

CERN

RESOURCE VISUALISATION

Designing a Dashboard for visualization of cloud resources

Dinika Saxena

Supervisors

Jan Van Eldik

Ricardo Brito Da Rocha

Cristovao Jose Domingues Cordeiro

Why Do We Need A Dashboard?

With over **5,500** hypervisors in two data centres in the CERN OpenStack cloud, there is a need to easily visualise the current usage and allocations. The project is to investigate and prototype a service dashboard using the standard monitoring building blocks which would assist in **resource planning and visualisation** of OpenStack cloud resources by the cloud administration team and WLCG resource management.

The HIERARCHY

Cell 00

```
graph TD; C00[Cell 00] --> C001[CELL 001]; C00 --> C002[CELL 002]; C00 --> C00n[CELL 00 n]; C001 --> H[Hypervisors]; C002 --> H; C00n --> H; H --> VM[Virtual Machines];
```

CELL 001

CELL 002

CELL 00_n

Hypervisors

Virtual Machines



DATA

NODES

HYPERVERSORS

NUMBERS

VIRTUAL MACHINES

EXPERIMENTS

CELLS

TECHNOLOGY

HTML . CSS . SVG . JavaScript

D3.JS

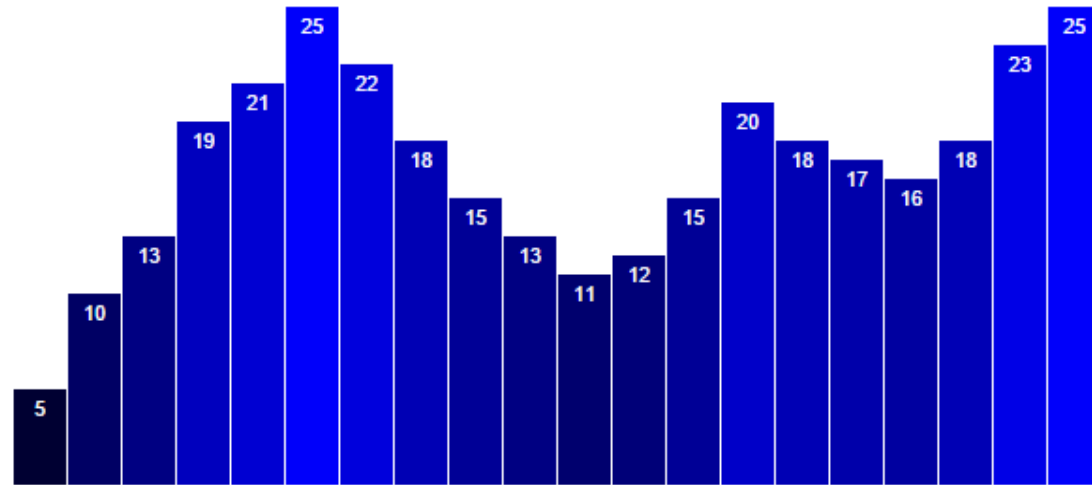
Data Driven Documents

JS Library for creating data visualisations

dimple



Click on this text to update the chart with new data values (once).



Directory listing for /

- [assets/](#)
 - [css/](#)
 - [display.js](#)
 - [html/](#)
 - [images/](#)
 - [imgs/](#)
 - [js/](#)
 - [LICENSE](#)
 - [README.md](#)
 - [Rics/](#)
 - [Samples/](#)
 - [templates/](#)
 - [topo.json](#)
 - [topology.py](#)
-

