

Financial contributions to the MPP cluster at MPCDF

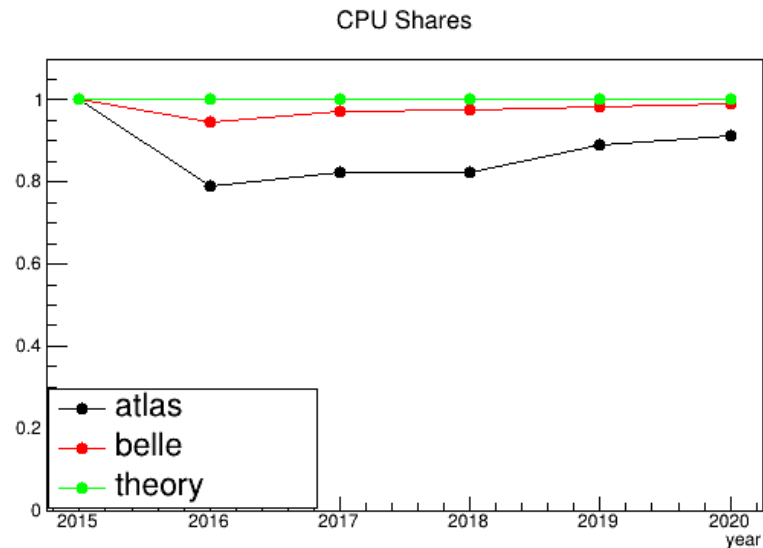
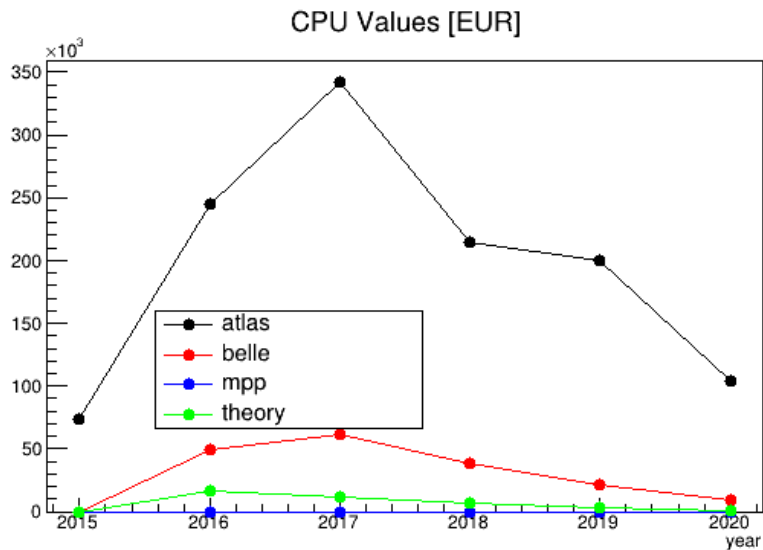
Motivation

- MPP cluster increasingly busy
 - Traditional users (ATLAS, Belle (2), MAGIC)
 - Phenomenology and theory as new application
- More discussion about resource allocation
 - CPU throughput and job turnaround demands
 - Conflicting since fast turnaround implies less utilisation
 - Storage on /ptmp/mpp continuously at limit

Procedure

- Investments into MPP cluster
 - IT equipment with fast depreciation
 - Arithmetisch-degressive Abschreibung 5 a
 - <https://de.wikipedia.org/wiki/Abschreibung>
 - Calculate fraction of invest per group and year
- Purchases since 2015 by groups
 - Based on BAR Anträge and account information
 - BAR Anträge approved by BAR and directorate
 - Often MPP eoy funds, and BAR funds

MPP cluster CPU



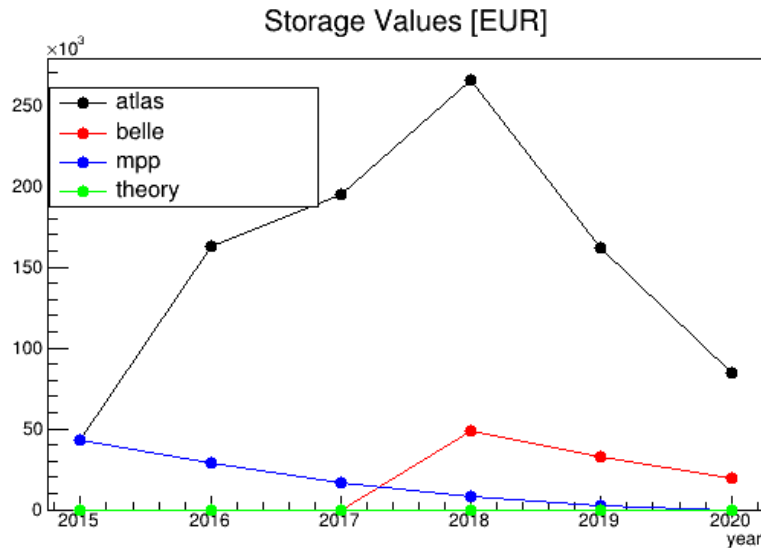
Upper: total value per year
Lower: fractions per group (stacked)

ATLAS: ~80%
Belle (2): 15-20%
Theory: few %

Note: invest before 2015 depreciated to zero

Preliminary!

