



---

# OS, Message Passing, and Runtime Tools Summary

**Ron Brightwell**  
**Scalable Computing Systems**  
**9223**



## Burning OS Issues

---

- **Keeping up with successive releases of Linux is not as hard as people think**
- **The HPC community will have to worry about monitoring and maintaining kernel changes**
- **Nanokernel is probably not the right approach- lightweight Linux might be**
- **Open source is key to success**
- **Providing standard scalable cluster services will be a key to growth and development of large systems**



## MPI-2

---

- **The need for MPI-2 is coming in subsets as are the implementations**
- **Users are just now starting to ask about using the new features**
- **Similarly to the send/receive operations, the different one-sided operations have performance issues**



## Tools

---

- **No single tool will please everybody – printf() versus TotalView**
- **New techniques for debugging will be critical as systems continue to grow and become more complex**
- **Open source will insure that effective tools stay alive and usable**