

# Status Report for CDF Italy computing

fcdfsgi2 disks

Budget report

CAF: now, next year

GRI D etc.

CDF - Italy meeting

Pisa - 11 Dec 2002

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## Disk on fcdfsgi2 as of 6 Dec 2002

GB	Present	Managed	Used	Proposal		When	Note
100	Bottom1	??	77%	SVT	Carosi	Now	Erase
122	Bottom2	??	96%	SVT	"	Now	Erase
100	Svt_data1	Carosi	39%	SVT	"	-	
50	Svt_data2	Carosi	94%	SVT	"	-	
50	Svt_data3	Carosi	1%	SVT	"	-	
50	Svt_User	Belforte	97%	Spare/CHA/I SL	Belforte	Xmas	Erase
50	Hmutau	Belforte	90%	H→tau mu + I SL			
800	Bottom_202	Giagu	62%	Bottom	Giagu		
300	Top_2002	Castro	97%	Top			
100	Zbb_2002	Castro	22%	Z→bbar	Dorigo		
122	Zbb2_2002	Castro	48%	Z→bbar	Dorigo		
48	Spare_d1	Belforte		Spare			
174	Spare_d2	Belforte		Spare			

**SVT: 420 top: 300 B: 800 Zbb: 220 Spare for: minbias, jets, ...**

# FROM MAY'S TALK: Comments on computing budget

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- All money was spent
- All money was spent on the project
- Additional money was brought on the project from Trieste
  - Tape drives financed but not bought (most)
  - Savings from other projects (little)
  - Remainings from other groups (very little)
- Excellent relationship with INFN referees and CDF offline management
- Project financial management is working well
  - Total transparency/accountability
  - In spite of somebody's worries
- Too much enthusiasm
  - 40ML must be returned to Trieste group

# New Comments on computing budget

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- All money was spent
- All money was spent on the project
- 10K (out of 20K) reimbursed to Trieste
- 2 fileservers for next year already mostly paid
  - ☞ Wait for final figures (~2 more months) to know exactly how much was saved
- Excellent relationship with INFN referees and CDF offline management.
- Referees changing, Luminosity lacking
  - Getting money will be harder in the future
- Project financial management is working well
  - Total transparency/accountability
  - In spite of somebody's worries

## 2002/3 budget

- 80+120+67 = 267 Keuro assigned from CSN1. Spent as:
  - disk: 80K - CPU: 150K
- Saved money because:
  - Hw was cheaper then CSN1 estimated
    - ☞ duals: 2.2K vs 2.5K - fs: 10K vs 12K
  - 1\$/1Euro: 1.2 → 1.1 → 1.02
- Savings: 50% in pay-back, 50% anticipation of 2003
- Sales season ends here
  - For 2003 (122KE) CSN1 used \$/Eu=1.1
    - ☞ + 122KE s.j., will use "then" \$/Eu at release time
  - First 10 duals costed 2.6K, expect any price in 2.2~2.5K
  - File server costs still uncertain (new technology)
    - ☞ if present ones break a lot, next will cost more
    - ☞ plan to buy very few of them anyhow

# Interactive work

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- CSN1 does not like “power desktops”
  - 1 “smuggled” in June
  - 3 financed for 2003 (at 3.5K vs. 4.5K req)
- Have to explore interactive on CAF
- Could easily get lots of CPU, use CAF scratch disk, can incorporate FC disks (2.4TB total) after fcdfsi2 dismissal (2004)
- Likely way to get additional money (s.j. release e.g.)
- FKW interested, but has full hands
  - Anybody helping ?

# CAF so far

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- As of Nov 20:
    - 5 file servers (1.8TB x4 + 2.2) (almost all used by HadrB)
    - 10 dual nodes (priority queue)
  - ~now (running now, waiting customers and "talks")
    - +1 file server (anybody wants it ?)
  - By Xmas (burning in now)
    - + 1 file server (anybody wants it ?)
    - +34 dual nodes
  - Soon after (PR submitted to Fnal purchasing)
    - +18 dual nodes
- CAF 2002: 15TB (7 fs) + 62 duals (=124 1.4GHz cpu)
    - Right on June's target for  $0.8 \text{fb}^{-1}$  in 2003

