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CERN IT-FA-HCT
HEPiX Autumn 2022



# CERN Data Centre is ...



### Large number of hardware devices:

- ~ 12000 servers
- ~ 4000 storage arrays
- ~ 1300 network devices

### Installed in:

- ~ 1200 racks
- 12 rooms
- 4 locations

#### Interconnected with:

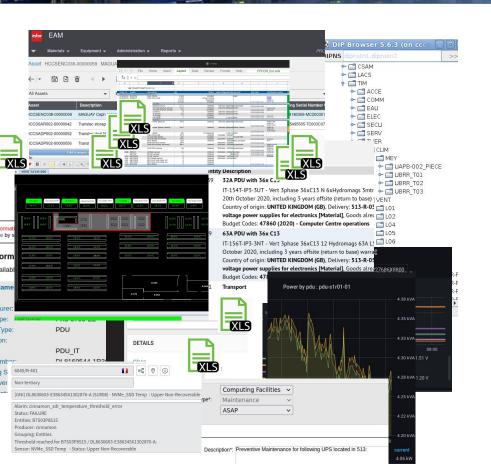
- ~ 30000 power connections
- ~ 35000 network connections

(and a new centre is coming in 2023)

Run by CERN/IT Fabric group



# **CERN Data Centre also is ...**



... using services & tools provided by different CERN departments (IT/EN/BE):

- Monitoring: Monit, Cinnamon, Spectrum, DIP, TIM, Podium, ... (\*)
- Asset Management & Lifecycle: HxGN Infor EAM, EDH, ... (\*)
- Operation: Snow,Impact, ... (\*)
  - (\*) plus various tools interfacing above

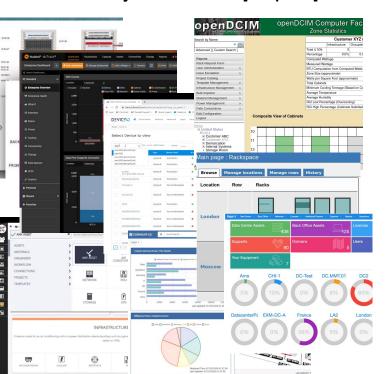
... and: lots of spreadsheets ...

All (most...) of the required information is available - but not really integrated and presented in different ways ... this does not make daily operations or planning easy ...



## **Data Centre Infrastructure Management**

... is the integration of information technology and facility management disciplines to centralize monitoring, management and intelligent of a data center's critical systems. Achieved through the implementation of specialized software, hardware and sensors, DCIM enables common, real-time monitoring and management platform for all interdependent systems across IT and facility infrastructures [wikipedia].



Commercial products: Sunbird, Nlyte, Device 42, Cormant-CS, FNT ...

- we have tested/reviewed most of the above.
- most are 'all-inclusive' solutions asset mgmt, service desk, monitoring, rack mgmt, stock mgmt, visualizations, ...
- not easily customizable, difficult to integrate in our environment.
- prohibitive pricing: mid-to-upper 6 digit prices ... per year (!)

Open Source products: RackTables,OpenDCIM,Ralph

- not much choice and lacking features.
- but... can adapt these to our needs!

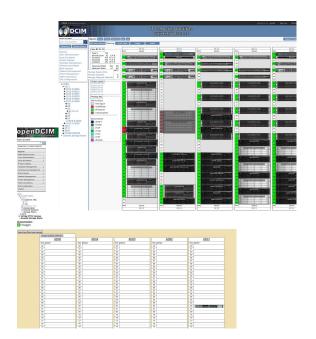
After testing proof-of-concept setups OpenDCIM is the choice: basic set of required features is present and integration using the API is possible.



# OpenDCIM: upstream vs. fork

Upstream version development is very slow ... and contributing not very easy or time efficient (it took more than 6 months to have few minor merge requests accepted).

Upstream development priorities are very different than ours (providing an 'all-inclusive' DCIM product vs. providing CERN environment integrated product without duplicating existing products in use).



... the version we use is a fork of upstream development.

### Added functionality:

- asset/power/network/ageing reports
- asset ownership / status visualization
- per phase/outlet PDU power visualization.
- power distribution visualization.
- temperature/humidity room & rack visualization.
- extended API for above.

Updated supporting jquery and jquery plugins Changed user interface to function correctly in all browsers Speedup of (most of) database queries



