CN/DPG/91/MIN/1

THE CN DIVISIONAL PLANNING GROUP

Minutes of the Meeting held on 19th. March 1991

PRESENT: J.J.Bunn(Secretary), R.Brun, F.Fluckiger, F.Gagliardi, D.Jacobs, S.Jarp, C.M.S.Jones, J.–C.Juvet, E.McIntosh, M.Metcalf, A.Osborne, H.R.Renshall, J.Richards, L.M.Robertson, D.O.Williams(Chairman).

- It was agreed that HRR would report on tape mount statistics at the next DPG meeting.

- *THE RELATIVE COSTS OF PROVIDING CPU STANDARD HOURS (CN/DPG/91/1)*

  JJB was asked to introduce the paper on relative service costs. The paper was intended to compare the costs of providing standard hours on the available main services in the Computer Centre. It tried to be as fair as possible by showing the results of calculations based on costs of "seats" as well as just global costs. But it was only a "snapshot" in time. The relative costs might look very different from those presented if, for example, one of the services was upgraded significantly in compute power at a constant level of expenditure. The paper did not calculate any *marginal* costs, in other words the extra costs involved with increasing the power of each service. It also did not address the *lost opportunity* costs, or those that might be entailed by not moving to a new, better, service.

  Following the introduction, there was some animated discussion of the merits (or lack of) of the calculations. It was pointed out that the Cray figures might look significantly different if a Y–MP had been installed, and a "vectorisation" bonus added. For the IBM some people wondered if the service costs were correct, and others contested the use of a low 3090 to 168 performance ratio to determine the delivered CPU hours.

  The discussion then turned to whether or not the information contained in the paper should be released outside the Division. It was felt that the information should remain with CN management, but that a fair and clear interpretation might be offered to the user community.

  Finally, LMR said that the purpose of writing the paper had been to obtain figures that would indicate whether or not the *shift* project could supply Standard Hours at a fraction of the cost of mainframes. He felt that this had indeed been shown to be the case. DOW said that he, LMR and JJB would discuss how to procede with the information.

- *SHIFT*

  LMR presented the *shift* project status, and the plans for future developments. His transparencies are attached to these minutes.

  He first dealt with the existing configuration, which consists of a mixture of Silicon Graphics and HP/Apollo machines connected by an UltraNet hub. The Cray was being used for tape staging. The types of job being run currently on the facility were almost exclusively Monte Carlo, due to limitations of available disk space. LMR said that the current configuration, termed "Phase I", would be ready for production by March 25th. The second phase, Phase II, would be implemented by May–June 1991, and incorporate an IP router, a DN10000 machine, DEC disks, together with Unix tape support software. Phase II of the project would integrate the existing Hope facility, and provide 130 GBytes of disk space.

  LMR asked whether the DPG felt it appropriate that *shift* should be regulated by a morning meeting (as done for the other major services in the Centre). It was agreed that it could usefully be integrated with the Cray morning meeting.

Some problems with the existing configuration included the UltraNet interface to the Cray Low Speed Channel, and the required support of the "C" I/O version of the FZ package (needed for access to Exabyte tapes). Another problem was late delivery of DEC's VME interface, and the *shift* team were investigating moving to a Sun–based alternative.

Regarding job submission to *shift* LMR said that although the software existed for OPAL, there was no one generalising it. The VMS and VM interfaces to NQS were expected soon. Access to and from the IBM could in any case be achieved via standard ftp across the IP router. There was some discussion of how best to interface to the IBM, whether this by striping the UltraNet channels (with a risk of hitting IBM disk I/O rate limit), or by using HPPI, which has problems of compatibility with PR/SM. In any case, an estimate of what traffic to expect between the IBM and *shift* was required.

LMR moved on to options for the future, and described three scenarios. The first was for a High Capacity Interactive Computing Platform, which would enable users to obtain short bursts of the full power of the facility. The second was a Monte Carlo Simulation Farm. And the third was a facility for general analysis. In fact, representatives from experiments who had contacted LMR expressing interest in participating and using *shift* had only been concerned with the first two of these possibilities. RB said that his group were already developing software that tried to solve the distributed PAW problems necessary for the first scenario. DOW said that it was possible that computing problems of this nature would be nicely solved by the eventual installation of a massively parallel machine in the Computer Centre.

There followed some discussion of whether *shift* should be offering a general purpose service to the user community, or not. LMR re–iterated that there did not seem to be a real demand for this. But it was held by others that, at the projects inception, it was widely billed as being a possible future general purpose service.

LMR said he felt that the *shift* project would benefit from going to tender for major upgrades. There were reservations expressed about the time and effort it would take at CERN to write the tender document, pass it through Finance, obtain the manufacturer offers, and select the best candidate.

- *NEXT MEETING*

The next meeting of the DPG will be at 10:00 on Monday April 15th. in Conference Room 1.