CUG 2008 HELSINKI • MAY 5–8, 2008
CROSSING THE BOUNDARIES

Common Administration Infrastructure

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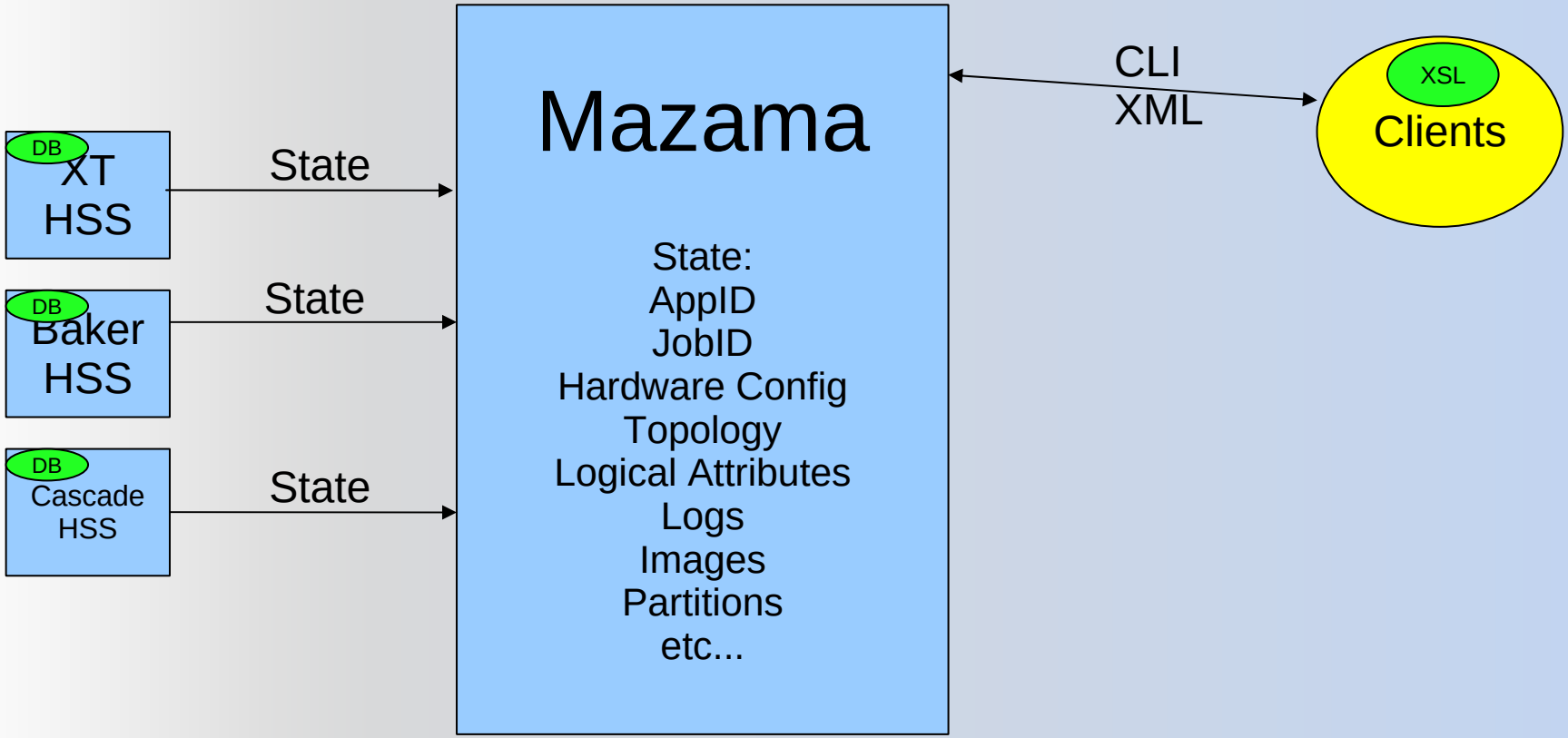
CRAY
THE SUPERCOMPUTER COMPANY

Issues With Today's System Management

- Data disseminated throughout the system
- As a result, users must use different commands and APIs to access the data
- XT command usage is restricted to particular nodes in the system
- Boundaries of Cray's system management solution are unclear
- Scaling concerns at system sizes 3x-10x today's sizes

