

# Sharing Virtualized Resources Across Multiple Locations To Realize Greater Efficiencies

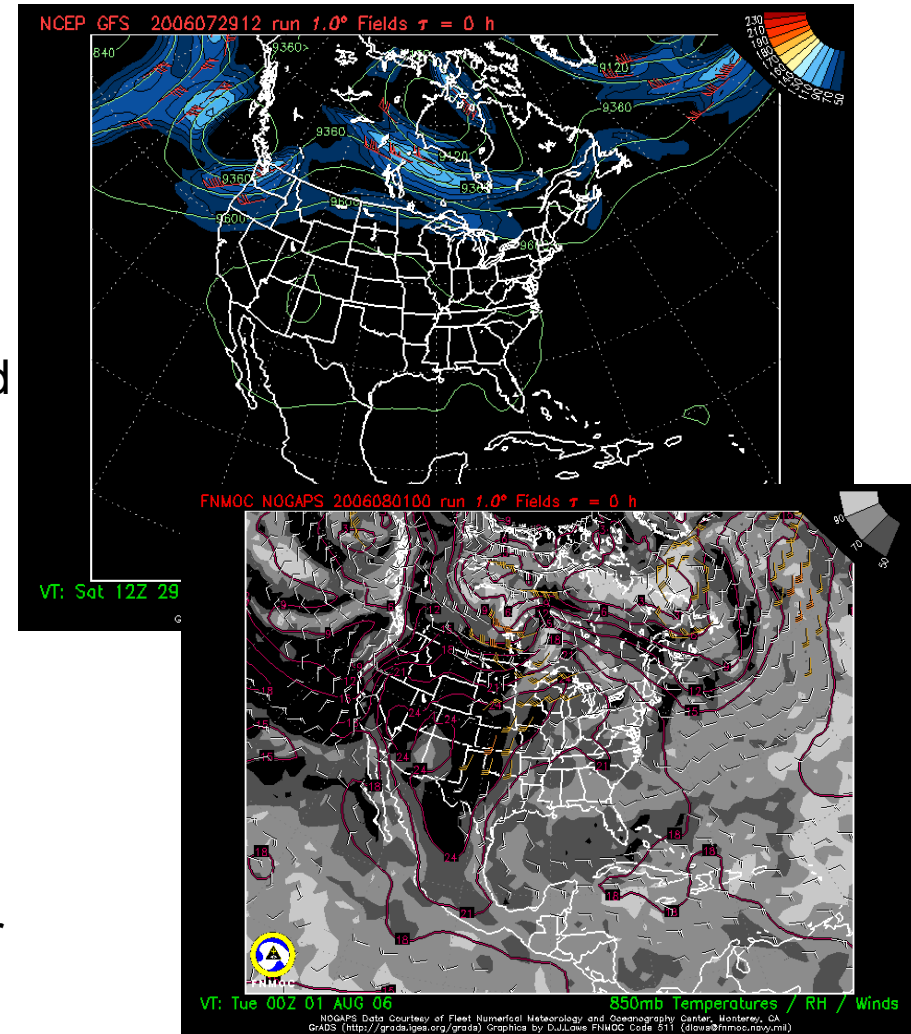


Fleet  
Numerical  
Meteorology and  
Oceanography  
Center

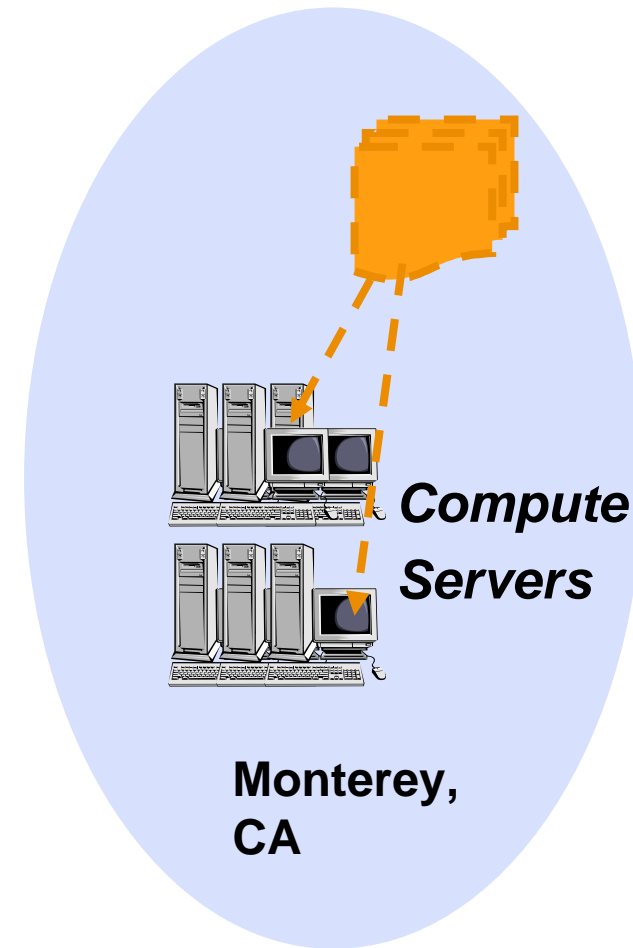
Case Study - Fleet Numerical

- ❑ **Who is Fleet Numerical?**
- ❑ **Challenges**
- ❑ **A Virtualized Way To Increase Computing Capacity**
- ❑ **The Results**
- ❑ **Next Steps**
- ❑ **Q&A**

- A component of the Naval Meteorology and Oceanography Command, and one of the world's premier Numerical Weather Prediction centers
- Approx. 7 million observations collected from satellites, weather balloons, etc from around world to predict global weather and ocean conditions
- Forecasts are distributed to entire fleet and essential for supporting naval operations
- Core is the timely, reliable execution of computationally intensive forecast models - Operational Numerical Weather Prediction (NWP) activities



- ❑ Located in Monterey, CA
- ❑ Multiple HPC systems running weather and ocean prediction models
- ❑ Scheduling of operational weather forecasts have been historically performed from a single center
- ❑ Uses Platform LSF
  - Robust, reliable job scheduler and resource manager supporting real-time job monitoring

