

**A new service implemented on
the HybriLIT platform
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on behalf of the team**



**AYSS-2020
9–13 November
Dubna**

MICC component: HybriLIT platform



HYBRILIT HETEROGENEOUS COMPUTING PLATFORM



Unified software and information environment



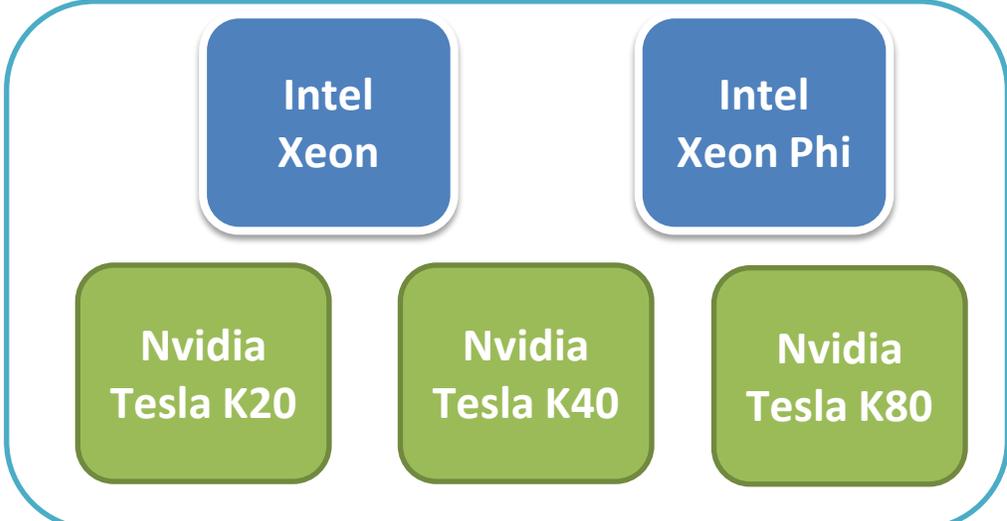
