

eeDaemon Design and GridMonitor Enhancements

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Stephan Krempel



Bundesministerium
für Bildung
und Forschung

eeDaemon

- Overall Design
- Features
- Instrumentation API

GridMonitor

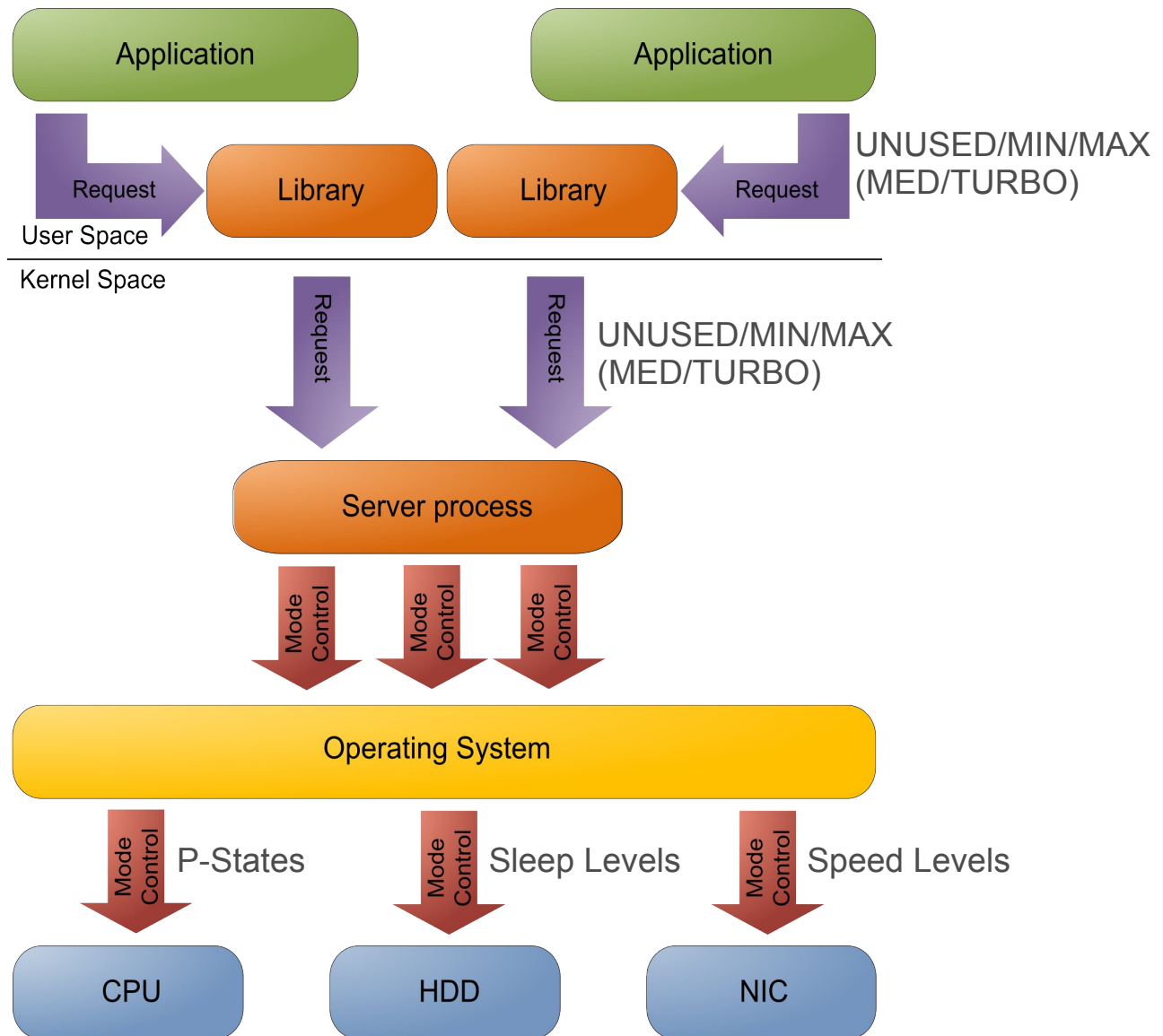
- GridMonitor Overview
- Enhancements

Node-local daemon

Smart control of the hardware's power saving states

Decisions based on application requests

eeDaemon: Overall Design



eeDaemon: Features

- Each controlled resource will always run at least in the highest performance level requested by an application but in the lowest level possible incorporating all requests.
- An Application runs on each system with the same instrumentation.
- Almost no application performance losses due to the switching of power levels
- ANSI-C API for instrumentation
- Trace for post-mortem analysis can be written

