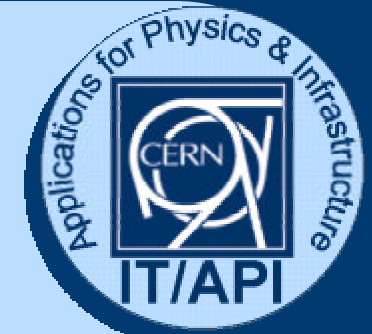


CERNLIB/FORTRAN issues

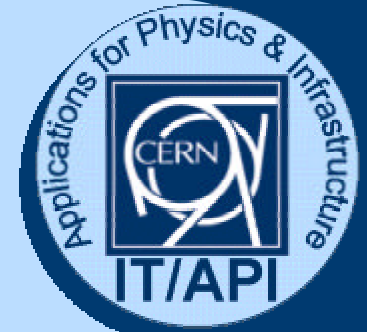
J. Knobloch IT/API
FOCUS Meeting
3 May 2001


Topics



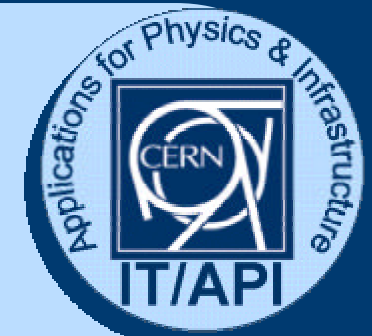
- LEP long-term data storage
- CERNLIB release 2001
- FORTRAN compilers

LEP long-term data



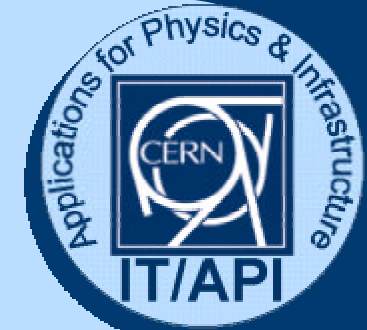
- Two meetings between LEP experiments and IT
 - chaired by the Director for Collider Programmes
- Observations
 - continue normally until 2003 – last data processing  then tailing-off analysis
 - New physics may require Monte Carlo and its reconstruction as black-box for long time
 - All are on LINUX, can use CASTOR for event data
 - FOCUS agreed: CERNLIB maintenance ends 2003

Additional information and considerations



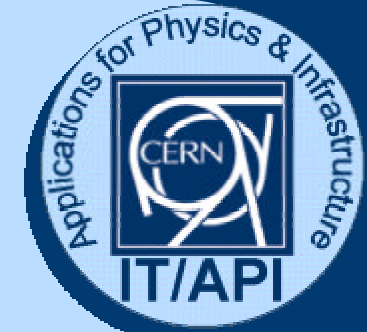
- Some required components such as GPHIGS are provided by external sources.
 - We have enquired on continued availability.
 - No worry yet, but need to follow up.
- No plan by IT and the experiments exists to move to the Intel 64-bit architecture. Intel has announced that IA-64 will provide IA-32 instruction binary compatibility in hardware. We expect the programs to continue to run.

Proposals



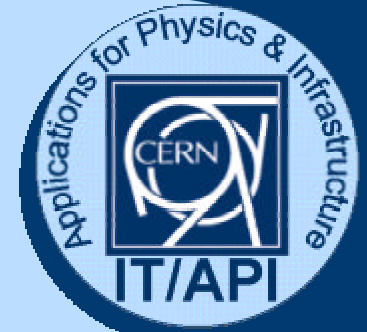
1. Have all data in Castor – (flat files)
2. Stick with the by FOCUS agreed proposal for CERNLIB support until end 2003.
3. “Keep-as-is” CERNLIB (or agreed subset), ZEBRA, GEANT 3.21 on LINUX
 - No new code (anyhow)
 - No user support
 - No port to 64-bit architecture
 - Re-compile on major new LINUX versions
 - Tests to be done by the experiments
 - If tests fail ✍ keep last working frozen version
4. May discontinue PAW support after 2003 – provided that an appropriate replacement product exists

CERNLIB last version



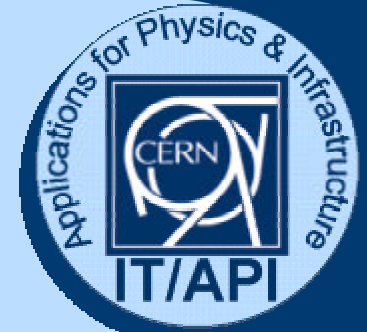
- The last release of CERNLIB in 2002 will be made in the light of these proposals:
 - The build procedure will be further streamlined and documented such that a new build of CERNLIB on LINUX can also be done without the presence of CERNLIB experts.

CERNLIB release 2001



- Currently in “NEW”:
 - Castor client in packlib and kernlib
 - Lapack has been separated from mathlib to avoid name clashes
 - Monte Carlo libraries (Pythia, Jetset74) dummy routines separated out to allow easy use of pdflib804
 - Bug fixes in hbook, kuip, paw, comis, hplot, higz and dzdoc.
 - Linux fix for rndm2.
- Proposal: Make it “PRO” by early June

FORTRAN Compilers



- LEP experiments request better debugging on LINUX
- Studied options:
 - g77: debugger does not provide symbols in COMMON blocks, worry about ongoing support
 - PGI: Total view debugger, problem with optimization in CERNLIB
 - NAG: very (too) good syntax check, not best performance, direct debug with gdb
 - Lahey/Fujitsu: start to look at, compatible with g77
- No conclusion yet – studies continue