Spotkanie Polish WLCG z Przedstawicielami Eksperymentów LHC

Michał Bluj, Jacek Kitowski

Virtual Meeting, 19.12.2024 (12:30-14:00)

Program spotkania

1. Podsumowanie ostatniego okresu działalności (M. Bluj, J. Kitowski)
2. Informacja z posiedzenia C-RRB, Oct. 29, 2024 (M. Bluj)
3. Realizacja zobowiązań przez Sygnatariuszy Polish WLCG (J. Kitowski)
4. Informacje ze spotkań (J. Kitowski)
5. Bieżące problemy realizacji zobowiązań przez KDM i plany na przyszłość (Przedstawiciele Polish WLCG i eksperymentów)
6. AOB

Zobowiązania na 2024/2025

for 2024										
	Alice ??		Atlas		CMS		LHCb		total	
	HS23	TB	HS23	TB	HS23	TB	HS23	TB	HS06	TB
ACK			27 800	3 000	5 750	500			33 550	3 500
PCSS	64 000	4 000							64 000	4 000
NCBJ					5 750	1 400	63 000	1 500	68 750	2 900
pledges total	**64 000**	**4 000**	**27 800**	**3 000**	**11 500**	**1 900**	**63 000**	**1 500**	**166 300**	**10 400**
required	60 500	6 300	27 777	2 996	11 500	1 070				
pledges/required	106%	63%	100%	100%	100%	178%				
shares, %, 2024	5,2 (T1 + T2)		1,5 (T2)		0,7214 (T2)		T1 - no requi..nts			
							tapes: 5PB			

for 2025										
	Alice OK		Atlas -OK		CMS -OK		LHCb -OK		total	
	HS23	TB	HS23	TB	HS23	TB	HS23	TB	HS23	TB
ACK			30 277	3 385	7 526	700			37 803	4 085
PCSS	72 200	7 930							72 200	7 930
NCBJ					7 527	1 000	63 000	3 060	70 527	4 060
pledges total	**72 200**	**7 930**	**30 277**	**3 385**	**15 053**	**1 700**	**63 000**	**3 060**	**180 530**	**16 075**
required	72 200	7 930	30 277	3 385	15 053	1 386	63 000	3 060		
pledges/required	100%	100%	100%	100%	100%	123%				
% incr.total fed 2026										
required/pledges 2026			33 002	3 826	15 053	1 386	63 000	3 060		
shares, %, 2024	5,1 (T1 + T2)		1,5 (T2)		0,792254 (T2)		T1-no req. Tape 6665 TB			

ALICE (1.5.2024-30.11.2024)

Poland — Normalized Elapsed time (HEPSCORE23) * Number of Processors (months) by Resource Centre and Month (Custom VOs)

Resource Centre	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Total	Percent
CYFRONET-LCG2	8,466	3,085	3,154	4,504	0	0	0	19,209	13.66%
PSNC	20,420	19,224	13,656	12,589	20,279	19,371	15,800	121,339	86.31%
WUT	14	7	20	4	0	0	0	44	0.03%
Total	28,900	22,315	16,830	17,096	20,279	19,371	15,800	140,592	
Percent	20.56%	15.87%	11.97%	12.16%	14.42%	13.78%	11.24%		

1 - 3 of 3 results ‹ 1 › Number of rows per page 30

HS23	
Ave (5-11.2024)	**20 085**
Pledges 2024	**64 000**
Pledges 2025	72 200

Storage (TB)	storage-provided
PCSS 16.12.2024 used	2 648
PCSS 16.12.2024 alloc.	4 050
Pledges 2024	**4 000**
Pledges 2025	7 930

Wg WLCG-T2accounting_10-24.pdf

ATLAS (1.5.2024-30.11.2024)

Poland — Normalized Elapsed time (HEPSCORE23) * Number of Processors (months) by Resource Centre and Month (Custom VOs)

Resource Centre	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Total	Percent
CYFRONET-LCG2	27,994	28,836	24,973	29,024	28,418	41,923	49,720	230,888	100%
Total	27,994	28,836	24,973	29,024	28,418	41,923	49,720	230,888	
Percent	12.12%	12.49%	10.82%	12.57%	12.31%	18.16%	21.53%		

1 - 1 of 1 results ‹ 1 › Number of rows per page 30

HS23	
Ave (5-11.2024)	**32 984**
Pledges 2024	**27 800**
Pledges 2025	30 277

Storage (TB)	
Cyfronet used	2 408
Cyfronet alloc.	2 800
Pledges 2024	**3 000**
Pledges 2025	3 385

Wg WLCG-T2accounting_10-24.pdf

CMS (1.5.2024-30.11.2024)

Poland — Normalized Elapsed time (HEPSCORE23) * Number of Processors (months) by Resource Centre and Month (Custom VOs)

Resource Centre	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Total	Percent
CYFRONET-LCG2	9,119	16,805	16,969	16,751	16,297	18,606	18,282	112,829	58.38%
NCBJ-CIS	6,560	10,269	5,263	18,500	12,620	15,309	11,922	80,444	41.62%
Total	15,679	27,074	22,232	35,251	28,917	33,915	30,204	193,272	
Percent	8.11%	14.01%	11.50%	18.24%	14.96%	17.55%	15.63%		

