



Fabric Computing That Works

Demonstrating RDMA Protocols over the WAN

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Fabric Computing That Works

Partners

Orange Silicon Valley

Fusion IO

ESnet, SCinet Research Sandbox

HP

nVidia

Mellanox

SystemFabricWorks

Data Direct Networks

3M

Finisar

AMD

Chelsio

Bay Microsystems

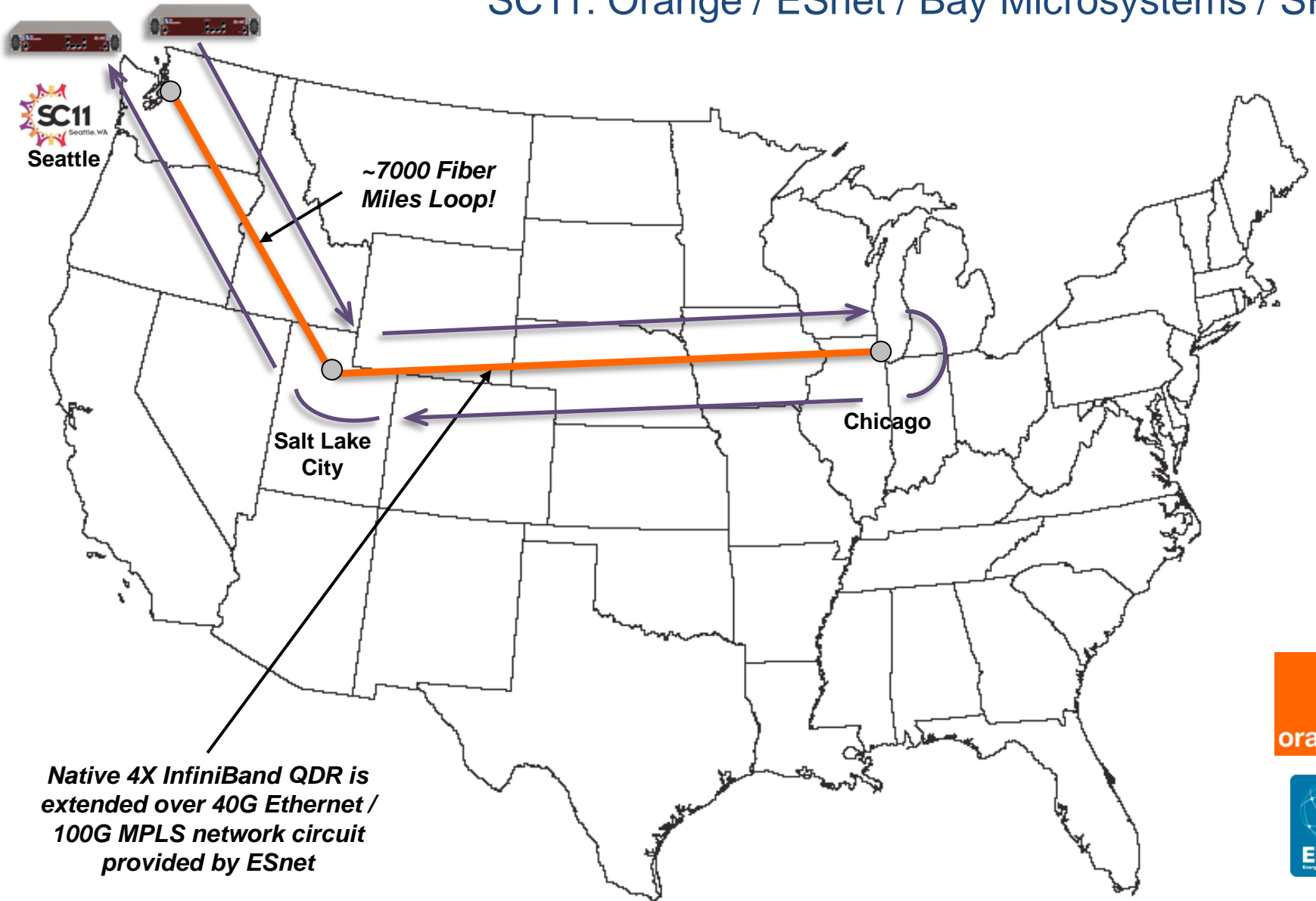
