

# Datasheet

## FUJITSU Integrated System PRIMEFLEX® for Hadoop

FUJITSU Integrated System PRIMEFLEX® for Hadoop is a powerful and scalable platform analyzing big data volumes at high velocity

### FUJITSU Integrated System PRIMEFLEX

Your fast track to datacenter infrastructures Building datacenter infrastructures for a certain use case can be complex, error-prone and time-consuming. Moreover it requires a deep knowledge of all components involved and their dependencies to each other. Therefore, a do-it-yourself approach entails many risks for businesses. These risks can be avoided by using integrated systems. FUJITSU Integrated System PRIMEFLEX is a pre-configured and pre-tested combination of servers, storage, network connectivity and software. Depending on the use case, software for virtualization, automation and orchestration, as well as databases and applications may be included.

PRIMEFLEX encompasses factory-installed solutions which are ready-to-run and reference architectures which can be easily adjusted to customer-specific requirements. Along with its reference architectures, Fujitsu makes detailed configuration and installation descriptions available as a standard. Optional deployment and integration services ensure a smooth integration into the on-site environment. To ensure simplified operation and maintenance of PRIMEFLEX solutions, Fujitsu provides support on solution level, and further datacenter services including managed services and hosting.

### Big Data Analytics

Using the ever increasing large data volumes from versatile previously untapped data

sources can create decisive value. Big Data is about quickly delivering business value from a range of new and emerging data sources, including social media data, location data generated by smart phones and other roaming devices, public information available online and data from sensors embedded in cars, buildings and other objects – and much more besides. In a Big Data world, one of the key factors is speed. Traditional analytics focus on analyzing historical data. Big Data extends this concept to include real-time analytics of in-flight transitory data. Beside classical statistics and reporting the analytical results allow predictions or prescriptions in a progressive rate.

### Volume, Velocity, Variety, Value

Volume refers to the fact that Big Data involves analyzing comparatively huge amounts of information, typically starting at tens of terabytes.

Velocity refers to the sheer speed at which this data is generated, analyzed, and changes.

Variety describes the fact that Big Data can come from many different sources, in various formats and structures.

Value creation means that Big Data solutions can add new value by analyzing the sentiment contained in the data rather than just looking at the raw information.

In summary, Big Data gives organizations the opportunity to exploit a combination of existing data, transient data and externally available data sources in order to extract

additional value through improved business insight.



### The Solution

FUJITSU Integrated System PRIMEFLEX for Hadoop combines the advantages of pre-configured and pre-tested hardware based on industry standard components with open source software Apache Hadoop and Big Data analytics software.

PRIMEFLEX for Hadoop is provided as a ready-to-run Integrated System for on premise use cases. In addition, big data consulting, services for Hadoop and integration and maintenance services are supplementing the offering which helps to create knowledge from information.

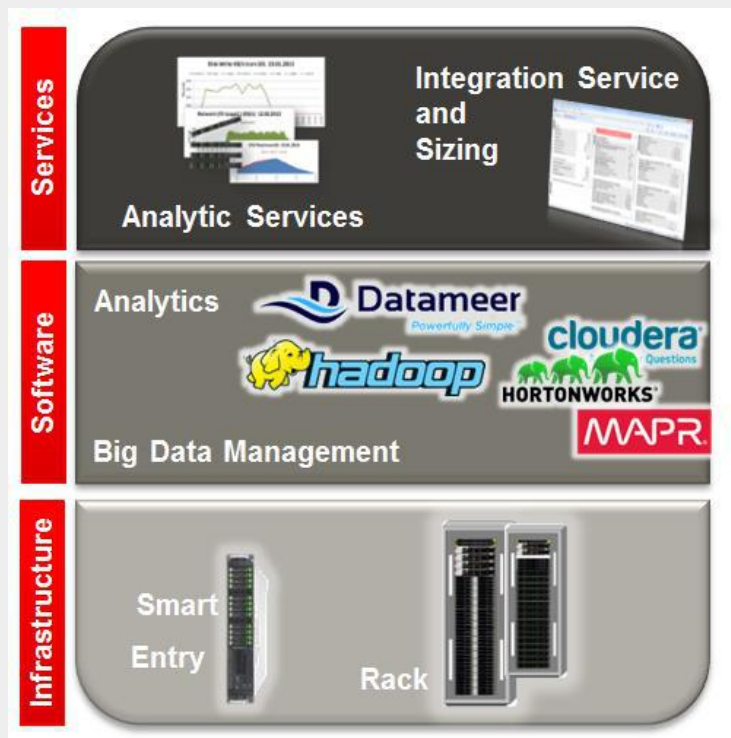


# Features and benefits

## Main features

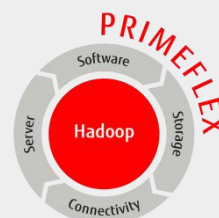
### FUJITSU Integrated System PRIMEFLEX for Hadoop