# **OpenDCIM: Integration**

#### **Network information**







#### **Power distribution**





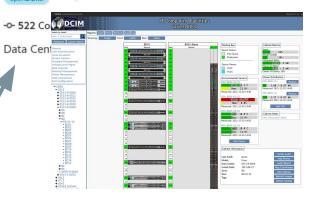








Project ID: 82172





operations





# **OpenDCIM: Integration**

```
[jpolok@opendcim] opendcimcmd GET "/device?DeviceID=70521
 "error": false,
 "errorcode": 200.
 "device": [
     "DeviceID": 70521,
     "Label": "TPSRV661",
     "SerialNo": "DL5655147-223312",
     "AssetTag": "HCCSENC002-00000339",
     "PrimaryIP": "tpsrv661.cern.ch";
     "SNMF[jpolok@opendcim] opendcimcmd GET "/cabinet?CabinetID=97135"
     "v3Sel
     "v3Ai "error": false,
            "errorcode": 200,
            "cabinet":
     "v3Pr
                "CabinetID": "97135",
     "SNMF
                "DataCenterID": "19",
     "SNMF
                "Location": "T901",
     "Нурє
                "LocationSortable": "T901",
     "APIL
                "AssignedTo": "1",
     "APIF
                "ZoneID": "88".
     "APIF
                "CabRowID": "229".
     "Prox
                "CabinetHeight": 2"42"5-57-04.png
     "Owne
                "Model": "Atos".
     "Esca
                "Keylock": "",
     "Esca
                "MaxKW": "4".
                "MaxWeight": "1000",
     "Prin
                "InstallationDate": "1970-01-01",
     "Cabi
                "MapX1": "251",
     "Posi
                "MapY1": "130",
     "VPos
                "MapX2": "274",
     "Heig
                "MapY2": "166",
     "Port
                "FrontEdge": 2"Bottom"; -08-54.png
     "Firs
                "Notes": "depth=90, width=60, cooling=air",
     "Temr
                "UlPosition": "Bottom",
     "Nomi
                "Rights": "Read",
     "Powe
                "DataCenterName": "0613-R-0001"
```

Integration with other systems is implemented using API:

- REST
- creation/updates/deletion of assets
- (re)setting asset attributes
- definition of network/power connections

Used for all the data available in the system except:

- definition of floor plans
- definition of racks (investigating automation...)
- definition of new hardware models (and adding images for these)

The API is mostly complete except:

- endpoints for updating PDU/sensor readouts
- bulk update functionality missing...

(for the above direct write to DB is used)



# **OpenDCIM: CERN-specific fork?**

#### IT Computing Facilities Device ITHDP-NXCALS-ONLINE5002 Asset Tracking Physical Infrastructure Device ID 112543 Cabinet 0513-R-0060 / BA01 Status Production Parent Device DL8738187-E386345X1B03769 ITHDP-NXCALS-ONLINE5002 Label SUPM - MBD-H12DST-B Device Class Serial Number DL8738187-E386345X1B03769-A Number of slots HCCSSYS020-00001833 Asset Tag Position ithdp-nxcals-online5002.cern.ch Primary IP / Host Name 0 0 Vertical position Manufacture Date 2022-02-28 Back Side 2022-01-19 Install Date Number of Data Ports 0 Warranty Company CDC-3YEARS Nominal Draw (Watts) 0 Warranty Expiration 2025-02-28 Weight Ticket Power Connections Last Audit Completed 2022-07-24 00:01 Device Type Server Departmental Owner **Show Contacts** Primary Contact (ai-hadoop-admin) ai-hadoop-admin, e -Attached Assets Type Tags DL8738187-E386345X1B03769 Chassis **Escalation Information** xternal Information Select... ▼ Time Period SNOW GNIs: Details Select... ▼ Monit Cinnamor INC3280792 **Custom Attributes** Device Images Class CSSYS Front 9074167 DeliveryID Rear DR-8219681/IT DepRealD

## NO

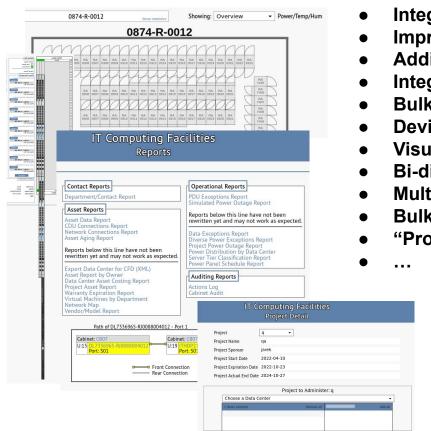
Only CERN-specific part can be found in asset information display:

the 'external information' panel linking to other CERN services/data-sources.

we plan on making this configurable in future releases - allowing to define custom URLs.



# **OpenDCIM:** Future



- Integration of BE department COntrols group equipment
- Improved visualisation/positioning of PDUs
- Additional reports / rewrite
- Integration of non-FAbric group procured hardware
- Bulk device edit
- Device move in rack view (disabled at present since buggy)
- Visual device position errors reporting
- Bi-directional updates between HxGN EAM and OpenDCIM
- Multi-point network paths
- Bulk update API
- "Projects" implementation to allow for better planning

... some of the above will be rather distant future ...

