

Networking the Level 2 Pilot Project

- Network Technologies
- Software Development for Networking
- Simulation
- Human Networking for Networkers

Institutes Involved (that I know about !)

Argonne/MSU

CERN

Manchester

RAL

RHBNC

Saclay

R. Hughes-Jones

February 1998 CERN

Network Technologies

- Ethernet 10 / 100 Mbit/s
 - A switched 10 / 100 Mbit/s PC cluster will be the Reference Testbed - Software focus.

- Gigabit Ethernet
 - Technology is arriving very fast.
 - Market and manufacturer driven.
 - Currently positioned as corporate backbone + a few data warehouse servers
 - Technology study :
 - Interfaces
 - Switches
 - Parallel processing interfaces "smart interface"
 - Protocols more appropriate to ATLAS

- SCI
 - Technology study of 500 Mbyte/s LC2 interfaces
 - Technology study of fast modular switch
 - > 1Gbyte/s
 - ~ 50 nodes
 - Develop SCI software components for the Pilot
 - Integrate SCI as an interconnect for the Pilot

- ATM
 - Will construct 32 node testbed @ Saclay
 - 16 node testbed @ ANL/MSU
 - Technology study of large switch
 - Technology study of 2 & 3 layer switches
 - SW and algorithm study
 - using Saclay framework
 - then integrate as a interconnect with the Pilot

- MyriNet
 - Comprehensive simulation reported.
 - Discussions with the company to check feasibility to build a large system.
 - Contact Univ. of Amsterdam to access their system and knowledge.

Others ...

- HS links
 - Included in Gigabit Ethernet
- Raceway
 - May be investigated by DAQ/EF DAQ-1
- PVIC
 - May be investigated by DAQ/EF DAQ-1
- Firewire
 - Interest from Enable++
- DSL
 - Aimed at high speed connections into the home
 - Large mass market at 1 Mbit/s
 - Higher speed would be of interest

We have to watch the market !

Software

- Define & provide API / objects for the Pilot

Simulation

- SimDAQ++

Simulation with physics & trigger menus

- Ptolemy

Simulation of
hardware
technologies
new HW designs

Would be very good to have common configuration files.

Human networking

- Discuss common aims and objectives
- Define work areas
- Avoid duplication by sharing work & experience

We are all working an a common Pilot Project !