ALICE-USA Operations
Monthly Status for March 2023

April 18, 2023

Availability and Reliability Reports
ALICE_CE(Jobs Running) x ALICE_VOBOX x AliEn::SE(tests)

**Tier-2 Availability and Reliability Report**
ALICE
Federation Details

March 2023

Availability Algorithm: @ALICE_CE * @ALICE_VOBOX * all AliEn-SE

Color coding: N/A   <30%   <60%   <90%   >=90%

| Federation & Sites	Pledge CPU	Pledge Disk	Availability	Reliability	Unknown	Dec-2022	Availability History Jan-2023	Feb-2023
US-LBNL-ALICE	**82000**	**8400**						
LBL_HPCS			85%	85%	0%	100%	97%	98%
ORNL			97%	97%	3%	99%	98%	94%

Job Summary

- LBL-HPCS
  - Steady dealing with the load
- ORNL
  - Steady dealing with the load
  - Number of multicore jobs has increased
- Lawrencium
 - Added more nodes on March 7th
  - Steady performance

Number of jobs at ORNL
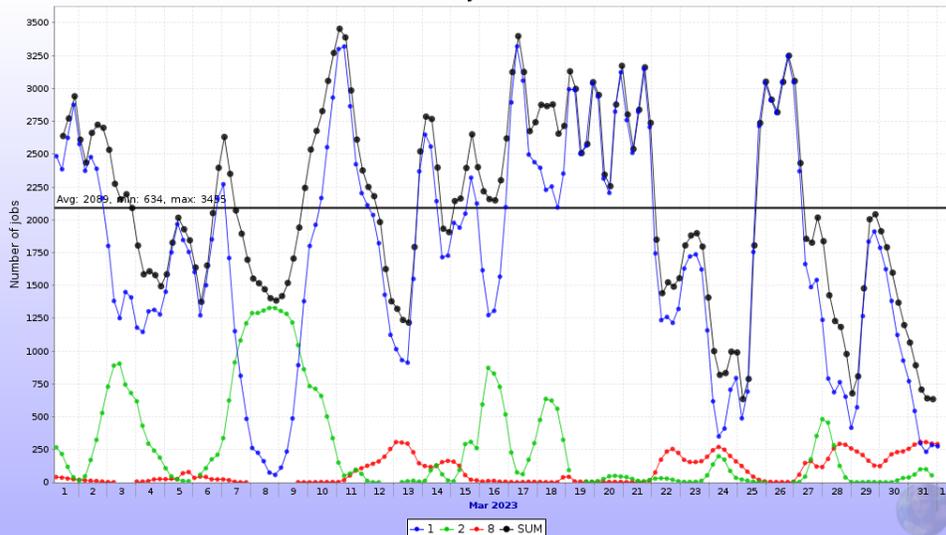
Running Jobs
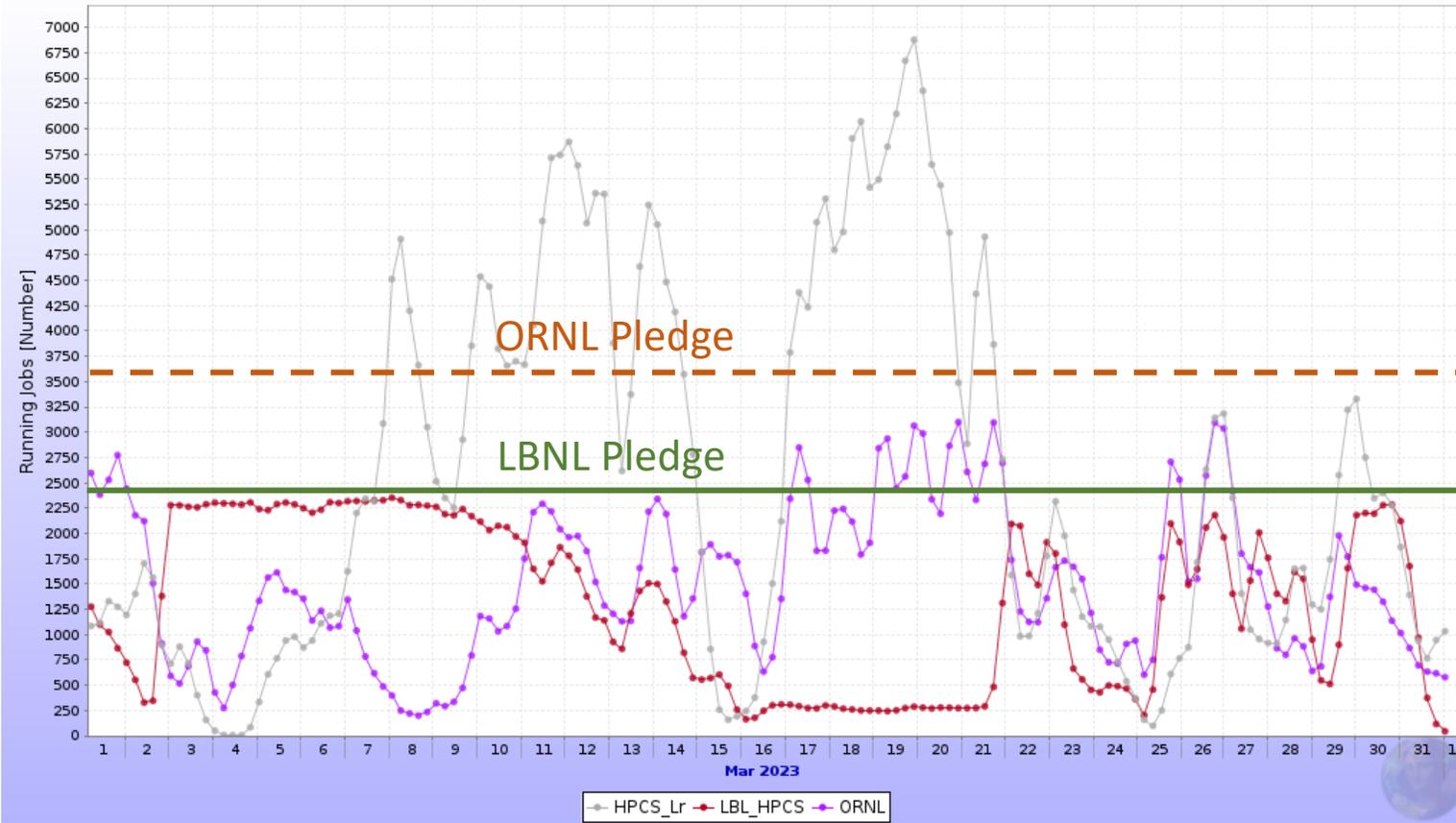
CPU Efficiency
Target Efficiency is ~80%

