(4) Basic requirements of the procurement :

A

a The system consists of multiple nodes. The theoretical peak performance of the entire system (double precision floating point operation) must be more than 0.5PFLOPS. The effective operation performance is to be evaluated by a benchmark test.

b The theoretical peak performance of processor must be larger than 3TFLOPS and the memory capacity of the node must be larger than 512GB

c The system consists of more than 512 processors and accelerated computing nodes group must be composed of multiple computing nodes, each of which has multiple CPU cores equipped with accelerators.

B The system must be installed with basic software, application software and equipped with server load balancing functions. The system must have functions of data integration, data analysis and visualization.

C

a Software : Automatic parallelization function which is compatible with CPU and accelerator should be equipped. FORTRAN and C／C++ compliers which are compatible with OpenMP, OpenACC, API (version 3.0 or higher) should be equipped.

b Programming languages, exemplified by FORTRAN, C, and C++ optimal for both CPU and accelerators, and its corresponding programming and tuning-supporting software are stack including auto-parallelism and tuning processing must be prepared.

c MPI library (version MPI 2.1 or later version) should be installed and available for multi-node processing on Computing Cluster. Numerical library for highly parallel computation must be installed. The Operating system must be UNIX (Linux or its variants).

d Job management system that has functionalities to interact with User-management and Statistics-management system must be deployed.

e The communication library MPI 2.1 or later version should be provided for the supercomputers. Other methods for parallel computing should be provided for the shared memory type supercomputer.

D

a The total capacity of the main memory of the system must be 100TB or larger. Main memory of a capacity of 32TB or larger can be utilized as a shared memory.

b The file server must be equipped with storage devices whose aggregate effective storage capacity is at least 32TB It must provide file services for the front-end server and the back-end server.

c Main memory of a capacity of 64GB or larger can be utilized as a shared memory per shared-memory node.

d File Server must have large-amount of storage and provide high-performance parallel file-system functionality. File Server must enable low-latency and high-performance access from Computing Cluster, Frontend Server.

E

a Front-end nodes : Multiple front-end nodes must be equipped since many users will log in at the same time to submit jobs and to attempt file manipulations for high performance supercomputing and cloud systems.

b Frontend Server must provide functionalities for monitoring and controlling jobs executed on Computing Cluster. Programming-support environment must be available on Frontend Server.

F Storage system : The total amount of capacity is more than 4PB The storage system is equipped with high speed and highly reliable parallel file systems and should be accessed by all the servers with high speed.

G Operations of the Supercomputing system, user management and other necessary administration works must be efficiently achieved in a unified system operation.

H Both hardware and software are highly reliable and the contractor must provide stable support and maintenance services in Japanese language.

I Full time maintenance service and full time program tuning support by staff(s) should be provided.

J Transition from the present system to the new one must be carried out smoothly and promptly. Smooth migration of the data from the existing system to the new system is required. Extensive support for installation and migration must be provided. User support such as training sessions and consultation for programming must be provided.

K UPS, humidifier and cooling system necessary for system operation must be included. Both high noise reduction and energy saving must be realized.

L Power consumption must be smaller than 80kVA (smaller than 50kVA during operation) ; the equipment's area, shape and specific weight against floor must be accommodated to the existing facilities. Protection against earth quake should be facilitated.

M Sufficient security against intrusion and computer virus and so forth must be provided on the system. Security holes that are newly reported should be addressed without delay.

(5) Time limit for the submission of the requested material : 17 : 00　29 May, 2017

(6) Contact point for the notice : Yoshikazu Ikarashi, Procurement Section, Contract Office, Niigata University, 8050 Ikarashi 2-no-cho Nishi-ku Niigata-shi 950—2181 Japan, TEL 025—262—7671

資料提供招請に関する公表

次のとおり物品の導入を予定していますので、当該導入に関して資料等の提供を招請します。

平成29年4月17日

国立大学法人島根大学長　服部　泰直

◎調達機関番号　415　◎所在地番号　32

○第１号

1　調達内容

(1)　品目分類番号　14

(2)　導入計画物品及び数量　島根大学出雲キャンパス情報ネットワークシステム　一式

(3)　調達方法　借入

(4)　導入予定時期　平成29年度３月以降

(5)　調達に必要とされる基本的な要求要件

A　本キャンパスにおける情報通信を遅滞なく処理できる十分な処理性能を有すること。

B　本キャンパスにおける情報セキュリティを担保するための十分な通信検査・制御能力を有すること。

C　既存の通信セグメント構成並びに通信制御ポリシーを維持すること。

D　本学の統合認証システムと連携し、利用者認証を実施できること。

E　管理性に優れた構成であること。

F　障害時の可用性維持に十分配慮した構成であること。

G　通年連続運転が可能であること。また、十分な停電対策がなされていること。

H　現有システムへの接続機器を本システムにおいても支障なく使用できること。

I　現有システムの設置場所に支障なく収容できること。また、既設の構内通信ケーブル(光ファイバー及びＵＴＰケーブル)をそのまま使用できること。

J　長時間の業務停止を伴わずに更新作業を実施できること。