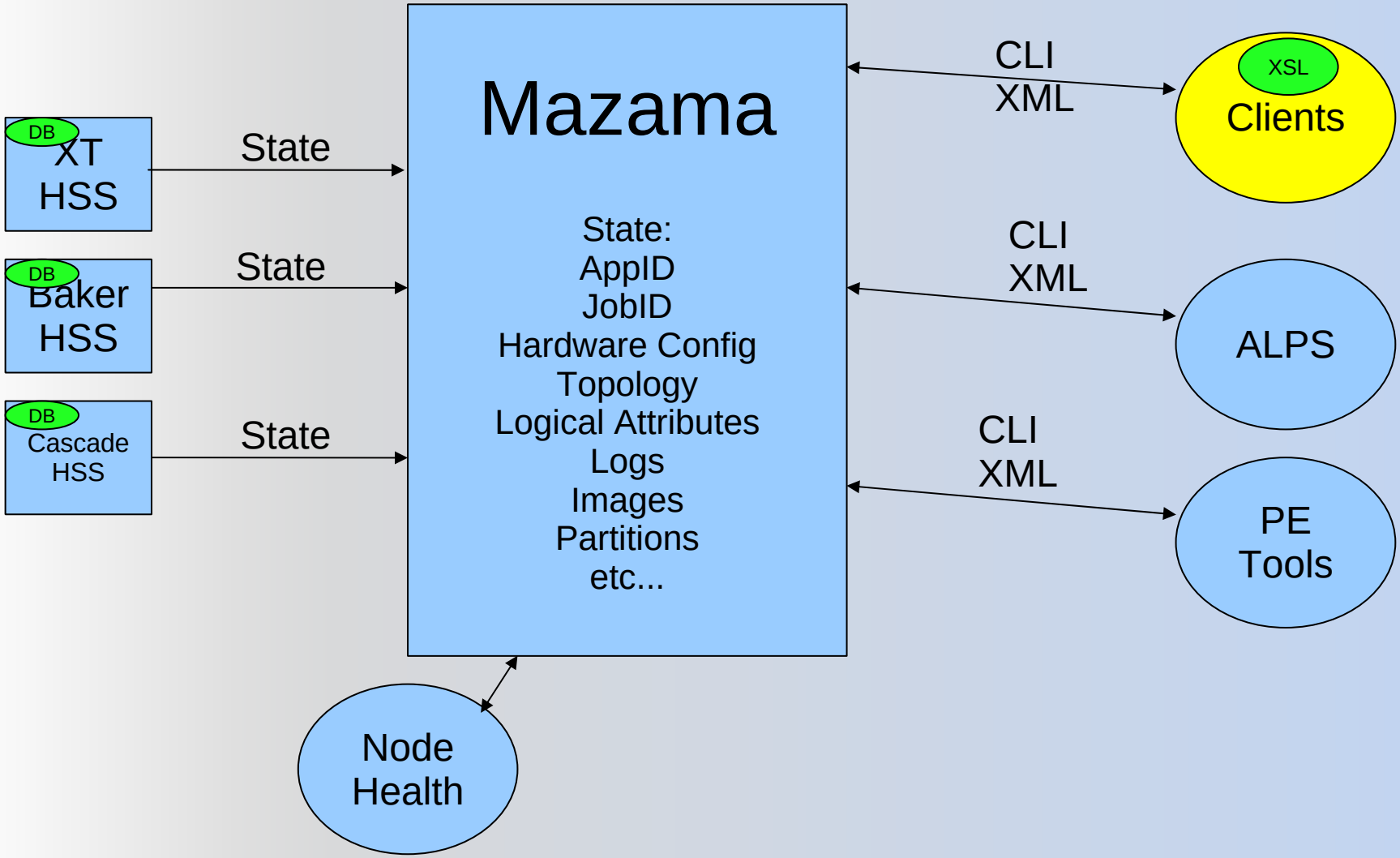
Single Interface to System Data



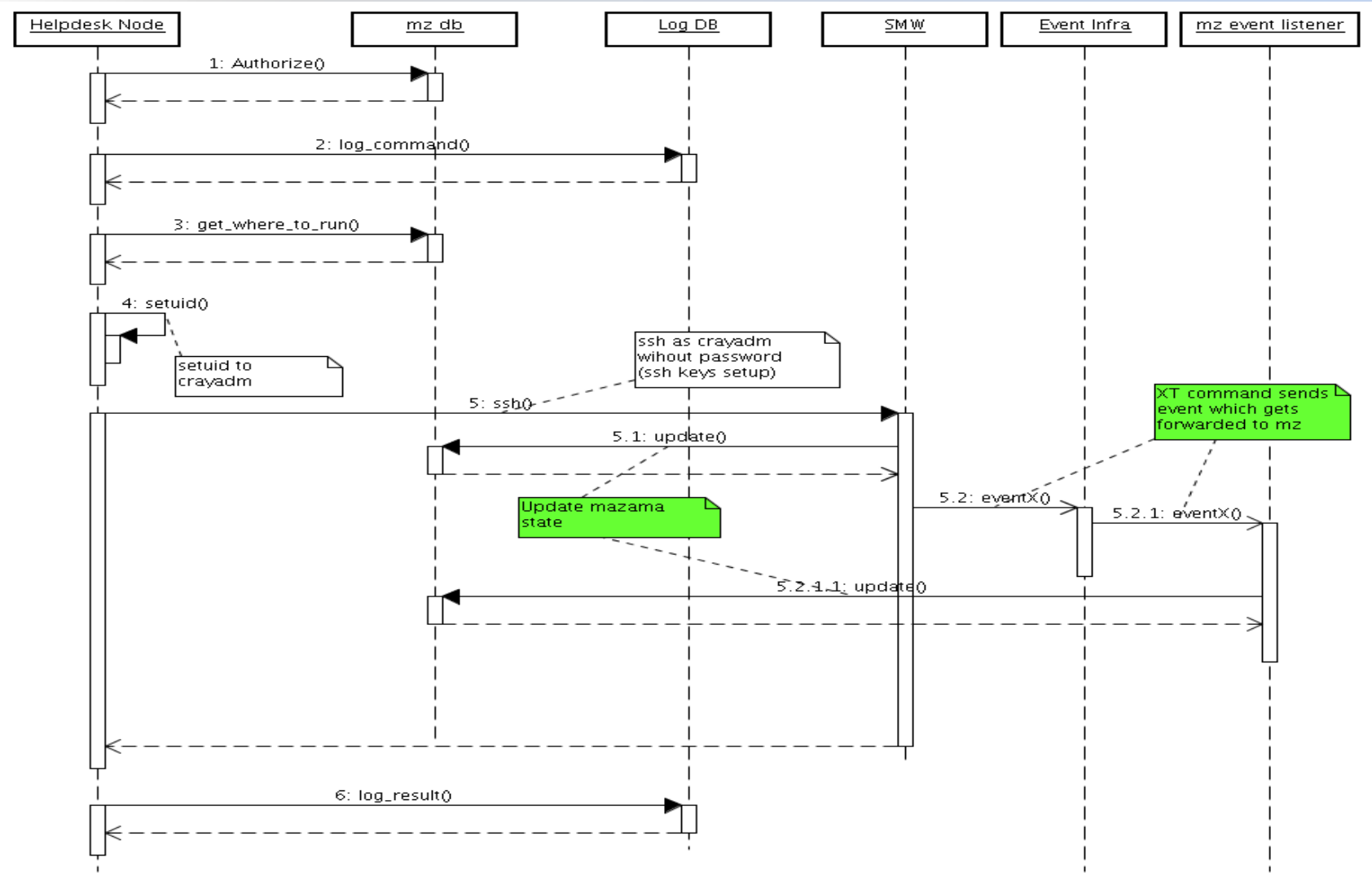
Advantages to Single Interface

- Data appear to be in one place; it’s simpler
  - Complexity is hidden
- Users insulated from underlying changes
- XML
  - Open standard
  - Extensible, that is, changes don’t break tools
  - Flexible, can interface with a variety of tools
  - Creates opportunities for collaboration