Initialization

- `ee_init` Registers this process at the daemon (takes tag for grouping, e.g. for jobs)
- `ee_init_rms`
- `ee_init_rms_all`

Requests

- `ee_dev_mode` Request Mode for device now
- `ee_dev_mode_in` Request mode for device in x seconds

Finalization

- `ee_finalize` Unregisters this process at the daemon
- `ee_finalize_all` Unregisters all processes with same tag (all processes within a group, e.g. a job)

ParTec provides “Managed HPC”

=> Support for running HPC Clusters

Self developed tool suite ParaStation

- Cluster Management / Provisioning (PS ClusterTools)
- Communication / Message Passing (PS MPI2)
- Health Checking (PS HealthChecker)
- Bug Tracking (PS TicketSuite)
- Monitoring (PS GridMonitor)

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- **Monitoring (PS GridMonitor)**

Displays “vital” parameters of one or more clusters

- in a single place
- using a graphical user interface (in a web browser)

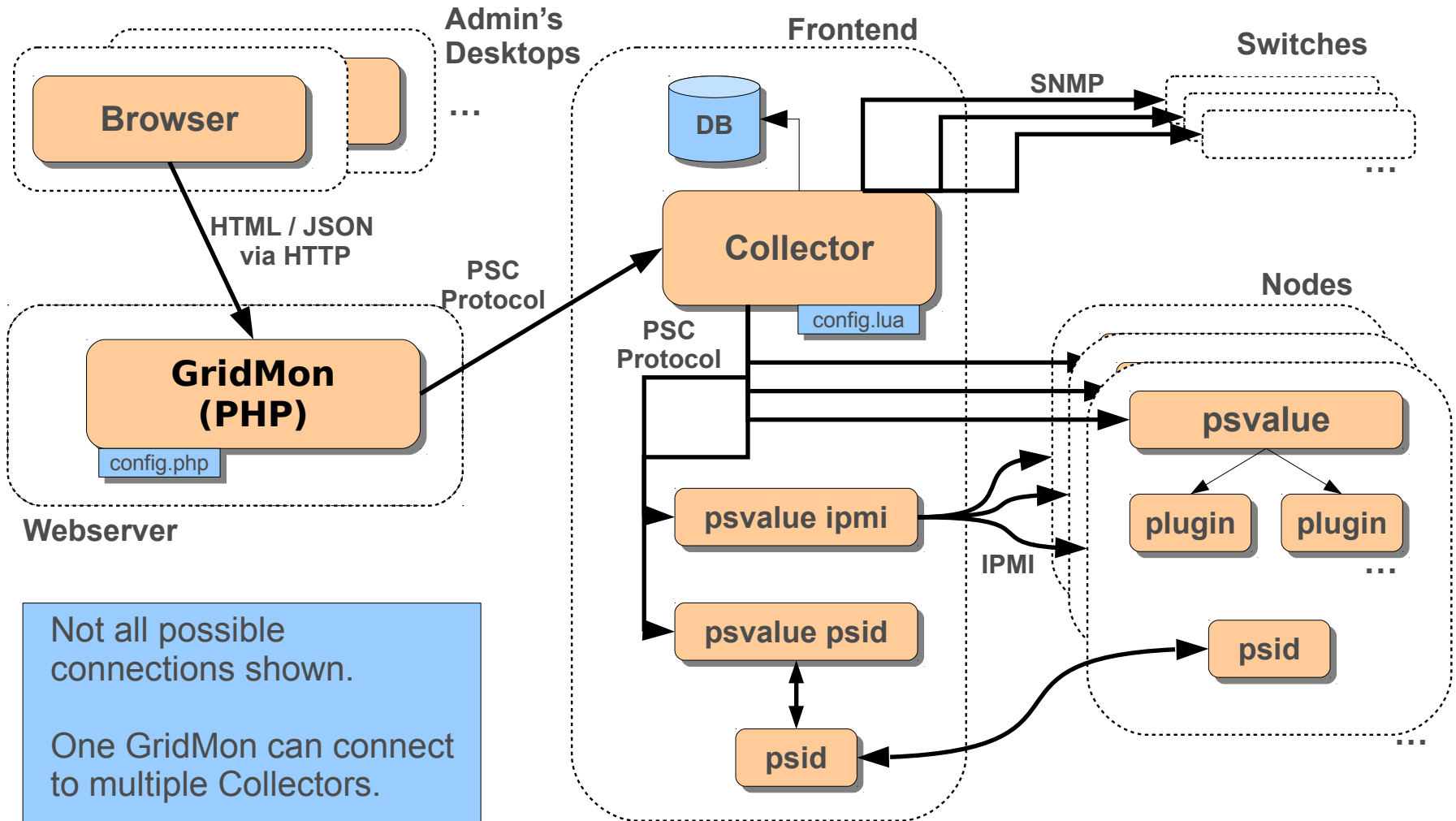
Information

- Shows current parameters of all components in different views
 - *Overview pages*
 - *Tabular data*
 - *Diagrams*
 - *Views reflecting the physical layout*
- Collects and presents charts with historical data

