



Proposal For ASC 25

Team Name: [Team Name]

Team Member 1

Team Member 2

Team Member 3

Team Member 4

Team Member 5

January 8, 2025

A proposal submitted to the ASC 25 committee

Contents

Brief Background Description of Supercomputing Activities

1.1 Hardware and Software Platforms

Our university established a high-performance computational (HPC) cluster in 2025 to address the growing demands in scientific research and industrial applications. Here's an example of how to include technical specifications:

Table 1: Hardware Configuration of YSU HPC Cluster

Item	Name	Configuration	Number
Login Node	[Model]	CPU: [Specs]	1
Compute Node	[Model]	CPU: [Specs]	10
GPU Node	[Model]	GPU: [Specs]	2

1.2 Example Code Block

Here's how to include code samples in the document:

Listing 1: HPL Performance Testing Script

```
1 def test_hpl_performance(problem_size, block_size):
2     """
3     Test HPL performance with given parameters
4     """
5     results = []
6     for size in problem_size:
7         perf = run_hpl_benchmark(size, block_size)
8         results.append((size, perf))
9     return results
```

1.3 Example Figure

Example of including a figure with caption:

This is a placeholder for the performance graph

Figure 1: HPL Performance Scaling Analysis

2 Design of HPC System

2.1 Performance Analysis

Example of including mathematical equations:

$$R_{peak} = N_{cores} \times N_{flops/cycle} \times F_{clock} \quad (1)$$

Where:

- N_{cores} is the total number of CPU cores
- $N_{flops/cycle}$ is the number of floating-point operations per cycle
- F_{clock} is the clock frequency in Hz

3 Introduction to the University's Activities in Supercomputing

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6 Additional Materials

A Additional Technical Details

A.1 Configuration Files

Example of including configuration files:

Listing 2: HPL Configuration File

```

1  # Sample HPL.dat
2  HPL.out          output file name
3  6                device out (6=stdout,7=stderr,file)
4  1                # of problems sizes (N)
5  29000           Ns
6  1                # of NBs
7  256             NBs
8  0                PMAP process mapping (0=Row-,1=Column-major)
9  1                # of process grids (P x Q)
10 2               Ps
11 2               Qs
12 16.0            threshold
13 1                # of panel fact
14 2               PFACTs (0=left, 1=Crout, 2=Right)

```

B References

References

[1] Author, *Title of the Book*, Publisher, Year.