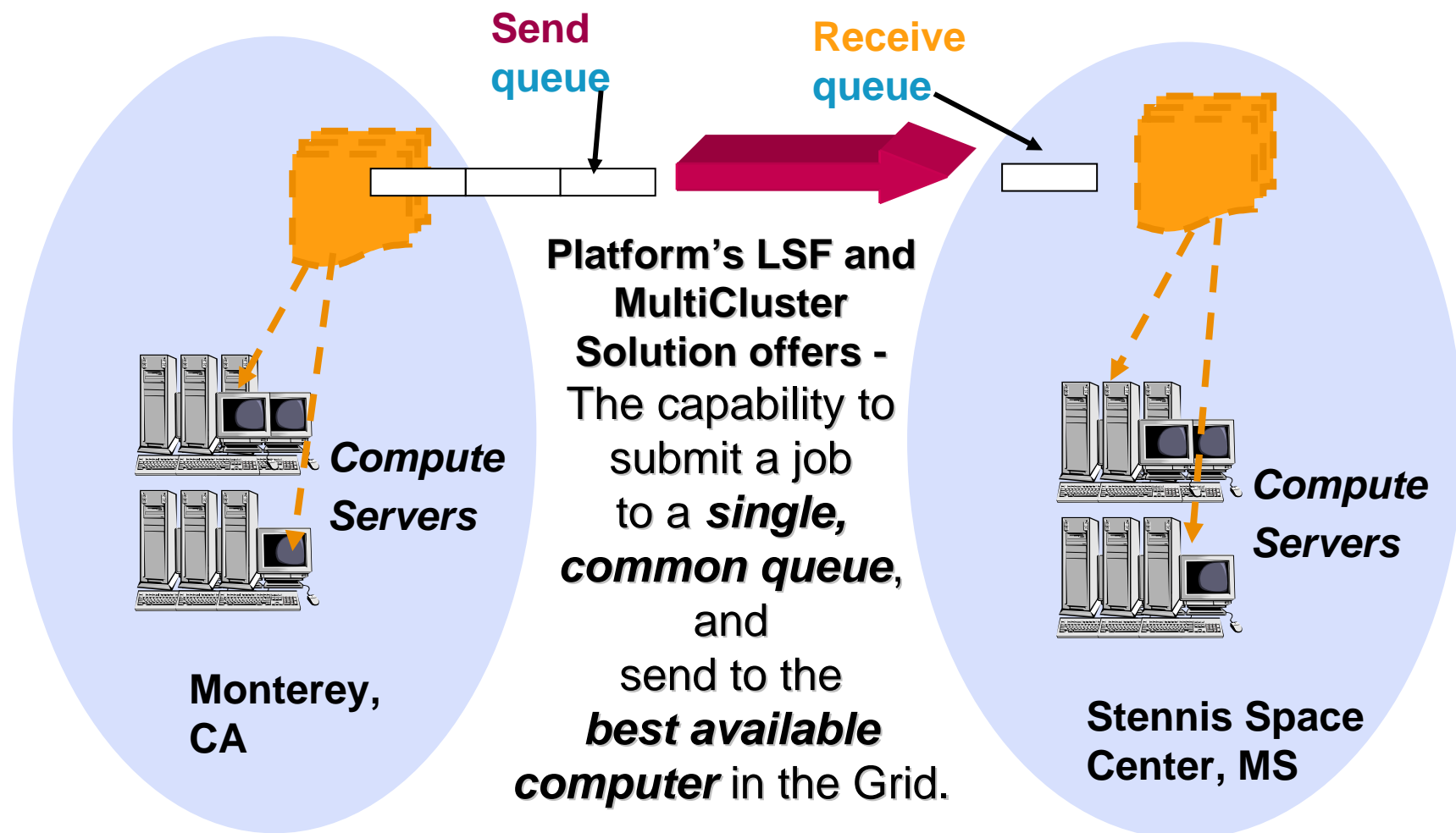


- ❑ Maintain information with more accurate and detailed weather predictions - faster
- ❑ Easily scale to handle larger volumes of data and increasingly sophisticated models
- ❑ NWP jobs are computationally intensive and require these jobs to be executed within a strict schedule
- ❑ Complying with stringent military security requirements
- ❑ Additional HPC capacity available at NAVO MSRC, Stennis Space Center, MS located over two thousand miles away