NetApp

Volex

OakRidge National Labs

Software Forge

SC11: Orange / ESnet / Bay Microsystems / SFW





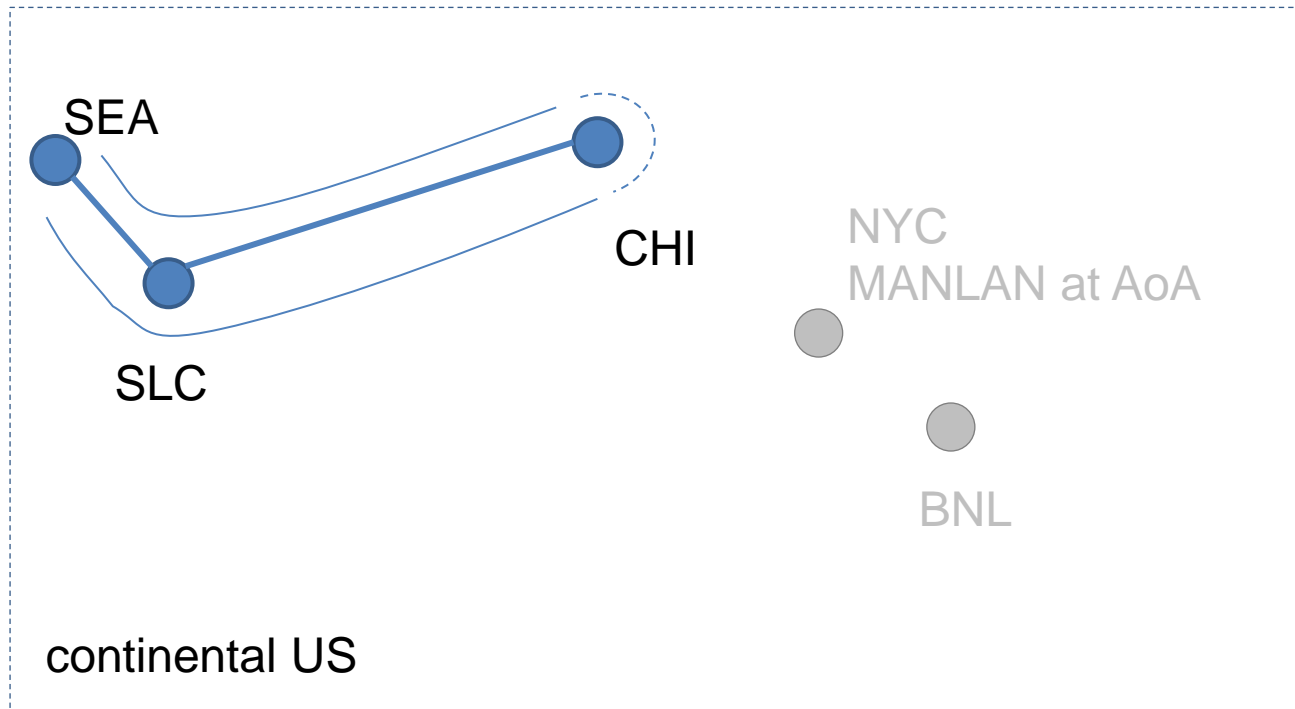
Three interesting usages

RDMA over a 40Gb/S WAN

Illustrating three usages

1. Multiple parallel video streams over long distances
2. High bandwidth file transfers
3. Visualize a remote dataset 'as though it were local'

