

Rack 510

front

47									47
46									46
45									45
44									44
43	2MM-501, 2MM-508 [Panel 12LC]								43
42									42
41	Access and distribution Networking (Data Center): rack-mgmt.dc.local ⓘ								41
40									40
39									39
38	BladeCenter: rack-mgmt.dc.local								38
37	1	2	3	4	5	6	7	8	37
36	32740	32707	-	-	41136	40213	32737	-	36
35									35
34									34
33	9	10	11	12	13	14			33
32	-	32623	-	-	-	32729			32
31									31
30									30
29	GB80333TVK						32592		29
28	Logger: rack-mgmt.dc.local ⓘ								28
27									27
26	Logger: host.dc4.local ⓘ								26
25									25
24	Hadoop: rack-mgmt.dc.local ⓘ								24

RALPH 3

MARCIN KLIKS, ALLEGRO

## PROBLEM

- ▶ there's no cloud, it's just someone's else computer
- ▶ racks, server rooms
- ▶ cables, network
- ▶ PDU, patch panels, brushes
- ▶ = hardware inventory



---

**HARDWARE  
INVENTORY SUCKS**

An aerial, high-angle photograph of a large stadium. The stadium's roof is a prominent feature, showing a grid-like pattern of panels. A single person is visible walking on the roof, providing a sense of scale. The lighting is dramatic, with strong shadows and highlights.

**WE WANT TO FIX IT**

---

**HARDWARE  
INVENTORY SUCKS**

```
[marcin.kliks@polpc00107 ~> cat ~/.ssh/config
```

```
Host gandalf
```

```
    HostName host1.dc1
```

```
Host thorgal
```

```
    HostName host2.dc2
```

```
Host jupiter
```

```
    HostName host2.dc2
```

RALPH 3

	A	B	C	D
1	<b>rack</b>	<b>position</b>	<b>dc</b>	<b>ip</b>
2	110	1	dc1	10.0.0.1
3	110	2		10.0.0.2
4	i don't remember	3		127.0.0.1
5				