# OpenDCIM: in action

# https://opendcim.cern.ch

#### Access:

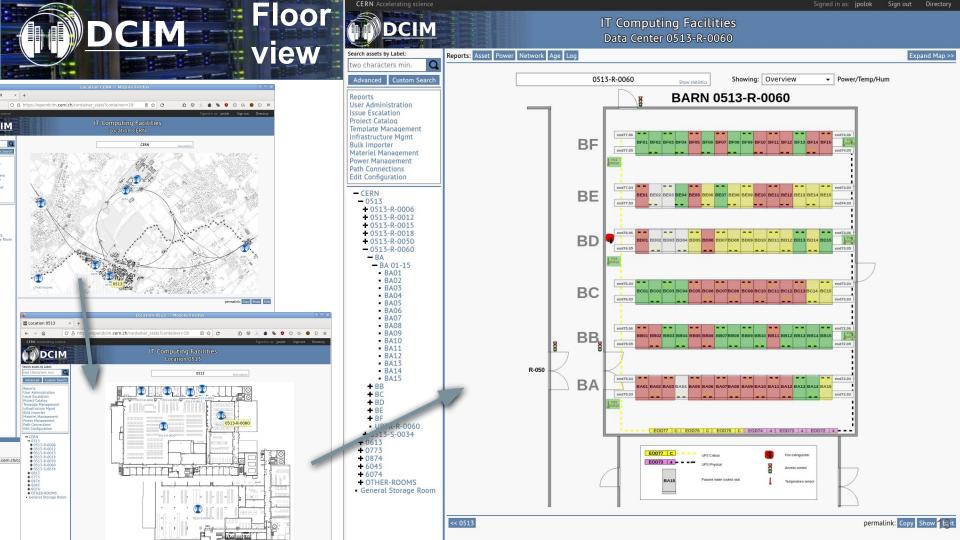
- All CERN accounts (primary/secondary & service)
- CERN internal network restricted



# **Questions?**



Next slides are screenshots of live demo



**Environmental sensor** 

**Rack information** 

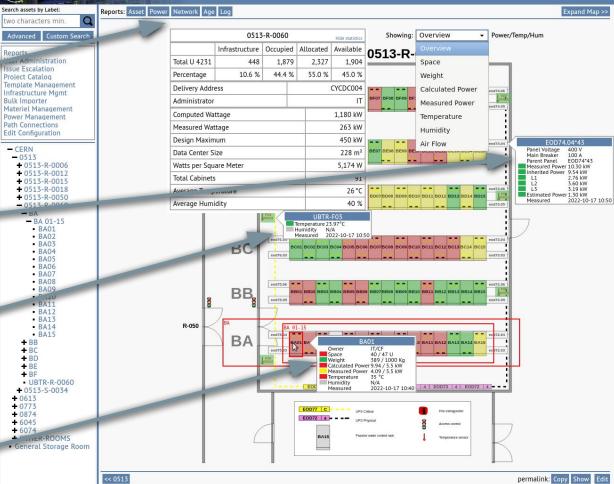
## DCIM IT Comp

CERN Accelerating science

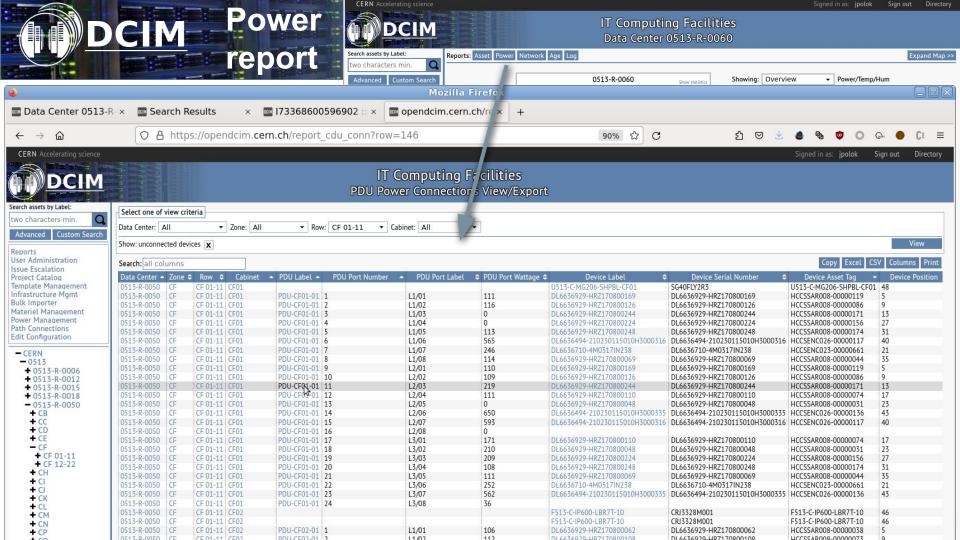
## IT Computing Facilities Data Center 0513-R-0060

