Advanced Health Monitoring of Computer Clusters

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Problem

- As a cluster grows in size it becomes much more difficult to monitor

- Mean time to failure increases dramatically with a large cluster

128 Node Cluster

Source: Susan Coulter, HPC-3
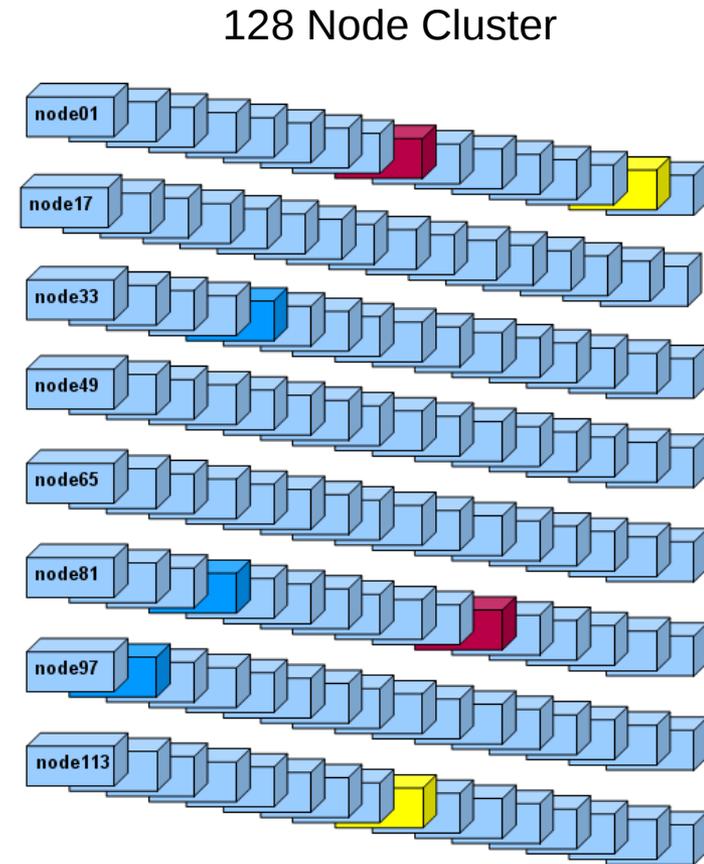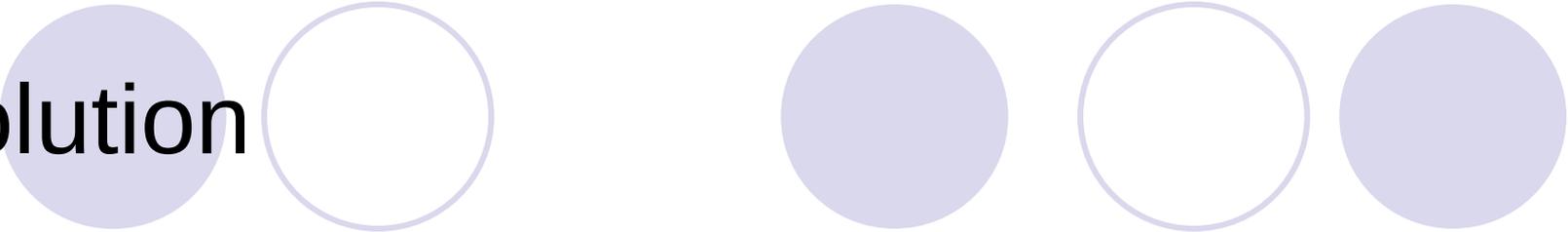
Solution

- Identify system faults
- Recognize performance degradation
- Prompt notifications
- Low overhead on compute nodes
- Affordable

Nagios

- Service checks
- Distributed monitoring and failover
- Custom plug-ins
- Multiple alert states
- Intelligently schedules service checks

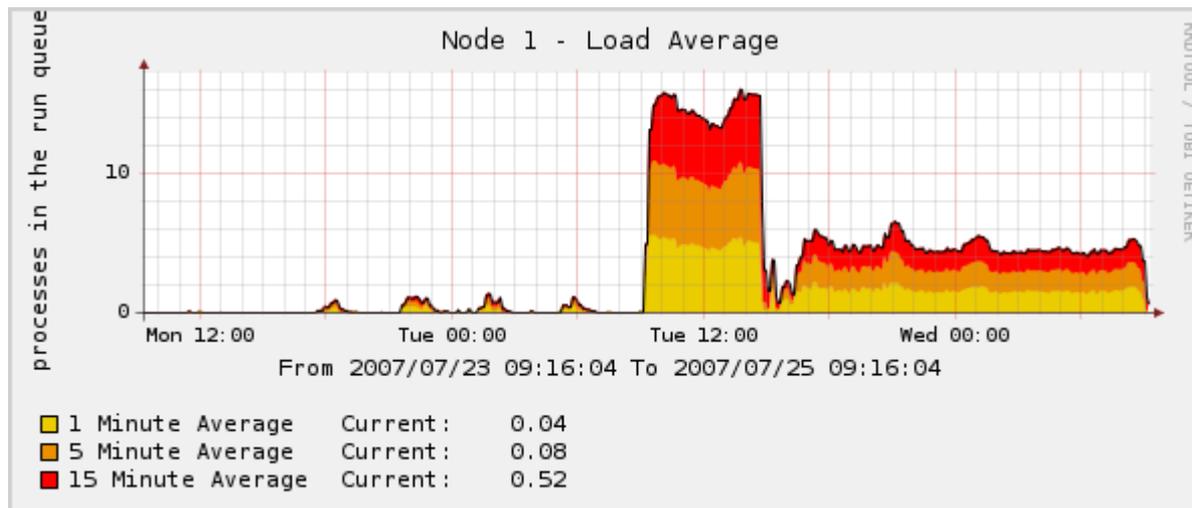# Nagios Gui

Nagios Disadvantages

- Configuration
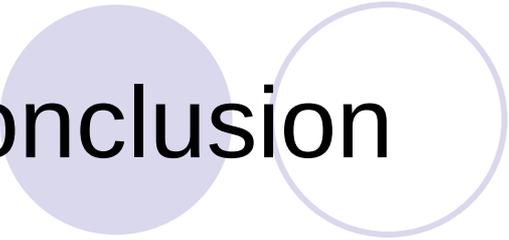- Documentation
- High overhead
- Scalability

Verify Nagios

- Generate performance degradation
- Independent testing scripts
- Cacti graphs and Nagios notifications

Cacti Load Average Graph

Conclusion

- Scalability
- Robustness
- Extensibility
- Manageability
- Portability
- Overhead