- Integrated system: Pre-configured PRIMERGY cluster running open source software
- Hadoop distribution provided by Cloudera®, Hortonworks® or MapR®
- Big Data Analytics provided by partner Datameer® Inc.
- Switchless torus network for Smart Entry
- Sized for predictable performance
- Ready-to-run all-in-1 platform: Collect, analyze, visualize
- End user / business user friendly (Self-service analytics)



## Benefits

- Guaranteed compatibility of components
- Based on industry standard architecture, PRIMERGY servers reduce operational cost through energy-efficient power supplies, smart power management tools and the Cool-safe® design
- Trusted FUJITSU support of leading open source distributions
- End-to-end big data analytics software to integrate structured and unstructured data; 50+ adapters to make data accessible, and 200+ functions to respond to all types of inquiries. Smart Analytics enables machine learning methods for business users.
- Cost-effective powerful 10 GB premium inter-connect
- Meet timely requirements: appropriate stage of expansion with help of sizing tools to deliver desired performance in terms of processing time and memory requirements
- Fast time to production and value through pre-integrated solutions ex-factory or automatic set-up on-site
- Reduced complexity: Business user friendly software leads seamlessly through the complete process from raw data collection through cleansing, analyzing and understanding up to insightful graphical presentation of results
- Proven building blocks from which an optimum solution can be designed for a customer-specific situation



# Components of the Integrated System PRIMEFLEX for Hadoop

## **FUJITSU Server PRIMERGY (CX) - Smart Entry**

The FUJITSU Server PRIMERGY CX scale-out systems are the ideal basis for cloud, hyper-converged and high performance computing solutions. They provide data centers as well as branch offices with computing power for virtualized environments, complex big data processing as well as consolidation and high-availability scenarios. PRIMEFLEX for Hadoop Smart Entry is a ready-to-run appliance with 64 cores / 48 TB.

## **FUJITSU Server PRIMERGY (RX) Rack Systems - XXL**

PRIMERGY Rack Servers are the perfect platform to build up dynamic infrastructures to support current and future business requirements by delivering top performance, excellent scalability and leading efficiency in a modular, easy-to-upgrade housing. Combined with high efficient power supplies and a simplified power management this contributes to favorable lifecycle costs. PRIMEFLEX for Hadoop XXL is a reference configuration with PRIMERGY RX25xx server nodes with up to 408 cores and 1224 TB per rack, addressing the deployment of platforms for storage-intensive big data analytics.

## **FUJITSU Server PRIMERGY (CX) Multi-Node Systems - Power**

High compactness, a shared power and cooling infrastructure and ease of use aiming at decreased capital and operational expenses are central design characteristics of the PRIMERGY CX400 architecture. As part of the PRIMERGY CX multi-node server line, it provides a new condensed granularity for scale-out server deployment by packing up to 4 half-wide dual socket server nodes into an only 2 U chassis in standard 19" rack form factor. PRIMEFLEX for Hadoop Power is a reference configuration with PRIMERGY CX25xx server nodes with up to 960 cores and 720 TB per rack, addressing the deployment of platforms for compute-intensive and in-memory big data analytics as it is required for use cases with e.g. Apache Spark and Impala.

## **FUJITSU Server PRIMERGY (CX) Multi-Node Systems – Power Vora**

The PRIMERGY CX multi-node server line with its condensed granularity for scale-out server deployment provides the power and memory required for in-memory processing with SAP HANA Vora. PRIMEFLEX for Hadoop Power Vora is a reference configuration with PRIMERGY CX25xx server nodes with up to 960 cores and 720 TB per rack, addressing the deployment of a SAP HANA Vora platform for in-memory Big Data analytics.

## **Open source Hadoop**

Upon your requirements we will provide your solution either with the Cloudera® Hadoop distribution or with the Hadoop distributions of Hortonworks® or MapR®. The Hadoop distributions provided by PRIMEFLEX for Hadoop help you become information-driven by leveraging the open source community with the enterprise capabilities you need.

## **Datameer Software 6**

Datameer software simplifies end-to-end-big data analytics environment into a single application on top of the Hadoop platform. Designed to make big data simple for everyone, Datameer combines self-service data integration, analytics and visualization functionality that provides the fast time to insights.

## **Professional and Integration Services**

FUJITSU Integration Services and Professional Services complement PRIMEFLEX for Hadoop as follows:

- PRIMEFLEX for Hadoop Deployment Service.

The following Big Data Solutions and Services are also available from Fujitsu, upon request:

- Fujitsu Big Data Assessment Workshop
- Fujitsu Big Data Strategy Consulting Service
- Fujitsu Big Data Analytics Services
- Fujitsu Services for Hadoop

# Technical details

As a ready-to-run integrated system for on premise use cases, FUJITSU Integrated System PRIMEFLEX for Hadoop is offered in pre-staged configurations: Entry, Rack XXL, Rack Power and Rack Power Vora. Memory size and CPU power may vary for special use cases as far as remaining in the range of the Sizing Tool for Hadoop provided by Fujitsu.

