

Disruptive Technologies Panel: Leveraging Containers in Elastic Environments

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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**