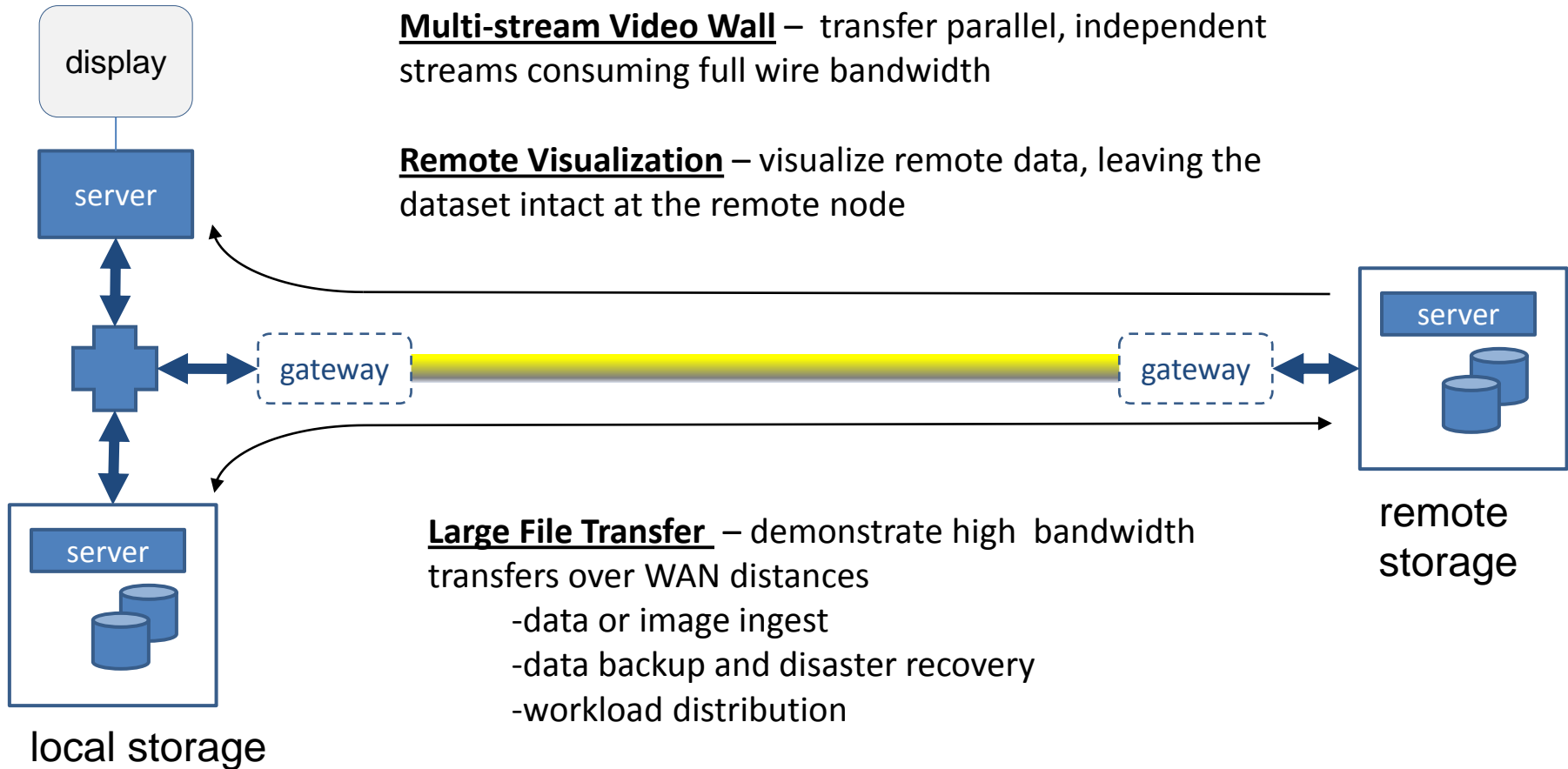
WAN network



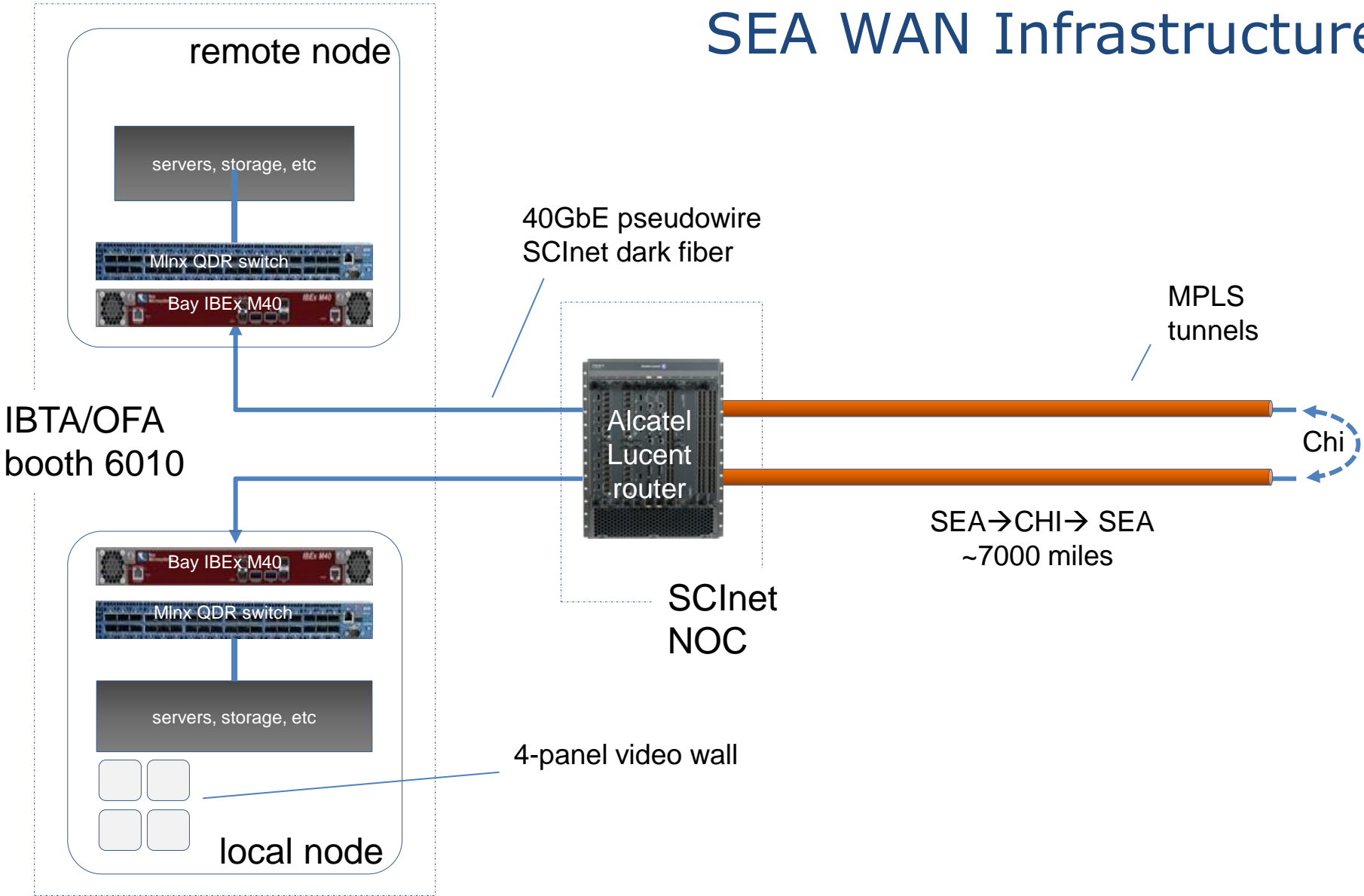
SEATTLE → CHICAGO → SEATTLE - Hairpin turn in Chicago
Create a pair of MPLS tunnels between SEA and CHI
~7000miles