Jobs efficiency (cpu time / wall time)

	Series	Last value	Min	Avg	Max
1.	HPCS_Lr	104.2	4.731	64.59	114.2
2.	LBL_HPCS	24.88	7.49	49.89	93.77
3.	NIHAM	90.94	4.56	72.83	97.45
4.	ORNL	100.3	21.43	79.44	133
5.	Subatech	94.19	7.287	82.89	98.87
6.	UPB	94.01	7.381	58.51	97.22
	Total	84.75		68.03	

Average Job Mix [LBL_HPCS]

Train	55%
SIM	29%
Other	16%
DAQ	0%
Hyperloop	0%

Average Job Mix [ORNL]

SIM	50%
Train	36%
Other	11%
Hyperloop	3%
DAQ	0%

Average Job Mix [HPCS_Lr]

Train	50%
SIM	38%
Other	11%
Hyperloop	1%
DAQ	0%
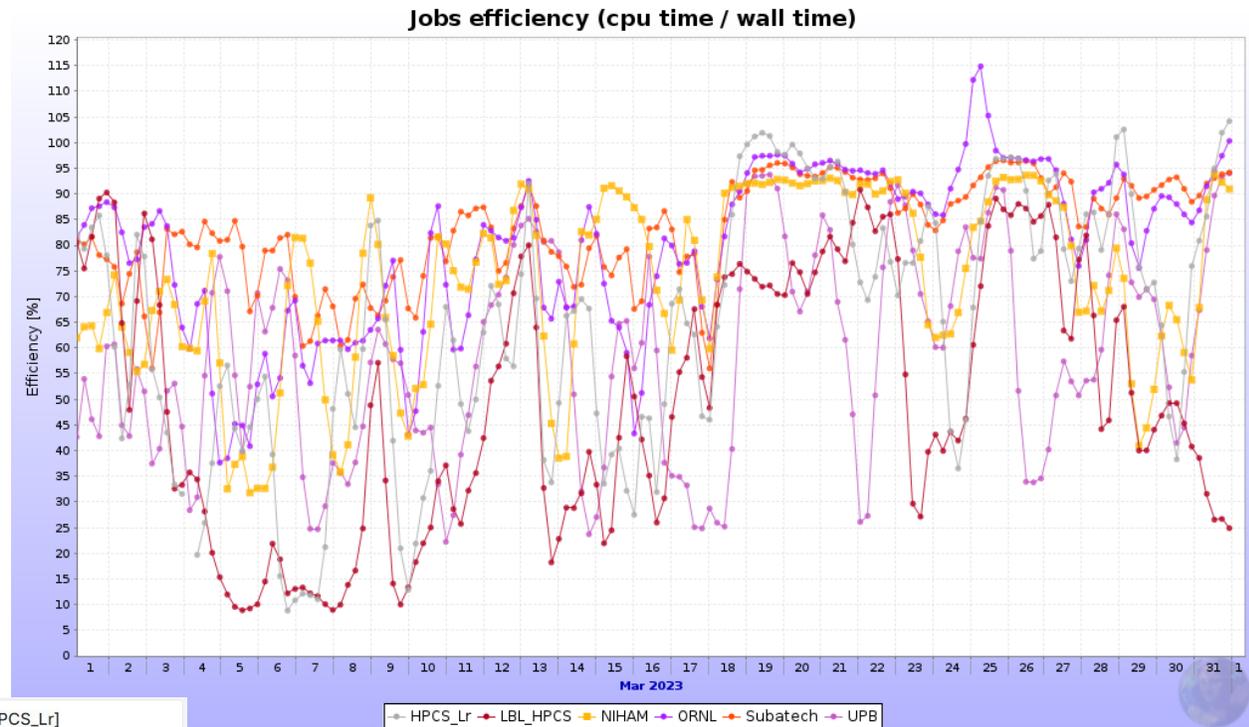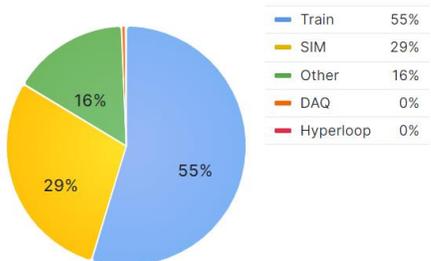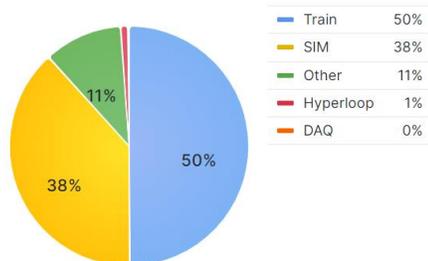
CPU Obligations	kHS06
ALICE-USA	82
LBNL HPCS T2	41
ORNL T2	41

T2 Site	Monalisa (khr)	WLCG (khr)	%diff
HPCS_Lr	3096.60	5899.30	30.56
LBNL	999.60		
ORNL	1628.10	2803.30	41.92
Total	5,724.30	8,702.60	34.22