GOVORUN Supercomputer

HybriLIT education and testing polygon

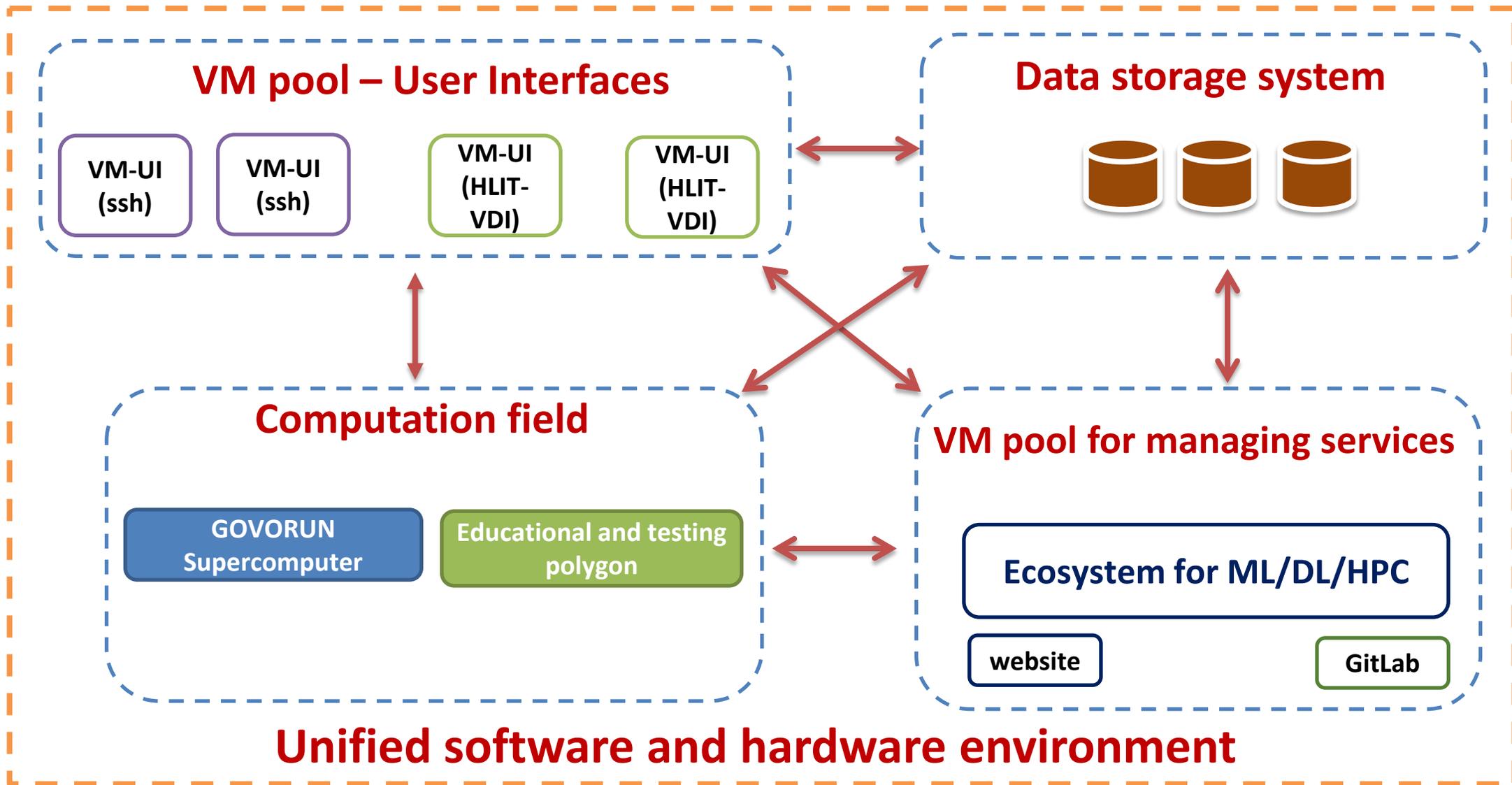


CPU-component 
Intel® Xeon® Scalable gen 2,
Intel Xeon Phi (KNL), Intel Omni-Path

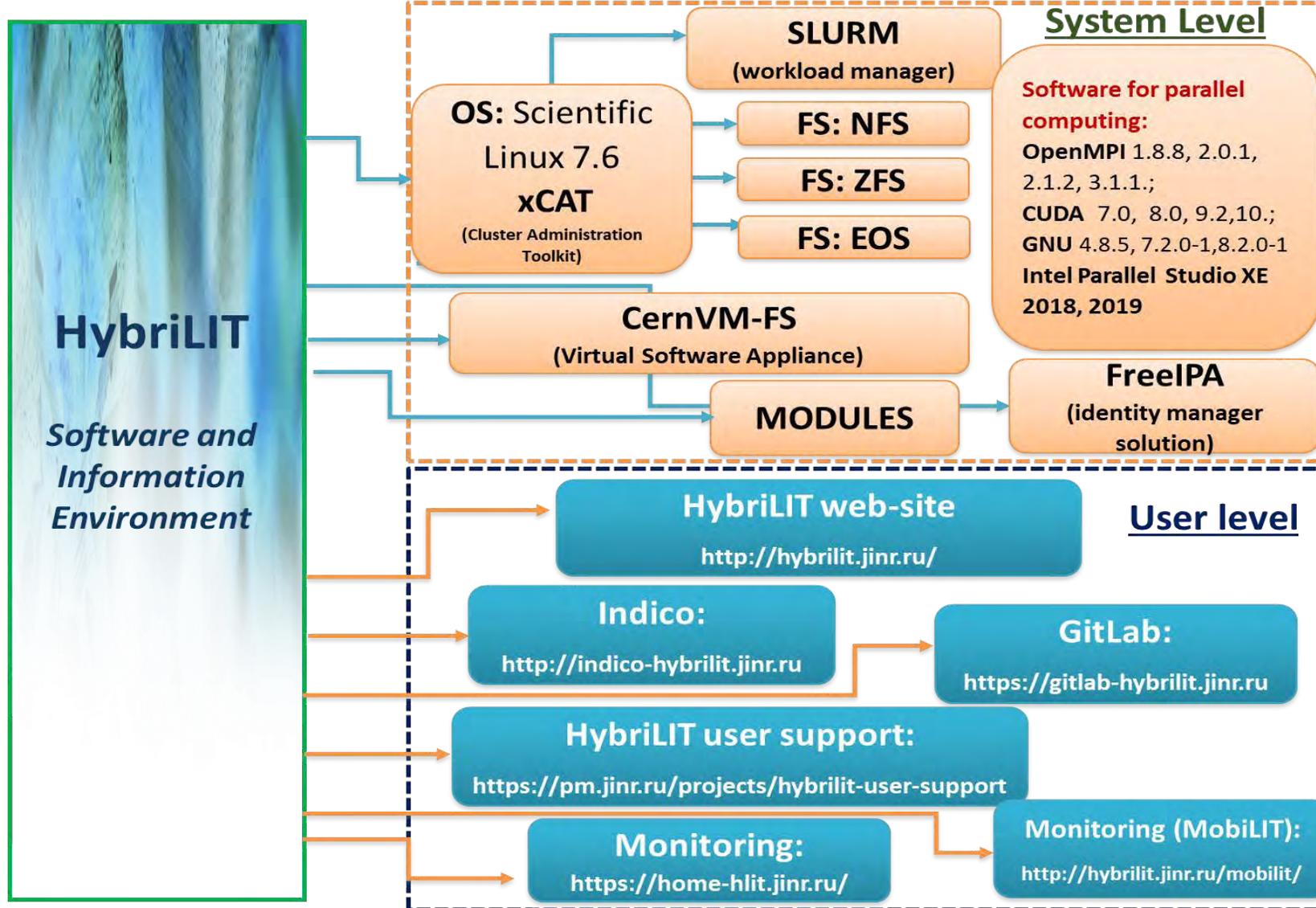
GPU-component 
GPU DGX-1 Volta
(NVIDIA Tesla V100), Intel Omni-Path