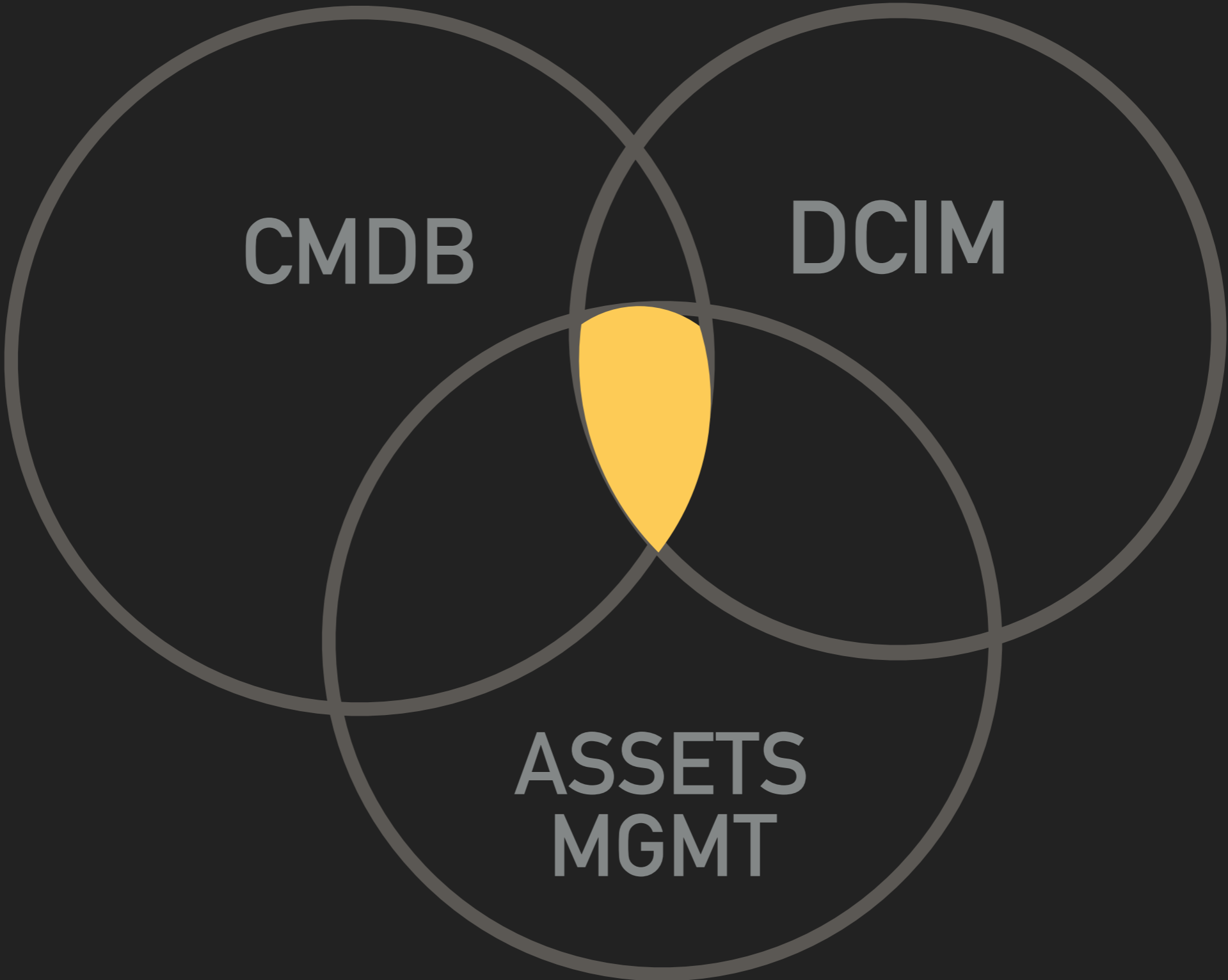
ORACLE®



# INTEGRATED SYSTEM



# RALPH 3



# RALPH 3

LIGHTWEIGHT, FREE HARDWARE INVENTORY



**DC4**

**POLCOM DATA CENTER**

**KRAKÓW**



**DC5**

**TALEX DATA CENTER**

**POZNAŃ**



DC location  
ip addresses  
hardware replacements  
failure statistics  
licences, supports  
capacity planning  
other data(e.g.domains)