Total wall time for ALICE jobs

HPCS_Lr	3096622
LBL_HPCS	999613
ORNL	1628055
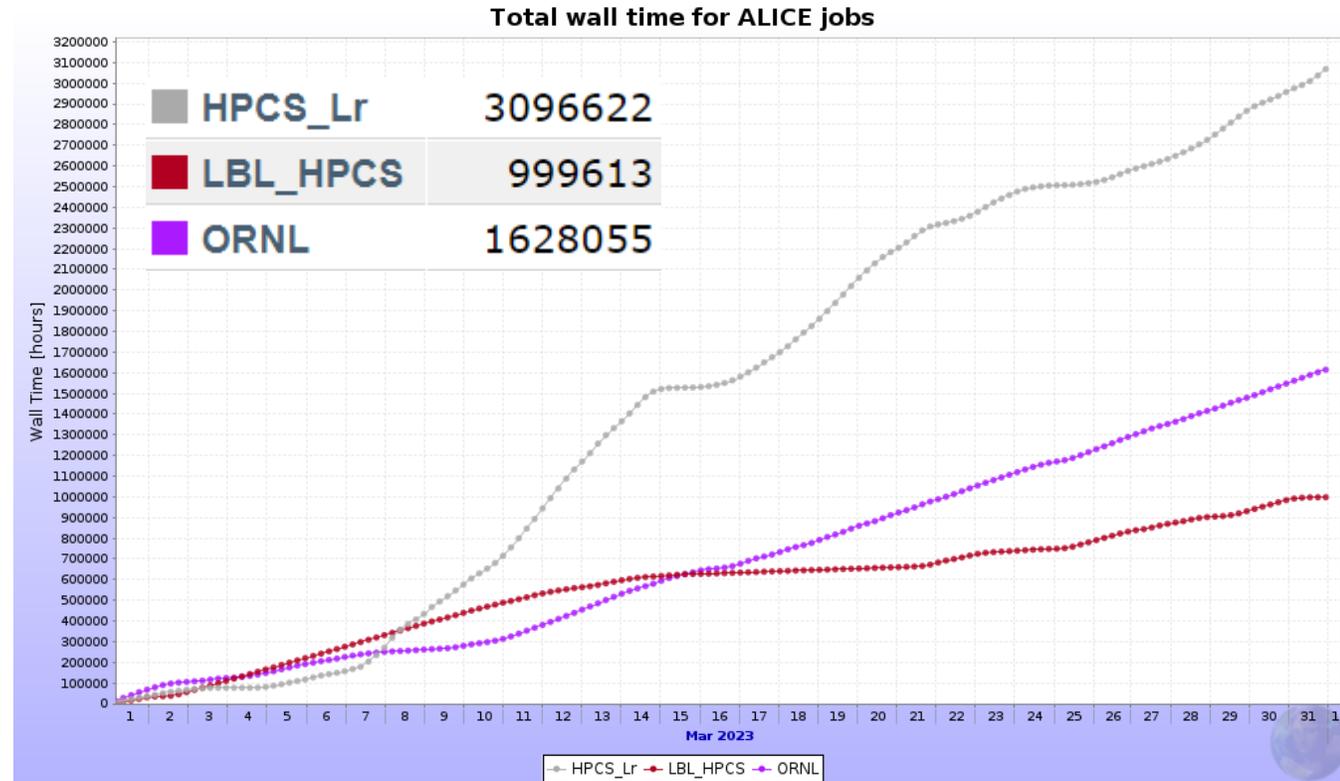
T2 Site and HPCS_Lr	CPU/Core [HS06/Core]	ALICE-USA Obligation [MHS06 x hr]	CPU Delivered [MHS06 x hr] (ML reporter)	CPU Delivered [MHS06 x hr] (WLCG reporter)	Delivered per Obligation [%] (ML reported)	Delivered per Obligation [%] (WLCG reported)
HPCS_Lr	12.0		37.16	70.79	121.8	232.1
LBNL	16.7	30.50	16.69		54.7	
ORNL	11.5	30.50	18.72	32.24	61.4	105.7
Total		61.01	72.58	103.03	118.96%	168.88%

