Disruptive Technologies Panel: Leveraging Containers in Elastic Environments

Nick Ihli 9/10/2015
Director of Field Services, Americas
nihli@adaptivecomputing.com
What is the Disruptive Technology

▪ **Elastic Computing**
  ▪ Mitigate peak demand backlog by temporarily and dynamically expanding cluster to a Private/Public cloud or a shared Multi-tenant Cluster Environment

▪ **Containers**
  ▪ Allow users to choose the image/software stack tailored for their workload
  ▪ Enable checkpointing of serial workload containers for higher priority serial and parallel workload

▪ **Leverage Containers in Elastic**
Why is this Disruptive?

- **BYOI - Users can bring own container images**
  - Collaborative research organizations
  - Doesn’t matter what vanilla elastic VM is chosen by admin

- **Important workload meets SLAs**
  - Cluster expands as backlog grows
  - Preemption becomes a larger factor
    - serial workload checkpoints allowing more important workload to run and limits wasted run time

- **Flexibility of resources and resource availability = more workload completed**
  - No partitioning of system, no sizing for peak demand
What will it do in the market place?

- Sites are no longer bound to Data Center space limitations
- Smaller organizations can better take advantage of HPC
  - Lower barrier to entry – consolidate with other organizations
- Easier research collaboration