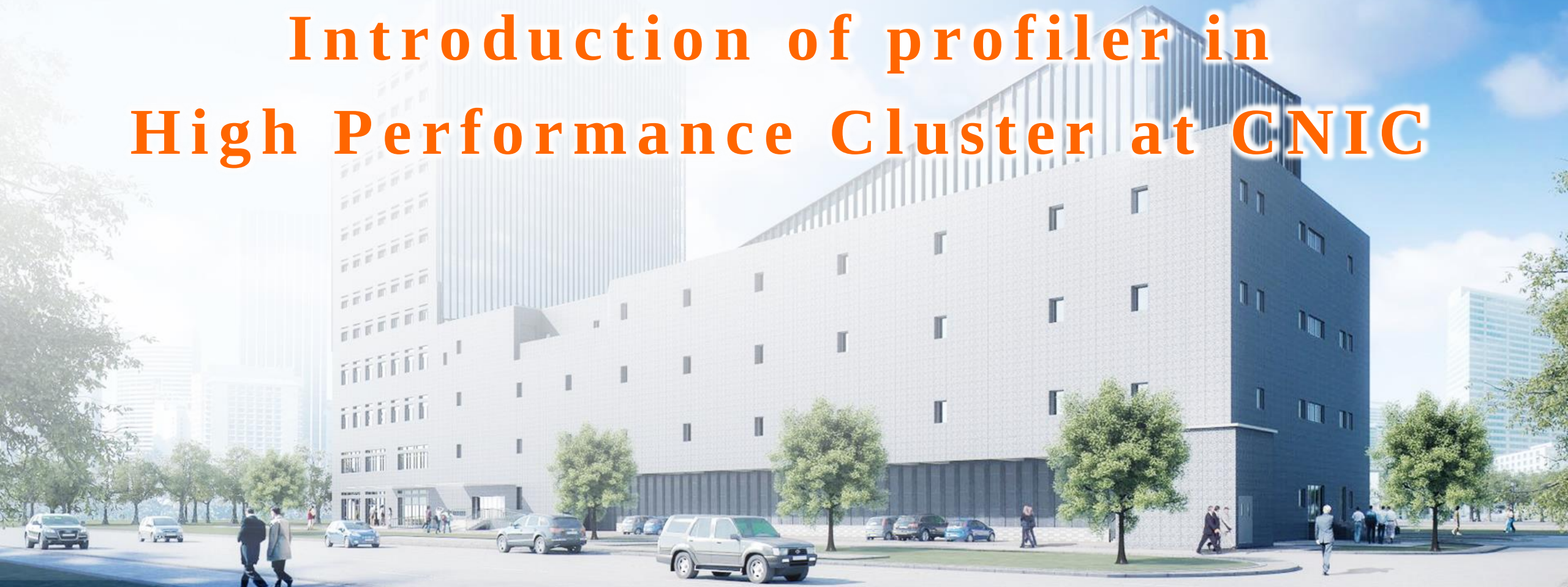
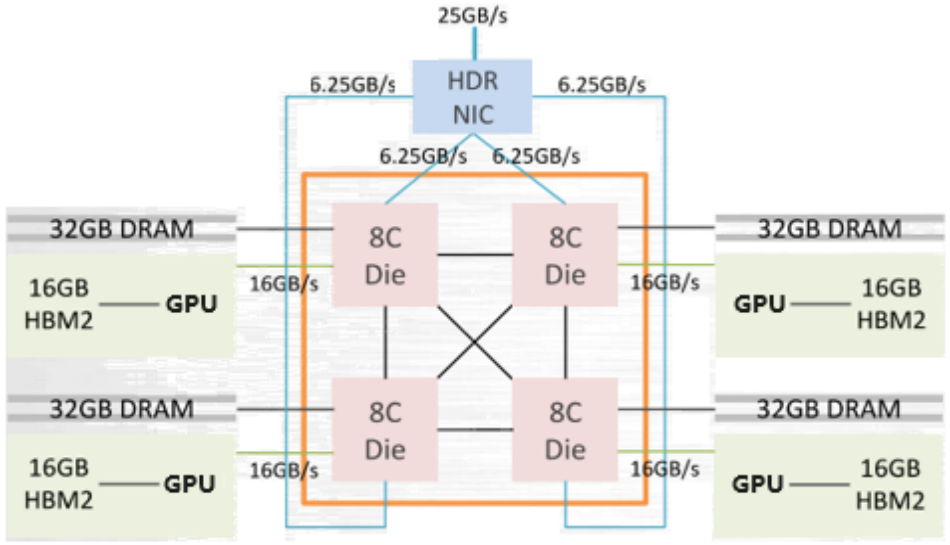
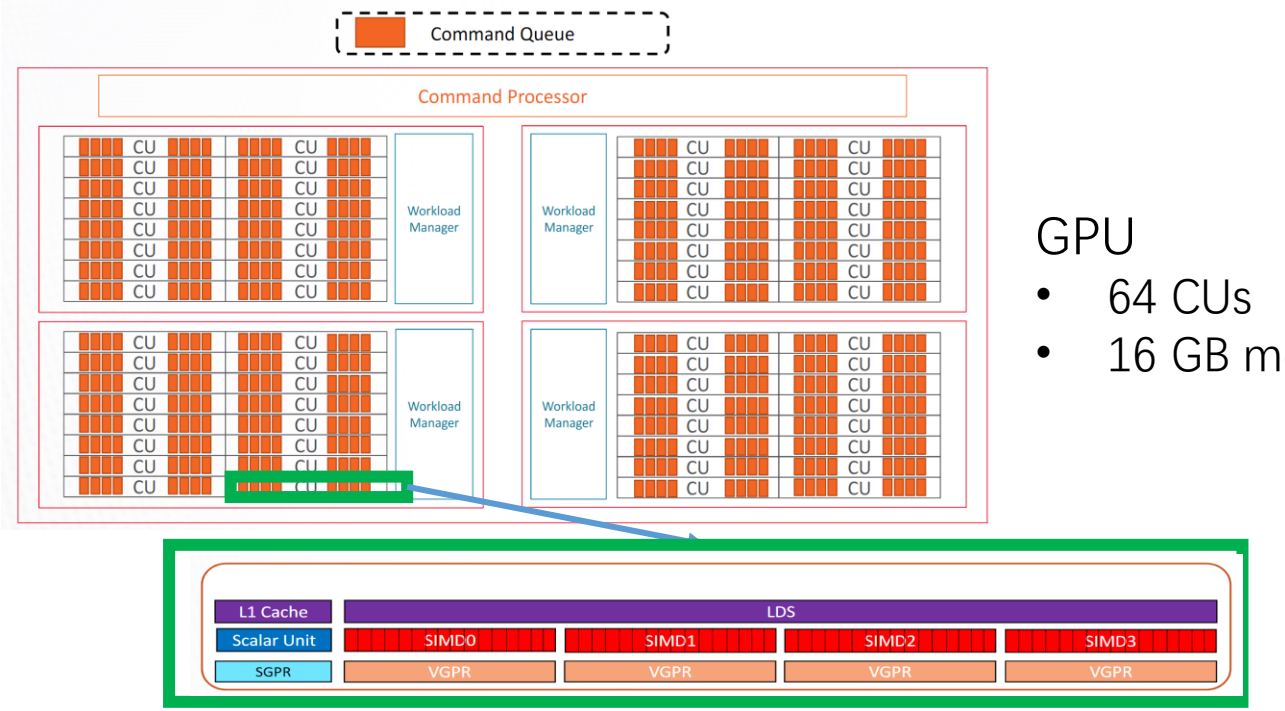
中国科学院计算机网络信息中心
Computer Network Information Center,
Chinese Academy of Sciences

