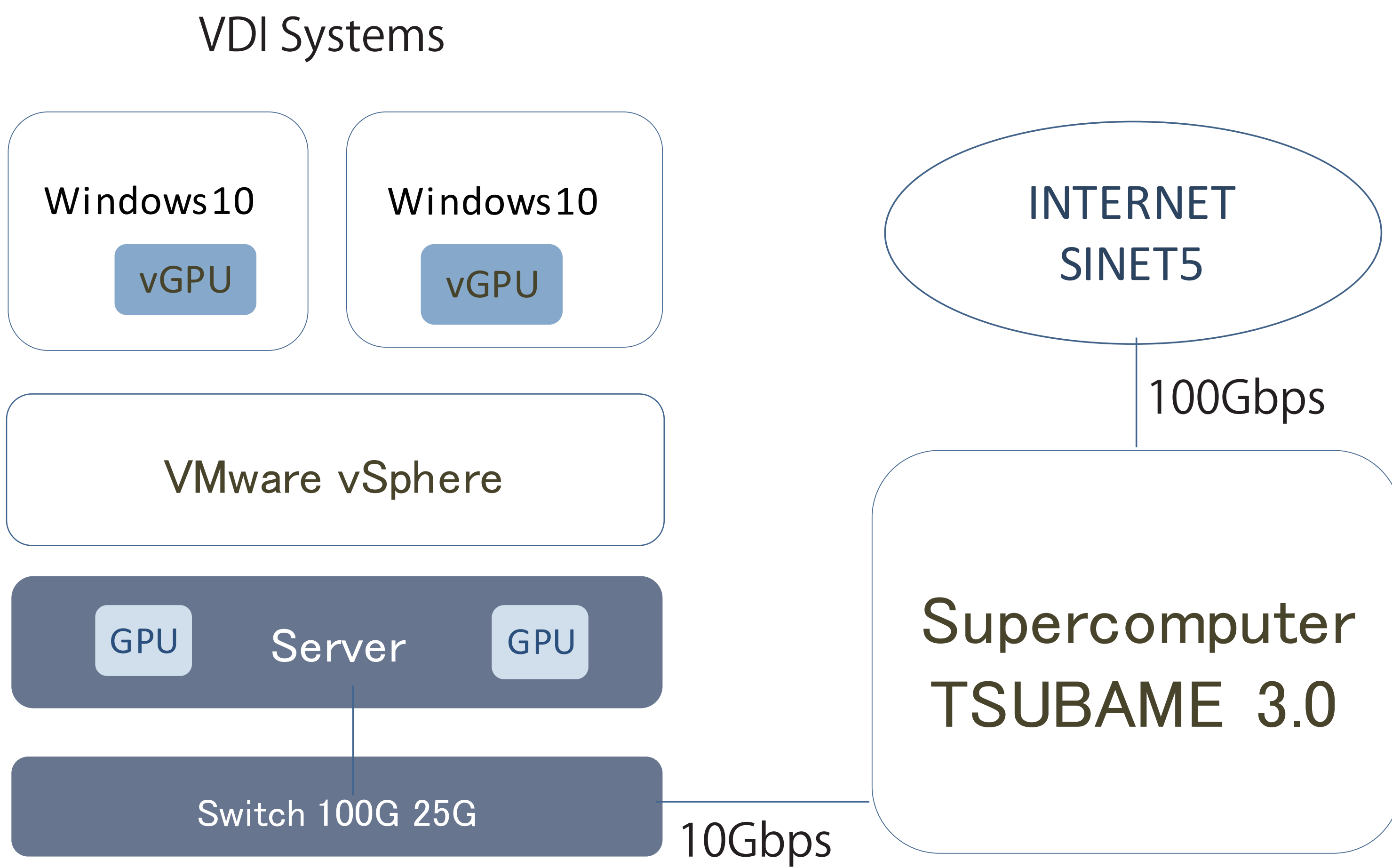




VDI as Visualization Server for Tsubame Supercomputer

Overview



TSUBAME VDI (Virtual Desktop Infrastructure) is an experimental VDI system to evaluate high performance VDI for supercomputers. Supercomputers generate large data files of simulated results, etc. on their storage systems. In general, users have to download those files to their local environments before check or visualize the results. The use of VDI system allows low-latency access to them.

VDI Software Specifications

VDI Product: VMware Horizon View
 vGPU Driver: NVIDIA GRID Software, AMD Driver
 Guest OS: Microsoft Windows 7, Windows 10
 Hypervisor: VMware vSphere Enterprise Plus

Specifications

Server Hardware

CPU: AMD EPYC 7551 (2.0GHz) x2 sockets
 32 cores per socket, total 64 cores per node.
 GPU: NVIDIA Tesla V100 (32GB, PCI-E board)
 AMD Radeon Pro V340 (32GB)
 Mem: 320GB DDR4 memory
 Net: 100GbE QSFP28 1port PCI-E
 25GbE SFP28 4port PCI-E
 25GbE SFP28 2port PCI-E

VDI VM

vCPU: 32 cores
 vGPU: NVIDIA Tesla V100 8GB GPU Profile
 AMD Radeon Pro V340 8GB GPU Profile
 Mem: 32GB
 vNIC: 10GbE x 1port

vGPU Technology

NVIDIA and AMD provides GPUs with vGPU technology as summarized below. We are evaluating these GPUs installed on a same server node.

Vendor	NVIDIA	AMD
Product	GRID	MxGPU
Device	Tesla M60/P40/P100/V100	Radeon Pro V340
Memory Profile	512M/1G/2G/4G/8G	1G/2G/4G/8G
vSphere Impl.	Shared PCI Device	PCI Device
Computing	CUDA, OpenCL	OpenCL

VDI System Diagram

