DØ computing in Prague

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Hardware status

– *http://linux098c.fzu.cz/cgi-bin/mcc/farm_computers*
– more CPU in few months, Linux farm in Brno
– large 1TB raid disk array

Software status

– switch to MCC phase III during the summer

- pmc03.00.01
- psim01.01.00
- preco04.00.03
- mc_runjob–v02–02–09

– Fermi Linux 6.1 OS
– Greg's tar files
– MC generators and *d0gstar* are running OK
– *D0sim_x* crashes when adding non zero numbers of minimum bias events
– testing Debian2.2 OS

– new tar file psim01.02.00 has not been tested yet
– I did not play to much with preco04.00.03

Farm control

– each computer has its own text file where the information about all jobs is kept
– a *html* interface through *cgi* programs

– server *mcc3d* that gives to client informations about current computer status (load averages, free disk space, and used memory)
– client is cgi program that produces overall overview in *html* format
– *http://linux098c.fzu.cz/cgi-bin/mcc/farm_control*

Production status

– MCC III production started on 22 August 2000
– see our production WEB page
– about 100 kEvents produced in 48 days
– an average rate is about **2000 events per day**
– this is about 70% of the maximum rate
– stability is good, only one computer from time to time crashes
– we had only problems with full disks but it was quickly solved thanks to the new SAM cache area

Prospects for next months

– another 70 kEvents of minimum bias will keep us busy for next month
– storing the minimum bias temporarily on one IDE disk
– in two months - 1TB raid disk array
– about 100 GB will be used for DØ computing
– will be used for storing the minimum bias data and as a disk cache

PC farm in Brno
– computers are now purchased
– *Globus* project
– we will use *globus* to submit the jobs (Miroslav Novák)
– several computers only for DØ usage
– in the beginning we want to start with about 10 CPU
– Debian 2.2 OS system
– network limits: current transfer rate

$$\mathbf{200 - 300\ kB/s} \Rightarrow \mathbf{15\text{ - }20\ GB/day}$$

– 5 computers produce 1GB/day $\Rightarrow$ limit about 50 processors

Debian 2.2 test
– both OS Debian 2.2 and Redhat 6.1 are quite similar
– a little bit different versions of run-time libraries (Debian uses libc6 2.1.3, Redhat uses version 2.1.2)
– 10 QCD events with Pythia
– 10 $Z \to b\bar{b}$ with isajet
– *gen*-files and *d0g*-files differ
– the output checked with package *d0ev*
– particle contents and detector output look the same
– another test with *jetanalyze_x*
– again the jets are the same in both cases

Summary
– you can expect about **2000 events per day** in next few months
– probably in December or at the beginning of new year you can expect our production rate to be three times more