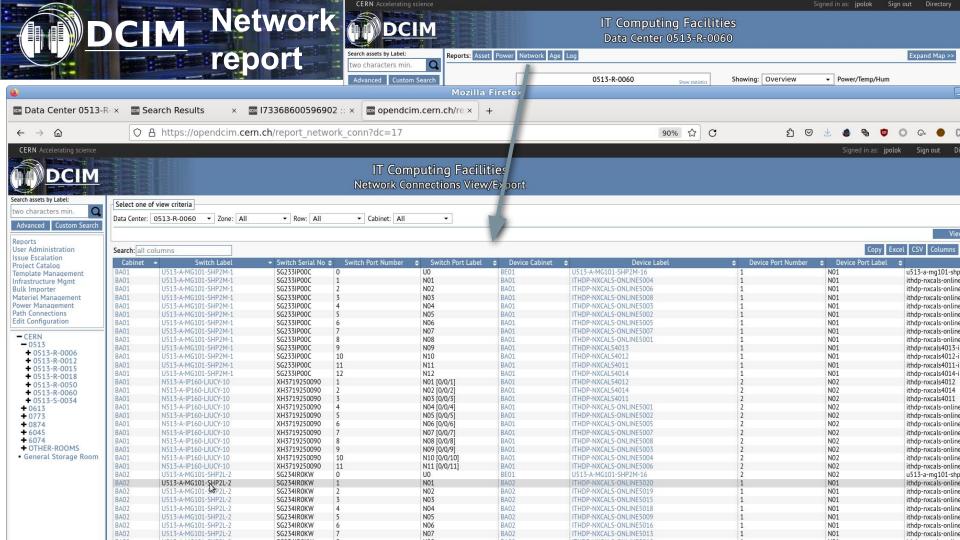
Signed in as: jpolok

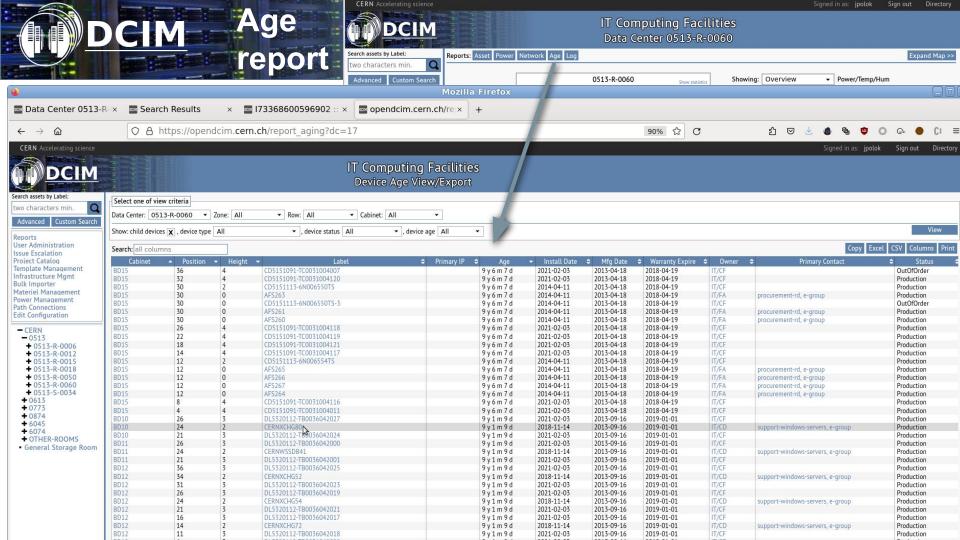
Sign out Directory

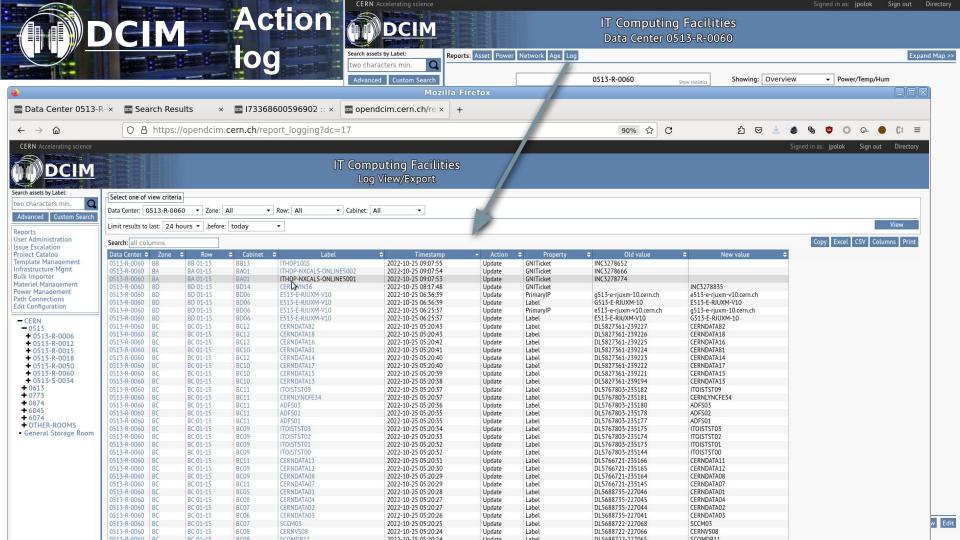










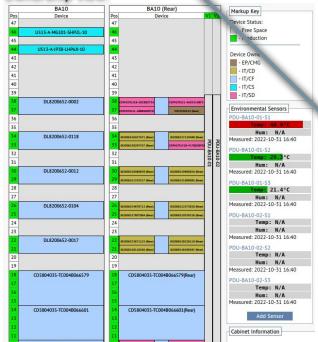


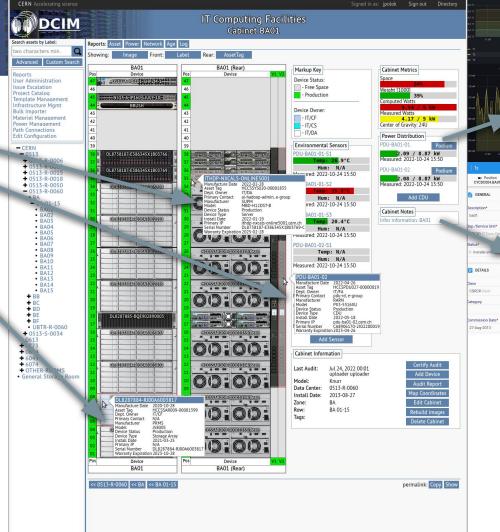
#### ○ A https://opendcim.cern.ch/dc stats?dc=17 DCIM Rack Row View DCIM Reports: Asset Power Network Age Log Advanced Custom Search 0513-R-0060 User Administration sue Escalation emplate Management frastructure Momt BF Materiel Management ower Management Path Connections Edit Configuration Device Device Device Device Device Device -0513+ 0513-R-0006 + 0513-R-0012 + 0513-R-0015 + 0513-R-0018 + 0513-R-0050 -0 :----BC (D) :- ---£ 6074 ----+ OTHER-ROOMS · General Storage Room OWNEROWSKOW(COM) BB. 09:00: 00:00: BA BO LINE THE 00:00: 00:00: 00:00: -1:: E0072 4 HCCSPDU027-00000014 pdu-rd, e-group RARN PX3-3516XU 0:00: 0:00: Production 88 -0 :---nty Expiration 2025-04-26 00:00: 00:00: 00:00: 09:09: 00:00: ---00:00: 69:09: 00:00: 09:00 GERNMANI (RES) 00:00: 00:00: 00:00: ONWER(CO) •0 :----09:09 00:00: 00:00: 00:00 00:00 https://opendcim.cern.ch/cabnavigator?cabinetid=95330 BA10 (Rear BA12 (Rear) BA13 (Rear) BA15 (Rear Measured Power 2,96 / 5 kW Measured Power 3.33 / 5 kW 1.26 / 5 kW Computed Power Computed Power Computed Power 20



#### **Device overview**

#### Ownership view:





B SAVE + NEW □ DELETE | □ 🖾 🗓

m

COMMENTS

USER DEFINED FIE

User Defined Field 05

IMPACT Facility



You can modify information and network configuration of the device.

