BOMVIS

A VISUALIZATION OF NETWORK HEALTH AND STATUS

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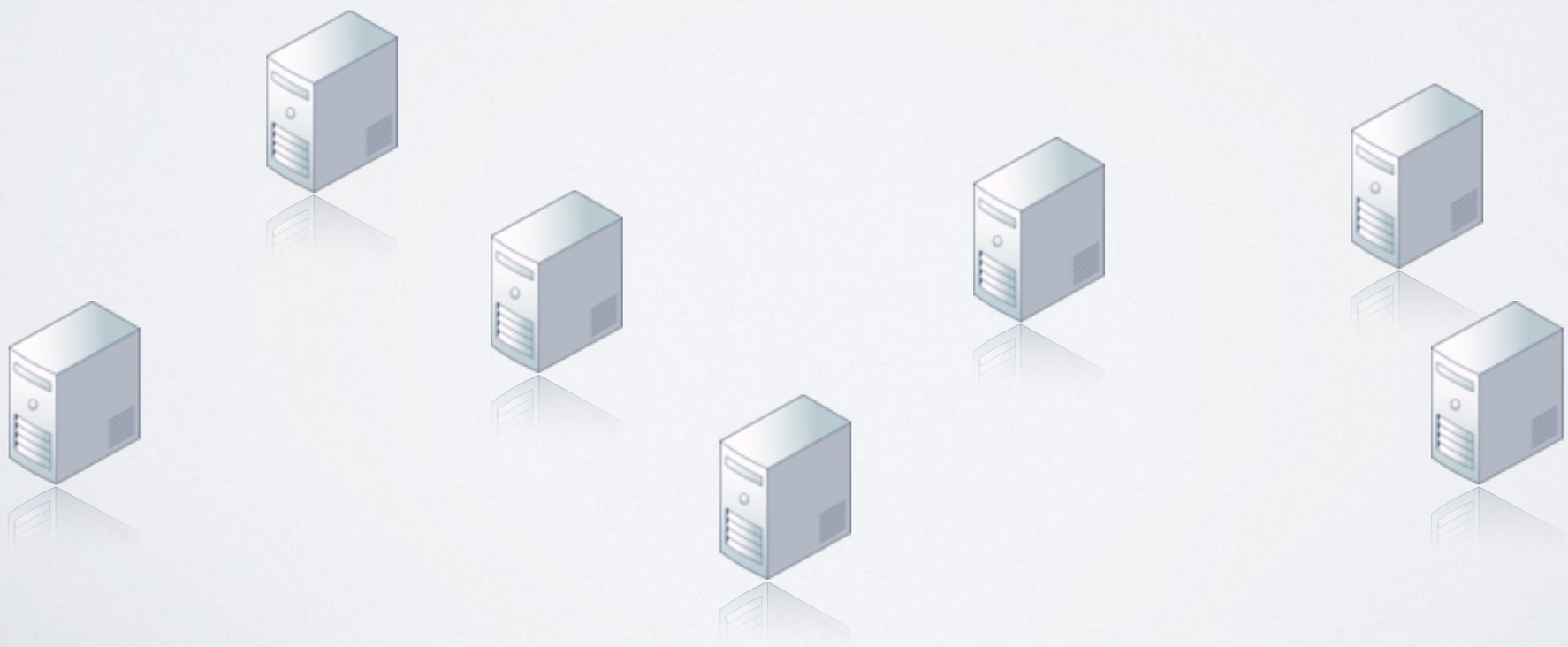
CHALLENGE DESCRIPTION

- Dataset and task provided as part of the 2012 VAST Challenge.
- BankWorld is a fictional planet very similar to Earth.
- The Bank of Money (BOM) is the largest bank on BankWorld with facilities spread across the globe.
- BOM is organized into a collection of regions. Within each region, there exists multiple facilities.
- BOM's network connects hundreds of thousands of machines housed across its facilities, the health and status of which is logged every 15 minutes.
- Two related datasets are provided by the challenge.

FIRST DATASET

- Catalogues the ~900,000 machines making up the BOM network, detailing their locations, the region/facility they are housed in, their ip addresses, as well as individual machine attributes, such as their type and function.