Preview

Edit

Name	Rack 112
Description	Cloud
Position	column: 2 row: 3

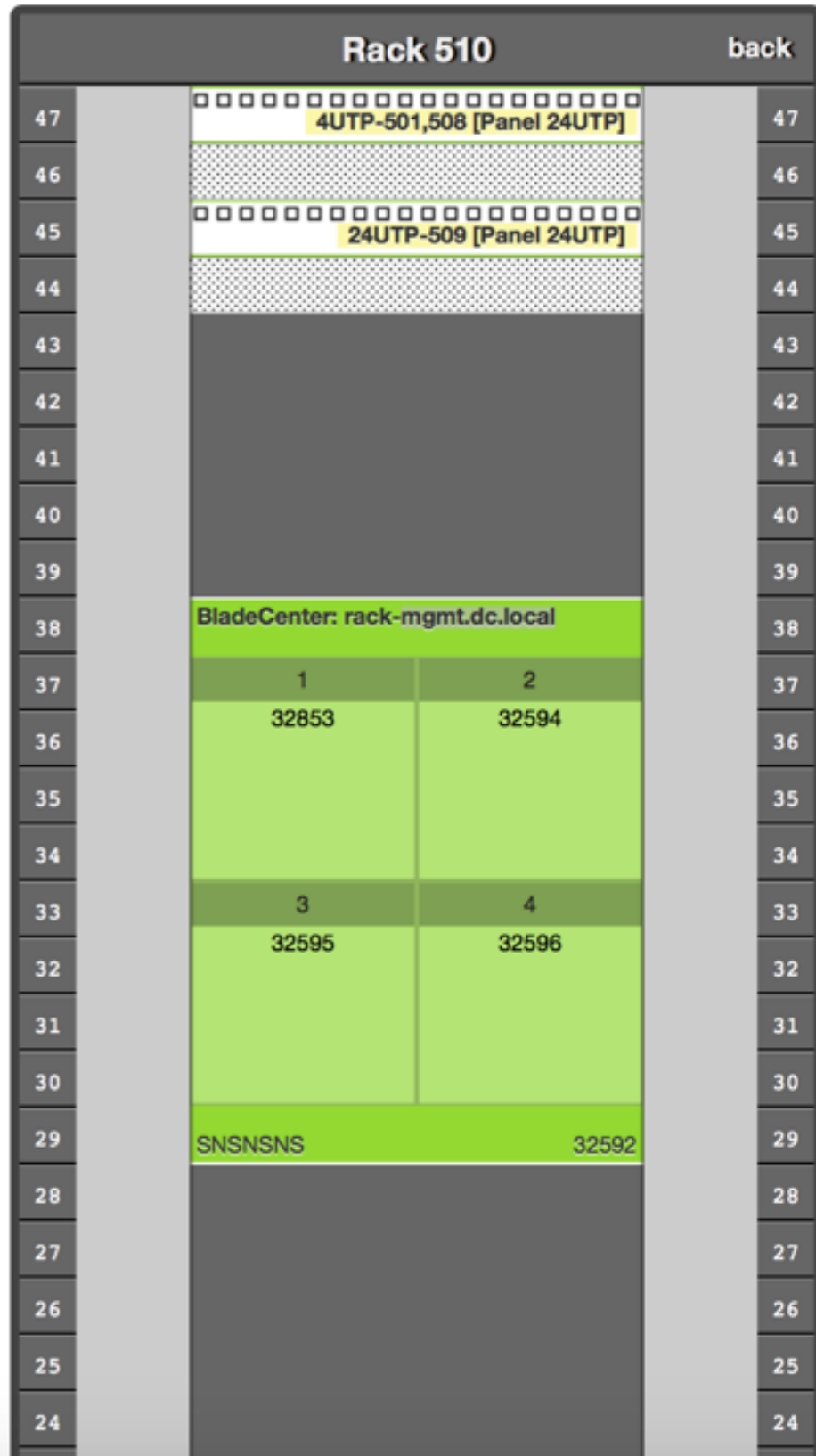
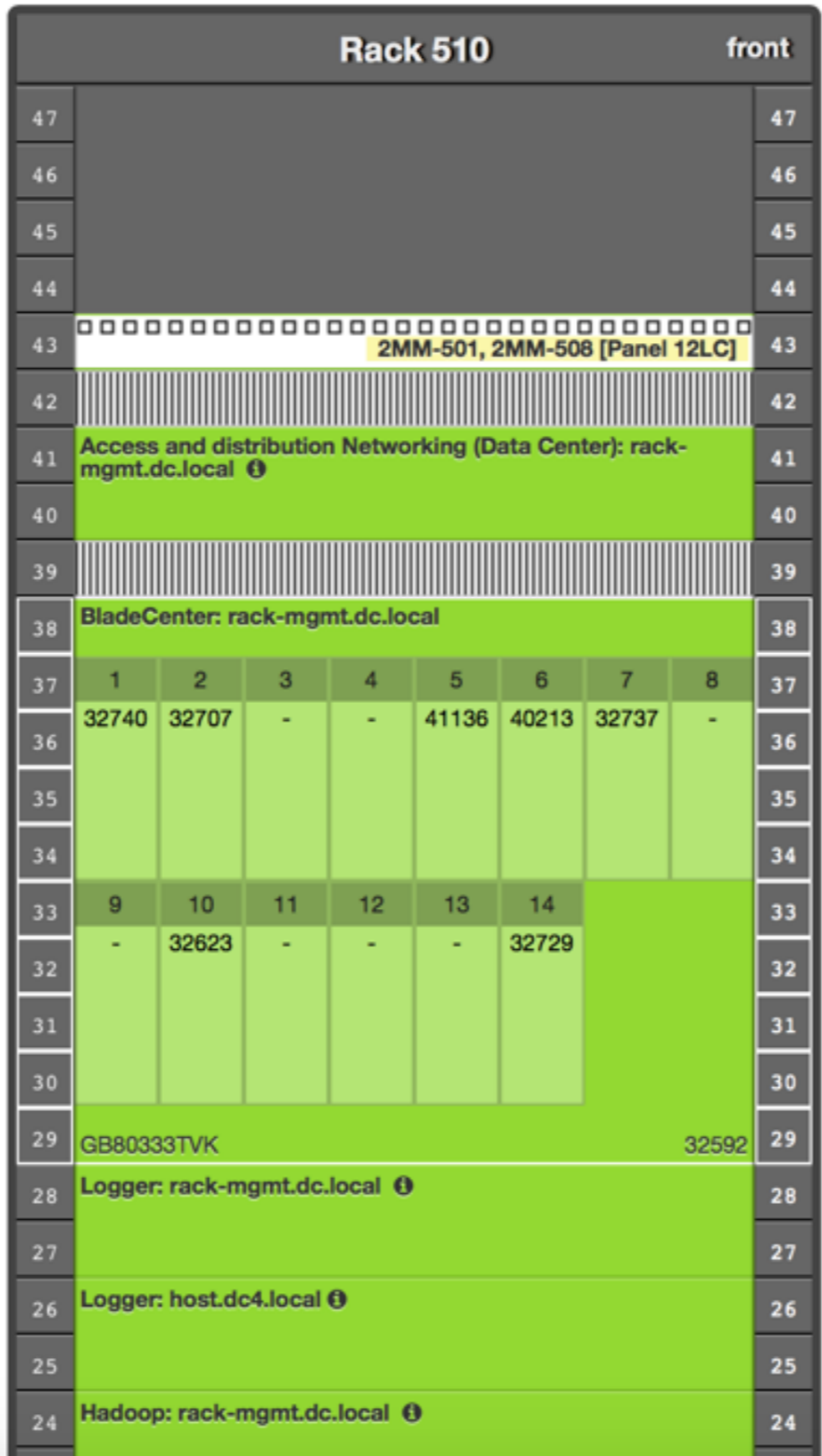
	<b>107</b> 10 / 47	<b>114</b> 7 / 47				<b>207</b> 18 / 47	<b>214</b> 15 / 47				<b>307</b> 11 / 47	<b>314</b> 9 / 47				<b>407</b> 6 / 47	<b>414</b> 5 / 47		
	<b>106</b> 13 / 47	<b>113</b> 13 / 47				<b>206</b> 16 / 47	<b>213</b> 14 / 48				<b>306</b> 3 / 47	<b>313</b> 12 / 47				<b>406</b> 5 / 47	<b>413</b> 5 / 47		
	<b>105</b> 9 / 47	<b>112</b> 6 / 47				<b>205</b> 10 / 47	<b>212</b> 7 / 47				<b>305</b> 10 / 47	<b>312</b> 4 / 47				<b>405</b> 47 / 47	<b>412</b> 18 / 47		
	<b>104</b> 7 / 47	<b>111</b> 6 / 47				<b>204</b> 8 / 47	<b>211</b> 18 / 47				<b>304</b> 6 / 47	<b>311</b> 1 / 47				<b>404</b> 34 / 47	<b>411</b> 9 / 47		
	<b>103</b> 5 / 47	<b>110</b> 14 / 47				<b>203</b> 6 / 47	<b>210</b> 29 / 47				<b>303</b> 11 / 47	<b>310</b> 9 / 47				<b>403</b> 12 / 47	<b>410</b> 7 / 47		
	<b>102</b> 16 / 47	<b>109</b> 16 / 47				<b>202</b> 15 / 47	<b>209</b> 15 / 47				<b>302</b> 8 / 47	<b>309</b> 1 / 47				<b>402</b> 17 / 47	<b>409</b> 7 / 47		
	<b>101</b> 5 / 47	<b>108</b> 6 / 48				<b>201</b> 2 / 47	<b>208</b> 3 / 47				<b>301</b> 0 / 47	<b>308</b> 0 / 47				<b>401</b> 0 / 47	<b>408</b> 0 / 47		