i Information

Information (Viewhistory)

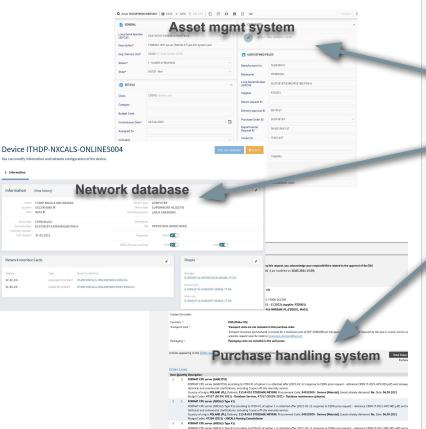
Location 0513/R-0060 Q

Serial Number DL8738187-E386345X1803766-A

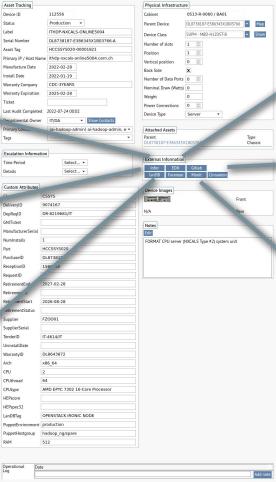
Rack BA01♥

Last changed 31-03-2022

Network Interface Cards



Control of origin: POLAND (PL), Delivery: \$13-86-55 STOCKAGE MEYRIN, Procurement Code: 04010300 - Servers (Material), Goods already delivered: Ne, Date: 06.09.2021
Budget Code: #1204 (2021) - NCKULS Hosting Generalisation

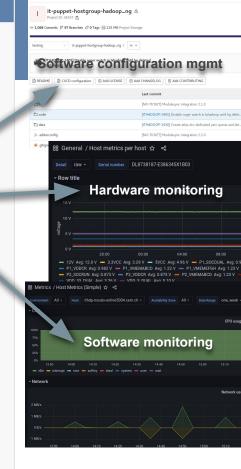


# Port Name

Device Port

Wattage

2022-01-2





# Device view (additional sections)

### Depending on device type:

#### **Hypervisor system**

VM Hostname	Puppet Hostgroup Env	Owner	Primary Contact	Last Updated	
dbod-cr003	dbod/instances/critical production	IT/DA	dbondemand-admin, e-group	2022-09-21 13:19:02	Moni
indico-cern-lb0	indico/haproxy/prod production	IT/CA	indico-administration, e-group	2022-06-21 18:13:06	Moni
lxlicenwolfram04	licmon/lxlicen_noflex/lxlicenwolfram qa	IT/CD	it-ce-vmsrvadmins, e-group	2022-06-13 16:25:20	Moni
mapsportal01	gis/portal/mapsportal production	SCE/SAM	gis-puppet-hostgroup-manager, e-group	2022-09-01 12:35:47	Moni
mb100	mig/brokers/agileinf production	IT/DA	mig-team, e-group	2022-10-13 14:33:25	Moni
opendcim	itdcim/opendcim/production	IT/FA	opendcim-admins, e-group	2022-09-21 16:24:56	Moni
winlicen06	windows infrastructure/licen production	IT/CD	it-ce-vmsrvadmins, e-group	2022-07-19 22:27:50	Moni

