

# Data Sheet

## Data Center OPTIMIZATION Services

### HPC Readiness Assessment

Gaining valuable insight into optimizing Data Center power and cooling for High Performance Computing infrastructures

#### Introduction

OPTIMIZATION Services from Fujitsu offer efficient consultation packages for existing infrastructure environments at a fixed price. This has been made possible by systematically analyzing a large number of successfully implemented consultation projects. The solution methods used have been standardized and combined with the experience of the comprehensive product and solution skills provided by the Fujitsu group. The resulting first-class consultation and analysis packages quickly provide customers with specific information and suggested improvements for the infrastructure involved

#### Customer's requirements

- Increase effectiveness of current data center HPC planning and design in terms of space, power and cooling, especially when considering new HPC infrastructure placement
- Assess the impact of factors which affect the efficiency of power and cooling
- Identify quick win measures to increase the effectiveness of air flow and power
- Opportunities to reduce business risk through more efficient data center management

#### Fujitsu's solution

A data center has a complex array of factors, which in combination largely determine the operating climactic conditions. A high-quality analysis of the functional operation is a very complex and laborious task. Obtaining the right balance between Space, Power and Cooling in the data center is typically the biggest challenge. The introduction of new infrastructure brings with it risks in affecting this balance. High Performance Computing accentuates these risks even further. Fujitsu's "HPC Readiness Assessment" is specifically designed to deliver valuable qualitative information, by using advanced simulation software, to assist you in avoiding these risks before they happen, accelerating and assuring your planning.

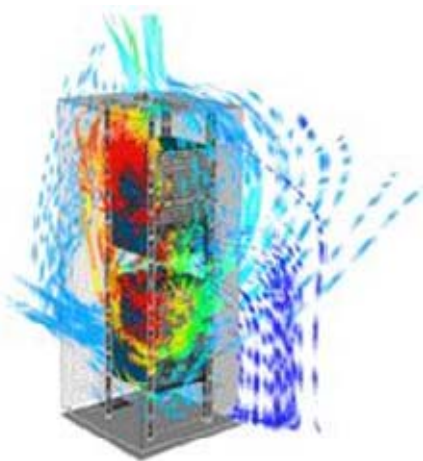
The assessment focuses on the following areas:

- Spatial architecture
- Cabling and ducting
- Cooling systems
- Rack descriptions

#### Customer's benefits

Customers gain information and recommendations:

- Insight into the current suitability of the data center to planned changes in HPC infrastructure
- Enable improvement planning from feedback on optimization potentials and weak points
- Understand climactic impact of planned changes to the data center before they happen and avoid costly mistakes



# Service Details

## Service description

### 1. Current Situation Analysis

Fujitsu consultants analyze customer-supplied information (see Service Conditions).

The key prerequisite for a successful modeling are accurate inventory drawings (working drawings) of the rooms and the diagrams of the air ducting, and these are used to develop a basis for the simulation of the data center facility management.

### 2. Modeling and Simulation

Data from the "Current Situation Analysis" are used by Fujitsu consultants to create simulation models in the simulation software, with the goal to create a baseline of the data center in terms of energy consumption and cooling.

Once this is achieved the model can be changed, by including possible/planned by including possible/planned HPC infrastructure changes to then analyze impact on power and cooling systems, and ascertain if the data center is still within its operating tolerances.

### 3. Delivery of Assessment Report

The simulation results are delivered, in the form of a formal report, and a conference call arranged to discuss further requirements.

- Cabling and ducting information – (1) deviation and position of cable channels and piping which are to be regarded as a flow obstacle, (2) cable openings in raised floors (description of the position, hole size and % of open space approximations).
- Cooling system descriptions - in addition to the Manufacturer of the air conditioner, the cooling capacity and the flow velocity, Fujitsu requires the following description of the cooling system: (1) history of the cooling pipes and their diameter, (2) air deflectors, (3) position and size of air inlets and outlets of the air cooling unit, (4) area plan of perforated floor and ceiling tiles.
- Rack descriptions – for the functional imaging and the effects of changes at the "rack-level" the following information is required: (1) measurements such as position, height, width, depth, (2) rack orientation, (3) power (KW) per rack, (4) slot assignment (which slots are blocked and which are closed only by slot covers) describes flow obstacles and is concerned with relative pressure drop, (5) air openings for inlets and outlets.
- Contact person(s) from the customer organization available to Fujitsu for the duration of the service, with the responsibility and expertise in providing information for the current situation and who has access to relevant areas under assessment

This is a fixed price service, excluding travel costs, and is provided under the conditions valid for Fujitsu Technology Solutions services. The "Fujitsu HPC Readiness Assessment" service is designed for data centers with a maximum of 2,000 m<sup>2</sup> surface area. Fujitsu can provide individual quotations for requirements beyond this scope on request.