Network Traffic at LBL and ORNL

Network traffic on ALICE::ORNL::EOS
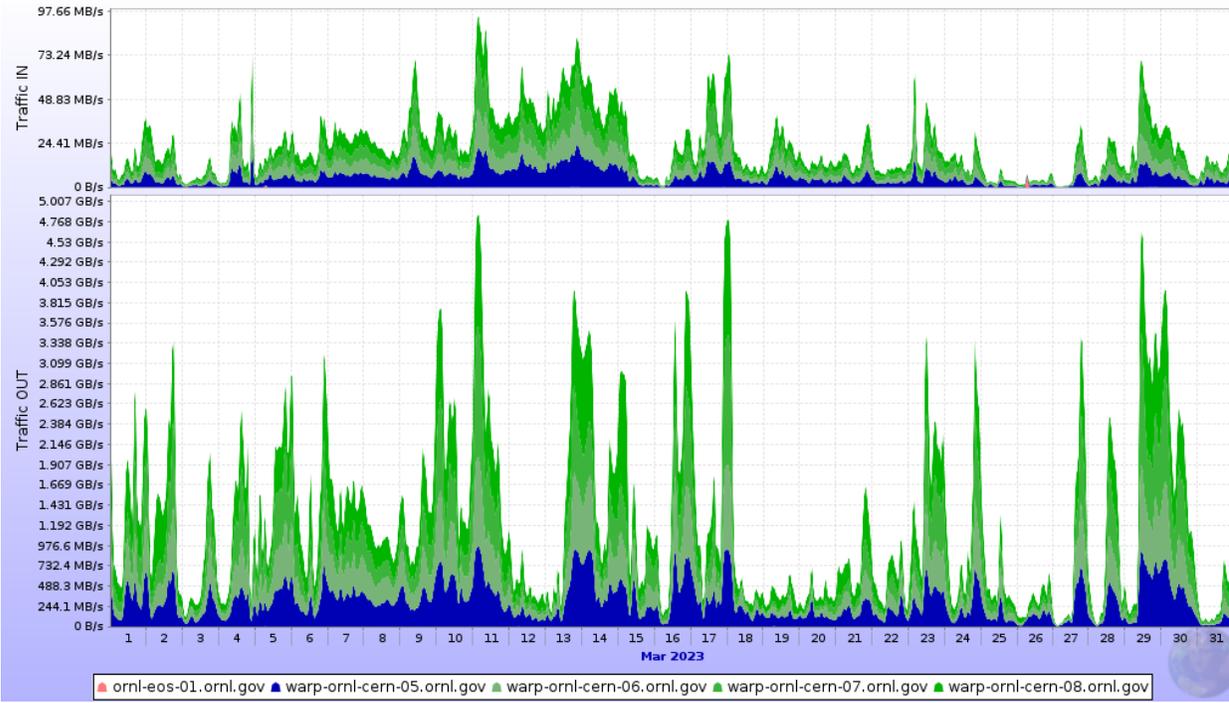
Network traffic on ALICE::LBL_HPCS::EOS