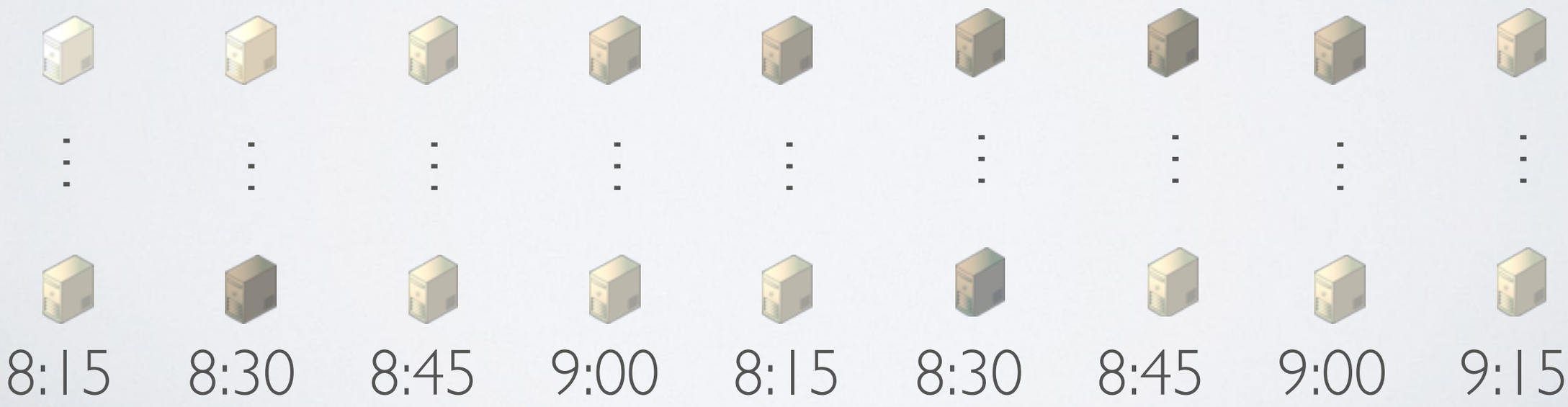


SECOND DATASET

- A log of status reports for each machine spanning 2 days, taken at 15 minute intervals (191 timepoints).

- Each status report contains data regarding the machine's health and level of activity.

- A missing status report for a machine during a given period indicates that the machine is currently down and non responsive.



TASKS

- Identify regions experiencing anomalous levels of downtime/policy-deviation/cpu-consumption/connections at a given point in time.
    - Having identified a region experiencing an anomaly, identify when it began and when it ended.
- Identify intervals of anomaly within the network over the 48 hour span.
    - Having identified an interval of anomaly, try to localize the problem to particular regions.