Notification

- Highlights critical values
- Optionally warns per email about certain events

GridMonitor: Overview

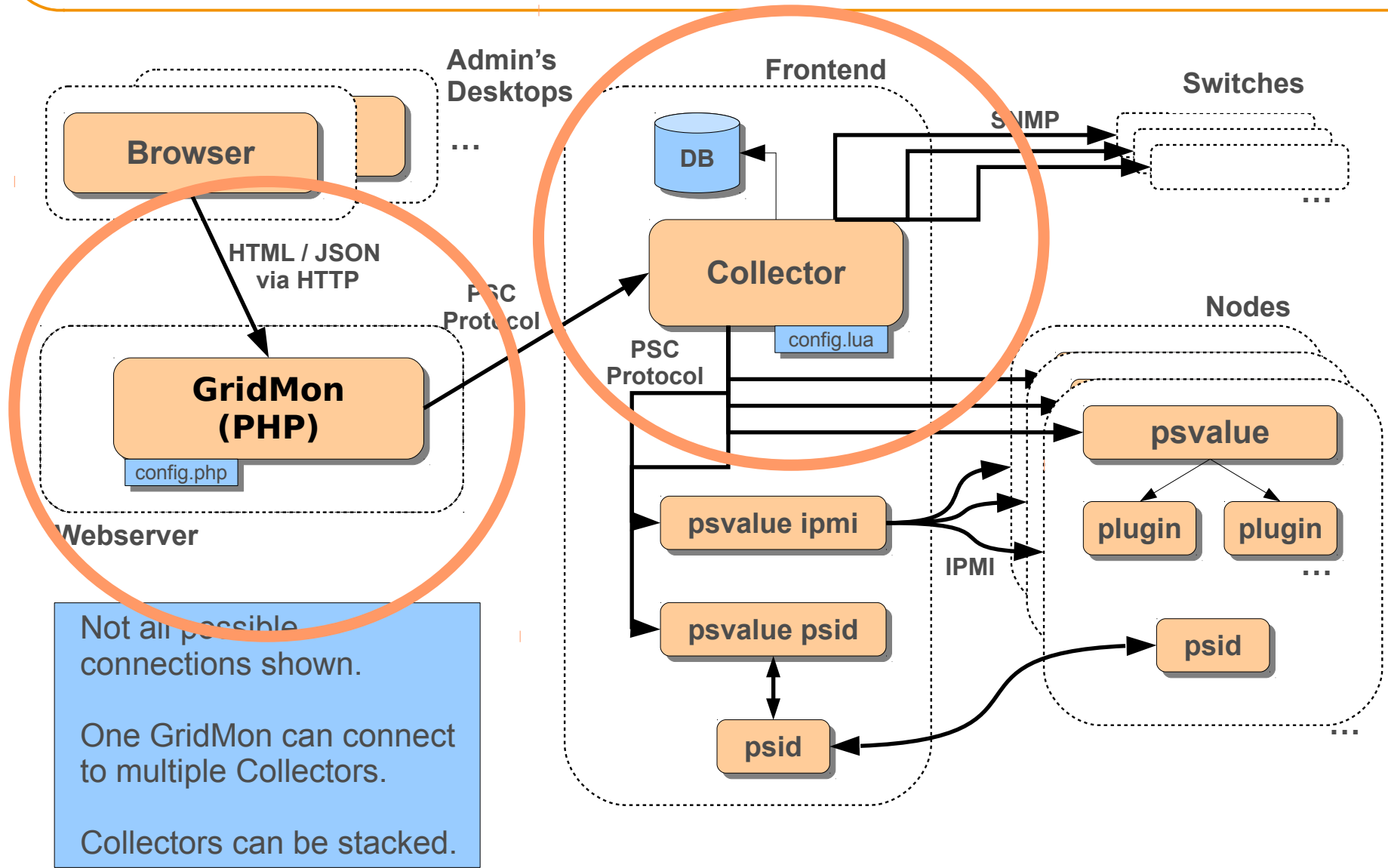


Not all possible connections shown.

