DATA SHEET

BS2000/OSD Business Server S200

Issue April 2009

Pages 4

The S200 Business Server is the best-in-class mainframe platform developed for use in the Dynamic Data Center to support all vital business processes. It combines remarkable flexibility and an outstanding total cost of ownership (TCO) for fulfilling business-critical IT production requirements.

S200 business servers boast unrivaled transaction security as well as ultrahigh availability and scalability, and feature excellent workload management. They are ideally suited for server consolidation projects and for implementing service-oriented architectures (SOA) while at the same time integrating proven commercial applications.

Very highly integrated CMOS VLSI semiconductor ICs implemented in copper technology are used together with single-chip modules, giving the S200 business servers an exceptionally small footprint and making them extremely frugal in terms of power consumption as well as quiet.

The standout feature of the S200 business servers is the newly developed processor, which is produced in advanced 90 nm technology and delivers considerably more power to the applications. Compared to S165, the high end servers S200 offer substancial advantages in processor performance and scalability. The series comprises nine models: the S200-20 (2 CPUs), S200-30 (3 CPUs), S200-40 (4 CPUs), S200-65 (6 CPUs), S200-80 (8 CPUs), S200-100 (10 CPUs), S200-120 (12 CPUs), S200-140 (14 CPUs), and S200-150 (15 CPUs).
All S200 models are equipped with a standby (“hot spare”) processor which is activated dynamically if a processor fails and serves as a replacement for the defective processor. This means the applications can continue running without interruption and with no degradation in performance.
With the optional CoD (Capacity on Demand) feature, additional processors can be temporarily attached or detached without system interruption. This enables the available performance to be flexibly matched to the changing needs of the application.
Model upgrades can easily be performed in the field.

The S200 models support programs using virtual 31- or 24-bit addresses as well as ESA data spaces. Large address spaces being used by a number of applications for their data call for a sufficiently large main memory if intensive paging is to be avoided. At the same time there is an increased requirement for main memory capacity to support input/output caching in order to provide faster file access in performance-critical applications and increase input/output throughput.
For this reason the S200 series provides an addressing mode for large main memories in the shape of the Real Address Extension Feature: With this, a virtual address (31-bit) is converted with hardware support into an extended real address (40-bit).
Main memory can be upgraded to max. 64 GB on the S200-20 to S200-40 models, and to max. 128 GB on the S200-65 to S200-150 models. Preparations are already in place for memory expansion up to 256 GB

A Global Storage (GS) is available as an option to boost system throughput and provide faster access to performance-critical data. A GS can be upgraded to max. 64 GB.
Two GS units can be used in parallel to enhance the failsafe characteristics of this high-speed memory and increase the size of the usable storage space to 128 GB.
The GS units are directly connected to the computer-internal main memory controller via fiber optic cable links (20 m). Optional battery units provide backup power to ensure the data in the GS is not lost in the event of a power outage.

The input/output system (Dynamic Channel Subsystem) offers extensive and flexible expansion options. Up to four input/output processors providing up to 256 channels in total can be configured for connecting peripheral devices with Type 2, Type S or Type FC channel interfaces.
To increase performance and availability, several S200 business servers can be configured into a HIPLEX cluster.
S200 servers can be used with BS2000/OSD as of V5.0 (S200-150 as of V6.0) and with VM2000 as of V8.0.

The Service Processor (SVP) and the external Service/Console Processor (SCP 3970-4x) in combination support the operation, monitoring, diagnostics and maintenance of the business servers and allow Teleservice. The SCP 3970-4x is based on PRIMERGY TX300 server technology and the Linux operating system. System operation and administration is implemented by means of a web interface and is also possible from remote workstations.

PROCESSORS

Model	Processors [1]
S200-20	2
S200-30	3
S200-40	4
S200-65	6
S200-80	8
S200-100	10
S200-120	12
S200-140	14
S200-150	15

1) All models are additionally equipped with a standby processor (“hot spare CPU”)

Each processor features	
First-level cache (KB)	256
Second-level cache (MB)	6
Addressing width (bits)	24/31
ESA addressing for data spaces	yes
Real Address Extension Feature	yes

INPUT/OUTPUT SYSTEM

Model	Number of I/O processors
All S200 models	max. 4

Module type	Channels/increment
Type 2 channels	max. 60/4
Type S channels	max. 256/8 [1]
Type FC channels	max. 32/2

	Maximum data rates
Type 2 channel	
Block multiplex mode	4.5 (MB/s)
Type S channels	
CNC, CTC mode	17 (MB/s)
CVC mode	4.5 (MB/s)
Type FC channel	100 (MB/s) full duplex

1) One Type S channel is required for connecting the SCP.

MAIN MEMORY

Models	System boards	Memory size (GB) MM module Type A	Type B
S200-20, -30, -40,	2	4, 8, 12, 16, 20, 24, 32	16, 20, 24, 32, 48, 64
S200-65, -80, -100, -120, -140, -150	4	8, 12, 16, 20, 24, 32, 48, 64	32, 48, 64, 96, 128

POWER ON/OFF CONTROLLER

Power Control Interface	Interfaces/increment
PCI	32to 56/8
ECI [1]	8

1) For power on/off control of the GS.