Software and hardware environment of the HybriLIT platform



Software and hardware environment of the HybriLIT platform



The unified software and information environment including the unified **system level** (the operation system, the job scheduler, file systems and software) as well as a **set of services** allowing users to quickly get the answers to their questions, jointly develop parallel applications, receive information about conferences, seminars and meetings dedicated to parallel programming technologies.

HybriLIT User Account: Description

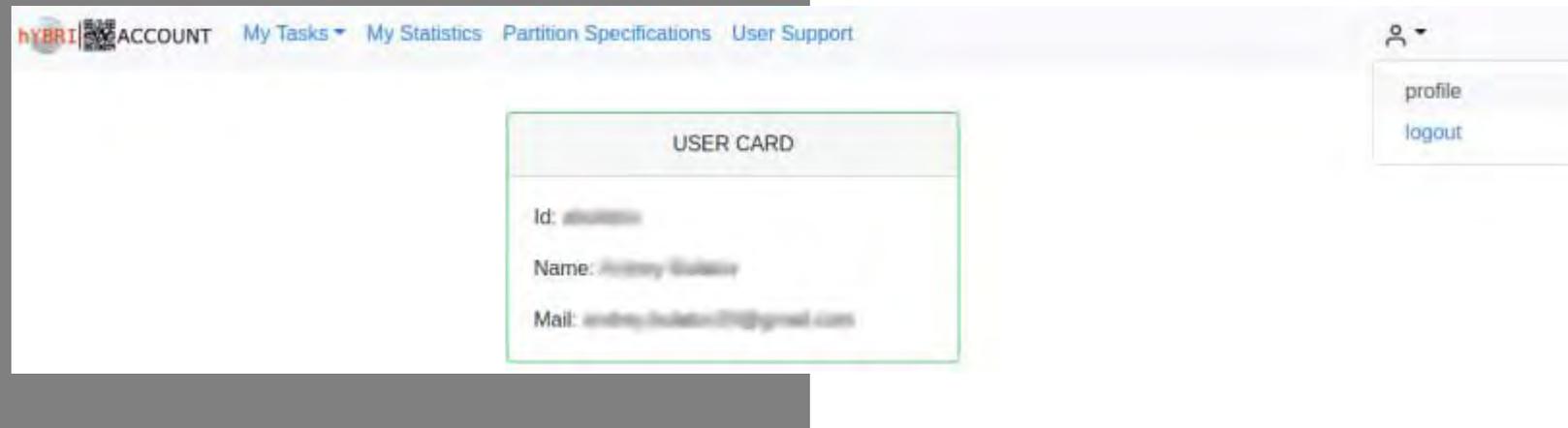


- Increasing number of users arises the need to develop a special service aimed at containing the main info about the system

- A service that allows to work in the browser instead of using several services and save time