						<b>magazy</b> 15 / 48													
	<b>501</b> 0 / 47	<b>508</b> 1 / 47				<b>601</b> 14 / 47	<b>608</b> 15 / 47				<b>701</b> 9 / 47	<b>708</b> 10 / 47				<b>801</b> 18 / 47	<b>808</b> 20 / 47		
	<b>502</b> 5 / 47	<b>509</b> 2 / 47				<b>602</b> 2 / 47	<b>609</b> 4 / 47				<b>702</b> 27 / 47	<b>709</b> 4 / 47				<b>802</b> 8 / 47	<b>809</b> 16 / 47		
	<b>503</b> 4 / 47	<b>510</b> 2 / 47				<b>603</b> 17 / 47	<b>610</b> 7 / 47				<b>703</b> 35 / 47	<b>710</b> 3 / 47				<b>803</b> 43 / 47	<b>810</b> 15 / 47		
	<b>504</b> 47 / 47	<b>511</b> 20 / 47				<b>604</b> 12 / 47	<b>611</b> 10 / 47				<b>704</b> 6 / 47	<b>711</b> 14 / 47				<b>804</b> 27 / 47	<b>811</b> 3 / 47		
	<b>505</b> 47 / 47	<b>512</b> 30 / 47				<b>605</b> 33 / 47	<b>612</b> 27 / 47				<b>705</b> 35 / 47	<b>712</b> 11 / 47				<b>805</b> 37 / 47	<b>812</b> 4 / 47		
	<b>506</b> 8 / 47	<b>513</b> 4 / 47				<b>606</b> 26 / 47	<b>613</b> 1 / 47				<b>706</b> 2 / 47	<b>713</b> 13 / 47				<b>806</b> 10 / 47	<b>813</b> 22 / 47		
	<b>507</b> 16 / 47	<b>514</b> 7 / 47				<b>607</b> 26 / 47	<b>614</b> 35 / 47				<b>707</b> 3 / 47	<b>714</b> 17 / 47				<b>807</b> 25 / 47	<b>814</b> 24 / 47		