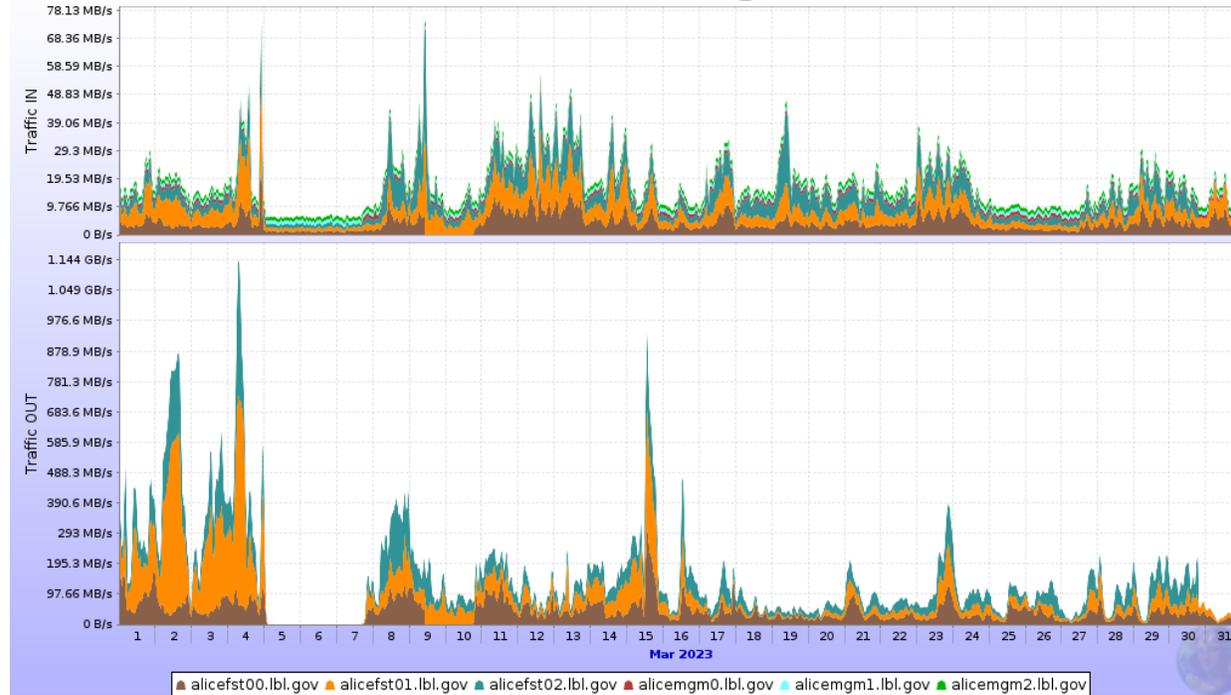
AliEn SEs availability for writing
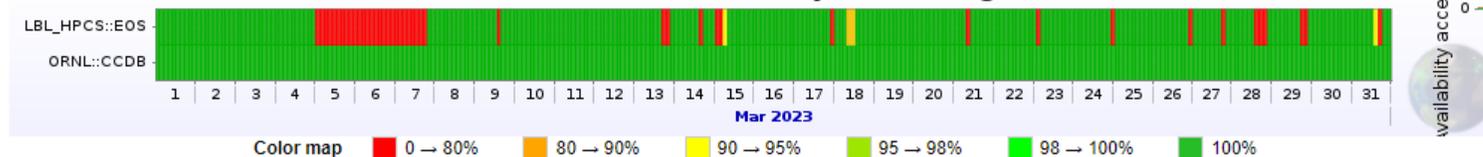
Color map: 🟥 0 → 80% 🟧 80 → 90% 🟨 90 → 95% 🟩 95 → 98% 🟩 98 → 100% 🟩 100%