Single Interface to System Data



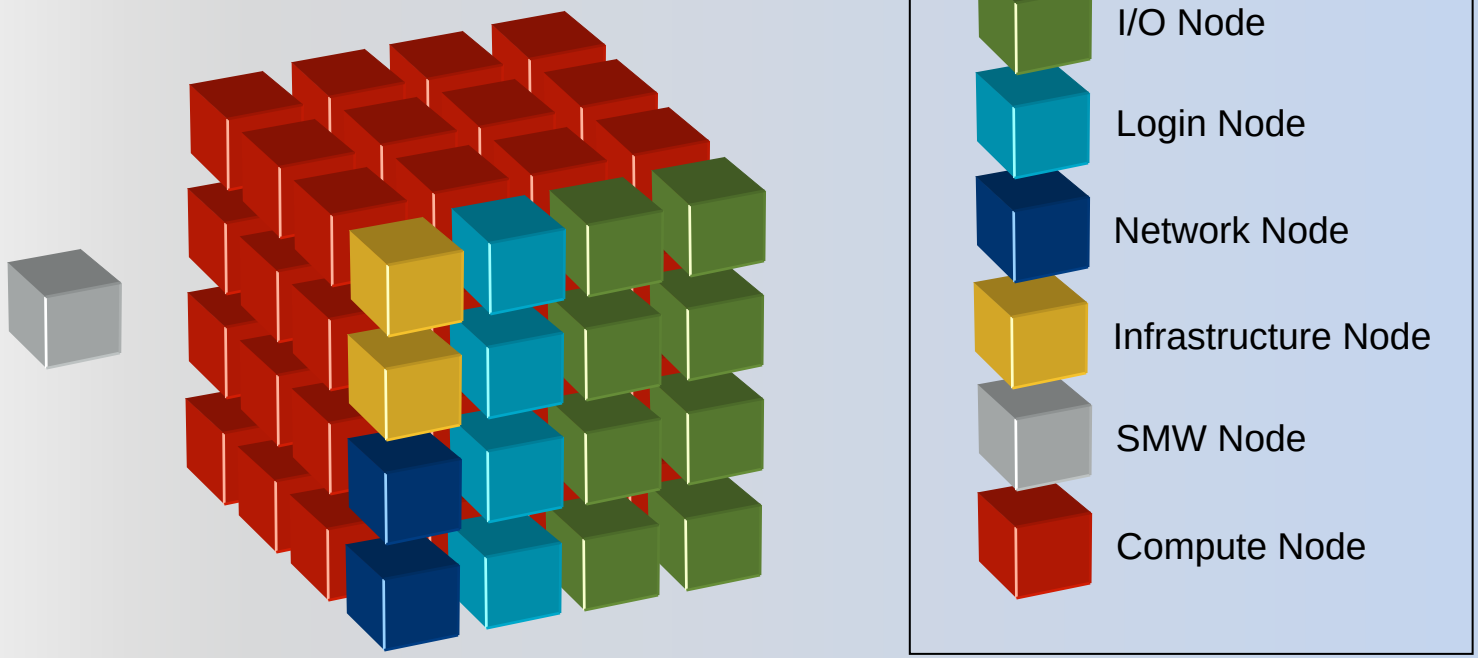
Command Wrapper for Ubiquity



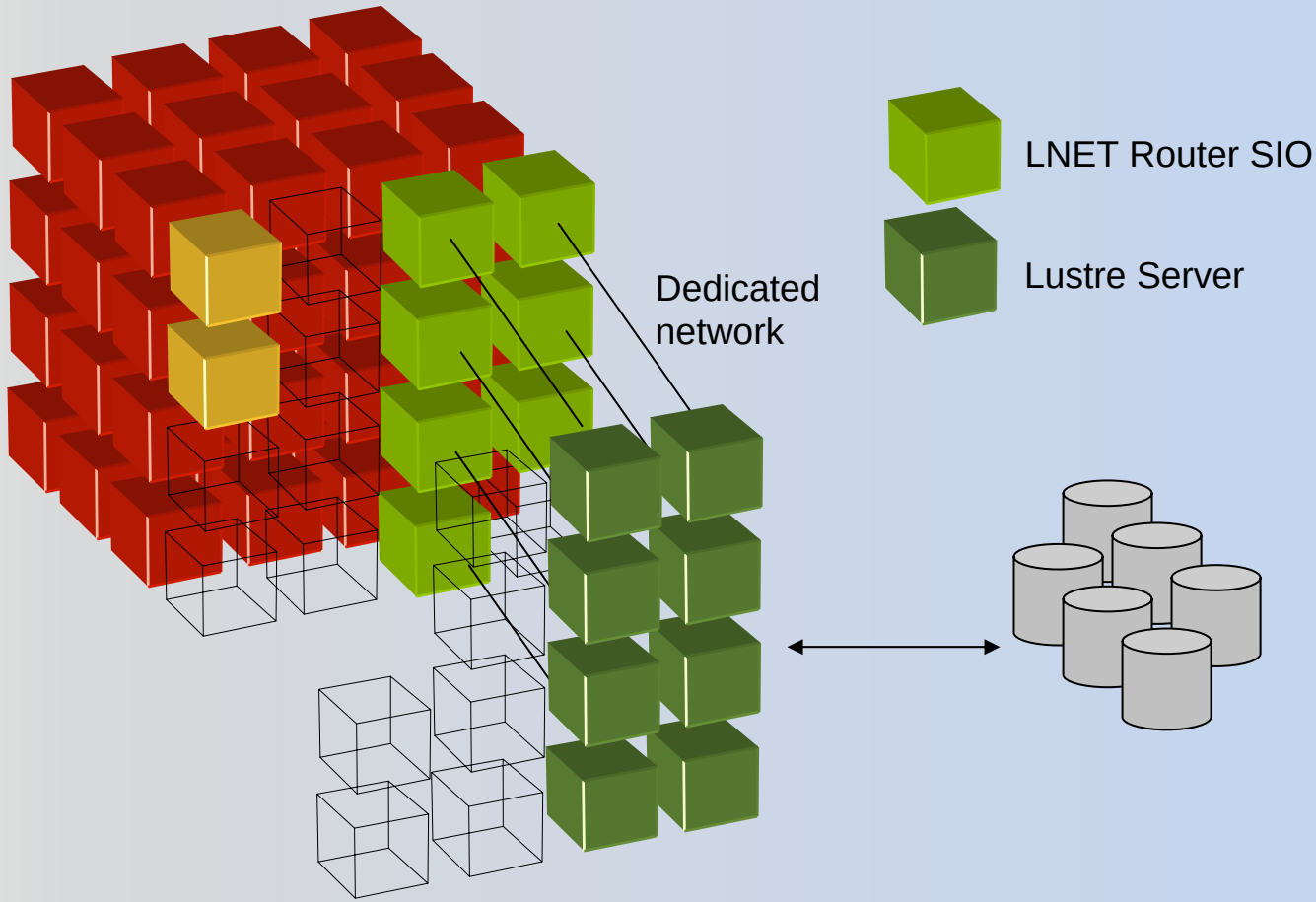
Boundaries of Cray XT Systems

