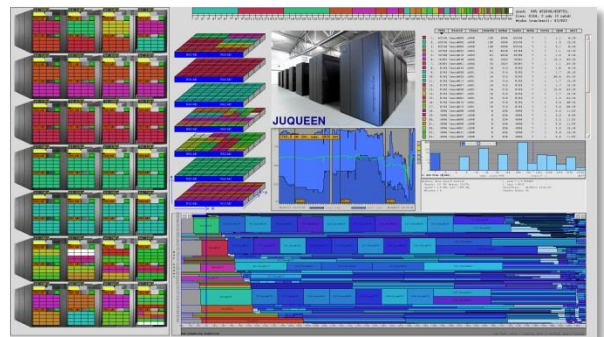
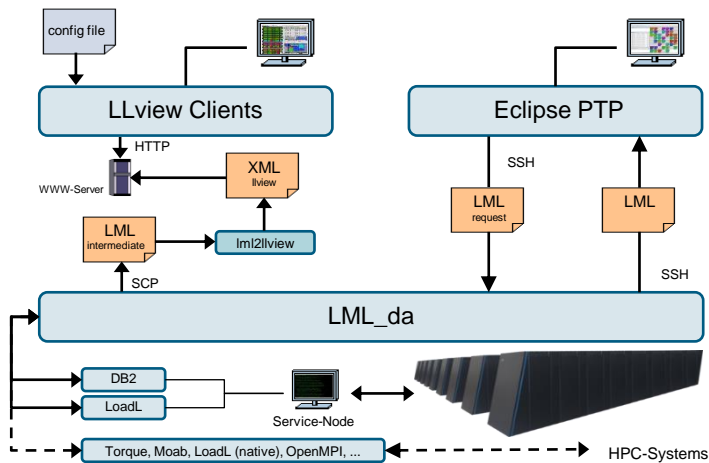


LLview – Interactive Monitoring of Batch-System Controlled Cluster

- Graphical and interactive monitoring of batch system usage
- Efficient supervision of node usage, running jobs, statistics, history and prediction of system usage
- Interactive mouse-sensitive information
- Visualization of mapping between running jobs and nodes
- Monitoring of energy consumption and GPFS I/O activity



LML – Large-scale system Markup Language

- XML-schema including a validator
- System and viewer independent scalable format for status information
- Hierarchical data structure for machine representation
 - Level-of-detail (complexity, data size)
 - Supporting small coarse-grained to large fine-grained monitoring
- LML-compatible clients: Eclipse PTP, RCP-Client SysMon

Specification

- Fully configurable, fast and portable Client-Server application
- Support for LoadLeveler, IBM Blue Gene, Cray ALPS, PBSpro, Torque, SLURM, Grid Engine and LSF
- Client platforms: Perl/Tk (Unix/Windows/Mac), Java, HTML+JS
- Integrated into Parallel Tools Platform (PTP)
- Schedule prediction: JuFo and SLURM adapter



Further development

- **LLweb** – Web interface as LML-Viewer
 - Scalable, adaptive and portable presentation of system status
 - SVG generator for interactive data exploration
- Node-level monitoring of load, used memory, I/O operations