Statistics

Link name	Data		Individual results of writing tests			Overall
	Starts	**Ends**	**Successful**	**Failed**	**Success ratio**	**Availability**
LBL_HPCS::EOS	28 Feb 2023 23:22	31 Mar 2023 23:32	662	85	88.62%	88.77%
ORNL::CCDB	01 Mar 2023 00:11	31 Mar 2023 23:20	747	0	100%	100%

AliEn SEs availability for reading
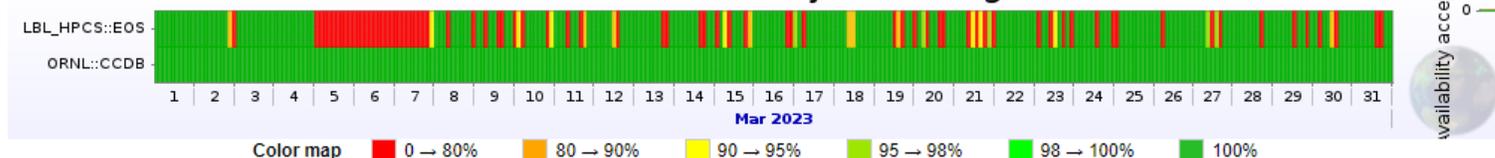
Color map: 🟥 0 → 80% 🟧 80 → 90% 🟨 90 → 95% 🟩 95 → 98% 🟩 98 → 100% 🟩 100%

Statistics

Link name	Data		Individual results of reading tests			Overall
	Starts	**Ends**	**Successful**	**Failed**	**Success ratio**	**Availability**
LBL_HPCS::EOS	28 Feb 2023 23:23	31 Mar 2023 23:32	630	117	84.34%	84.60%
ORNL::CCDB	01 Mar 2023 00:11	31 Mar 2023 23:20	747	0	100%	100%