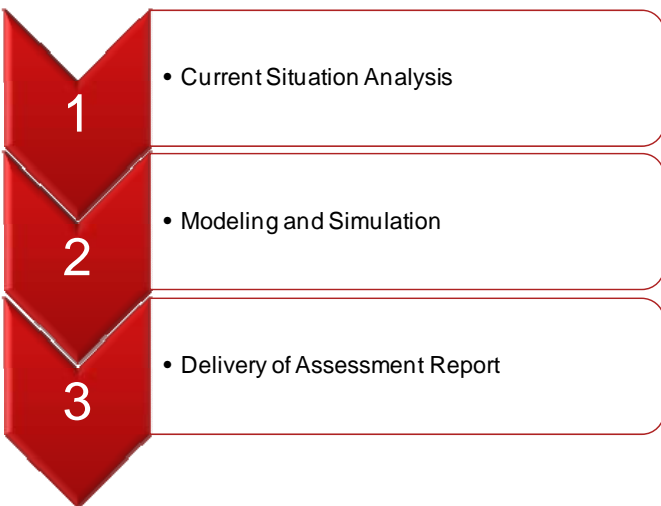
Fujitsu will not be held responsible for any data loss. The Customer is responsible for ensuring that all data on measured systems is backed-up prior to service commencement.

Unless expressly agreed otherwise the Fujitsu IT Services as set out in this datasheet will be performed based on the Fujitsu **"General Terms on Consulting and Technical Assistance"** or alternatively - where the main emphasis of the services is on the performance of works - based on the Fujitsu **"General Terms for IT Integration Services, IMAC/D Services and other works and services subject to acceptance"**.

## Ordering and delivery

This OPTIMIZATION Services is available from your local Fujitsu sales office. When ordering, please quote the information below:

|            |                                 |
|------------|---------------------------------|
| Title      | <b>HPC Readiness Assessment</b> |
| Order code | <b>CPS:IT-ICN-11023F</b>        |



## Service terms and conditions

The Customer agrees to the following conditions as pursuant to the delivery of the service defined and agrees to make the following available to Fujitsu:

- Spatial architecture information - to accurately describe a room, Fujitsu requires a drawing or CAD diagram and a table listing details of the following: (1) room dimensions, flow blockages such as columns, beams, partitions, room lighting (position, dimensions, wattage), (2) window and door positions, height of raised floors and suspended ceilings. Fujitsu is also able to utilize existing .dxf or .dwg format modeling templates.

# More information

## Fujitsu OPTIMIZATION Services

In addition to the Fujitsu HPC Readiness Assessment Service, Fujitsu provides a range of OPTIMIZATION services, first-class efficient consultation and analysis packages which quickly provide customers with specific information and suggested improvements for existing infrastructure environments at a fixed price.

### Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as a Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

### Computing Products

[www.fujitsu.com/fts/products](http://www.fujitsu.com/fts/products)

- PRIMERGY: Industry Standard Server
- SPARC Enterprise: UNIX-Server
- BS2000/OSD Mainframes
- PRIMEQUEST: Mission Critical IA Server
- ETERNUS: Storage Solutions
- ESPRIMO, LIFEBOOK: Workplaces

### Software

[www.fujitsu.com/fts/products/software](http://www.fujitsu.com/fts/products/software)

- Operating Systems
- Middleware
- Applications
- Partner Software

### Services

[www.fujitsu.com/fts/services](http://www.fujitsu.com/fts/services)

- Managed Services
- Infrastructure as a Service
- Consulting & Integration Services
- Maintenance & Support Services

## More information

To learn more about the Fujitsu HPC Readiness Assessment Service and other related services please contact your Fujitsu sales representative, email us at [expert@ts.fujitsu.com](mailto:expert@ts.fujitsu.com), or visit our website at [www.fujitsu.com/de/consultingservices](http://www.fujitsu.com/de/consultingservices)

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at: [www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)



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## Contact

FUJITSU Technology Solutions GmbH  
Mies-van-der-Rohe-Straße 8, 80807 Munich, Germany  
Telephone: +49(0) 1805 372 900\*  
Email: [expert@ts.fujitsu.com](mailto:expert@ts.fujitsu.com)  
Web: [www.fujitsu.com/fts/](http://www.fujitsu.com/fts/)  
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