- External login and I/O nodes being discussed
- See next few slides…

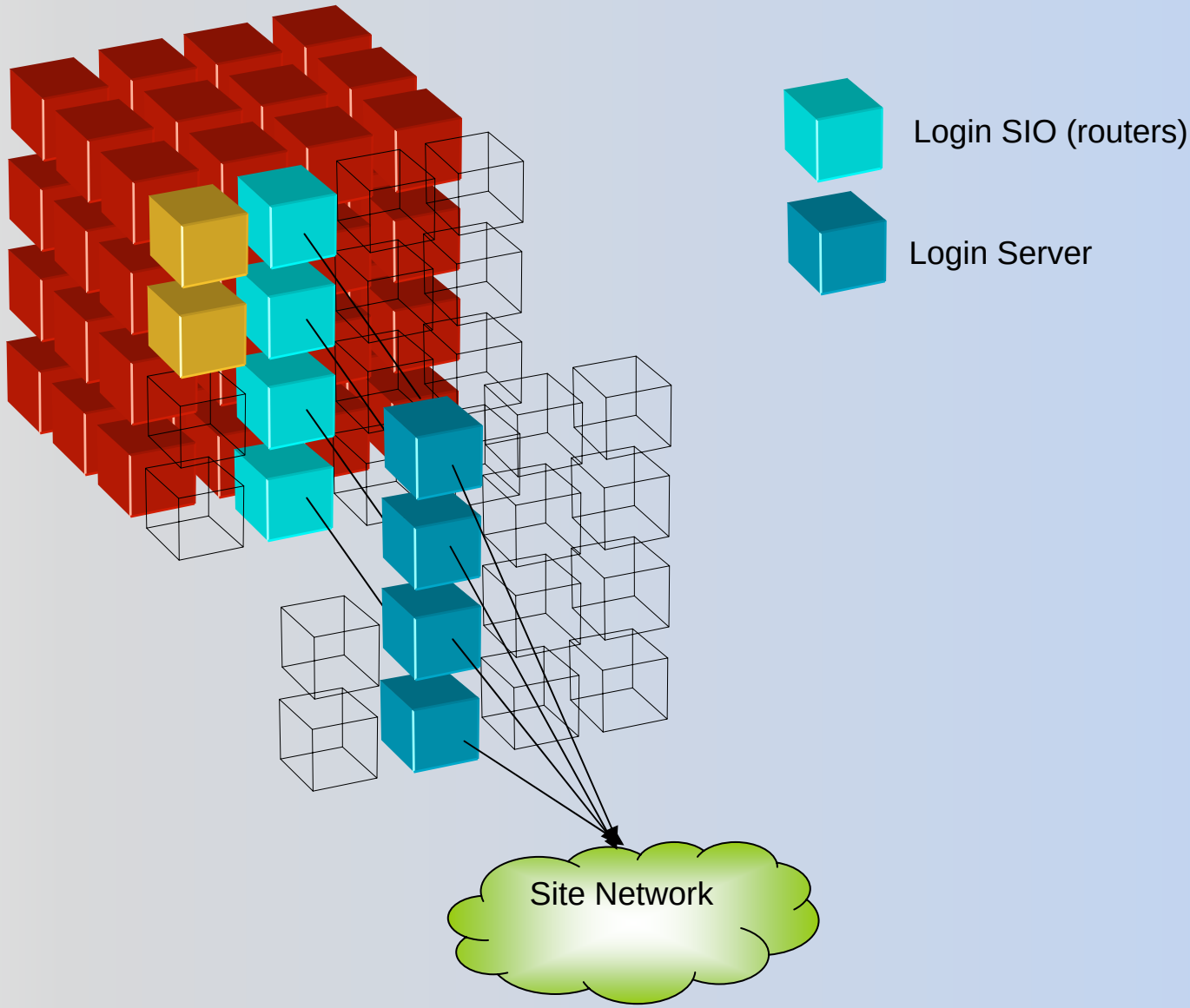
Cray System Node Types



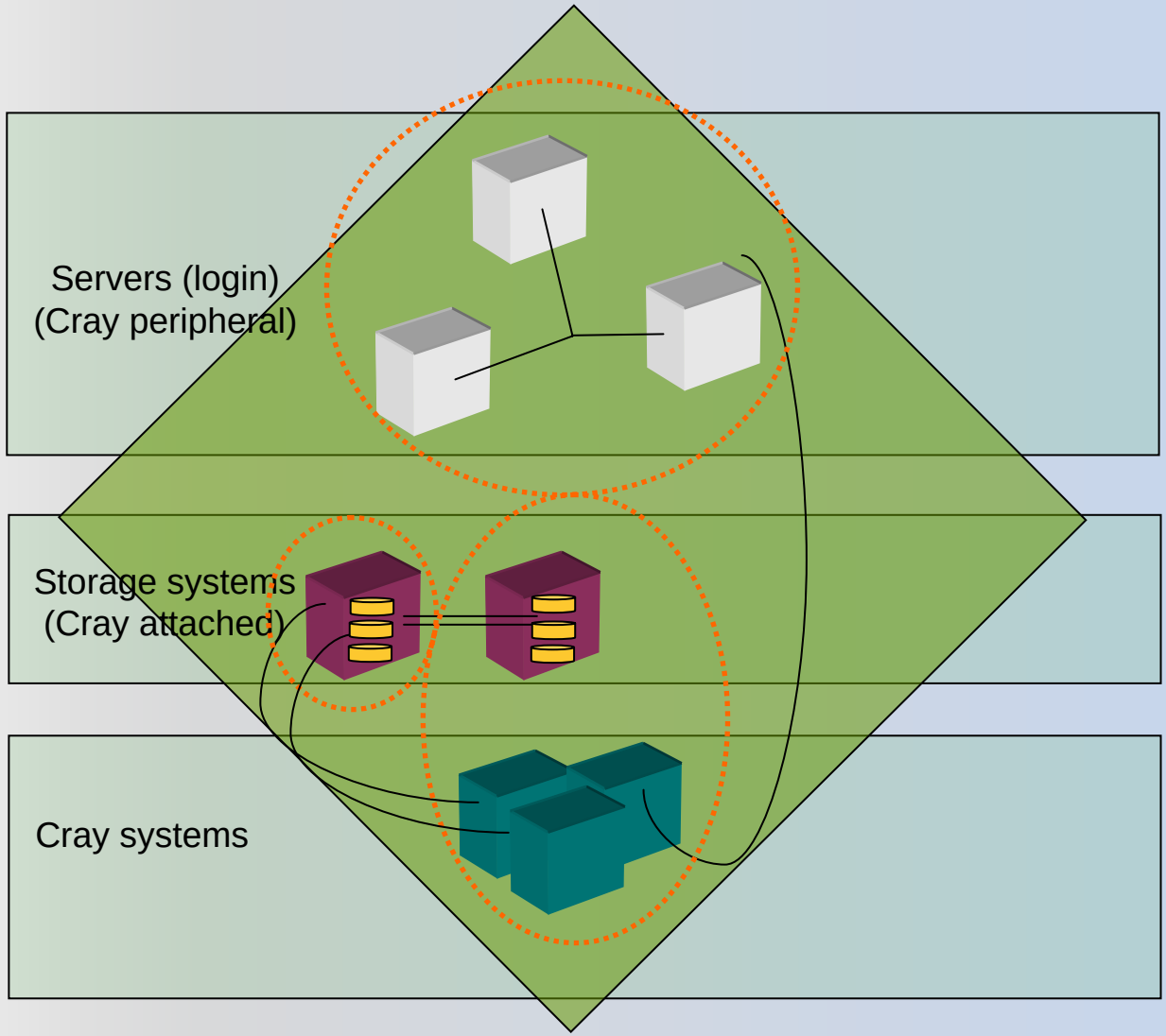