Storage-provided information

SE Name	Size	Used	Free	Usage	Version	EOS Version
1. LBL_HPCS - EOS	2.741 PB	1.76 PB	1004 TB	64.22%	Xrootd v4.12.8	4.8.89
2. ORNL - CCDB	-	-	-	-	Xrootd v4.12.8	
3. ORNL - EOS	2.295 PB	963.1 TB	1.354 PB	40.98%	Xrootd v4.12.8	4.8.40
4. ORNL - PRF_EOS	-	-	-	-		
Total	**5.035 PB**	**2.7 PB**	**2.335 PB**			

Using IPv6 Only
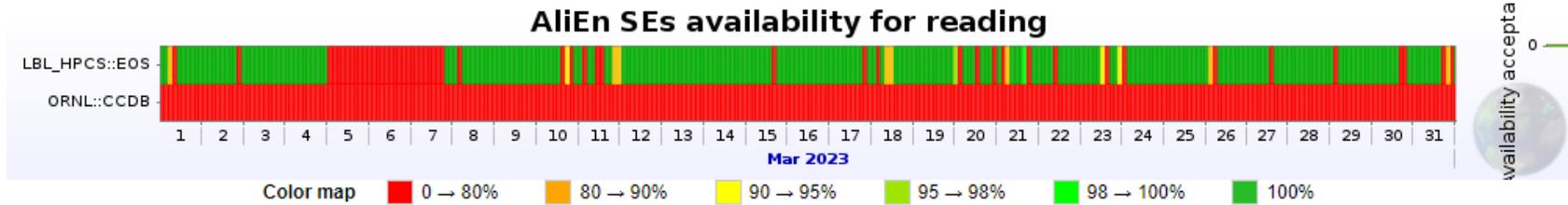
AliEn SEs availability for reading

Color map: 0 → 80% | 80 → 90% | 90 → 95% | 95 → 98% | 98 → 100% | 100%

Statistics

Link name	Data		Individual results of reading tests			Overall
	Starts	Ends	Successful	Failed	Success ratio	Availability
LBL_HPCS::EOS	28 Feb 2023 23:25	31 Mar 2023 23:32	653	93	87.53%	87.64%
ORNL::CCDB	28 Feb 2023 23:13	31 Mar 2023 23:22	0	748	0%	0%
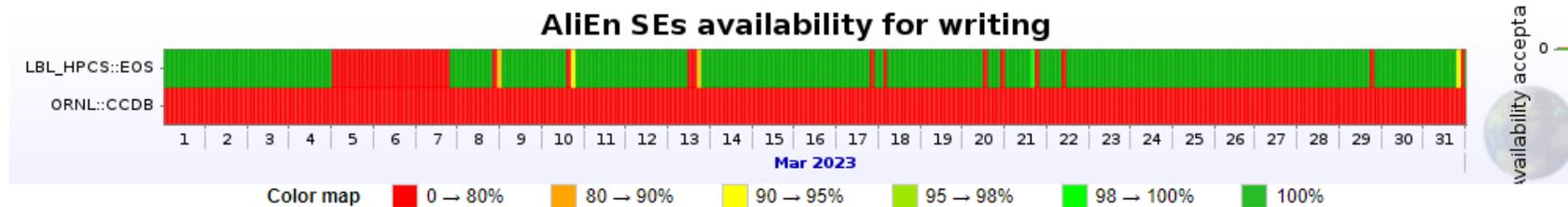
AliEn SEs availability for writing

Color map: 0 → 80% | 80 → 90% | 90 → 95% | 95 → 98% | 98 → 100% | 100%

Statistics

Link name	Data		Individual results of writing tests			Overall
	Starts	Ends	Successful	Failed	Success ratio	Availability
LBL_HPCS::EOS	28 Feb 2023 23:25	31 Mar 2023 23:32	668	78	89.54%	89.66%
ORNL::CCDB	01 Mar 2023 00:14	31 Mar 2023 23:22	0	747	0%	0%

