

GOLDFARM

Design, Construction and evaluation
of a Minifarm for HEP data filtering
built using state of the art
components.

The Problem

- Present and future experiments generate an enormous amount of data that need to be processed at two different levels: a) filtered and b) off-line processed.
- The storage of data can cost as much as the experimental apparatus.
- The time to off-line process the data is also enormous.

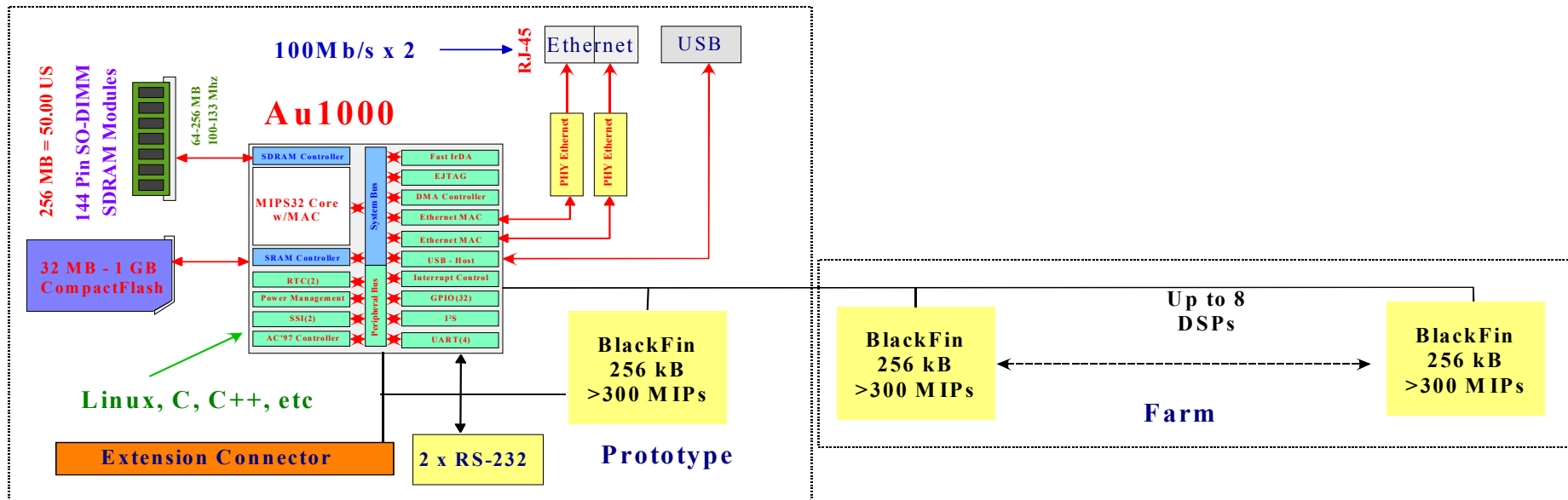
Characteristics of a good solution

- Must be cheap.
- Small and Compact in order to place it as close to the detectors as possible.
- Low power, cool running.
- Programmable without great changes, i.e. using Linux and C++.

GoldFarm, a mini farm

- We use highly integrated processors.
 - AMD's AU1000 32-bit RISC processor.
 - Analog Devices ADSP-BF535 DSP as coprocessors
 - Compact Flash as “hard disk”, no swapping.
 - SODIMM-144 memory module for compactness and cheapness.

GoldFarm prototype



Milestones reached

- We have “theoretically” ported a full Linux to the AU1000.
- We have finished the schematics of the prototype and the full minifarm.
- We will finish in the next weeks the layout of the prototype, delayed by component delivery.