Blade / Rack

Service	BladeCenter
Catalog	
Hostname	rack-mgmt.dc.local
Model	BladeSystem c7000
Barcode	32592
SN	SN001
Position	29
Height	10
Management	10.0.0.1
Remarks	Inw. name: CHASIS

Edit

Slot 4	Service	
	Catalog	
	Hostname	
	Model	-
	Barcode	-
	SN	-







# c3-244

- Basic info
- Components
- Software
- Security Info
- Licences
- Supports
- Network
- Attachments

History

## Basic info

Hostname: c3-244

Model: [Server Blade] HP ProLiant BL460...    

Status: in use





Barcode: 49396


SN: CZJ

Inventory number: 49396






Required support

Remarks:

Parent: blade-113-1-    


Tags: 


## Location Info

Rack: Rack 113 (DC4/15C)     

Position: 30





Orientation: front

Slot number: 4 

Management IP address: 

Management hostname:

## Usage info

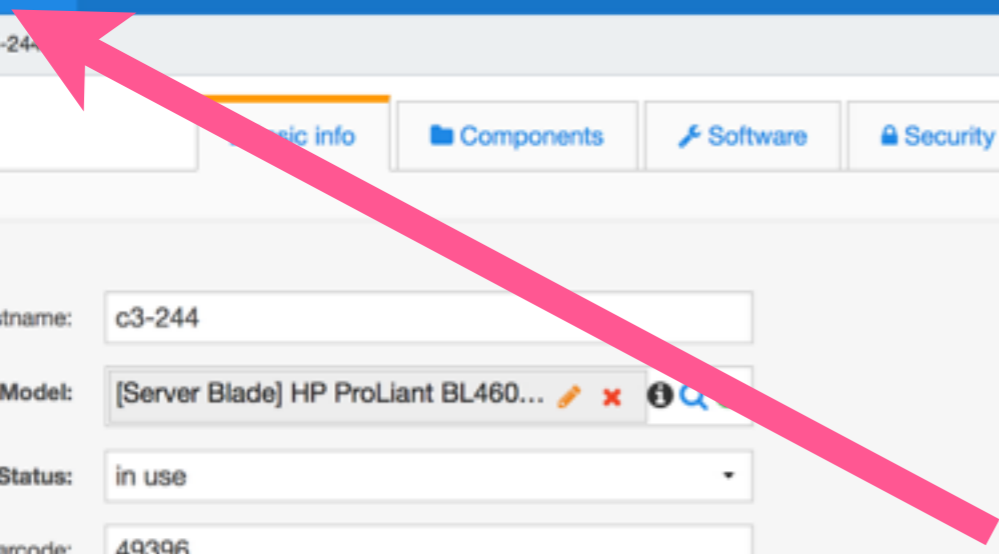
Service env: laas Essex - retired - prod    

Production year:

Production use date: 2013-05-09

## Financial & Order Info

Order no:





# c3-244

- Basic info
- Components
- Software
- Security Info
- Licences
- Supports
- Network
- Attachments

History

## Basic info

Hostname:

Model:

Status:

Barcode:

SN:

Inventory number:

Required support

Remarks:

Parent:

Tags:

## Location Info

Rack:

Position:

Orientation:

Slot number:

Management IP address:

Management hostname:

## Usage info

Service env:

Production year:

Production use date:

## Financial & Order Info

Order no:

Delete

Ralph 2.0 preview

Duplicate

Save






# c3-244

- Basic info
- Components
- Software
- Security Info
- Licences
- Supports
- Network
- Attachments
- history



## Basic info

Hostname: c3-244

Model: [Server Blade] HP ProLiant BL460...     

Status: in use





Barcode: 49396

SN: CZJ

Inventory number: 49396






Required support

Remarks:

Parent: blade-113-1-    


Tags: 


## Location Info

Rack: Rack 113 (DC4/15C)     

Position: 30





Orientation: front

Slot number: 4 

Management IP address: 

Management hostname:

## Usage info

Service env: laas Essex - retired - prod    

Production year:

Production use date: 2013-05-09

## Financial & Order Info

Order no:

# c3-244

- Basic info
- Components
- Software
- Security Info
- Licences
- Supports
- Network
- Attachments
- History

## Basic info

Hostname:

Model:

Status:

Barcode:

SN:

Inventory number:

Required support

Remarks:

Parent:

Tags:

## Location Info

Rack:

Position:

Orientation:

Slot number:

Management IP address:

Management hostname:

## Usage info

Service env:

Production year:

Production use date:

## Financial & Order Info

Order no:

# COMPONENTS

Ralph 3

Data Center ▾

DC Visualization

Back Office ▾

Licenses ▾

Domains ▾

Supports ▾

Reports ▾

Set

Data Center / Hardware / demo.local / Components

demo.local

 Basic info

 Components














 Software

 Security Info

 Licences

 Supports






## Generic components






Model	Label	Vendor SN	Delete
Intel(R) Xeon(R) CPU E5540 @ 2.53GHz      	CPU 1		<input type="checkbox"/>
Intel(R) Xeon(R) CPU E5540 @ 2.53GHz      	CPU 2		<input type="checkbox"/>
RAM 4096MiB, 1333MHz 		125AS55D48A63	<input type="checkbox"/>
Search by name			

Speed (mhz): 2530  
Number of cores: <empty>  
Size (mib): <empty>  
Component type: processor  
Family: <empty>

[Add another Generic component](#)


# VENDOR SUPPORTS

Manufacturer:      


Software:      

Inventory number:

SN / Key:

Valid thru:  

License details:

Region:   

Remarks:

Invoice no:

Price:

Invoice date:

Number of purchased items:

Used:

Free:

Accounting id:

Budget info:

Provider:

Office infrastructure:

Property of:

# LICENSES

Licenses / Licences / 10 (6 free) x Oracle Advanced Compression - 2016-01-13 (tifbytYyjocR)

10 (6 free) x Oracl...