EOS: Success Ratio

Success ratio

SE Name	Start	End	Success ratio	Corrupt ratio	Inaccessible ratio	Internal error ratio
CERN::EOS	28 Feb 2023 02:44	31 Mar 2023 23:56	98.64 %	0.35 %	0.98 %	0.03 %
LBL_HPCS::EOS	01 Mar 2023 03:27	31 Mar 2023 21:49	22.22 %	0.53 %	77.25 %	0.00 %
ORNL::EOS	01 Mar 2023 03:32	31 Mar 2023 22:04	97.83 %	0.28 %	1.89 %	0.00 %
UPB::EOS	01 Mar 2023 03:37	31 Mar 2023 23:38	92.62 %	0.04 %	7.34 %	0.00 %

Status from the File Crawler

Status codes extracted from the crawler

SE Name: ALICE::LBL_HPCS::EOS   Interval: Last 3 days

Status Type	Status Code	Status Count	Status Code Ratio	Download throughput
FILE_OK	S_FILE_CHECKSUM_MATCH	20970	92.06 %	60.13 Mb/s
	E_CATALOGUE_MD5_IS_BLANK	55	0.24 %	55.40 Mb/s
INTERNAL_ERROR	XRDFS_CANNOT_CONFIRM_UPLOAD	17	0.07 %	
FILE_INACCESSIBLE	XROOTD_EXITED_WITH_CODE	1489	6.54 %	
FILE_CORRUPT	MD5_CHECKSUMS_DIFFER	245	1.08 %	
	LOCAL_FILE_SIZE_DIFFERENT	2	0.01 %	
TOTAL		22778	100 %	

Status codes extracted from the crawler

SE Name: ALICE::ORNL::EOS   Interval: Last 3 days

Status Type	Status Code	Status Count	Status Code Ratio	Download throughput
FILE_OK	S_FILE_CHECKSUM_MATCH	23080	97.18 %	45.95 Mb/s
	E_CATALOGUE_MD5_IS_BLANK	367	1.55 %	58.59 Mb/s
FILE_INACCESSIBLE	XROOTD_EXITED_WITH_CODE	302	1.27 %	
FILE_CORRUPT	MD5_CHECKSUMS_DIFFER	1	0.00 %	
TOTAL		23750	100 %	

Site Status Dashboard

Last month

ORNL, LBL		
Site name	**VOBox and SE problems**	**Remarks**
ORNL voboxslr.alice.ornl.gov	ALICE::ORNL::EOS redirector **ALICE::ORNL::EOS** doesn't see all nodes, only 2.295 PB out of 2.725 PB total space is connected Networking: low buffer size kernel parameters: tcp_wmem_max=4 MB only Networking: No IPv6 public address CVMFS: old CVMFS version detected (2.9.3), please upgrade to 2.10.1.	
LBL_HPCS alice-vobox.lbl.gov	Networking: low buffer size kernel parameters: tcp_wmem_max=4 MB only Networking: No IPv6 public address CVMFS: old CVMFS version detected (2.10.0), please upgrade to 2.10.1.	Underperforming: the site is only running **287** jobs at the moment, expecting at least **815** jobs.
2 sites	**7 issues**	**1 remarks**

This month
Right now!

ORNL, LBL		
Site name	**VOBox and SE problems**	**Remarks**
ORNL voboxslr.alice.ornl.gov	ALICE::ORNL::EOS redirector **ALICE::ORNL::EOS** doesn't see all nodes, only 2.295 PB out of 2.725 PB total space is connected Networking: low buffer size kernel parameters: tcp_wmem_max=4 MB only Networking: No IPv6 public address CVMFS: old CVMFS version detected (2.9.3), please upgrade to 2.10.1.	Underperforming: the site is only running **264** jobs at the moment, expecting at least **322** jobs.
LBL_HPCS alice-vobox.lbl.gov	Networking: low buffer size kernel parameters: tcp_wmem_max=4 MB only Networking: No IPv6 public address CVMFS: old CVMFS version detected (2.10.0), please upgrade to 2.10.1.	Low long-term average job efficiency Underperforming: the site is only running **118** jobs at the moment, expecting at least **218** jobs.
2 sites	**7 issues**	**3 remarks**