K　関連するソフトウェア
主たる用途
①　ＨＰＣ基盤の運用管理からユーザジョブ処理に至るまでの全ての機能を実現するためのソフトウェア群。
Ｋ－１　オペレーティングシステム（ＯＳ）
Ｋ－２　他コンピュータとの接続用ソフトウェア
Ｋ－３　コンパイラ
Ｋ－４　ＭＰＩ等の並列化ライブラリ
Ｋ－５　科学技術計算ライブラリ
Ｋ－６　in-situ／in-transit 可視化ライブラリ
Ｋ－７　開発支援ツール
Ｋ－８　市販アプリケーション
Ｋ－９　オープンソースソフトウェア
Ｋ―10　ジョブ管理
Ｋ―11　ファイル管理
Ｋ―12　運用管理

L　総合システムとしての非機能要件
Ｌ－１　システム構成・運用の柔軟性、統一性
Ｌ－２　信頼性、可用性、保守性
Ｌ－３　移行性
Ｌ－４　セキュリティ
Ｌ－５　電力量削減
Ｌ－６　設置性
Ｌ－７　アクセス性
Ｌ－８　支援と体制
Ｌ－９　情報流通
Ｌ―10　提供可能なマニュアル類

2　資料及びコメントの提出方法　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等の提供を招請する。
⑴　資料等の提出期限
平成31年３月29日（金）17時00分（郵送の場合は必着のこと。）
⑵　提出先　〒182―8522 東京都調布市深大寺東町７―44―１　宇宙航空研究開発機構　調達部　研究・事業調達室　金野　善幸　電話050―3362―7041
メールアドレス　konno.yoshiyuki@jaxa.jp

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　平成31年２月６日から平成31年３月29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　平成31年２月22日（金）13時30分から最大15時00分まで。
⑵　開催場所　東京都調布市深大寺東町７―44―１　ＪＡＸＡ調布航空宇宙センター　スーパーコンピュータ棟２階会議室

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
6.1　Procurement content
⑴　Item classification number : 14, 71, 27
⑵　Goods planned for implementation and their quantities : Super computer system (One set)
⑶　Procurement method : Purchase or Lease or a combination of these
⑷　Purpose of this implementation consideration : CFD is not the only field that uses the technique of HPC. Rather, the scope of usage of HPC is expanding to fields such as Earth Observation data processing and AI platform data processing. In the wake of these dramatic changes, the super-computers of JAXA will be re-defined as JAXA HPC platform, and the roles will be broadly classified into the following three types.
①　Numerical simulation implementation base to enhance international competitiveness in the aerospace field
②　Data center functionality that acts as a large-scale data analysis platform
③　Research and development platform that caters to new needs
With this background and future forecast, we are considering upgrading the existing super computer system to establish a JAXA HPC platform that will ensure the implementation of projects planned for the fourth medium-term plan of JAXA.
⑸　Schedule of operation : October 2020
⑹　Basic requirements that are considered necessary for procurement : The HPC platform planned for implementation is a comprehensive integrated system consisting of an HPC system, general-purpose system, integrated front-end system, data center management system, file system, non-stop operation service, operation／management／control system, interconnection network, Storage Area Network, High speed Ethernet backbone, and related software. The basic requirements needed for this system are as stipulated below.

A　HPC System
Primary purpose
①　A system for performing massive parallel processing, long-duration computation, and data processing.

B　General-purpose System
Primary purpose
①　A system for resolving large-scale problems (that require parallel processing) in the shortest time possible.
②　A system for solving small-scale problems (that do not require parallel processing) by processing large quantities of data per unit time.
③　A system for processing jobs that require large main memory storage capacity for a single process.

C　Integrated Front End System
Primary purpose
①　System that performs activities such as program development, tuning operations, job execution, file operation.

D　Data Center Management System
Primary purpose
①　A system that realizes data management functionality of the data stored in the file system and archiver system.
②　Data transfer management, Workflow control, and Portal functionality for this Supercomputer system.

E　File System
Primary purpose
①　A system that reads and writes the files that are used in computation and data processing in the computer department.
②　A system that stores the files used in file management operations (such as move, delete, content checking) that are performed by users through the integrated front-end system.
③　One of the systems that store files used in operations that utilize the functionality of the data center management system.

F　Non-stop Operational Service
Primary purpose
①　A mechanism that offers steady realization of rapid response operations (for example, calculation of defects) and continuous operations (for example, earth observation data processing and project support computation) on the HPC platform.

G　operation／management／control system
Primary purpose
①　Real-time monitoring, reporting, and control of the entire system
②　Management and control including automatic operation by cooperation with air conditioning／cooling equipment etc. and this system.
③　Job scheduling
④　Operation, management, collection and accumulation／analysis of statistical information of this system resource and job.
⑤　Operation confirmation environment before application to operational environment.

H　Interconnected Network
Primary purpose
①　A network that interconnects the nodes and is used to perform activities such as MPI communication and in-situ／in-transit visualization communication.