<b>FUJITSU Integrated System PRIMEFLEX for Hadoop</b>	<b>Configuration Smart Entry</b>
<b>Contains four CX2550 M2 servers in a CX400 shell</b>	
1 x CX400 + 4 x CX2550 M2	2x Xeon E5-2620v4 8C/16T 2.10 GHz 4 x 16GB (1x16GB) 2Rx4 DDR4-2400 R ECC 6 x HD SATA 6G 2TB 7.2K 512e HOT PL 2.5' BC 10GBE Cross Connection
Datameer Software 6	1TB - 2TB data import /year
Cloudera (CDH 5), RHEL 6 64bit	3 Server Cluster

<b>FUJITSU Integrated System PRIMEFLEX for Hadoop</b>	<b>Configuration Rack XXL</b>
<b>1-n Racks including 2 10GBE ToR switches</b>	
17 x RX2540 M2	2 x Intel Xeon E5-2620v4 8C/16T 2.10 GHz 8 x 16GB (1x16GB) 2Rx8 DDR4-2400 R ECC 12 x HD SATA 6G 6TB for HDFS, 2 x 10GBE
Service Node	1 x RX2530 M2, 64GB
Datameer and Cloudera Management Node	1 x RX2530 M2, 64GB
Hadoop Master Nodes	2 x RX2530 M2, 256GB (2 per rack, max. 4)
Datameer Software 6	
Cloudera/Hortonworks/MapR	
RHEL 6 64bit	

<b>FUJITSU Integrated System PRIMEFLEX for Hadoop</b>	<b>Configuration Rack Power</b>
<b>1-n Racks including 4 10GBE ToR switches</b>	
60 x CX2550 M2 in 15 CX400 shells	2 x Intel Xeon E5-2620v4 8C/16T 2.10GHz 4 x 16GB 2Rx4 L DDR4-2400 R ECC 6 x HD SATA 6G 2TB for HDFS, 2 x 10GBE
Service Node	1 x RX2530 M2, 64GB
Datameer Enterprise Node	1 x RX2530 M2, 64GB
Hadoop Master Nodes	2 x RX2530 M2, 256GB (2 per rack, max. 4)
Datameer Software 6	
Cloudera/Hortonworks/MapR	
RHEL 6 64bit	

<b>FUJITSU Integrated System PRIMEFLEX for Hadoop</b>	<b>Configuration Rack Power Vora</b>
<b>1-n Racks including 4 10GBE ToR switches</b>	
60 x CX2550 M2 in 15 CX400 shells	2 x Intel Xeon E5-2620v4 8C/16T 2.10GHz 8 x 32GB 2Rx4 L DDR4-2400 R ECC 6 x HD SATA 6G 2TB for HDFS, 2 x 10GBE
Service Node	1 x RX2530 M2, 64GB
Datameer Enterprise Node	1 x RX2530 M2, 64GB
Hadoop Master Nodes	2 x RX2530 M2, 256GB (2 per rack, max. 4)
Datameer Software 6	
Cloudera/Hortonworks/MapR	
RHEL 6 64bit	

# More information

## Fujitsu products, solutions & services

### Products

[www.fujitsu.com/global/products/](http://www.fujitsu.com/global/products/)  
In addition to PRIMEFLEX for Hadoop, Fujitsu offers a full portfolio of other computing products.

### Computing products

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000/OSD Mainframe
- Client Computing Devices: LIFEBOOK, STYLISTIC, ESPRIMO, FUTRO, CELSIUS
- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

Product Support Services with different service levels agreements are recommended to safeguard each product and ensure smooth IT operation.

### Solutions

<http://www.fujitsu.com/global/solutions>  
The Fujitsu solutions combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships. Fujitsu's Solutions include parts of one or more activity groups (e.g., planning, implementation, support, management, and training services) and are designed to solve a specific business need.

**Infrastructure Solutions** are customer offerings created by bringing Fujitsu's best products, services and technologies together with those from partners to deliver benefit to our customers' businesses.

**Industry Solutions** are tailored to meet the needs of specific verticals.

**Business and Technology Solutions** provide a variety of technologies developed to tackle specific business issues such as security and sustainability, across many verticals.

### Services

[www.fujitsu.com/global/services/](http://www.fujitsu.com/global/services/)  
Several customizable Fujitsu Service offerings ensure that IT makes a real difference and delivers true business value. We do this by leveraging our extensive experience in managing large, complex, transformational IT programs to help clients in planning, delivering and operating IT services in a challenging and changing business environment.

**Application Services** support the development, integration, testing, deployment and on-going management of both custom developed and packaged applications. The services focus on delivering business and productivity improvements for organizations.

**Business Services** respond to the challenge of planning, delivering and operating IT in a complex and changing IT environment.

**Managed Infrastructure Services** enable customers to deliver the optimal IT environment to meet their needs – achieving high levels of IT service quality and performance for data center and end user environments.

## Fujitsu green policy innovation

[www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)  
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:



## More information

Learn more about Fujitsu, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website. [www.fujitsu.com](http://www.fujitsu.com)

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2016-12-12 EN CE