SSS Build and Configuration Management Update 1/2005

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Overview

- Infrastructure
  - LRS support
- System Management
  - Prepare for BG/L
  - Other MPPs?
  - Deploy diagnostics with OSCAR release

Infrastructure

- LRS support
- SSS/SDK
  - Match support
  - Function call support
  - Return control
- New components
  - service directory
  - more to come
- New schemas
  - More stringent

System Management

- LRS conversions
  - NSM with system diagnostics
  - Build System
  - Hardware Manager
- Integrated NSM with system diagnostics into OSCAR release

BG/L

- System arrived 1/05
- Not functional/accepted from IBM yet
- Plan to run SSS software on it
  - Possible with large amount of reuse
  - System architecture requires different component instances (in some cases)
  - Many components remain the same

BG/L Architecture

- Single process/user per compute node
- System diversity
  - 4 (!) different kernels (3 Linux/1 LWK)
  - 3 different hardware architectures
- JTAG interface to compute nodes
- Nodes allocated in 32/256/512/1024/+ partitioning scheme
- RAS hardware features

BG/L Implications for SSS

- Single process per node
  - Implications for Process Manager, System Monitor, System Management tools
  - No non-application endpoint on compute nodes
- No direct TCP support
  - System calls forwarded to IO nodes
  - 64 way overcommited
- Allocation granularity issues
  - Process Manager works differently
- Hardware interface to nodes
  - RAS data
  - Performance countersp

Development/Deployment Plan

- Chiba resource management incorporated (as-is)
  - Scheduler
  - Queue Manager
  - Allocation Manager
- New implementation of Process Manager
  - System partitioning
  - BG/L executable/kernel loading scheme
  - New PMI implementation
- New configuration management components
  - Different diagnostic model
  - What are software configurations on BG/L?
  - Verify suitability of BCM interfaces for non-cluster machines