#### Sensor

	Temp: 35.9°C	
	Hum: N/A	
Measured: 2022-10-24 17:	00	

#### Power panel



#### **Network switch**

Vetwork	#	Port Name	Device	Device Port	Interface	Service	Media
Connections	0	U0	U513-A-MG101-SHP2M-16	N05	u513-a-mg101-shp2l-5		NET
	3	N03					1GB
	4	N04					1GB
	5	N05					1GB
	6	N06					1GB
	7	N07					1GB
	8	N08					1GB
	9	N09					1GB
	10	N10					1GB
	11	N11					1GB
	12	N12					1GB
	15	N15					1GB
	16	N16					1GB
	17	N17					1GB
	19	N19					1GB
	25	N25	173368607372500	N01	i73368607372500-ipmi	513-C-MG101	1GB
	26	N26	173368605687386	N01	i73368605687386-ipmi	513-C-MG101	1GB
	27	N27	173368600596902	N01	i73368600596902-ipmi	513-C-MG101	1GB
	28	N28	173368608017405	N01	i73368608017405-ipmi	513-C-MG101	1GB
	29	N29	173368609620661	N01	i73368609620661-ipmi	513-C-MG101	1GB
	30	N30	173368602443237	N01	i73368602443237-ipmi	513-C-MG101	1GB
	31	N31	173368602844281	N01	i73368602844281-ipmi	513-C-MG101	1GB
	32	N32	173368608230476	N01	i73368608230476-ipmi	513-C-MG101	1GB

#### **PDU**



Log							Add
Power	z	Port Name	Device	Device Port	Serial Number	Notes	Wattage
Connections	1	L1/01	* DL6921926-RJ0079004402	P01		24-Nov-2017	92
	2	L1/02	DL6921926-RI0073000916	P01		24-Nov-2017	109
	3	L1/03	DL6921926-RJ0079004408	P01		24-Nov-2017	34
	4	L1/04	DL6921926-RI0077002312	P02		24-Nov-2017	104
	5	L1/05	DL6921926-RJ0079004406	P02		24-Nov-2017	99
	6	L1/06	CD6922791-BQB973990014	P02		16-Nov-2017	461
	Z	L1/07	CD6922791-BQB973990036	P01		16-Nov-2017	339
	8	L1/08	DL6921926-RJ0079004427	P02		24-Nov-2017	94
	2	L2/01	DL6921926-RJ0079004402	P02		24-Nov-2017	103
	10	L2/02	DL6921926-RI0073000916	P02		24-Nov-2017	101
	11	L2/03	DL6921926-RJ0079004408	P02		24-Nov-2017	148
	12	L2/04	DL6921926-RI0079004615	P01		24-Nov-2017	34
	13	L2/05	DL6921926-RJ0079004420	P01		24-Nov-2017	36
	14	L2/06	CD6922791-BQB973990034	P02		16-Nov-2017	452
	15	L2/07	CD6922791-BQB973990014	P01		16-Nov-2017	460
	16	L2/08					0
	17	L3/01					150
	18	L3/02	DL6921926-RI0079004420	P02		24-Nov-2017	171
	19	L3/03	DL6921926-RJ0077002312	P01		24-Nov-2017	108
	20	L3/04	DL6921926-RI0079004406	P01		24-Nov-2017	99
	21	L3/05	DL6921926-RJ0079004427	P01		24-Nov-2017	99
	22	L3/06	CD6922791-BQB973990036	P02		16-Nov-2017	331
	23	L3/07	CD6922791-BQB973990034	P01		16-Nov-2017	454
	24	L3/08					36

#### Storage array

Network Connections	#	Port Name	Device	Device Port	Interface	Service	Media	Color
	1	501	ITHDP-NXCALS4014	502	storage		STOR	yellow



# Power outage simulation

IT Computing Facilities ower Outage Impact Simulation

							acilities Simulation	
ata center								
513-R-0050								
ower panels								
UPS C (EOD4*43)	UPS 4 (EOD6*43)	UPS 3 (EOD3*43)	UPS 2 (	EOD2*43)	UPS 1 (EC	DD1*43		
EOD56:43 EOD56.03*43 EOD56.04*43 EOD56.05*43	EOD52:43  EOD52:04:43  EOD52:05:43  EOD52:06:43  EOD57:05:43  EOD57:05:43  EOD57:05:43  EOD57:05:43  EOD57:05:43  EOD57:05:43  EOD57:05:43	EOD54·43 EOD54.03·43 EOD54.04·43 EOD54.05·43 EOD54.06·43 EOD61.03·43 EOD61.03·43 EOD61.03·43 EOD61.03·43 EOD61.03·43 EOD61.03·43 EOD61.03·43	EODS EODS EODS EODS EODS EODS EODS EODS	5.05*43 5.06*43 *43 8.03*43 8.04*43 8.05*43 8.08*43	EOD49*4 EOD49. EOD49. EOD49. EOD50*4 EOD51*4 EOD51. EOD51.	03*43 04*43 05*43 06*43 43 03*43 04*43		
	EOD64.03*43 EOD64.04*43 EOD64.05*43 EOD64.06*43	E0062-43 E0062.05'43 E0062.06'43 E0063-43 E0063.03'43 E0063.04'43 E0063.06'43 E0063.06'43	EOD60	9.07*43 *43 0.03*43 0.05*43 0.06*43 0.07*43	EOD53*4	Genera	RE  X  Show custom attributes in re- select columns to show	esults
Data Center	Zone	Row	1	<b>X</b> Asset	Tag	A	udit Stamp	
Back Side	Bin	x Cabinet		Chassi	s Slots	<b>X</b> D	evice Type	
Half Depth	Height	Hyperviso		Install		x L		
Mfg Date	Nominal Watt			X Owner			arent Device	
Ports	Position		oply Count		y Contact		rimary IP	
Rear Chassis Slots	X Serial No VPosition	Status	r.	Store	atu Evnica		emplate ID	
Ticket	Arch	Warranty		C13	nty Expire		leight 19	
Amperage CPU		Attached	10					
	CPUthread GNITicket	CPUtype HEPscore		Class	72		elivery ID	
Dep Req ID				HEPsp			Service	
Lan DBTag	Manufacturer		ID.	Num I	IISTALIS		art	
Request ID	Puppet Hostg				mont Start		eception ID	
	Retirement En	_	ונוט		ment Start all Date		etirement Status endor	
Supplier	Supplier Seria	l Tender ID						