- Information amount is too high and too distributed among other services

- Different teams of users cannot be fully supported



HybriLIT User Account: User Tasks



Running Tasks

JOBID	PARTITION	NAME	USER	DATE AND TIME START
115238	dgx	run.sh	██████	Nov 04 2020, 22:39:50
103018	dgx	run.sh	██████	Nov 04 2020, 15:27:38
103017	dgx	run.sh	██████	Nov 04 2020, 15:27:35
103015	dgx	run.sh	██████	Nov 03 2020, 21:08:34
103014	dgx	run.sh	██████	Nov 02 2020, 13:58:10
103013	dgx	run.sh	██████	Nov 02 2020, 13:57:31
103010	dgx	run.sh	██████	Nov 02 2020, 13:47:17
103009	dgx	run.sh	██████	Nov 02 2020, 13:47:12
90318	dgx	run.sh	██████	Nov 02 2020, 13:44:25
90317	dgx	run.sh	██████	Nov 02 2020, 13:44:25

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HybriLIT User Account: User Tasks



HYBRI ACCOUNT My Tasks My Statistics Partition Specifications User Support

7 show tasks show all tasks

Tasks completed in 7 days

JOBID	PARTITION	NAME	USER	DATE AND TIME START	DATE AND TIME END
114737	dgx	run.sh	...	Nov 04 2020, 21:42:41	Nov 05 2020, 6:15:28
114736	dgx	run.sh	...	Nov 04 2020, 21:39:47	Nov 04 2020, 21:39:51
114735	dgx	run.sh	...	Nov 04 2020, 21:38:04	Nov 04 2020, 21:38:05
114634	dgx	run.sh	...	Nov 04 2020, 21:33:26	Nov 04 2020, 22:39:25
114633	dgx	run.sh	...	Nov 04 2020, 21:29:47	Nov 04 2020, 21:29:48
114623	dgx	run.sh	...	Nov 04 2020, 21:25:40	Nov 04 2020, 21:29:05
114531	dgx	run.sh	...	Nov 04 2020, 21:16:44	Nov 04 2020, 21:25:17
111830	dgx	run.sh	...	Nov 04 2020, 15:48:04	Nov 04 2020, 15:52:47
111728	dgx	run.sh	...	Nov 04 2020, 15:39:18	Nov 04 2020, 15:40:58
111719	dgx	run.sh	...	Nov 04 2020, 15:34:29	Nov 04 2020, 15:38:53

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User can checkout their tasks history for a period of time (e.g. 7 days as shown here).

This helps users to keep track of their own activity and have basic statistics.

HybriLIT User Account: User Tasks



The screenshot shows the 'My Tasks' dropdown menu with the following options: **running**, pending, completed, and suspended. A red box highlights these options, and a blue arrow points from the 'running' option to the table below.

JOBID	PARTITION	NAME	USER	DATE AND TIME START	DATE AND TIME END
114737	dgx	run.sh	...	Nov 04 2020, 21:42:41	Nov 05 2020, 6:15:28
114736	dgx	run.sh	...	Nov 04 2020, 21:39:47	Nov 04 2020, 21:39:51
114735	dgx	run.sh	...	Nov 04 2020, 21:38:04	Nov 04 2020, 21:38:05
114634	dgx	run.sh	...	Nov 04 2020, 21:33:26	Nov 04 2020, 22:39:25
114633	dgx	run.sh	...	Nov 04 2020, 21:29:47	Nov 04 2020, 21:29:48
114623	dgx	run.sh	...	Nov 04 2020, 21:25:40	Nov 04 2020, 21:29:05
114531	dgx	run.sh	...	Nov 04 2020, 21:16:44	Nov 04 2020, 21:25:17
111830	dgx	run.sh	...	Nov 04 2020, 15:48:04	Nov 04 2020, 15:52:47
111728	dgx	run.sh	...	Nov 04 2020, 15:39:18	Nov 04 2020, 15:40:58
111719	dgx	run.sh	...	Nov 04 2020, 15:34:29	Nov 04 2020, 15:38:53

Rows per page: 10 1-10 of 62

User can checkout their tasks with different “status” which include:

- *running*
- *pending*
- *completed*
- *suspended*

HybriLIT User Account: Partitions



INTERACTIVE

CPU

If you need some other positions to be shown in this section, please let me know

LONG

CPU

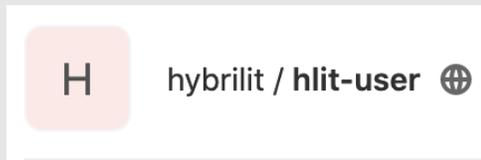
max cpu
cpu time
Walltime
Memory
Node

TBD

HybriLIT User Account: News and Support

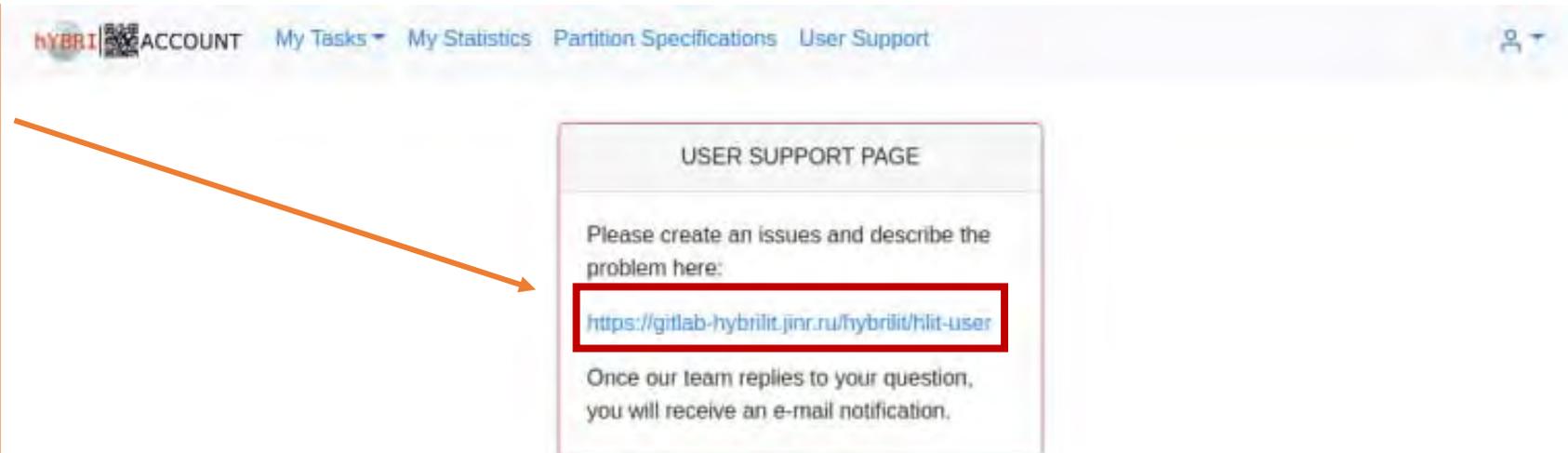


User Support page re-directs you to the Gitlab project:



where users can report their problem or request help.

Once the team responds to the request, users receive an e-mail notification.



