

WHAT IS CLAIMED IS:

1. A data processing apparatus, comprising:
 - a front-end interface electronically coupled to a main processor;
 - said front-end interface is adapted to:
 - receive data stored in a repository, in particular an external storage and/or a network;
 - determine whether said data is a single-access data or a multiple-access data by analyzing an access parameter designating said data;
 - route said multiple-access data for processing by said main processor;
 - and
 - route said single-access data for pre-processing by said front-end interface and routing results of said pre-processing to said main processor.
2. The data processing apparatus of claim 1, wherein said access parameter is based on any from the group of a reception time between two receptions of a same data on said front-end interface, and a request time between two requests of a same data by said main processor.
3. The data processing apparatus of claim 2, wherein said access parameter is measured as a relative time between two receptions and/or two request of a same data on said front-end interface.

4. The data processing apparatus of claim 2, wherein said access parameter is measured as an absolute time of a second access of a same data on said front-end interface.

5. The data processing apparatus of claim 2, wherein said access parameter is measured by counting a number of different data between two accesses of a same data on said front-end interface.

6. The data processing apparatus of claim 2, wherein said single access data is determined by comparing said access parameter to a threshold value.

7. The data processing apparatus of any of the previous claims, wherein said front-end interface comprises at least one local processor adapted to:

access a local memory unit;

pre-process said single-access data and/or store said single-access data to said local memory unit; and

route results of said pre-processing to said main processor for further processing.

8. The data processing apparatus of the preceding claim, wherein said pre-processing comprises a group of application specific instructions for filtering and aggregating a plurality of data elements of said single-access data.

9. The data processing apparatus of claim 8, wherein said at least one local processor of said front-end interface incorporates a pre-processing instruction transfer

module, wherein said pre-processing instruction transfer module is configured to receive said group of application specific instructions from said main processor, convert said group of application specific instructions to a machine language of said at least one processor, and execute said machine language on said at least one processor to perform said pre-processing.

10. The data processing apparatus of claim 1, wherein said front-end interface comprises a temporary memory unit for storing at least some members of said results before routed to said main processor.

11. The data processing apparatus of claim 10, wherein memory storage addressed in said temporary memory unit is mapped into storage addresses of a main memory of said main processor.

12. The data processing apparatus of claim 1, wherein said front-end interface is adapted to receive a main processor output from said main processor and to use said main processor output to pre-process said single-access data.

13. The data processing apparatus of claim 1, wherein a local processor instruction is generated by a device driver incorporated into an operating system configured to operate said main processor to perform said pre-processing.

14. A method performed by a data processing apparatus, comprising:
receiving data stored in a repository, in particular an external storage and/or a network;

determining whether said data is a single-access data or a multiple-access data by analyzing an access parameter designating said data;

routing said multiple-access data for processing by a main processor; and

routing said single-access data for pre-processing by a front-end interface and routing results of said pre-processing to said main processor.

15. A computer readable medium comprising a program code for encoding thereon:

first program instructions executable by a processor to receive data stored in a repository, in particular an external storage and/or a network;

second program instructions executable by processor to determine whether said data is a single-access data or a multiple-access data by analyzing an access parameter designating said data;

third program instructions executable by said processor to route said multiple-access data for processing by a main processor; and

fourth program instructions executable by said processor to route said single-access data for pre-processing by a front-end interface and routing results of said pre-processing to said main processor.