ower panels o	OD59.05*43, EOD59.03*43, EOD59*43,							
arch: all colu							Copy Ex	cel CSV Columns
Cabinet -		Asset Tag 😊	Primary IP 0	Owner ©	Primary Contact \$	Puppet Hostgroup C		
12	US13-C-MG206-SHPRI-CE12	LIS13-C-MG206-SHPRI-CE12	u513-c-mg206-shpbl-cf12.cern.ch	IT/CS	Network, Infrastructure	rappet Hostgroup	unknown	no power connections
		HCCSENC026-00000119	uses emgeod supor creekenien	IT/CF			down	all PDUs down
	DL6636494-210230115010H3000332	HCCSENC026-00000133		IT/CF			down	all PDUs down
12	DL6636929-HRZ170800149	HCCSSAR008-00000105		IT/CF			down	all PDUs down
	DL6636929-HRZ170800097	HCCSSAR008-00000063		IT/CF			down	all PDUs down
2	DL6636929-HRZ170800086	HCCSSAR008-00000055		IT/CF			down	all PDUs down
12	DL6636929-HRZ170800188	HCCSSAR008-00000132		IT/CF			down	all PDUs down
2	DL6636710-4M0317IN258	HCCSENC023-00000681		IT/CF			down	all PDUs down
2	DL6636929-HRZ170800225	HCCSSAR008-00000157		IT/CF			down	all PDUs down
12	DL6636929-HRZ170800223	HCCSSAR008-00000155		IT/CF			down	all PDUs down
2	DL6636929-HRZ170800072	HCCSSAR008-00000046		IT/CF			down	all PDUs down
2	DL6636929-HRZ170800203	HCCSSAR008-00000142		IT/CF			down	all PDUs down
2	P06636710D40814	HCCSSYS011-00003308	p06636710d40814.cem.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
2	B7G11P0781	HCCSSYS015-00000476	b7q11p0781.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
2	B7G11P8679	HCCSSYS015-00000532	b7g11p8679.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
	P06636710C62264	HCCSSYS011-00003307	p06636710c62264.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
2	B7G11P5245	HCCSSYS015-00000475	b7g11p5245.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
2	B7G11P8943	HCCSSYS015-00000531	b7g11p8943.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
.2	P06636710C54538	HCCSSYS011-00003306	p06636710c54538.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power of
2	B7G11P5741	HCCSSYS015-00000474	b7g11p5741.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share	down	parent device power
2	B7G11P4229	HCCSSYS015-00000530	b7g11p4229.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
	P06636710C32784	HCCSSYS011-00003305	p06636710c32784.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
2	B7G11P6964	HCCSSYS015-00000473	b7g11p6964.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
2	B7G11P4246	HCCSSYS015-00000529	b7g11p4246.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
3	F513-C-IP602-LBR7T-10	F513-C-IP602-LBR7T-10	f513-c-ip602-lbr7t-10.cern.ch	IT/CS	Network, Infrastructure		unknown	no power connection
3	DL6636494-210230115010H3000320	HCCSENC026-00000121		IT/CF			down	all PDUs down
3		HCCSENC026-00000102		IT/CF			down	all PDUs down
3	DL6636929-HRZ170800082	HCCSSAR008-00000053		IT/CF			down	all PDUs down
3	DL6636929-HRZ170800008	HCCSSAR008-00000005		IT/CF			down	all PDUs down
3	DL6636929-HRZ170800030	HCCSSAR008-00000018		IT/CF			down	all PDUs down
3	DL6636929-HRZ170800063	HCCSSAR008-00000		IT/CF			down	all PDUs down
	DL6636710-4M0317IN260	HCCSENC023-00000		IT/CF			down	all PDUs down
3	DL6636929-HRZ170800254	LICCO		IT/CF			down	all PDUs down
	DL6636929-HRZ170800320	HCCSSAR008-00000166		IT/CF			down	all PDUs down
3	DL6636020 0000017	HCCSSAR008-00000010		IT/CF			down	all PDUs down
3	oosb929-HRZ170800098	HCCSSAR008-00000064		IT/CF			down	all PDUs down
	B7G11P7262	HCCSSYS015-00000484	b7q11p7262.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
3	B7G11P8625	HCCSSYS015-00000408	b7q11p8625.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
.3	P06636710F88438	HCCSSYS011-00003316	p06636710f88438.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
3	PHW0W2YR8P7	HCCSSYS015-00000483	phw0w2yr8p7.cem.ch	IT/CD	ai-openstack-admin, e-group		down	parent device power