DESIGN DECISION 1: DATA REDUCTION

Catalogue of machines + log of machine status reports

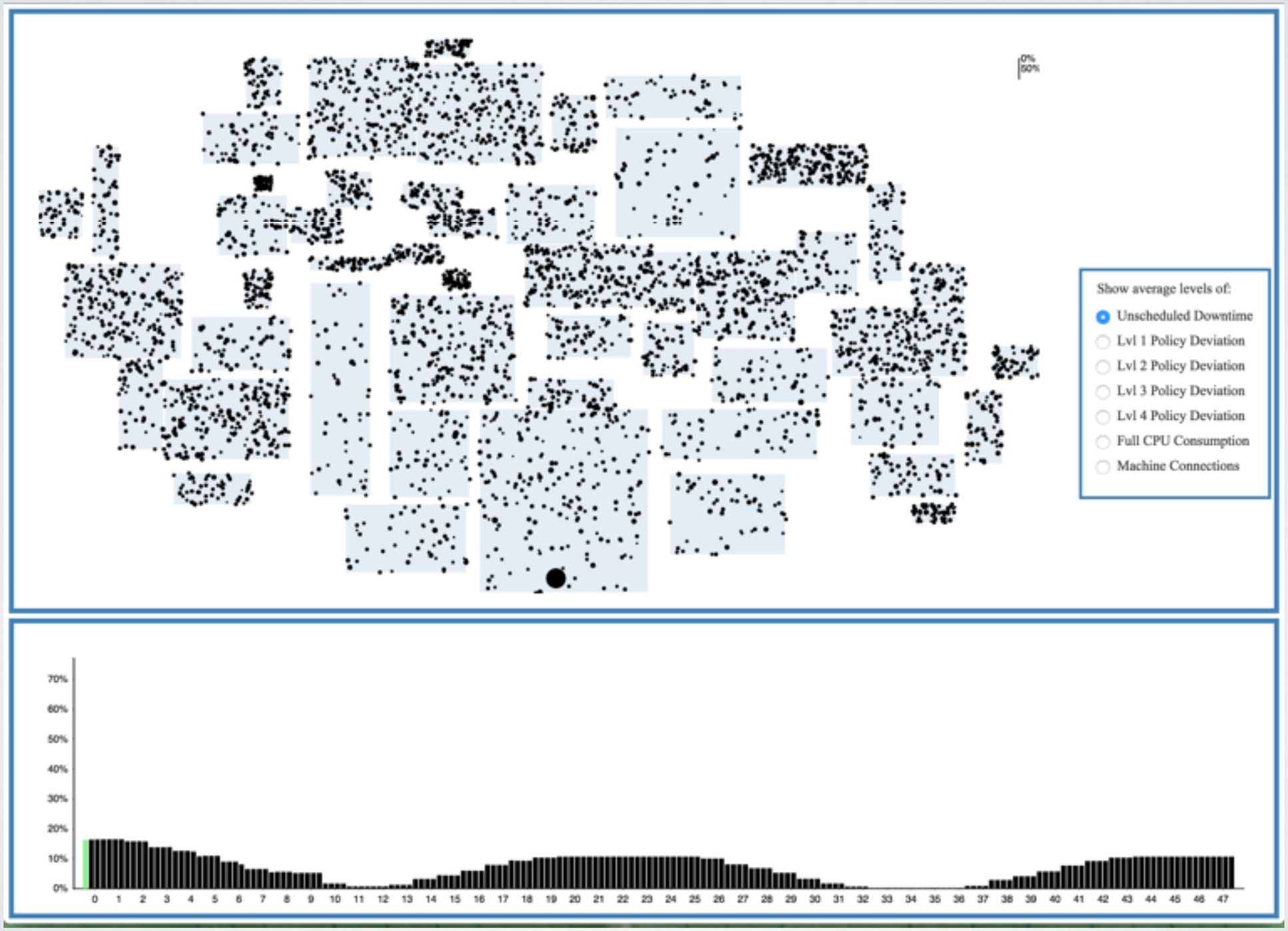
= Log of facility-wide status reports +

Log of region-wide status reports +

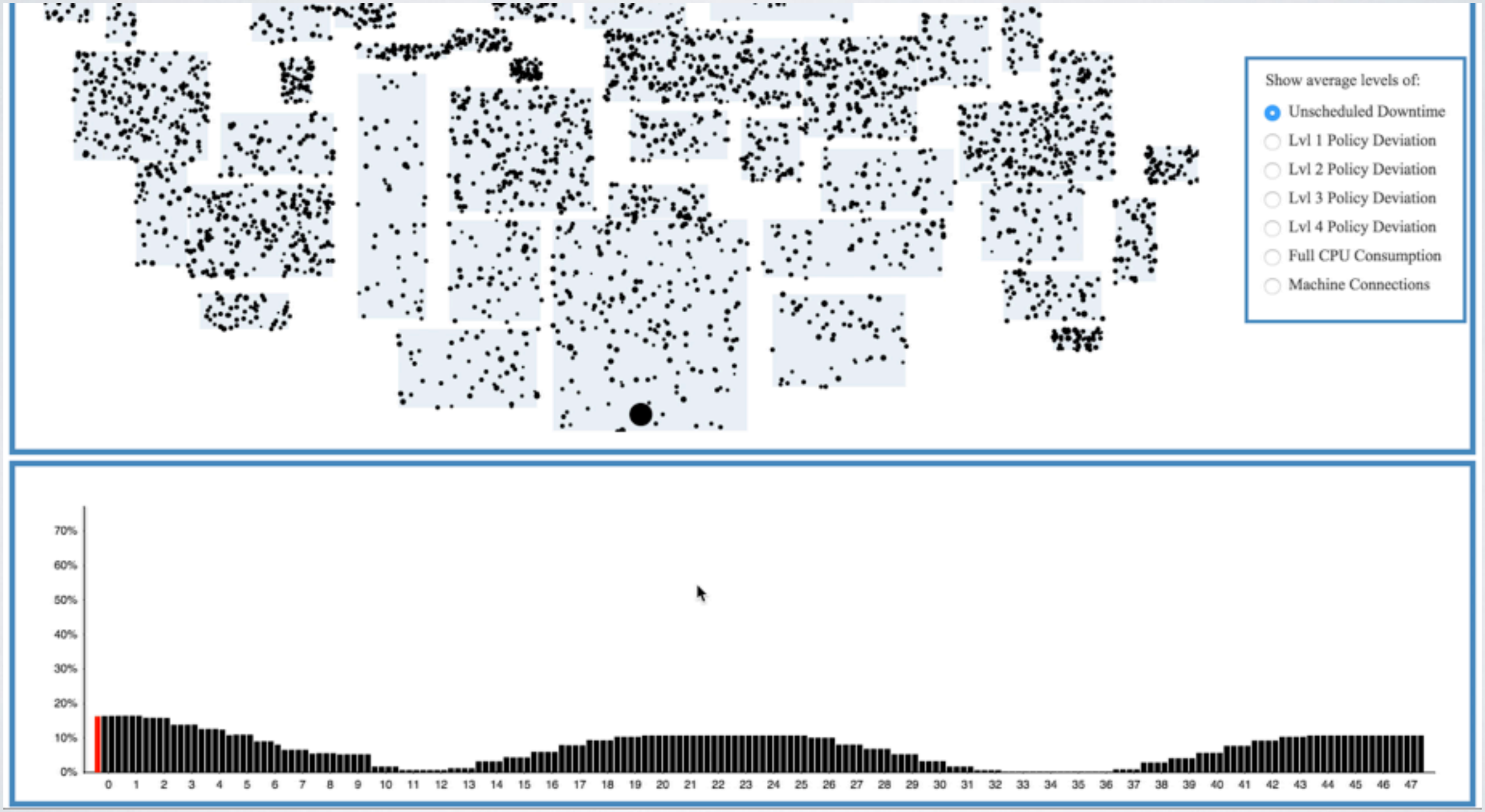
Log of network-wide status reports

New status reports contains data for: downtime, policy deviations, instances of full-cpu consumption, connection levels

