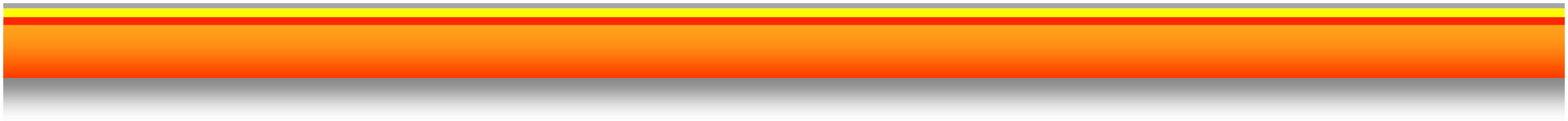
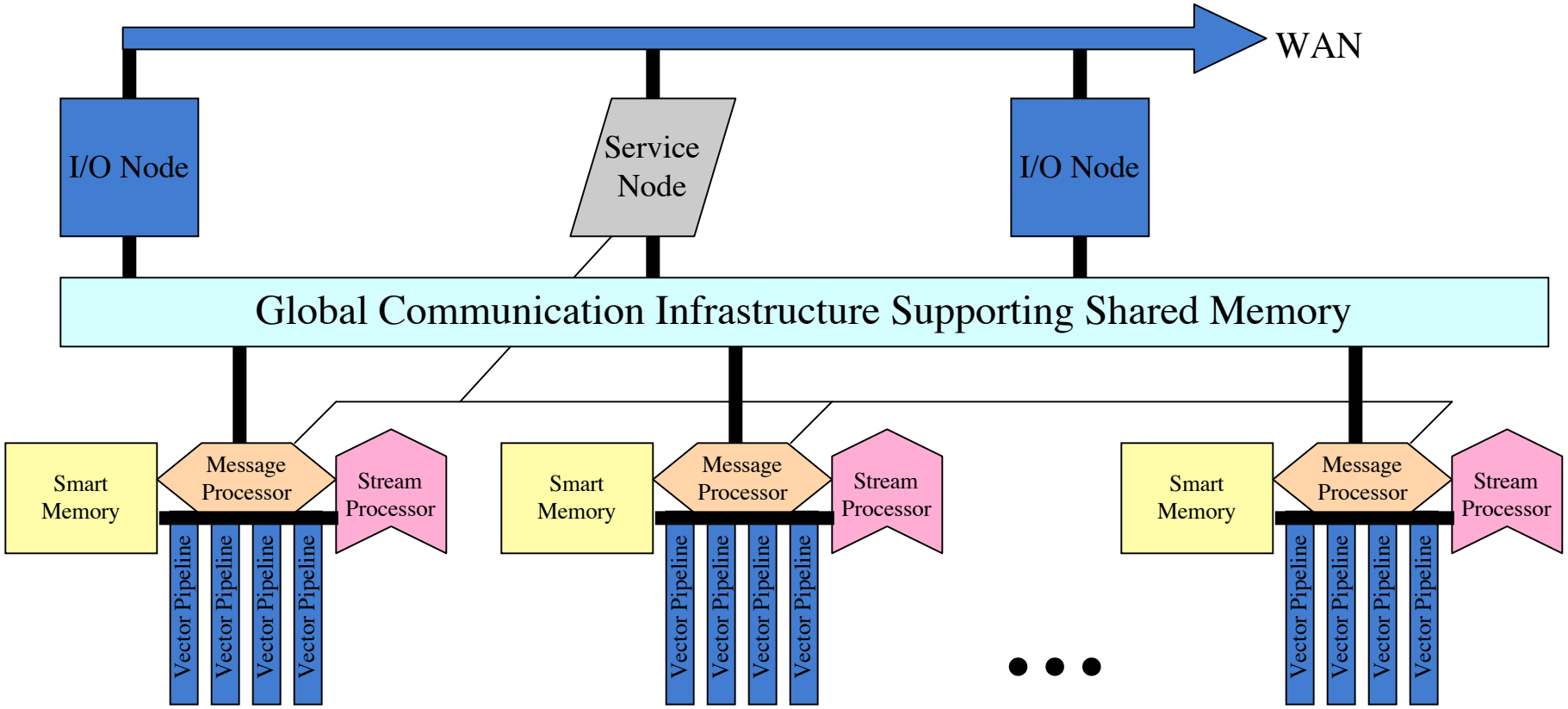
FastOS
Argonne National Lab
University of Oregon