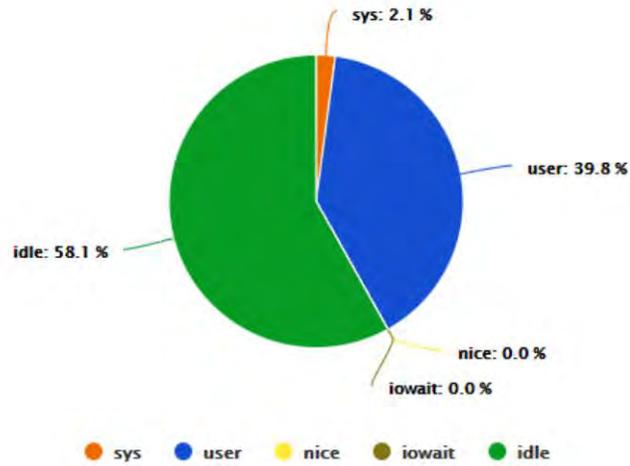


HybriLIT User Account: User Statistics

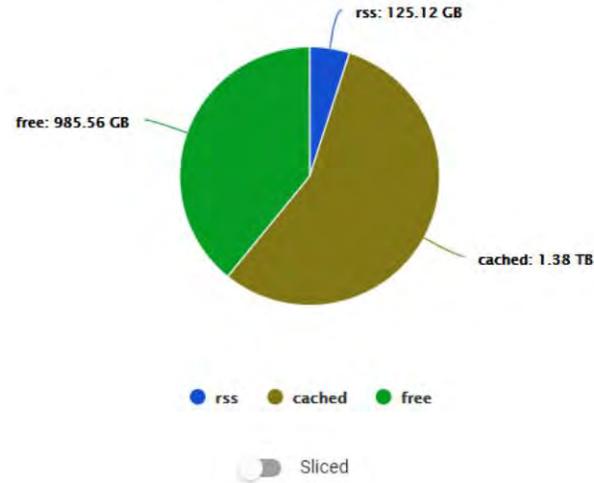


TBD

gvr:dgx CPU



gvr:dgx Memory



				CPU					Memory			Disks		Network		GPU			
id	name	cores	load	sys	user	nice	iowait	idle	used	cached	total	Write	Read	In	Out	GPU's	Usage	Used mem.	Total mem.
1	dgx01	80	8.62	2.4%	8%	0%	0%	89.6%	6.39 GB	401.72 GB	503.80 GB	0 B/s	0 B/s	1.02 KB/s	6.13 KB/s	8	48.1%	9.25 GB	126.02 GB
2	dgx02	80	8.15	2.5%	7.9%	0%	0%	89.6%	6.20 GB	398.44 GB	503.80 GB	0 B/s	0 B/s	1.02 KB/s	6.14 KB/s	8	51%	12.21 GB	126.02 GB
3	dgx03	80	117.03	1.4%	98.7%	0%	0%	0%	60.36 GB	65.28 GB	503.80 GB	0 B/s	0 B/s	2.56 KB/s	7.33 KB/s	8	21.6%	6.73 GB	126.02 GB
4	dgx04	80	8.15	2.6%	7.8%	0%	0%	89.6%	6.49 GB	380.75 GB	503.80 GB	0 B/s	0 B/s	1.02 KB/s	6.13 KB/s	8	52%	14.58 GB	126.02 GB
5	dgx05	80	73.13	1.6%	98.4%	0%	0%	0%	45.50 GB	160.33 GB	503.80 GB	0 B/s	0 B/s	1.1 KB/s	6.28 KB/s	8	29.1%	8.93 GB	126.02 GB
Total		400	215.08	-	-	-	-	-	124.95 GB	1.37 TB	2.46 TB	0 B/s	0 B/s	6.71 KB/s	32.01 KB/s	-	-	-	-
Average		80	43.02	2.1%	44.1%	0%	0%	53.8%	24.99 GB	281.30 GB	503.80 GB	0 B/s	0 B/s	1.34 KB/s	6.4 KB/s	-	-	-	-

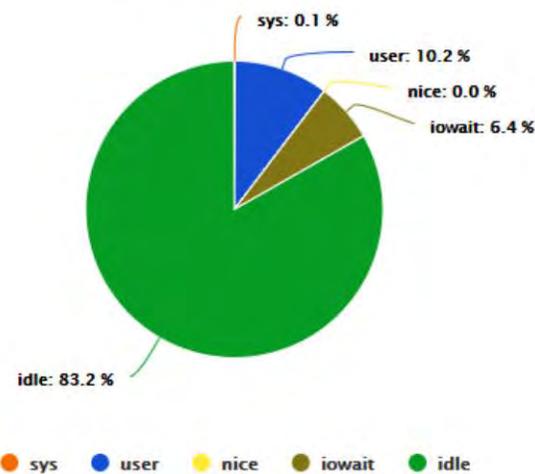
HybriLIT User Account: System Load



Navigation bar with buttons: eos, gvr:cascade, gvr:dgx, gvr:knf, hlit:wn, kubernetes, service, vm. The 'hlit' button is highlighted in blue. Below the buttons are two icons: a plus sign and a list icon.

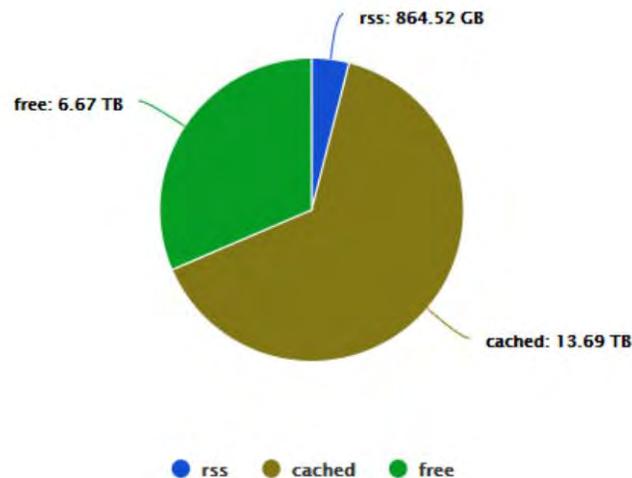
TBD

gvr:cascade CPU



Sliced

gvr:cascade Memory



Sliced



Thank you for attention!

HETEROGENEOUS PLATFORM HYBRILIT IN LIT JINR:

<http://hlit.jinr.ru>