1 - 2 of 2 results ‹ 1 › Number of rows per page 30

HS23

Ave (5-11.2024)	**27 610**
Pledges 2024	**11 500**
Pledges 2025	15 053

Storage (RUCIO)	**16.12.2024**
Cyfronet alloc.	**400 TB**
Cyfronet used	**377 TB**
NCBJ alloc.	**1 400 TB**
NCBJ used	**1 278 TB**
Pledges 2024	**1 900 TB**
Pledges 2025	1 700 TB

LHCb (1.5.2024-30.11.2024)

Poland — Normalized Elapsed time (HEPSCORE23) * Number of Processors (months) by Resource Centre and Month (Custom VOs)

Resource Centre	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Total	Percent
CYFRONET-LCG2	9,245	5,489	5,773	5,885	5,185	1,717	1,095	34,389	6.9%
NCBJ-CIS	62,536	58,226	87,023	96,941	96,919	55,081	1	456,727	91.65%
PSNC	25	24	22	588	2,196	2,176	2,176	7,206	1.45%
Total	71,806	63,739	92,818	103,413	104,300	58,974	3,272	498,322	
Percent	14.41%	12.79%	18.63%	20.75%	20.93%	11.83%	0.66%		

1 - 3 of 3 results ‹ 1 › Number of rows per page 30

HS23 (no required for T1)

Ave (5-11.2024)	**71 188**
Pledges 2024	**63 000**
Pledges 2025	63 000

Storage (TB)

NCBJ occupied	1 900
NCBJ installed.	3 800
Pledges 2024	**3 000**
Pledges 2025	3 385

Tapes

NCBJ occupied	3 647
NCBJ installed	5 000

Wg WLCG_T1-accounting_10-24.pdf

V – XI 2024 All Partners' Performance

Poland — Normalized Elapsed time (HEPSCORE23) * Number of Processors (months) by Resource Centre and Month (Custom VOs)

Resource Centre	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Total	Percent
CYFRONET-LCG2	54,824	54,215	50,870	56,163	49,900	62,246	69,097	**397,315**	**37.37%**
NCBJ-CIS	69,096	68,495	92,286	115,441	109,539	70,390	11,923	**537,171**	**50.53%**
PSNC	20,445	19,248	13,678	13,177	22,475	21,547	17,976	**128,545**	**12.09%**
WUT	14	7	20	4	0	0	0	**44**	**0%**
Total	**144,378**	**141,965**	**156,853**	**184,785**	**181,914**	**154,184**	**98,997**	**1,063,074**	
Percent	**13.58%**	**13.35%**	**14.75%**	**17.38%**	**17.11%**	**14.50%**	**9.31%**		

1 - 4 of 4 results

‹ 1 › Number of rows per page 30

Pledges for 2025

for 2025										
	Alice OK		Atlas -OK		CMS -OK		LHCb -OK		total	
	HS23	TB	HS23	TB	HS23	TB	HS23	TB	HS23	TB
ACK			30 277	3 385	7 526	700			37 803	4 085
PCSS	72 200	7 930							72 200	7 930
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pledges total	**72 200**	**7 930**	**30 277**	**3 385**	**15 053**	**1 700**	**63 000**	**3 060**	**180 530**	**16 075**
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% incr.total fed 2026										
required/pledges 2026			33 002	3 826	15 053	1 386	63 000	3 060		
shares, %, 2024	5,1 (T1 + T2)		1,5 (T2)		0,792254 (T2)		T1-no req. Tape 6665 TB			

Ustalenia – dla przypomnienia

Wg p. 4 Porozumienia i późniejszych ustaleń (w nawiasie osoby kontaktowe ośrodków koordynujących):

- Cyfronet dostarcza i koordynuje zasoby dla współpracy ATLAS oraz dostarcza zasoby dla CMS
  (Marek Magryś, Patryk Lasoń, Adrian Marszalik, Andrzej Zemła)

- NCBJ dostarcza i koordynuje zasoby dla współpracy LHCb oraz dla CMS
  (Wojciech Wiślicki, Michał Bluj, Henryk Giemza, Tomasz Fruboes)

- PCSS dostarcza i koordynuje zasoby dla współpracy ALICE
  (Krzysztof Kurowski, Norbert Meyer, Marcin Pospieszny, Radosław Januszewski)

Każdy Sygnatariusz Porozumienia (PCSS, Cyfronet, NCBJ) może udostępniać zasoby dla każdego eksperymentu, lecz koordynacja w ramach eksperymentu należy do ośrodka koordynującego.