Participants

- ANL:
  - Pete Beckman
  - Rusty Lusk
  - Bill Gropp
  - Susan Coghlan
  - Narayan Desai
  - Rob Ross
  - etc
  - Suravee Suthikulpanit (UO Student)
- U of Oregon
  - Al Malony
  - Sameer Shende

Petascale Landscape



- Functional Decomposition
- Hierarchical Organization

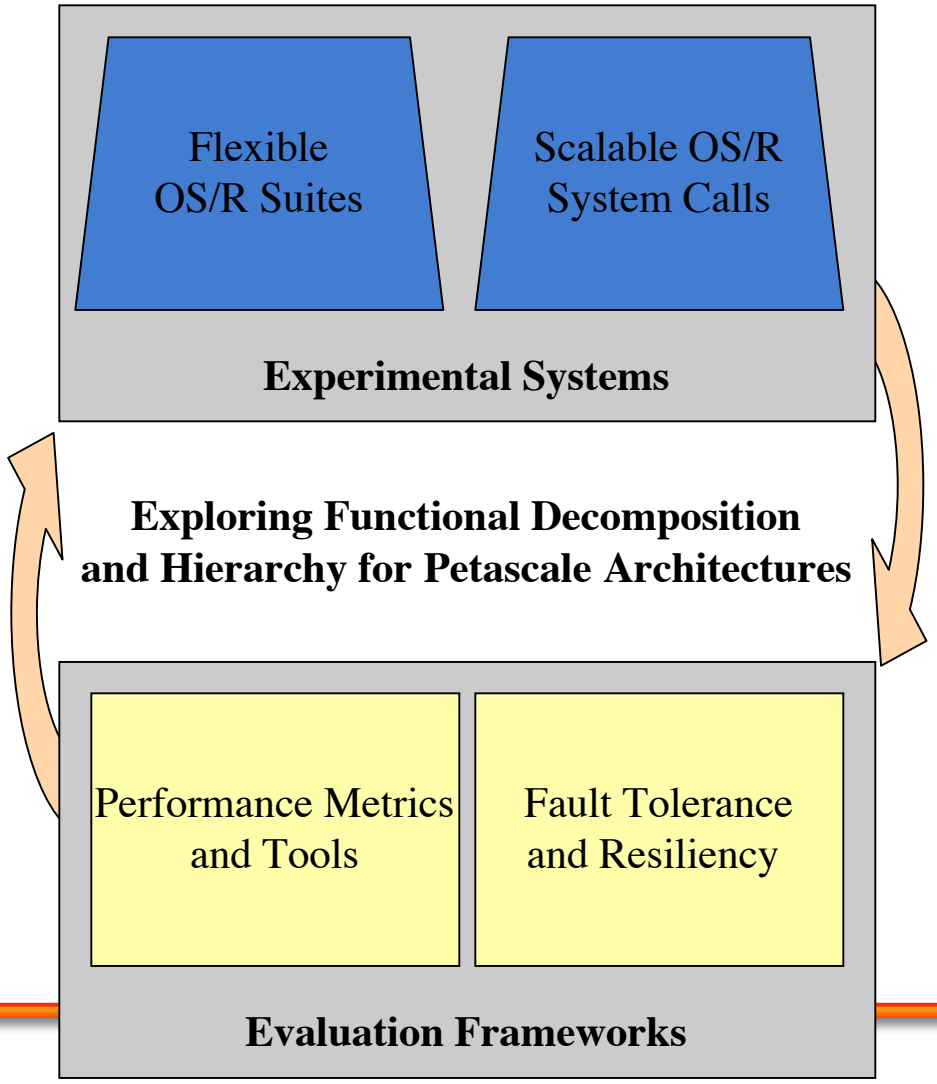
Example: BG/L

- What Operating System does BG/L run?
- There are 4 Operating Systems in the system:
  - Service Node: SuSE SLES 8
  - Front End Nodes: SuSE SLES 9
  - I/O Nodes: Embedded Linux (different provider)
  - Compute Nodes: Home-brew OS

Lots of Questions:

- For Petascale systems, how many OSes will be required?
- What makes them distinct?
- What are their common traits?
- What are their performance characteristics and requirements?
- Can they be dynamic in deployment or functionality?
- What is the cost of each component of functionality? What if a part is left out?
- Are collective – coupled OSes needed?
- Can we build an experimental framework for fault tolerance?

FastOS ANL: 4 Focus Areas



Interactions with SSS

- Will use dynamic node builds and kernel loads
- UO will add instrumentation to kernels, middleware, that works will with hierarchical systems, and could compliment SSS work
- Faulty Towers could provide information on problems to SSS layers or via component interface