Basic info






Assignments

Assigned to users

## Basic info


Licence type: vl (per core)  

Manufacturer: BenQ     

Software: Oracle Advanced Compression     

Inventory number: tifbytYyjocR

SN / Key: 615-80-9031

Valid thru: 2017-01-27 

## Financial info

Order no: Order n

Invoice no: Invoice

Price: 0,00

Invoice date: 2016-0

Number of purchased items: 10

Used: 4


Free: 6

Accounting id:


Budget info: Python

Provider:


Office infrastructure: Office i

data center assets  342


Show

Back Office Assets  224


Show

licences  60


Show

supports  90

Show

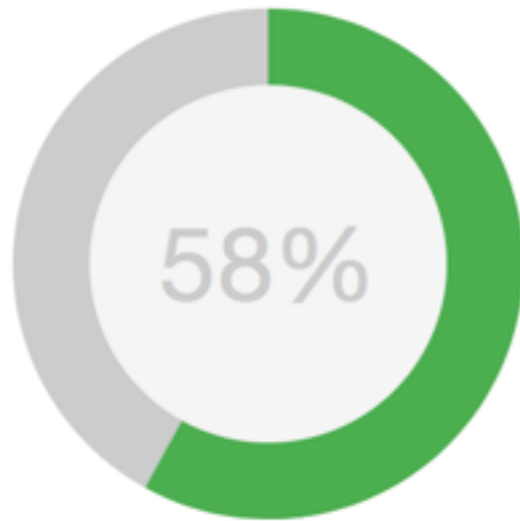
domains  0

Show

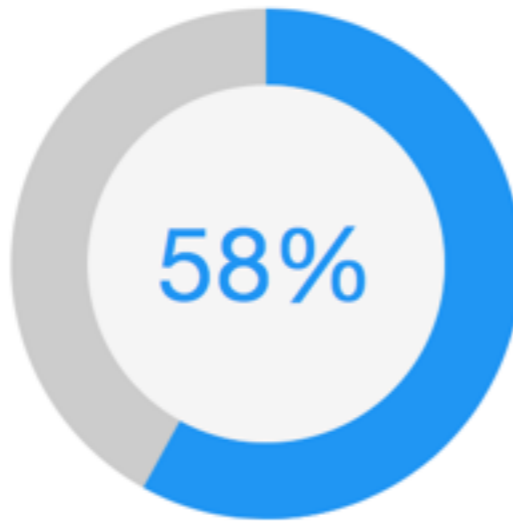
users  33

Show

DC1



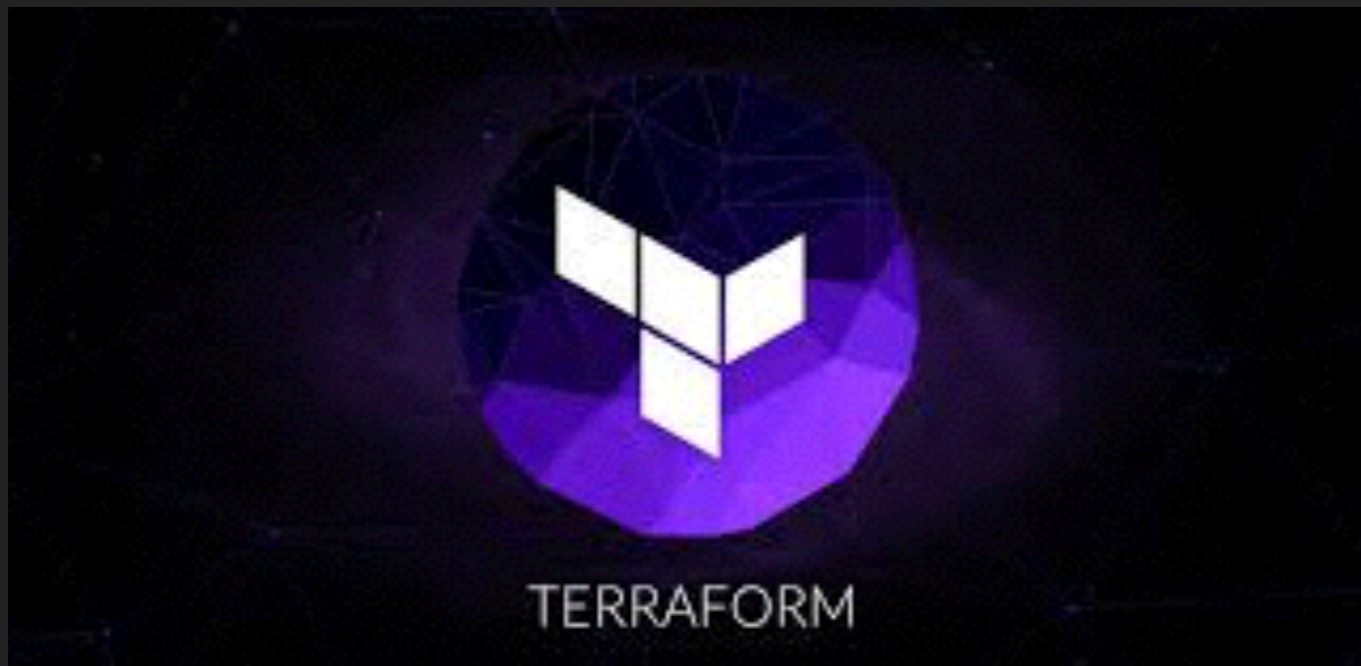
DC2



Free U: 201 (480 in total)