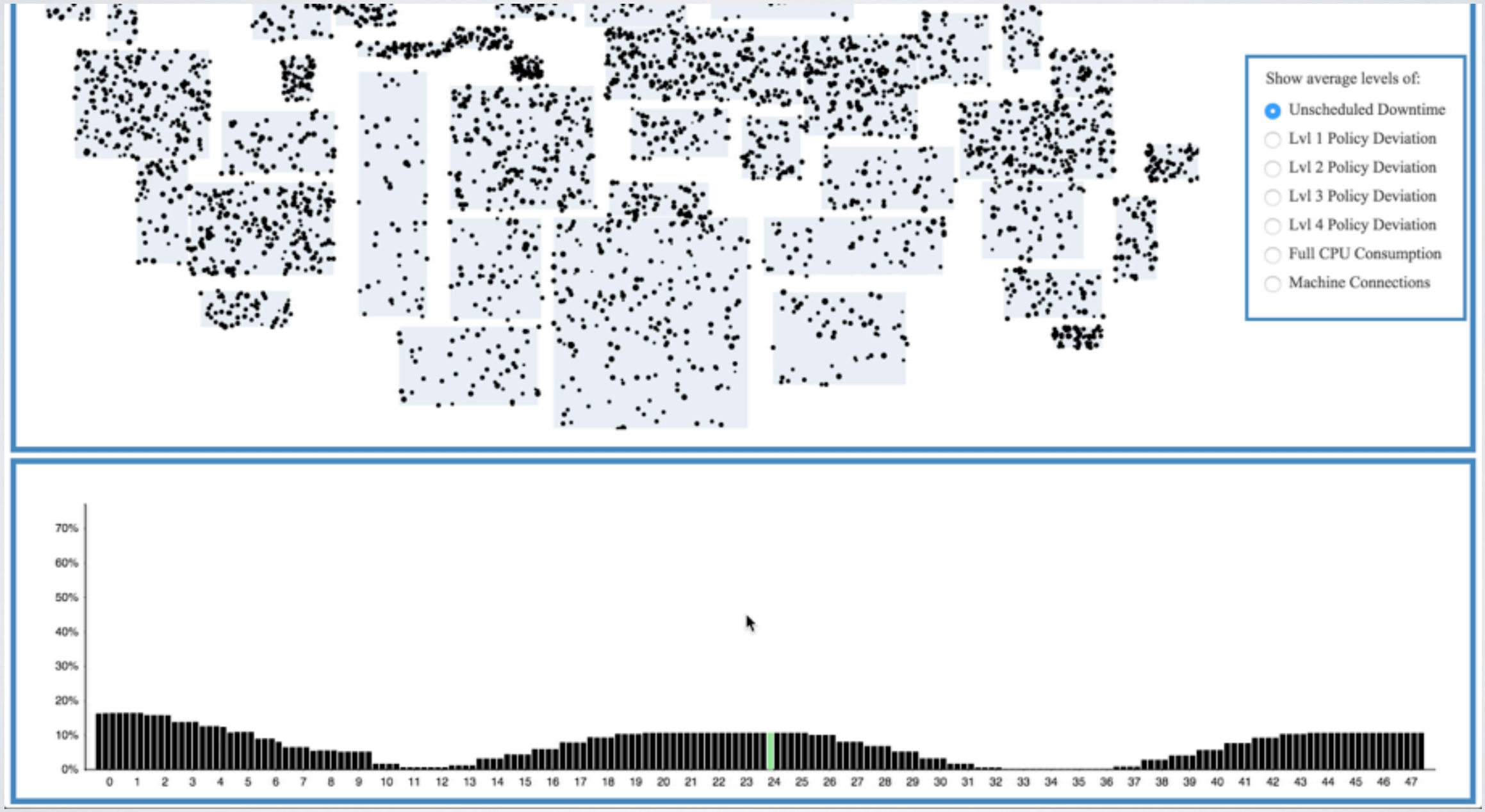
DESIGN DECISION 2: COMBINED STATIC VIEW AND TEMPORAL VIEW



DESIGN DECISION 3: NAVIGATING THROUGH TIME



DESIGN DECISION 4: FILTERING BY REGION



THANK YOU