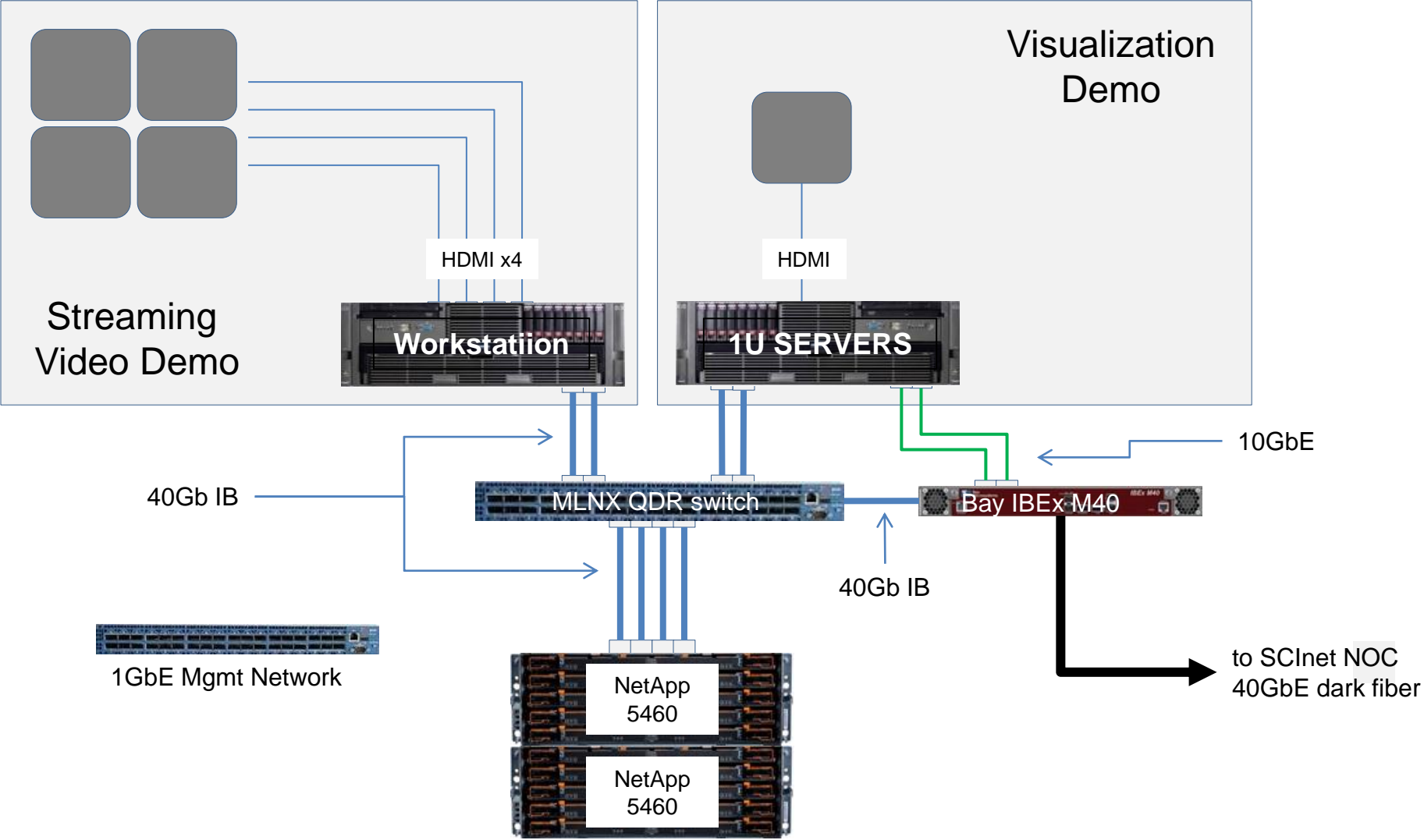
Three Demo Workloads



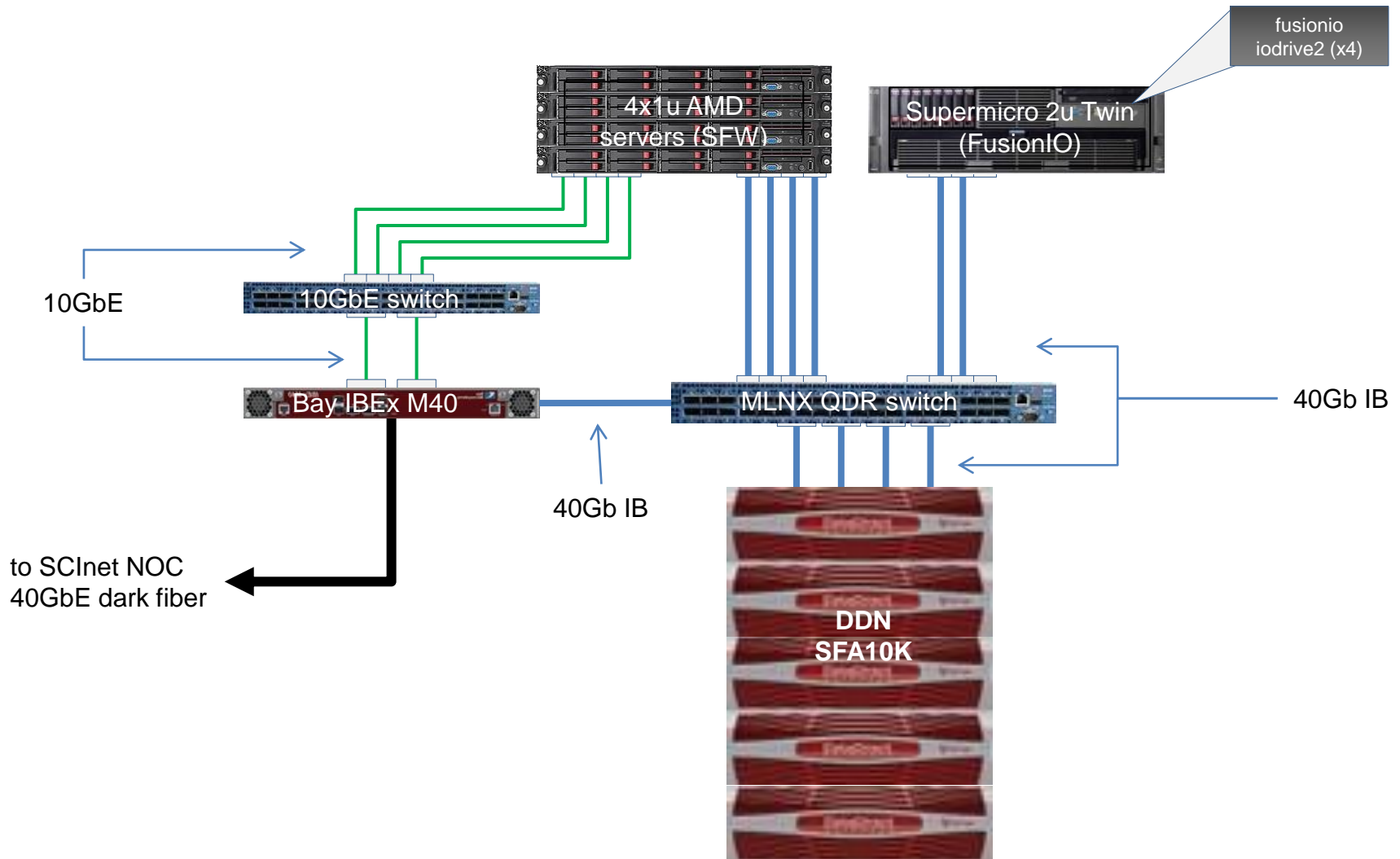
SEA WAN Infrastructure



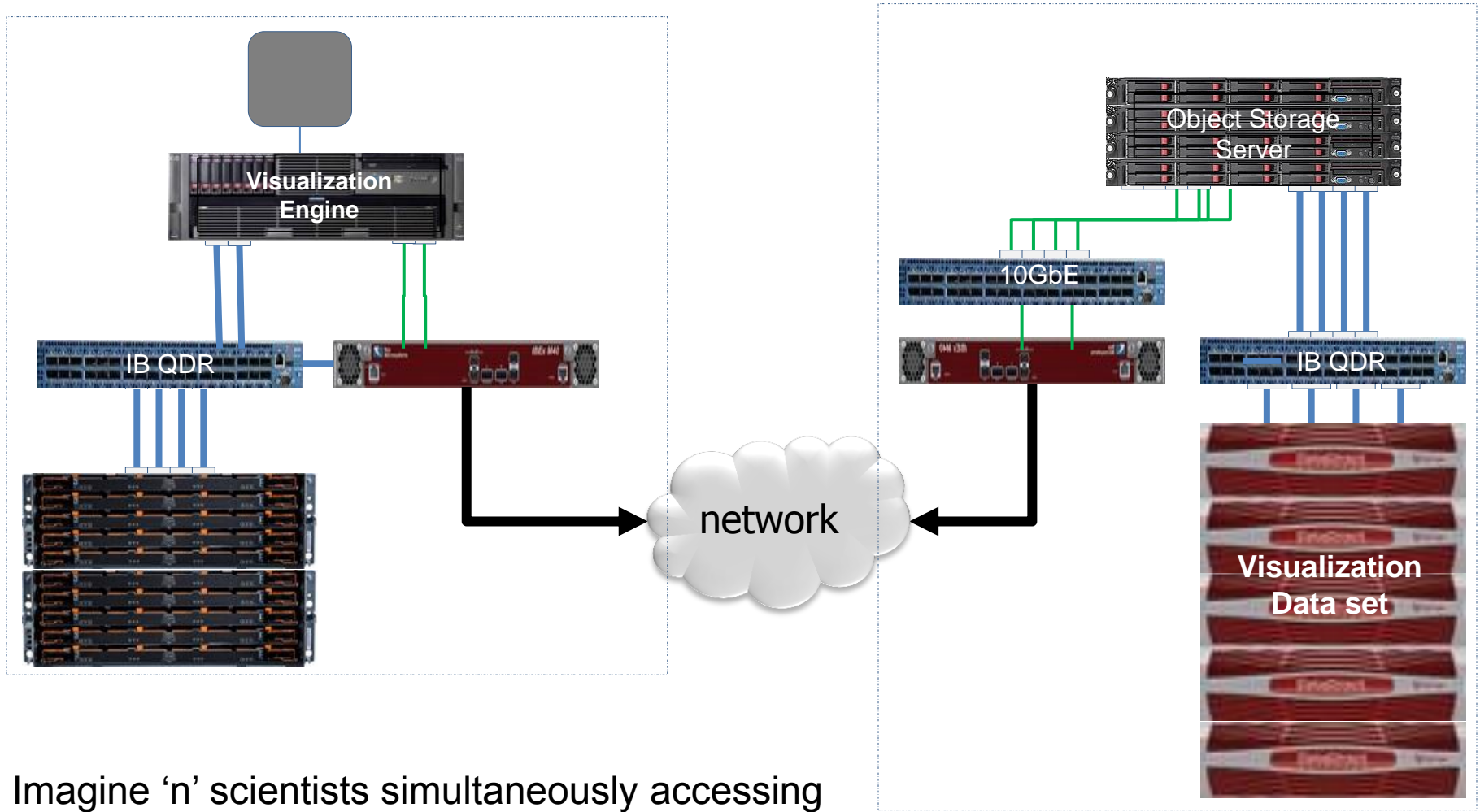
Local node design



remote node design



remote visualization demo



Imagine 'n' scientists simultaneously accessing a single remote data set, as though it were local