Externalized Lustre Services



Externalized Login Services



XT Systems, Bigger over Time

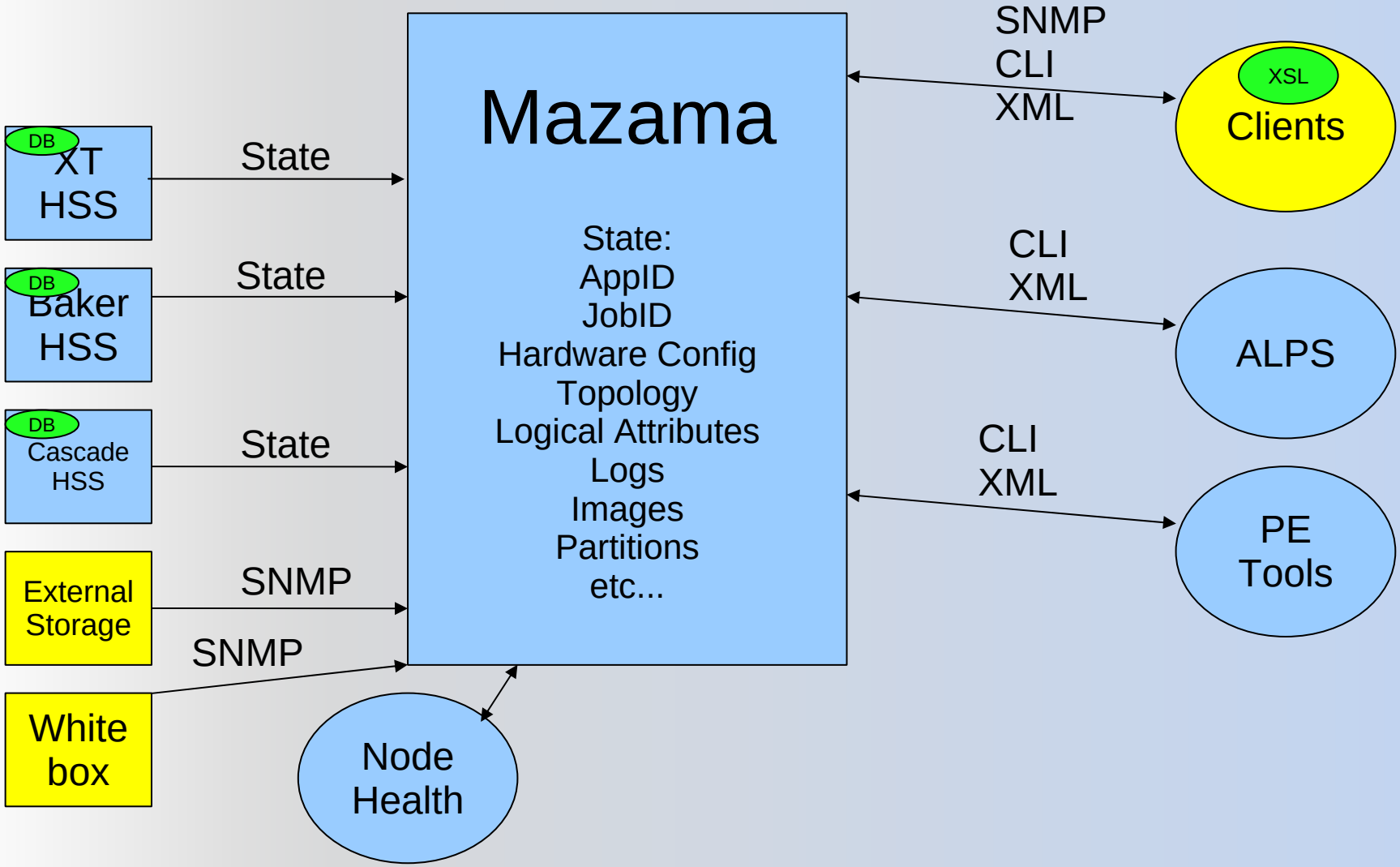


Boundary Plan

- Cray will directly manage Cray-built hardware
- Cray will monitor white boxes serving XT functions
- Cray will make information available via SNMP so that Cray systems can be managed by existing data center tools