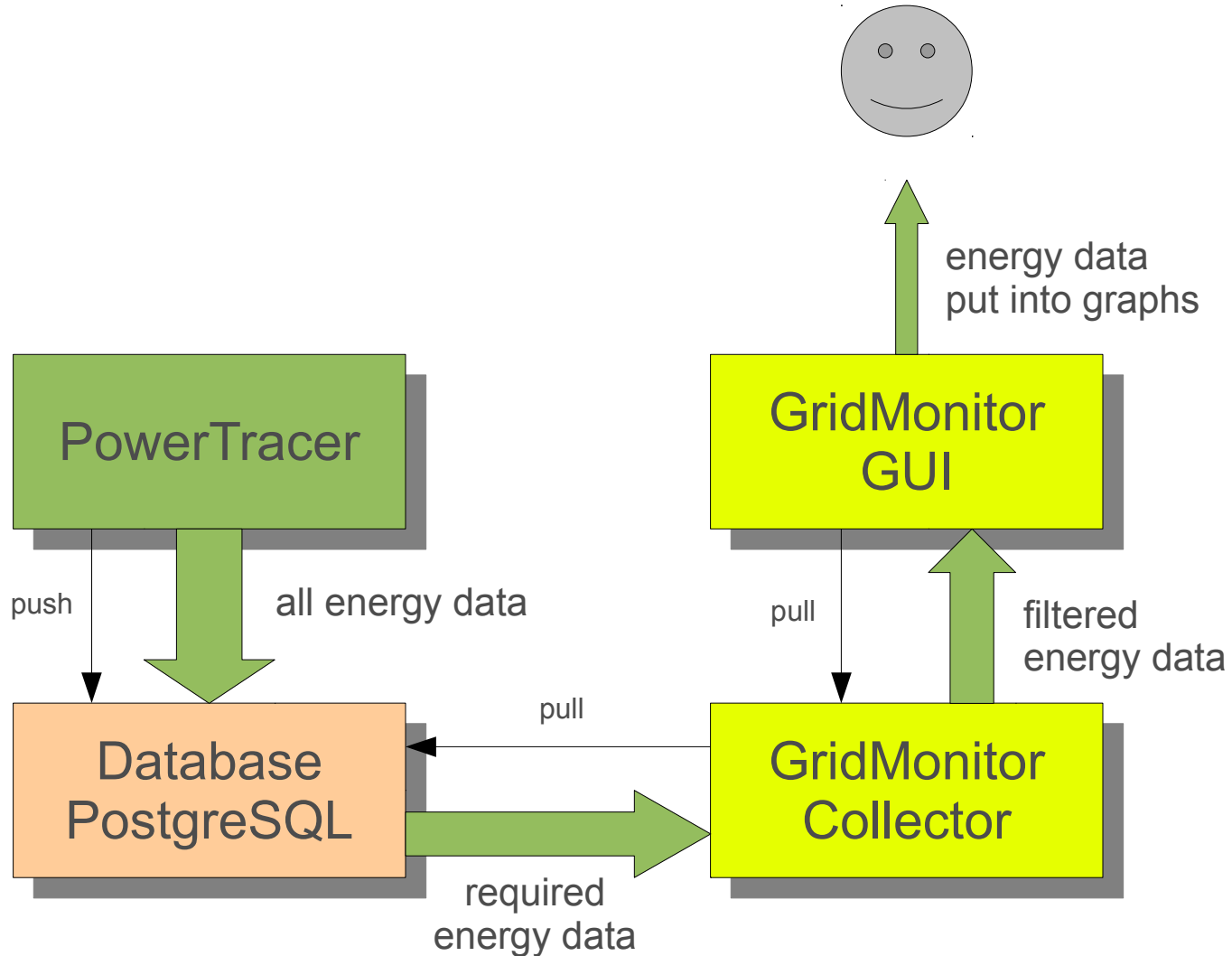
One GridMon can connect to multiple Collectors.

Collectors can be stacked.

GridMonitor: Overview



GridMonitor: Enhancements (1)



ParaStation

GridMonitor



Home Logged in as root [Documentation](#) [About](#)

Navigate :

Power Details:

- [Overview](#)
- [Power & Load](#)

Cluster Details:

- [Overview](#)
- [Physical View](#)
- [Events](#)
- [ParaStation](#)
- [Batch System](#)
- [Power info](#)

Node Details:

Select node

Enter node name

Switch Details:

Select switch

Miscellaneous:

- [Parameter Browser](#)
- [Administration](#)





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Thank you!