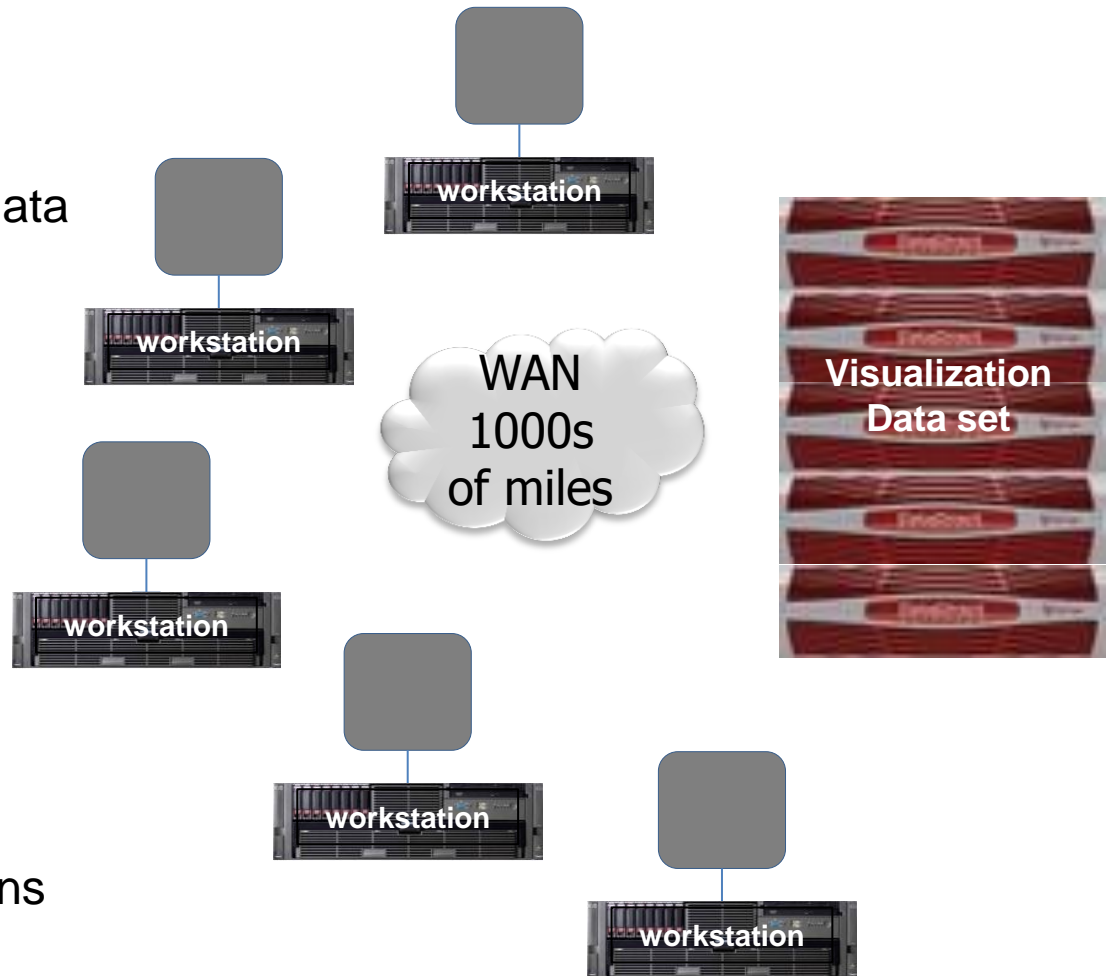
remote visualization demo

Collaboration among users
- immediate access to shared data

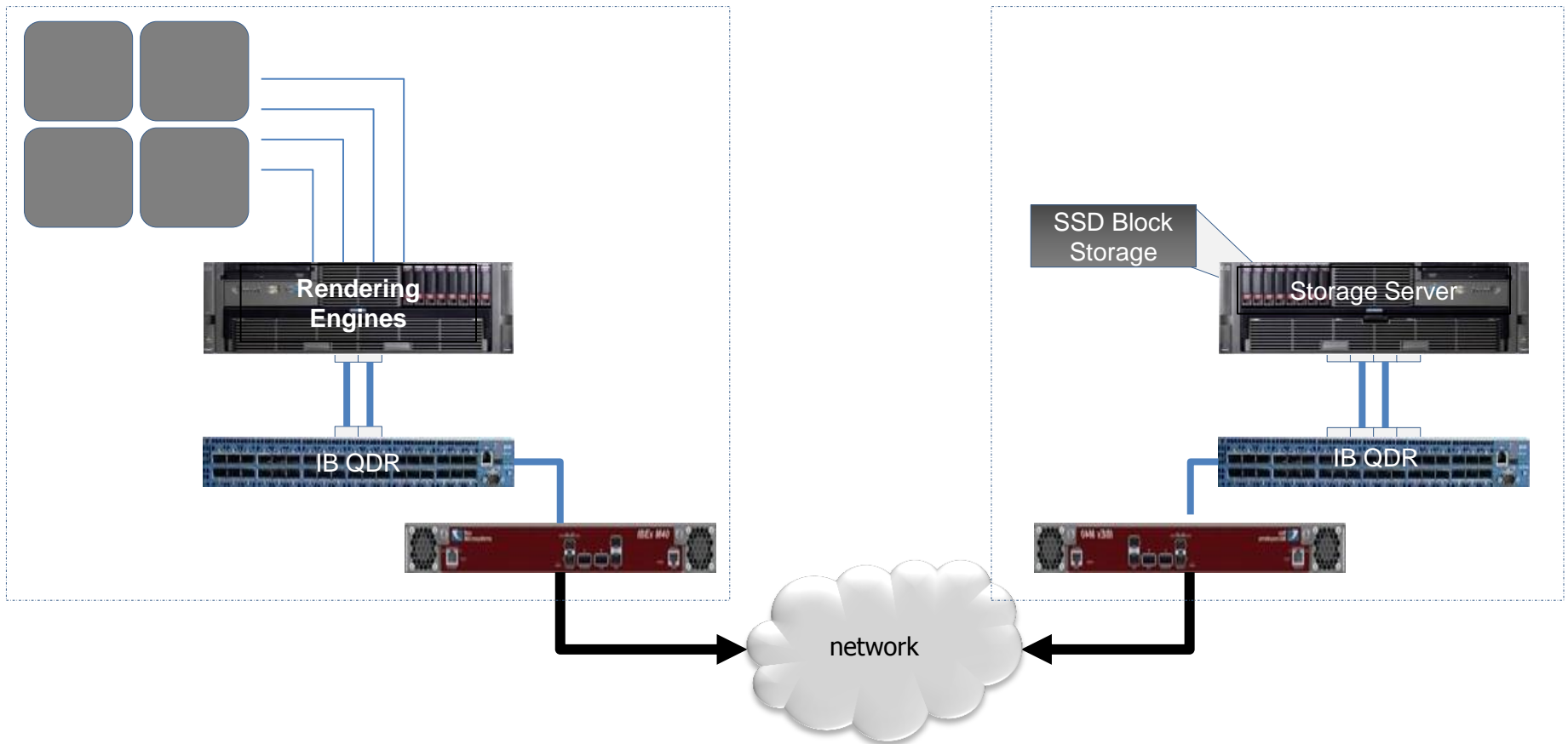
No dataset replication

No copying of large files

Eliminate synchronizations