# DOESN'T DO

- ▶ provisioning
- ▶ deployment





ALL KIND OF  
HARDWARE

# FLOW

Actions	<input type="checkbox"/>	Status	Barcode	Purchase order	Model
<p>✓ -----</p> <p>Delete selected Back Office Assets</p> <p>Invoice report</p> <p>Bulk edit</p> <p>Release asset transition</p> <p>Loan asset transition</p> <p>Deploy transition</p> <p><b>Return asset transition</b></p> <p>Buyout transition</p> <p>Office infrastructure transition</p> <p>Waiting for release transition</p> <p>Change hostname transition</p> <p>Reservation transition</p>		ew	57111	4500022708	[Mobile phone] Apple iPhone 6 16GB space gray
		ew	57110	4500022708	[Mobile phone] Apple iPhone 6 16GB space gray
		use	57109	4500022708	[Mobile phone] Apple iPhone 6 16GB space gray
		ew	57108	4500022705	[Mobile phone] Apple iPhone 5S 16GB space gray ME432LP/A
		ew	57107	4500022705	[Mobile phone] Apple iPhone 5S 16GB space gray ME432LP/A

# REPORTS

## Status - model Last update: 01/21/2016 10:41 p.m.

Number of assets in each the asset status.

FILTER:

Only data center

Only back office

All

DC2

DC4

DC5

External

PIXEL

in use	2,026
new	29
free	503
to deploy	22
liquidated	970
damaged	14

# CLI/API

```
ralph-cli data-center-assets list --fields=hostname,position,model:name,rack
```