Introduction of profiler in High Performance Cluster at CNIC



PARTITION	core	gpu	processor	Memory
test	32	4	x86	128GB





nodes

- 32-core AMD Zen-based processor
- 128 GB host memory
- four AMD Instinct MI60 GPUs pre Node

GPU

- 64 CUs
- 16 GB memory

02 Software Environment

The system is equipped with complete, efficient and professional basic software, including operating system, compiler, mathematical library, parallelComputing environment software, etc. According to the user's needs, we will install and update the application software of various disciplines.

ITEM	NAME	VERSION	PATH	MODULE NAME
CPU: C/Fortran Compiler	gcc/g++	7.3.1	/opt/rh/devtoolse t-7	compiler/devtoolset/7.3.1
	gfortran	7.3.1	/opt/rh/devtoolse t-7	compiler/devtoolset/7.3.1
GPU Compiler	hipcc	2.8.19361	/opt/rocm/hip/	compiler/rocm/2.9
debugger	gdb	8.0.1 36.el7	/opt/rh/devtoolset-7/	compiler/devtoolset/7.3.1
MPI	hpcx-v2.7.4	v2.7.4	/opt/hpc/software/mpi/hpcx/v2.7.4	mpi/hpcx/2.7.4/gcc-7.3.1
miopen	miopen	2.8.19361	/opt/rocm/miopen/	compiler/rocm/2.9
rocblas	rocblas	2.8.19361	/opt/rocm/rocblas	compiler/rocm/2.9

03 Module Commands

module Common Commands	usage
module av	View the available Modules
module list	View the currently loaded modules.
module load modulefile	Load modules
module unload modulefile	Unload modules
module switch modulefile	Switch modules
module purge	Clear all loaded modules.
module show modulefile	Show module content

1、Check the available software in the system :

$ module av

2、To set the environment variables of a certain software, run the **module load** command.
For example, to load the HDF5 library, run the following command:

$ module load mathlib/hdf5/1.9.20/intel

3、View loaded environment usage:

$module list

4、 To uninstall software that is no longer needed using commands:

$ module rm mathlib/hdf5/1.9.20/intel

04 Slurm Commands

commands	usage	example
sinfo	Displays the status of partitions and nodes	sinfo
squeue	Show job status	squene
srun	For interactive job submission	srun -n 2 -p p1-c1-2 hostname
sbatch	For batch job submission	sbatch -n 2 job.sh
salloc	For assignment mode job submission	salloc -p p1-c1-2
scancel	Used to cancel a submitted job	scancel JOBID
scontrol	You can view and modify the slurm configuration and status, including querying node information or information about running jobs	scontrol show job JOBID

06 Users Login

The login node of the gpu cluster is used to submit tasks. You can log in to the assigned compute node only after the job scheduling system allocates resources.

The gpu cluster uses load balancing to allocate the login nodes. It is normal that the host name assigned to the login node may be different after each login

Login IP address: 60.245.128.10 SSH Port : 65010

Login password Static password + dynamic password code

ssh csjt0800@60.245.128.10 –p 65010

Static password is csjt0800

If the dynamic password is 011594, the password is csjt0800011594

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THANKS!