25000

Total VMS

Search

Zoom into Faulty VMS

Some data here

Name

Status

VM State

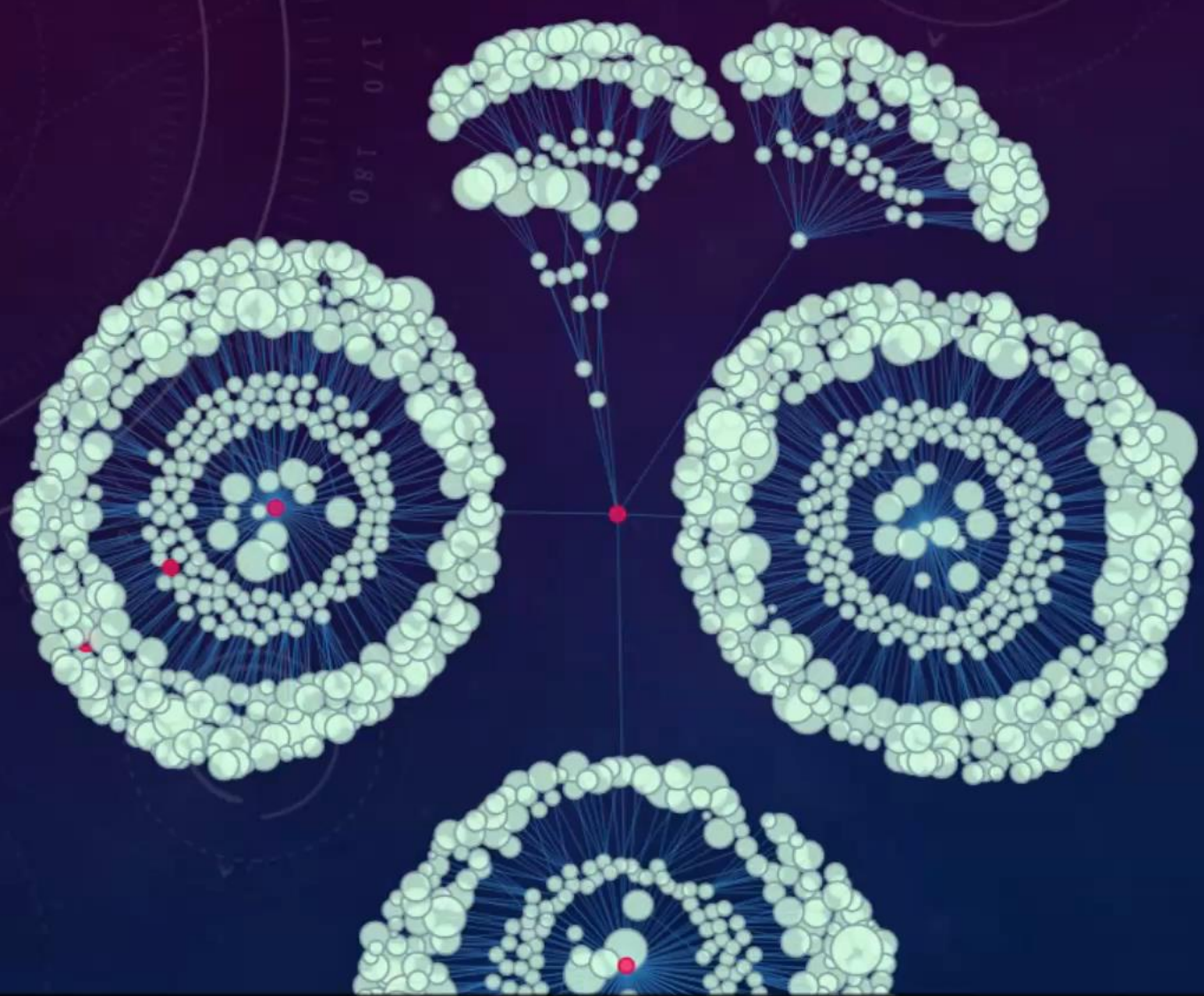
Task State

User ID

uid

44

Total Cells



Okay

Warning

Error!

Summary

2

Faulty VMS



some data

Search

Zoom into Faulty VMs

25000

Total VMS

44

Total Cells



Some data here

Name

Status

VM State

Task State

User ID

uid

Summary

2

Faulty VMS



some data

FUTURE

SCOPE

The word 'SCOPE' is rendered in a large, dark grey, sans-serif font. Two overlapping white circles are positioned behind the letters. The first circle overlaps the 'S' and 'C', and the second circle overlaps the 'P' and 'E'. Two blue arrows point horizontally towards the center of each circle: one from the right pointing to the 'C', and one from the left pointing to the 'E'.

of the project