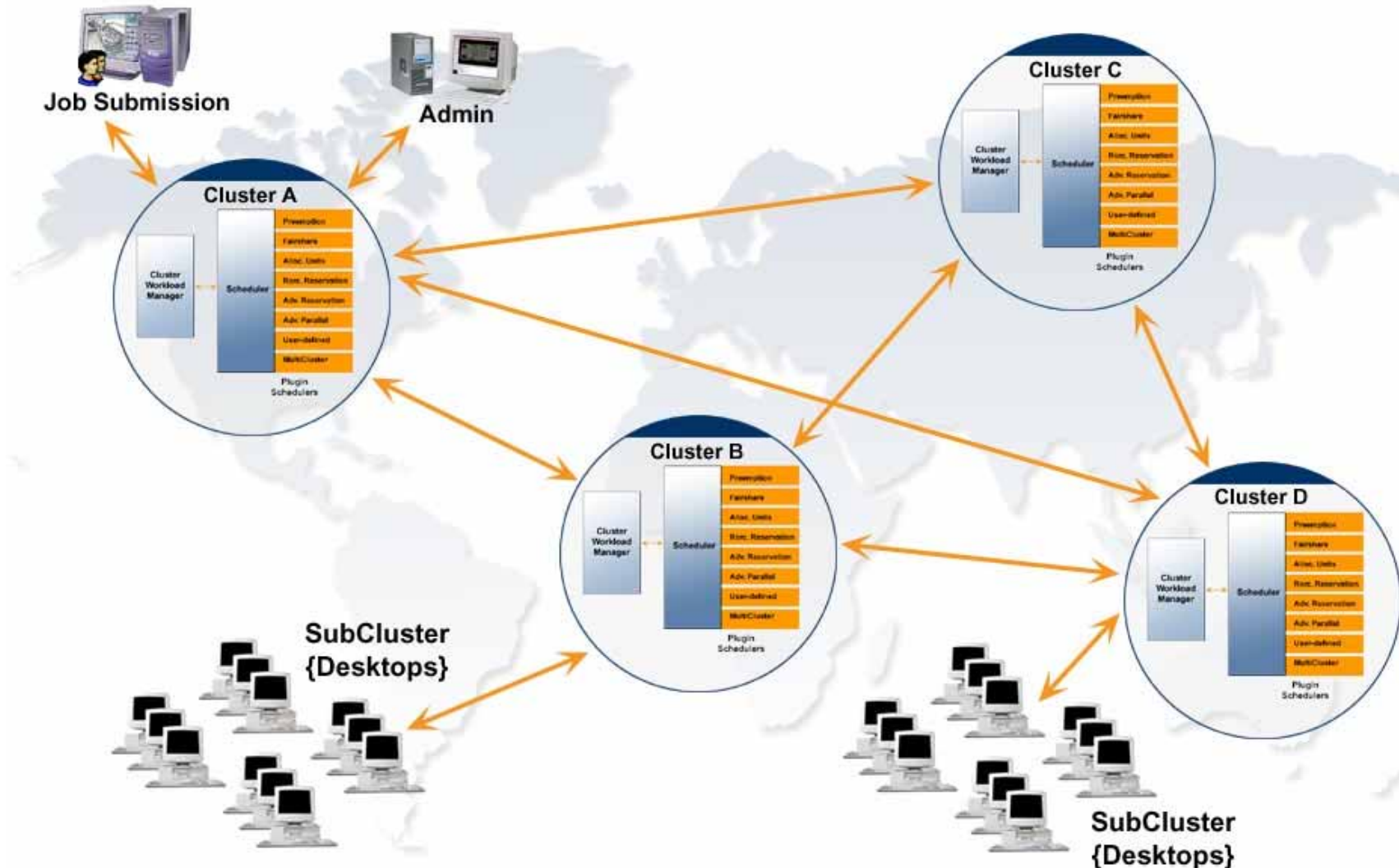
## **Platform LSF MultiCluster provides efficiency and added capacity**

- ❑ Operates different sites and shares resources, schedules and manages policies that meets individual business needs
- ❑ Jobs can be managed and submitted from a single 'console' across locations
- ❑ Provides the forwarding of analysis jobs to clusters located at other sites of the organization

# Building A Virtualized Way To Increase Computing Capacity



# Enterprise Grid Architecture Can Easily Expand To Multiple Locations





**Fleet Numerical has been able to capture economies of scale and reduce the total cost of operations through:**

- ❑ Increased utilization of existing resources and infrastructure
- ❑ The production of faster, more accurate and reliable weather models
- ❑ Efficiencies across the enterprise by pooling computing assets into a single, logical super-cluster and process.

# What Fleet Numerical Says

“Platform LSF software is an underpinning technology that plays a fundamental role in how we make our complex operation work day after day. We have very tight time constraints on our ops run, and LSF helps us ensure that it works consistently and reliably.”

Mike Clancy,  
*Technical and Scientific Director*  
**Fleet Numerical**

“We chose Platform MultiCluster for several reasons but the most important was that we could leverage our existing Platform LSF infrastructure across both sites and ensure there was a maintained mechanism for controlling policies.”

Jay Morford,  
*Enterprise HPC Grid Architect*  
**Fleet Numerical**

- ❑ **Implementation of solution in full production capacity**
- ❑ **Expansion of solution across other geographical locations outside of the Navy requirements**
  - Including the Army and Air Force



Thank you - Q&A



**Platform™**