- See picture on the next slide…

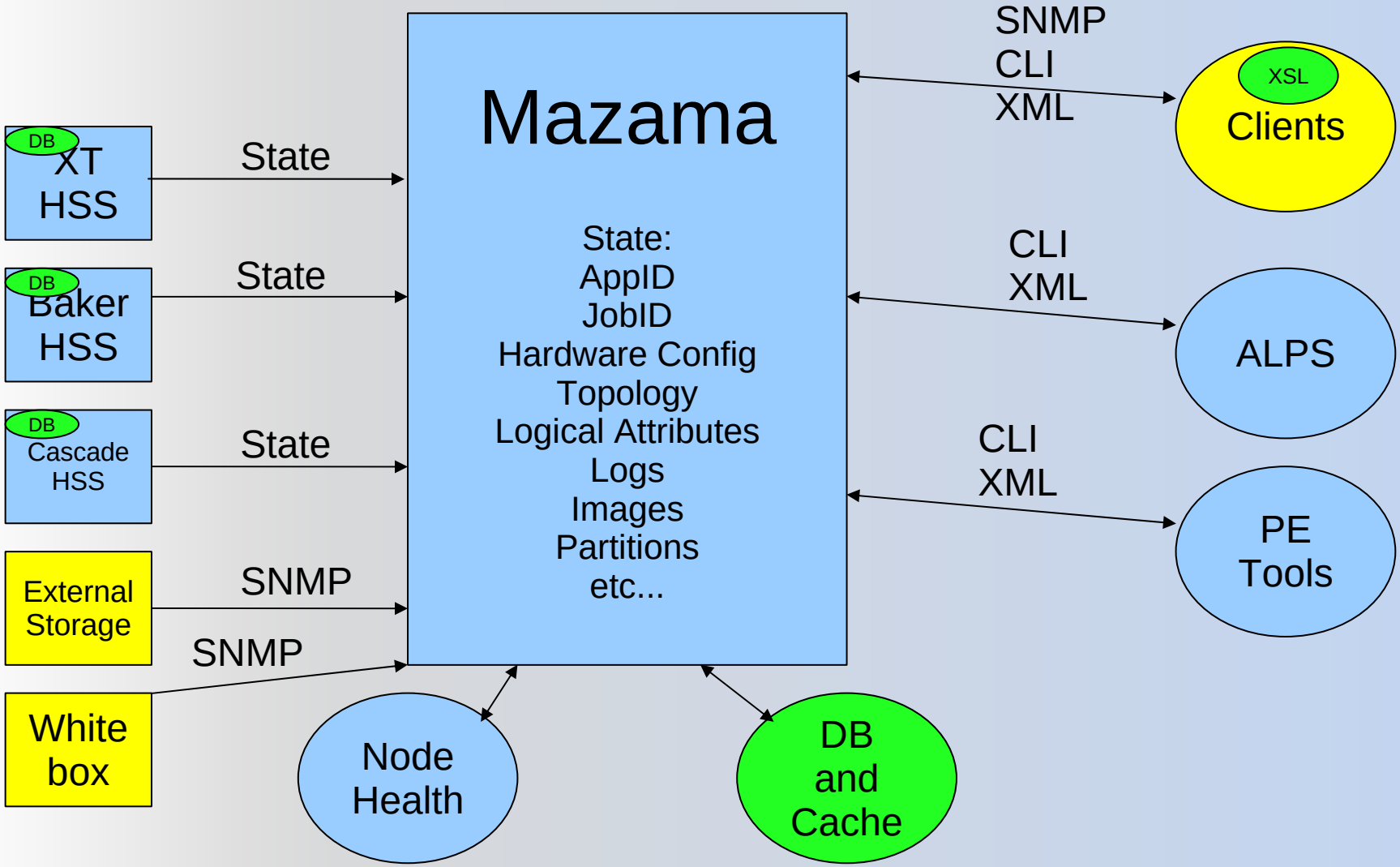
Single Interface to System Data



Scaling Issues

- Database may be problematic at large scales
  - Caching the data will be the core of our solution
  - Remember, users are insulated by the API
- Mazama API will allow for filtering
  - Reduces data volume across the interface

Single Interface to System Data



Summary of Cray's System Mgmt Plans

- Data disseminated throughout the system
  - Data appear to be available in a single place
- As a result, users must use different commands and APIs to access the data
  - A single API used to access the data
- XT command usage is restricted to particular nodes in the system
  - Commands can be run from anywhere
- Boundaries of Cray's system management solution are unclear
  - Boundaries defined; Cray will play nicely in existing ecosystem
- Scaling concerns at system sizes 3x-10x today's sizes
  - Scaling issues will be managed inside Mazama