# CAF future

- Our plan “approved” by CSN1 (as shown in June)

year	Luminosity		ANALYSIS FARM			contingency 40% (Keuro)	Requested per year (Keuro)	assign	
	Planned (Church)	Target (adjusted)	disk (TB)	CPU (duals)	cost/y (Keuro)				
<b>2001</b>	<b>commissioning</b>		<b>0.6</b>	<b>0</b>			<b>43</b>		
<b>2002</b>	0.3	<b>0.8</b>	<b>15</b>	<b>60</b>	<b>263</b>	<b>0</b>	<b>263</b>	200+69 =	269
<b>2003</b>	1.2	<b>2.0</b>	<b>37</b>	<b>130</b>	<b>305</b>	<b>122</b>	<b>427</b>	122+122sj =	244
<b>2004</b>	2.5	<b>3.5</b>	<b>65</b>	<b>190</b>	<b>288</b>	<b>115</b>	<b>403</b>		
<b>TOTAL cost Analysis Farm at FNAL + 40% conting. for Run2a expanded to 3.5 fb-1</b>								<b>1136</b>	
<b>2005</b>	4.1	<b>6.0</b>	<b>115</b>	<b>270</b>	<b>334</b>	<b>134</b>	<b>468</b>		
<b>2006</b>	7.6	<b>9.5</b>	<b>180</b>	<b>350</b>	<b>301</b>	<b>120</b>	<b>421</b>		
<b>2007</b>	11.3	<b>13.5</b>	<b>250</b>	<b>420</b>	<b>331</b>	<b>132</b>	<b>463</b>		
<b>2008</b>	15	<b>18.0</b>	<b>330</b>	<b>490</b>	<b>288</b>	<b>115</b>	<b>403</b>		
<b>TOTAL cost for Analysis Farm at CNAF + 40% coting. for Run2b (15 fb-1)</b>								<b>1755</b>	
<b>TOTAL BUDGET CENTRALIZED COMPUTING FOR ANALYSIS 2001-2008</b>								<b>2891</b>	

- Avail CPU scales with disk/Lum, #duals decreases (Moore)
- 2003 financed for 80% of request (1.6 fb<sup>-1</sup> by 2004)
  - 122+122s.j. = 244 vs. 305 requested
  - Money assigned on basis of expected Luminosity alone
    - ☞ Only 122KE are certain !
- 2003 also has 28KEuro for MC



# CAF next year

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- Will get hw only after demonstration of use & need
  - Ignazio, save us !
- CPU much easier to understand then disk
- Do we really want static disks ?
- dCache only ?
  - Try, try, try
  - Monitor, monitor, monitor
  - Present 7 file servers
    - ☞ 1 users (scratch) (50GB/user → 100)
    - ☞ 3 static
    - ☞ 3 dCache
- What about ntuples ?
- Can we use DFC/SAM for them ?

# Needs, needs, needs

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- 2001 CAF review:

- Go linux
- We can do it

- 2002 the new CAF is here:

- The new hw is now defined, we have upper limit to CPU
- Analysis has started
- Need to match again needs and hw
- This time solution is not more hw

- ☞ Simulators: beware, 10K PC's not possible

- The road to efficient code:

- Knowledge share
- No waste allowed
- Relentless pressure on management
  - ☞ I am doing it to the point of being ineffective
  - ☞ Must get Executive Board involved

# Simulation

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- 10 duals at CNAF in 2003;
  - 28KEuro in hand
  - Purchase/install: summer
  - Could get something earlier if needed
  - Still no customer
  - Still no plan
  
- Up to x10 possible
  - Brick wall then
  - Much better plan needed for that, combined with study of official CDF centralized MC production

# GRID

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- It was a good start, but we have been left behind
  - CAF-SAM-GRID demo w/o Italy
  - No dCAF in Italy yet (but in UK,D,CA,TT,Korea,Rutgers)
- We decided to drop off the INFN-Grid/DataTag wagon
  - Will not explore usage of EDG RD ourselves
  - Leave it to Fnal to figure it out
- Need to stay in touch
  - Stefano wasting his time there to protect more important work of more important people
- Need to join the dCAF wagon asap
  - Trieste ? Bologna ? CNAF ?
  - Looking for a few good people
  - Need to bring Ombretta Pinazza in CDF full title

# CNAF

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- No hw yet (and no news)
  - Still expect 5 duals + 1TB
  - What do we do with them ?
- No volunteers yet
  - Clearly CPU in Italy is not missing now
  - But now we have analysis in Trieste
  - Would like to start a CAF+SAM station there
    - 👉 see previous