2　資料及びコメントの提供方法　上記１⑵の物品に関する一般的な参考資料及び同⑹の要求要件等に関するコメント並びに提供可能なライブラリーに関する資料等の提供を招請する。

⑴　資料等の提供期限　令和６年９月20日17時00分（郵送の場合は必着のこと。）

⑵　提供先　〒464―8601 名古屋市千種区不老町　国立大学法人東海国立大学機構財務部経理第一課　日比野真奈　電話052―789―5666

3　説明書の交付　本公表に基づき応募する供給者に対して導入説明書を交付する。

⑴　交付期間　令和６年８月６日から令和６年９月20日まで。

⑵　交付場所　上記２⑵に同じ。

4　説明会の開催　本公表に基づく導入説明会を開催する。

⑴　開催日時　令和６年８月20日13時30分

⑵　開催場所　名古屋大学　情報基盤センター２階演習室

5　その他　この導入計画の詳細は導入説明書による。なお、本公表内容は予定であり、変更することがあり得る。

6　Summary

⑴　Classification of the products to be procured : 14

⑵　Nature and quantity of the products to be rent : Supercomputer “FLOW” NEXT System 1 Set

⑶　Type of the procurement : Rent

⑷　Basic requirements of the procurement :

A　The system must consist of following four subsystems.

B　Multi-Phase installation plans are acceptable. However, all subsystems must be installed within the first year of operation.

C　Total theoretical peak performance of the system must be at least 50 PFLOPS in the final configuration.

D　The hardware of the product must be highly reliable and the continuous and stable operation of the system must be possible.

E　Total power requirements for the system including air-conditioning must be less than 3 MVA.

F　The system should have a mechanism to dynamically control the power consumption of the entire system ; it is desirable to be able to change the upper limit of the total power consumption in 12-hour increments.

G　The system must be connected to the academic information network (SINET6) and to the campus network (NICE6) with a speed at least 100 Gbps.

H　The system must be accessed from the HPCI system.

I　Type I subsystem must satisfy the following requirements.

a　Type I subsystem must consist of multiple nodes. Theoretical peak performance of each node must be at least 10 TFLOPS. However, in the case of adding an accelerator such as the Graphics Processing Units (GPUs) into the subsystem, the performance of them must not be included in this total.

b　Total theoretical peak performance of Type I subsystem must be at least 20 PFLOPS.

c　The main memory capacity and memory bandwidth of one node must satisfy one of the following :

1　more than 128 GiB of main memory and 3.5 TB／sec of memory bandwidth.

2　more than 512 GiB of main memory and 700 GB／sec of memory bandwidth.

d　Total throughput of data transfer from one node to another within a server must not be less than 400 Gbps.

J　Type II subsystem must satisfy the following requirements.

a　Type II subsystems should consist of Type II-A and Type II-B sub-subsystems. However, Type II-A only configuration is also acceptable.

b　Type II-A and Type II-B subsystems must consist of multiple nodes equipped with Graphics Processing Units (GPUs).

c　Each node in Type II-A sub-subsystem must satisfy the following :

1　4 or 8 GPUs per node.

2　double-precision theoretical peak performance must be at least 180 TFLOPS.

3　half-precision (FP16) theoretical peak performance must be at least 20 PFLOPS.

4　main memory capacity of each GPU must be at least 180 GiB.

5　memory bandwidth of each GPU must be at least 7.8 TB／sec.

6　the total main memory capacity of all CPUs must be at least twice the total memory capacity of all GPUs.

7　bi-directional bandwidth between any two GPUs in a node must be at least 1.6 TB／sec.

8　at least 10 TB of local storage with a sequential read performance of at least 10 GB／sec.

d　Total throughput of data transfer from one node to another within Type II-A must be at least 200 Gbps.

e　It must be possible to communicate between GPUs on different Type II-A nodes without going through the CPU’s main memory.

f　Each node in Type II-B sub-subsystem must satisfy the following :

1　4 or 8 GPUs per node.

2　double-precision theoretical peak performance must be at least 220 TFLOPS.

3　half-precision (FP16) theoretical peak performance must be at least 5.0 PFLOPS.

4　main memory capacity of each GPU must be at least 280 GiB.

5　memory bandwidth of each GPU must be at least 7.0 TB／sec.

6　the total main memory capacity of all CPUs must be at least twice the total memory capacity of all GPUs.

7　at least 10 TB of local storage with a sequential read performance of at least 10 GB／sec.

g　Total throughput of data transfer from one node to another within Type II-B must be at least 200 Gbps.

h　It must be possible to communicate between GPUs on different Type II-B nodes without going through the CPU’s main memory.

K　Type III subsystem must satisfy the following requirements.

a　Type III subsystem must consist of one or more nodes.

b　Each node must have x86 architecture CPUs.

c　The main memory capacity per node must be at least 10 TiB.

d　Total main memory provided by the Type III subsystem must be at least 50 TiB.

e　At least one graphics board required for remote visualization must be installed per node. OpenGL 4.6 or higher must be supported.

L　Cloud subsystem must satisfy the following requirements.

a　The cloud subsystem must consist of an on-premise private cloud and a hosting public cloud.

b　Total theoretical peak performance of Cloud subsystem must be at least 2 PFLOPS.

c　Provide an environment that allows easy migration of application execution environments and data between private and public clouds.

d　The private cloud must have x86 architecture CPUs and a least 100 nodes.