GLOBAL STORAGE

	Number
Global Storage units	0; 1; 2
Battery cabinets per GS	0; 1
Dual-write mode	yes [1]
Battery operation (h)	max. 24
GS unit A and unit B Memory size (GB)	2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 64

1) Symmetrical expansion of GS unit A+B necessary.

SERVICE PROCESSOR

Ports:

- 1 service processor LAN (CSMA/CD, 10Base-T)
- 1 service interface (FST)
- 1 power on/off interface for S200 business servers

Optional ports

- 1 service processor LAN (CSMA/CD, 10Base-T) for connecting a 2nd GS unit or a redundant SCP

SERVICE/CONSOLE PROCESSOR SCP 3970-4x

based on a PRIMERGY server with ports for:

- 1 local console (monitor, keyboard, mouse)
- 1 Teleservice modem (V.24)
- Connection to administration and operation LAN
- 2 connections to service processor LAN
- 1 Type S channel of the basic cabinet

Optional ports for:

Power on/off box for switching on the S200 via the SCP 3970

S200 installation data

ELECTRICAL	Cabinet 1 [1)]	Cabinet 3 to 6 [1)]
Rated voltage (V)	3x 200 – 240 ±10%	in each case 1x 200 – 240 ±10%
Rated frequency (Hz)	50/60 ±1	50/60 ±1

POWER CONNECTION	Cabinet 1 [1)]	per cabinet 3; 4 [1)]	per cabinet 5; 6 [1)]
Power consumption (kVA)	8.7[5)]	1.3	0.8
Device fuse rating (A) per port	30	10	10
Connection type	3x 3-wire [2a)]	3-wire [2b)]	3-wire [2b)]
With Dual Power Feed	2x 3x 3-wire [2a)]	2x 3-wire [2b)]	2x 3-wire [2b)]

MECHANICAL	Cabinet 1 [1)]	per cabinet 3; 4 [1)]	per cabinet 5; 6 [1)]
Height (mm)	1800	1800	1800
Width (mm)	1694	1240	680
Depth (mm)	898	898	850
Weight max. (kg)	1050	400	250
Footprint (W x D) (mm) [3)]	1740 x 2540	1270 x 2450	680 x 2450

EMISSIONS	Cabinet 1 [1)]	per cabinet 3; 4 [1)]	per cabinet 5; 6 [1)]
Sound pressure level at workplace (dB(A))	59	48	50
Heat dissipation [kJ/h]	30700	4450	2740

ENVIRONMENTAL	Cabinet 1 to 6 [1)]
Operating environment to DIN IEC 721	Class 3K2
Temperature (°C)	10 – 32
Rel. humidity (%)	20 [4)] – 80

STANDARDS COMPLIANCE	Cabinet 1 to 6 [1)]
Safety	EN 60950
Radiation emission, RFI suppression	EN 55022 A, EN 55024 and EN 61000-3-2/3
CE mark acc. to EU Directive	2004/108/EC (EMC) and 2006/95/EC (product safety)

1) Cabinet 1 and 2: Basic cabinet
(always 2 cabinet elements, containing CPUs, I/O processors, channels, SVP, PCI. Data for cabinet 1 include values for cabinet 2)
Cabinet 3: Global Storage (unit A)
Cabinet 4: Global Storage (unit B)
Cabinet 5: Battery for Global Storage unit A
Cabinet 6: Battery for Global Storage unit B
2) a) Connection with flexible lead connectors (EU standard) to commercially available power distributor or 3911 Power Distributor required
b) Permanently wired connection to commercially available power distributor or 3911 Power Distributor required
3) Installation area incl. space for operating and maintenance access
4) Limited range compared to 3K2
5) Power draw of max. configuration

SCP 3790-4x installation data

ELECTRICAL

Rated voltage (V)	100 – 240V
Rated frequency (Hz)	50 - 60Hz

POWER CONNECTION

Power consumption (kVA)	0.809
Effective power (kW)	0.798
Device fuse rating (A)	2 x 10
Dual power connection	2 x 3-wire / grounding outlet

MECHANICAL

	Tower / Rack
Height (mm)	473 / 177
Width (mm)	286 / 483
Depth (mm)	775 / 770
Weight (kg)	25 - 40
Footprint (W x D) (mm) [1)]	290 x 1790 / 700 x 2800

EMISSIONS

Sound pressure level at workplace	
LpAm (dB(A))	≤ 47
Heat dissipation	≤2873 kJ/h

ENVIRONMENTAL

Operating environment to DIN IEC 721	Class 3K2
Temperature (°C)	15 – 35
Rel. humidity (%)	10 – 75

STANDARDS COMPLIANCE

Safety	IEC 60950-1 / EN 60950 UL 60950-1 CAN/CSA C22.2 No.60950-1-03
Radiation emissions, RFI suppression	EN 55022 Class A, EN55024, EN 61000-3-2 / 3-3 FCC Class A CNS 13438 Class A / VCCI Class A AS / NZS CISPR 22 Class A
CE mark acc. to EU Directive	89/336/EEC (EMI); 73/23 EEC (LVD)

1) Installation area incl. space for operating and maintenance access

Information about environmental care, policies, programs and our Environmental Guideline FSC03230:
ts.fujitsu.com/aboutus
Take back and Recycling information: ts.fujitsu.com/recycling

Published by:
Fujitsu Technology Solutions GmbH
ts.fujitsu.com