MPP cluster storage

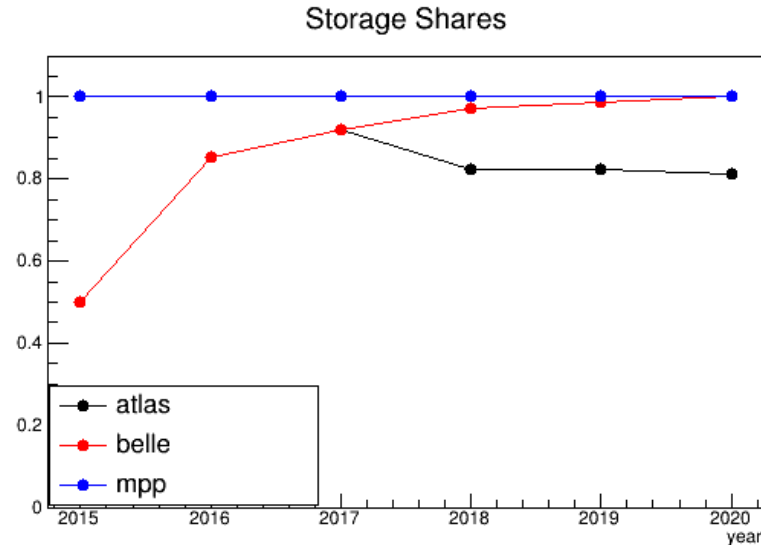


Upper: total value per year
Lower: fractions per group (stacked)

ATLAS: ~80% 2020

Belle (2): 15-20% 2020

MPP (others): few to 0 % 2020



Note: invest before 2015 depreciated to zero

Preliminary!

Recent CPU usage

Top 10 Users 2020-08-01T00:00:00 - 2020-09-16T09:59:59 (4010400 secs)

Usage reported in Percentage of Total

Cluster	Login	Proper	Name	Account	Used [%]	Share [%]
1 tier2	atlas001			grid	26.12	41.32
2 tier2	atlas002			grid	22.41	35.45
3 tier2	belle001			grid	4.09	6.47
4 tier2	belle002			grid	4.04	6.39
5 tier2	ytchai	Yating	Chai	mpp	2.94	4.65
6 tier2	mwiese	Marius	Wiesema+	mpp	2.21	3.5
7 tier2	mskarl	Martina	Stefan+	mpp	0.86	1.36
8 tier2	hyperion	Andreas	Hoenle	mpp	0.3	0.47
9 tier2	manzanil	Luis	Manzanill+	mpp	0.18	0.28
10 tier2	smaschek	Stefan	Maschek	mpp	0.06	0.09

ATLAS grid: 77%
Belle 2 grid: 13%
MAGIC (ytchai): 4.7%
Theory (Wiesemann): 3.5%

Remainder: mix of ATLAS
analyses and others

Corresponds ~ to invest

By Cesare Delle Fratte
Shares added by SK

Current storage use

PoolGroup	Total Space/TB	Free Space/TB
atlas	2668	570
zeus	0	
opal	435	160
hone	0	
belle	174	119
cosinus	19	19
cesst	190	93
magic	19	19
cta	19	19
ops	171	64
dteam	171	64
default	19	19

By Cesare Delle Fratte
Shares added by SK

Share [%]	
68.67	ATLAS: 69%
0	DPHEP: 11%
11.2	CRESST: 4.9%
0	Belle 2: 4.5%
4.48	MAGIC/CTA: 1%
0.49	
4.89	
0.49	
0.49	
4.4	
4.4	
0.49	

Corresponds ~ invest

DPHEP covered by ATLAS

Could not identify invest
by MAGIC, CTA or CRESST

Summary

- Cluster use corresponds ~ to invest
 - ATLAS 80% or more, mostly grid
- Expect changes due to large theory invests
 - Dpt. Henn: 56 dual AMD EPYC 7502 64 cores (ordered)
 - Dpt. Zanderighi: 32-38 same, BAR Antrag in preparation
- Storage replacement and upgrade
 - BAR Antrag approved, prepare order