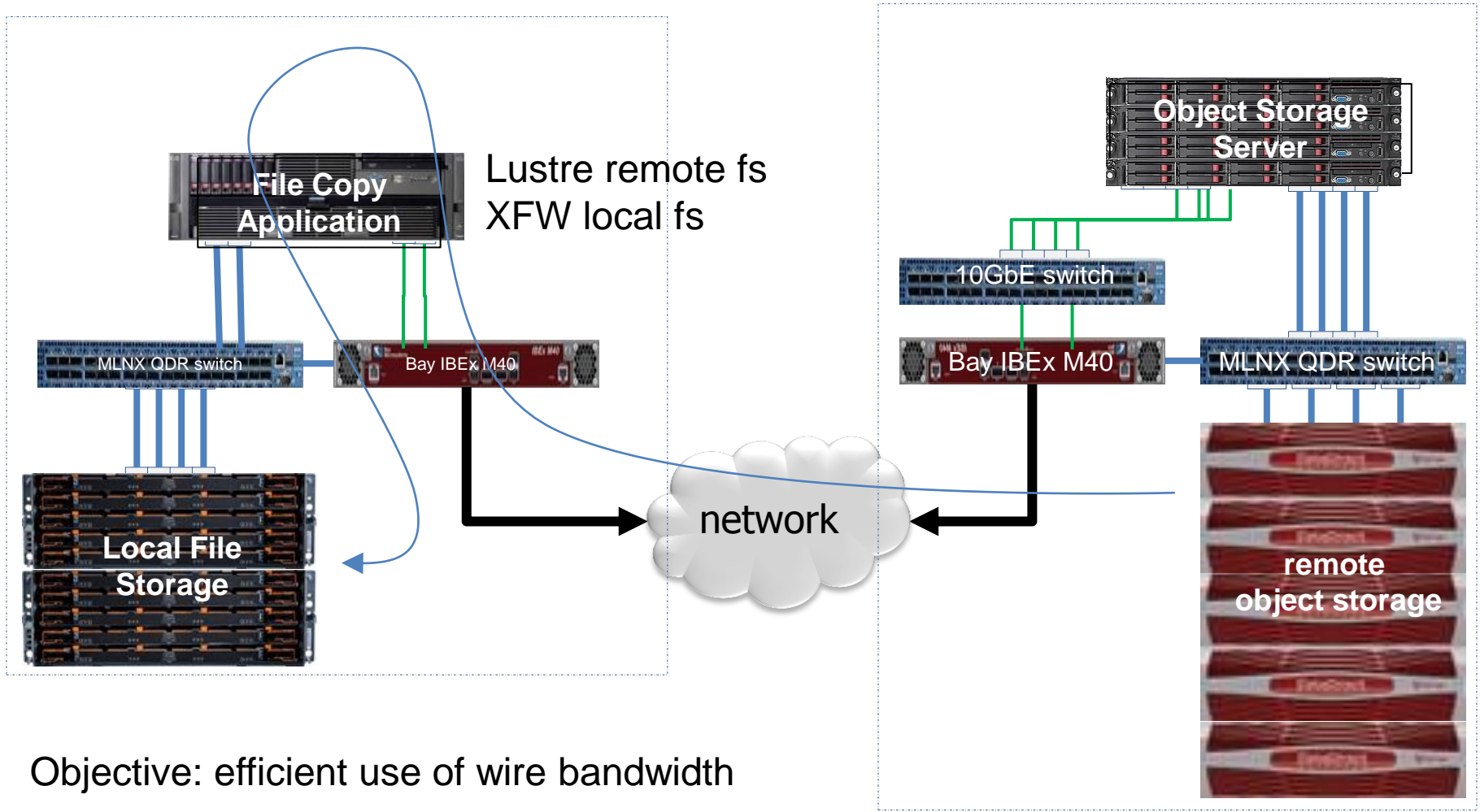


Streaming Video Demo



Objective: Transport arbitrary network traffic using full bandwidth capacity

High bandwidth demo



Objective: efficient use of wire bandwidth

File transfer is a bread and butter capability of a WAN.

Questions?