# Distributed Virtual Computing:

## An Introduction

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# Our Purpose

To create a leveraged computational grid that allows resource scavenging; this means unloading unused processing and memory cycles to be used by applications hosted on VM's elsewhere on the network.

# Past DVC Projects

- This was originally designed as a resource scavenging grid for off-site processing for applications
- We realized that nothing was “virtual” about these past projects
- Only specific non general purpose jobs could utilize the compute grid
- For example, Boinc, HTCondor, and specific Linux Grid distributions
- New technologies emerged that could get us closer to a general purpose computational grid

# Where We Picked Up

- We discovered ScaleMP, which added the virtualized aspect and kept SMP capabilities for possible grid computing
- We started an info-session with a representative from ScaleMP
- ScaleMP requires Infiniband and some specific hardware sets
- Flexible with Hypervisor on Hypervisor capabilities
- Researched extensively into its capabilities

# VMWare Enters The Equation

- VMWare vSphere allows vSMP capabilities between hosted VM's
- Why not use general purpose big iron to host desktop VM's on thin clients elsewhere on campus?
- Although this initially defeats the purpose of using existing desktops for a "grid" cluster, we can attempt this in the future.

# Setting Up A Test Environment

- Currently have a working vSphere environment running on an 8 blade HP ProLiant DL785 G5 server using ESXi
- Attempted to install vSMP on dedicated hardware.
- Beginning a proof-of-concept installation of ScaleMP to see if it will install on VMs
- Still in the research and design phase, exploring ideas and potential solutions

# Questions, Comments, Criticism?