TOP500, Nov. 2024

Rank	System	Cores	Rmax (PFlop/s)	Rpeak (PFlop/s)	Power (kW)
1	**El Capitan** - HPE Cray EX255a, AMD 4th Gen EPYC 24C 1.8GHz, AMD Instinct MI300A, Slingshot-11, TOSS, HPE DOE/NNSA/LLNL, United States	11,039,616	1,742.00	2,746.38	29,581
2	**Frontier** - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, HPE Cray OSS, HPE DOE/SC/Oak Ridge National Laboratory,USA	9,066,176	1,353.00	2,055.72	24,607
3	**Aurora** - HPE Cray EX - Intel Exascale Compute Blade, Xeon CPU Max 9470 52C 2.4GHz, Intel Data Center GPU Max, Slingshot-11, Intel DOE/SC/Argonne National Laboratory, USA	9,264,128	1,012.00	1,980.01	38,698
4	**Eagle** - Microsoft NDv5, Xeon Platinum 8480C 48C 2GHz, NVIDIA H100, NVIDIA Infiniband NDR, Microsoft Azure Microsoft Azure, United States	2,073,600	561.20	846.84	
5	**HPC6** - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, RHEL 8.9, HPE Eni S.p.A. Italy	3,143,520	477.90	606.97	8,461
6	**Supercomputer Fugaku** - Supercomputer Fugaku, A64FX 48C 2.2GHz, Tofu interconnect D, Fujitsu RIKEN Center for Computational Science, Japan	7,630,848	442.01	537.21	29,899
7	**Alps** - HPE Cray EX254n, NVIDIA Grace 72C 3.1GHz, NVIDIA GH200 Superchip, Slingshot-11, HPE Cray OS, HPE Swiss National Supercomputing Centre (CSCS), Switzerland	2,121,600	434.90	574.84	7,124
8	**LUMI** - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, HPE EuroHPC/CSC, Finland	2,752,704	379.70	531.51	7,107
9	**Leonardo** - BullSequana XH2000, Xeon Platinum 8358 32C 2.6GHz, NVIDIA A100 SXM4 64 GB, Quad-rail NVIDIA HDR100 Infiniband, EVIDEN EuroHPC/CINECA, Italy	1,824,768	241.20	306.31	7,494
10	**Tuolumne** - HPE Cray EX255a, AMD 4th Gen EPYC 24C 1.8GHz, AMD Instinct MI300A, Slingshot-11, TOSS, HPE DOE/NNSA/LLNL, United States	1,161,216	208.10	288.88	3,387

TOP500, May/Nov.2024 – Polish Centres

Rank	System	Cores	Rmax (PFlop/s)	Rpeak (PFlop/s)	Power (kW)
55 / 69	**Helios GPU** - HPE Cray EX254n, NVIDIA Grace 72C 3.1GHz, NVIDIA GH200 Superchip, Slingshot-11, HPE, Cyfronet	89,760	19.14	30.44	317
76 / 93	**Proxima** - HPE Cray XD220v/HPE Cray XD665, EPYC 9334 32C 3Ghz/Xeon Platinum 8480+ 56C 2GHz, Infiniband NDR200, HPE, GALAXY, PCSS Poznan	58,224	13.82	23.32	
80 / 99	**Lem** - PowerEdge XE9640, Intel Xeon Platinum 8462Y+ 32C 2.8GHz, Nvidia H100 94Gb SXM5, Infiniband NDR200 DELL EMC WCSS, Wrocław	44,992	12.80	20.37	
154 / 185	**Kraken-Fregata** - HPE Cray XD665, AMD EPYC 9334 32C 2.7GHz, Nvidia H100 94Gb SXM5, Infiniband NDR200, HPE, GALAXY Gdansk University of Technology, CI Task	21,904	5.99	10.02	
177 / 211	**Athena** - FormatServer THOR ERG21, AMD EPYC 7742 64C 2.25GHz, NVIDIA A100 SXM4 40 GB, Infiniband HDR, Format sp. z o.o. Cyfronet	47,616	5.05	7.71	147
250 / 291	**Altair** - CH121L V5 Liquid-Cooled, Xeon Platinum 8268 24C 2.9GHz, Infiniband EDR, Huawei Technologies Co., Ltd. PCSS Poznan	63,360	3.53	5.88	829
305 / 347	**Helios CPU** - HPE Cray EX, AMD EPYC 9654 96C 2.4GHz, Slingshot-11, HPE Cyfronet	75,264	3.09	3.35	454
442 / 489	**Ares** - CH121L V5 Liquid-Cooled, Xeon Platinum 8268 24C 2.9GHz, Infiniband EDR, Huawei Technologies Co., Ltd. Cyfronet	37,824	2.34	3.51	487

Nov. 2015: Cyfronet #38 Prometheus

Compute & Accelerator Forum - CERN GPUs + AMD

The AMD GPU roadmap - Joerg Roskowetz (AMD)
CERN Webinar 2024 AMD Instinct Compute.pdf

CERN GPU Infrastructure Update - Ricardo Rocha (CERN)
CERN IT GPU Update.pdf

https://indico.cern.ch/event/1356135/

ARM in WLCG

Final GDB meeting 11.9.2024

- Open Technical Forum (ITF)
- Technical Coordination Board (TCB)
  - led by Alessandro di Girolamo and James Letts

- Bieżące problemy realizacji zobowiązań przez KDM i plany na przyszłość (Przedstawiciele Polish WLCG i eksperymentów)

- AOB