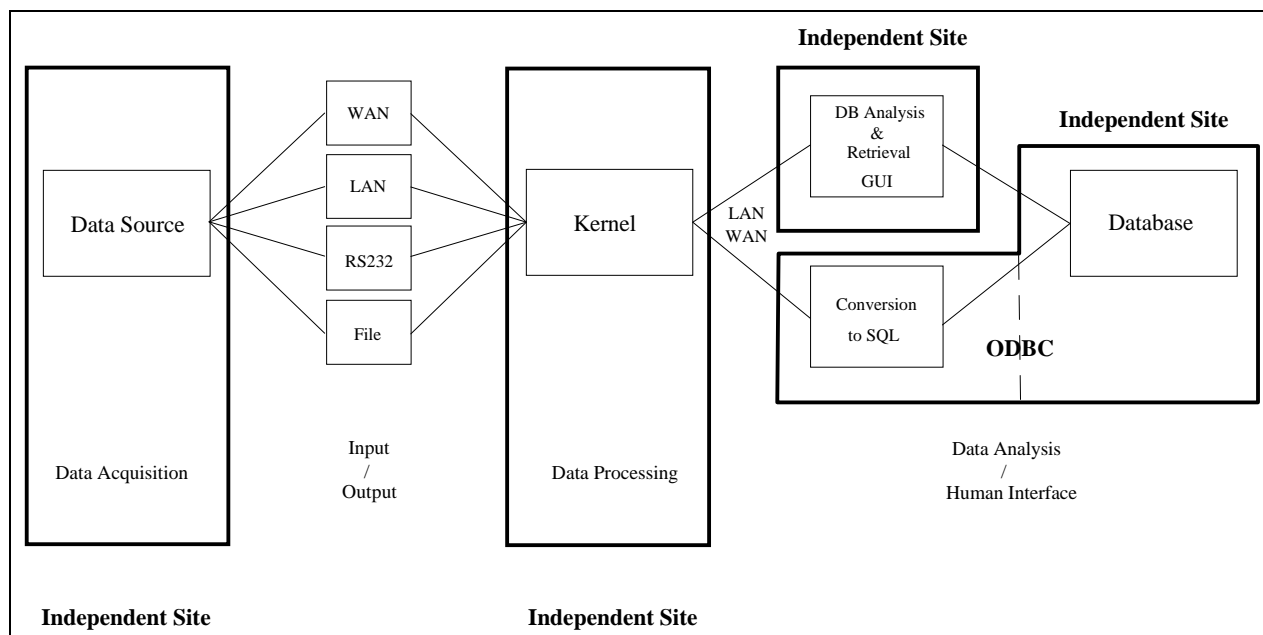


Fig. 2: Network Structure of CADIS

Fig. 3 describes what could be included in the kernel for a certain site:

1. data conversion from binary format to a standard format
e.g. Nokia C or G format
2. data conversion into another format
e.g. a customer specific billing format like AMA or RC3 format
3. storage of data into files
4. conversion between MPT and subscriber formats
5. handshake with a billing system including hot-billing
6. system monitoring and control and information logging

- data conversion from binary to ASCII format
- data conversion to billing format
- data storage into files
- conversion between subscriber and MPT formats
- handshake with billing system
- handshake with hot billing system
- system monitoring and control
- information logging

Fig. 3: Kernel Functionality to be Configured and Distributed

Hence, CADIS and its generic and reusable platform provides sound support to meet a customer's needs in view of desired functionality and performance, transparent distribution, autonomous operation and fault tolerance. CADIS can well support a large number of different application areas of which the acquisition and processing of call data is only one amongst the possible application areas.

Please contact us so that we can discuss with you your specific application.

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