3	B7G11P9338	HCCSSYS015-00000407	b7g11p9338.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share	down	parent device power
	P06636710F05472	HCCSSYS011-00003315	p06636710f05472.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
3	B7G11P1191	HCCSSYS015-00000482	b7g11p1191.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
3	B7G11P7524	HCCSSYS015-00000406	b7q11p7524.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
3	P06636710E46380	HCCSSYS011-00003314	p06636710e46380.cem.ch	IT/SD	eoscta-service-ops, e-group	eos/ctaalice/storage	down	parent device power
3	B7G11P1247	HCCSSYS015-00000481	b7g11p1247.cem.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
.3	B7G11P7480	HCCSSYS015-00000405	b7g11p7480.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power of
3	P06636710S48830	HCCSSYS011-00003313	p06636710s48830.cern.ch	IT/SD	eos-admins, e-group	eos/cms/storage/beer	down	parent device power of
4	F513-C-IP261-LBR7T-12	F513-C-IP261-LBR7T-12	f513-c-ip261-lbr7t-12.cern.ch	IT/CS	Network, Infrastructure	200 200 833-533	unknown	no power connection
		HCCSENC026-00000131		IT/CF			down	all PDUs down
4	DL6636494-210230115010H3000307	HCCSENC026-00000108		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800142	HCCSSAR008-00000098		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800099	HCCSSAR008-00000065		IT/CF			down	all PDUs down
	DL6636929-HRZ170800141	HCCSSAR008-00000097		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800038	HCCSSAR008-00000024		IT/CF			down	all PDUs down
4	DL6636710-4M0317IN262	HCCSENC023-00000685		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800020	HCCSSAR008-00000012		IT/CF			down	all PDUs down
	DL6636929-HRZ170800130	HCCSSAR008-00000090		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800243	HCCSSAR008-00000170		IT/CF			down	all PDUs down
4	DL6636929-HRZ170800178	HCCSSAR008-00000127		IT/CF			down	all PDUs down
4	B7G11P8425	HCCSSYS015-00000432	b7g11p8425.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
	P06636710H98901	HCCSSYS011-00003324	p06636710h98901.cem.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
4	B7G11P8229	HCCSSYS015-00000431	b7g11p8229.cem.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
	P06636710K91941	HCCSSYS011-00003323	p06636710k91941.cern.ch	IT/SD	eos-admins, e-group	eos/cms/storage/beer	down	parent device power
4	B7G11P0577	HCCSSYS015-00000523	b7g11p0577.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed	down	parent device power
4	B7G11P3221	HCCSSYS015-00000430	b7g11p3221.cern.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
4	P06636710H15344	HCCSSYS011-00003322	p06636710h15344.cem.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
4	B7G11P2037	HCCSSYS015-00000522	b7g11p2037.cem.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
4	B7G11P6067	HCCSSYS015-00000429	b7g11p6067.cem.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share	down	parent device power
4	P06636710G99251	HCCSSYS011-00003321	p06636710g99251.cern.ch	IT/SD	eos-admins, e-group	eos/alice/storage	down	parent device power
4	B7G11P9791	HCCSSYS015-00000521	b7q11p9791.cem.ch	IT/CD	batch-3rd, e-group	bi/condor/gridworker/share/mixed/noexeclog	down	parent device power
5	U513-C-MG206-SHPBL-CF15	U513-C-MG206-SHPBL-CF15	uS13-c-mg206-shpbl-cf15.cern.ch	IT/CS	Network, Infrastructure		unknown	no power connection
15	DL6636494-210230115010H3000321	HCCSENC026-00000122		IT/CF			down	all PDUs down
							1	
binet -	Lahel	Asset Tag	Primary IP	Owner -	Primary Contact •	Puppet Hostgroup	Power -	Issue



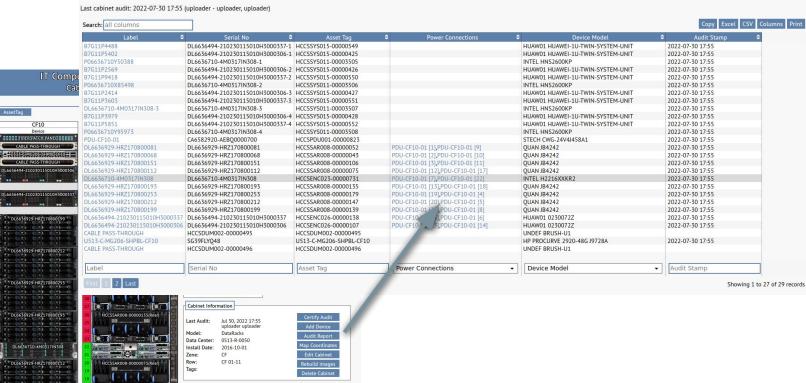
Network Age Log

Label Rear: AssetTag

DL6636929-HRZ170800151

HCCSSAR008-00000106(Rear)







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