**Resource: `data-center-assets`**

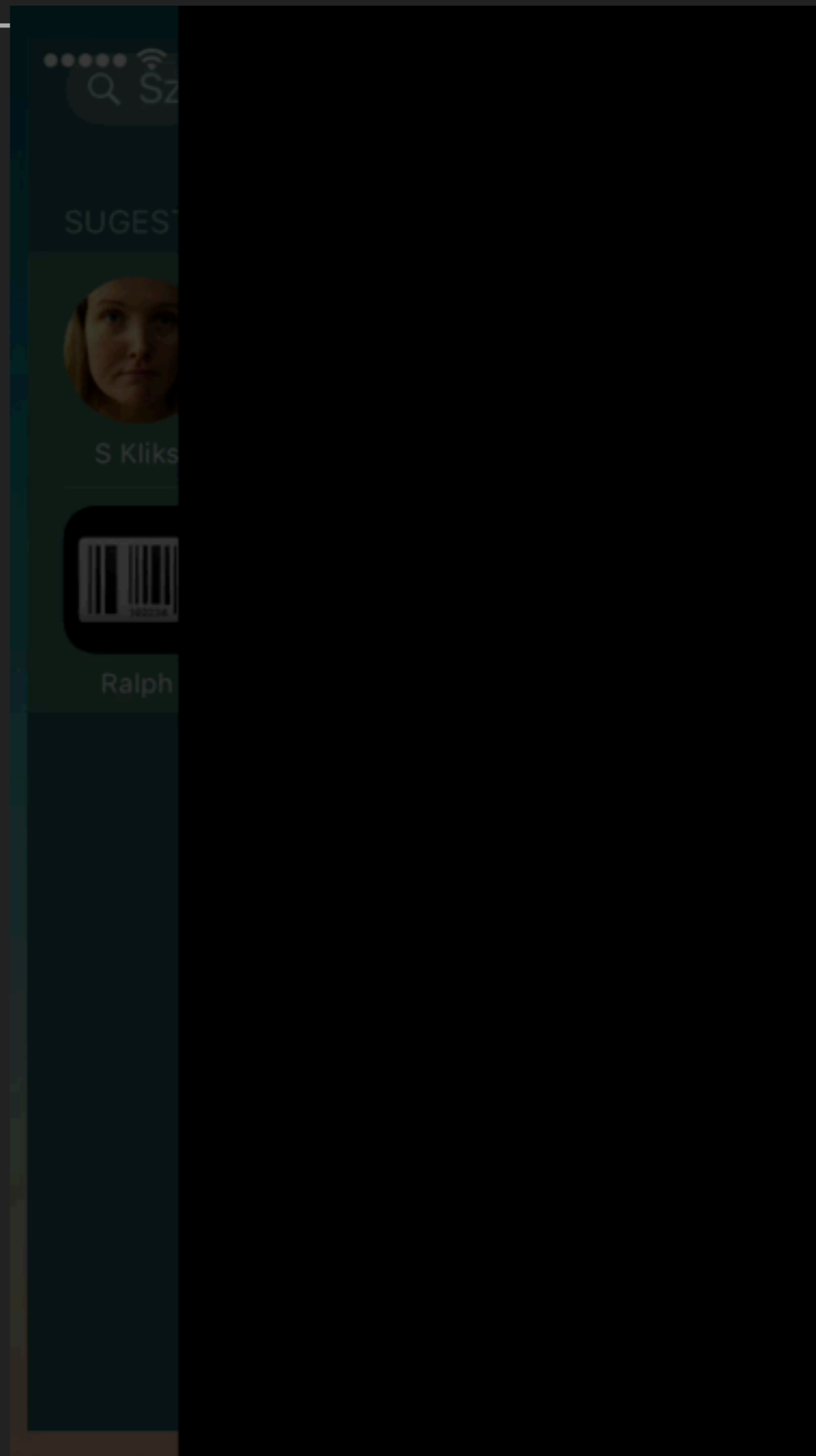
**Total count: 342**

**Limit: 20**

hostname	position	model	rack
ralph0.allegro.pl	1	DL360	Rack #100
ralph15.allegro.pl	9	DL360	Rack #101
ralph30.allegro.pl	13	DL360	Rack #102
ralph45.allegro.pl	22	DL360	Rack #103
ralph60.allegro.pl	1	DL360	Rack #105
ralph75.allegro.pl	9	DL360	Rack #106
ralph90.allegro.pl	13	DL360	Rack #107

# RALPH 3 INTERFACE

---



## EASY TO HACK ON

- ▶ django-admin based, easy to plug custom dbmodel
- ▶ Python API for:
  - ▶ custom tabs (e.g "Security information")
  - ▶ custom actions("Deploy using Terraform")
- ▶ permissions per field
- ▶ plug-in custom objects such e.g. Mesos Cluster

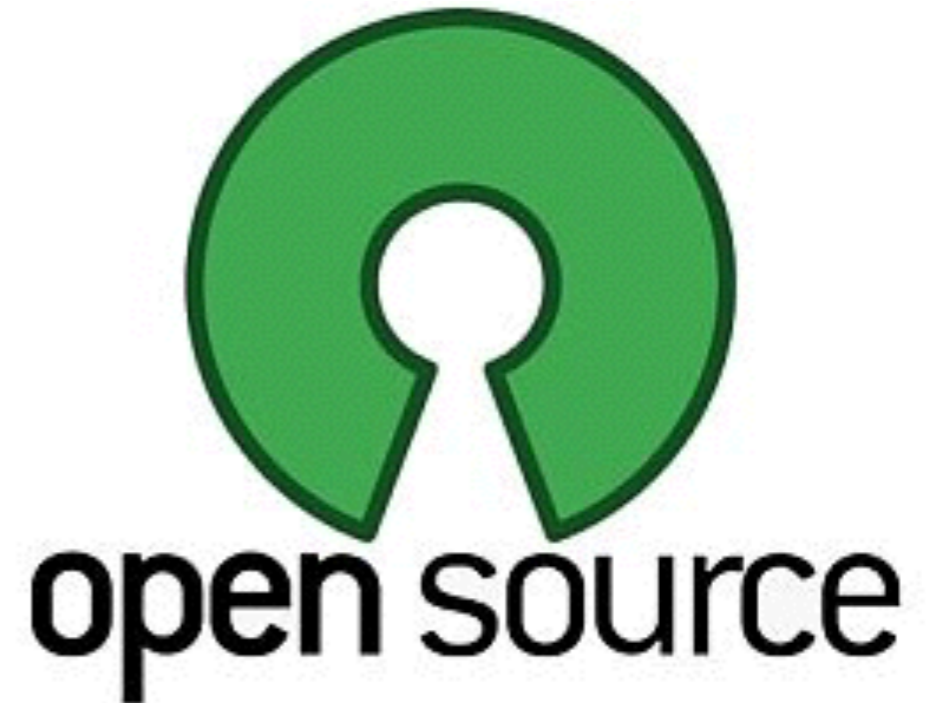
- ▶ rewritten in Python 3.4
- ▶ just 18K LOC
- ▶ 9.1 MB
- ▶ two installation methods:
  - ▶ simple debian / ubuntu  
64bit package
  - ▶ docker

3.0

## HOW YOU CAN CONTRIBUTE

[HTTP://GITHUB.COM/ALLEGRO/RALPH](http://github.com/allegro/ralph)

- ▶ send patches
- ▶ documentation
- ▶ make translations
- ▶ contribute more integrations





github: <https://github.com/allegro/ralph>

demo:

[HTTP://RALPH.ALLEGROGROUP.COM](http://RALPH.ALLEGROGROUP.COM)

---

**THANK YOU**

[marcin.kliks@icloud.com](mailto:marcin.kliks@icloud.com)