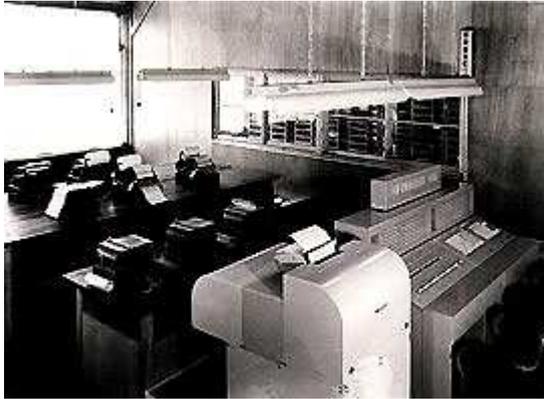# ![Fujitsu] Mainframe Computers History

Mainframe computers are large-scale computers commonly used to process data for corporate functions and for scientific research. Early mainframe computers required full-time operators. This section features significant mainframe computers developed by Fujitsu.

Note: Year indicates when product was developed, introduced, or delivered.

1954

Completed in October 1954, the FACOM 100 was Japan's first relay-type electronic computer.

1958

[FACOM 128B](#)

1959

Parametron Computer(1959). The FACOM 212 was exported to the Philippines in 1963, making it the first Japanese computer to be exported.

1960

[FACOM 138A](#)

1961

[FACOM 222](#)

1965

[FACOM 230-10](#)

1968

[FACOM 230-60](#)

1975

[Amdahl 470V/6](#)

1976

[FACOM M-190](#)

1978

[FACOM M-200](#)

1981

FACOM M-380 Model Group

1985

FACOM M-780 Model Group

1990

[FUJITSU M-1800 Model Group](#)

1998
Fujitsu Introduces World's Fastest CMOS Mainframe Computers:

- Global Server GS8800 features 0.25 micron CMOS technology, optimal platform for the network computing era -

Tokyo, January 29, 1998-- Fujitsu Limited today announces the world's fastest mainframe computers, the new Global Server model GS8800. Based on Fujitsu's advanced 0.25-micron Complementary Metal-Oxide Semiconductor (CMOS) technology, the GS8800 is the fastest CMOS mainframe in the industry.

Fujitsu's new high-end mainframes employ Fujitsu's 0.25micron CMOS process and parallel processing technologies to deliver speeds of up to 2.3 times that of the previous generation Global Server.

Representing the high end of its GS8000 series, the new GS model offers an optimal platform for network computing systems. The newly developed GS8800 models excel at processing large volumes of data at high speed. Fujitsu's Global Servers facilitate

the management of enterprise-wide corporate information systems by enabling the sharing of company-wide information among a large number of users and managing information exchange with other servers and enterprise data processing systems.
Compared to the previous generation GS8600 models, the new GS8800 models offer performance improvements ranging from 1.8 times faster for a single-CPU model to 2.3 times faster for a model with 12 CPUs.
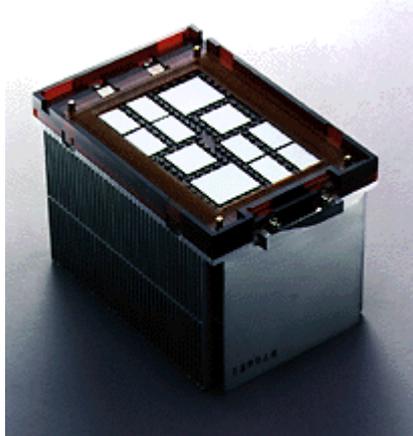
GS8800 CPU Multi Chip Module

With the addition of the GS8800 models, the GS8000 series now has six model groups (41 separate model configurations) with a performance range of up to 3,400 times from high-end to low-end models.
In addition to leading edge 0.25-micron CMOS technology, the GS8800 lineup incorporates state-of-the art packaging technology, including ultra high- density Multi Chip Module (MCM) and system boards, and achieves the industry's best Tightly Coupled Multi-Processor (TCMP) performance with its 12-CPU model. Multi-cluster systems can be configured with up to eight clusters.
Fujitsu plans to market the GS8800 model line in Japan, Europe and the Asia-Pacific region, and will supply key GS8800 technologies to Amdahl Corp. in the U.S.

GS8800 Multi-cluster Model

Monthly rental (not including tax) / Shipment
* Single cluster models: starting from 47.84 million yen
Shipment: late April 1998.
(Models 100A and 120A: late September 1998)

* Multi cluster models : starting from 82.27 million yen
Shipment: late July 1998

Sales target

300 systems over the next three years

Fujitsu Limited

Founded in 1935, Fujitsu Limited is an international leader in information technology, telecommunications, semiconductors and other electronics devices. The Fujitsu Group of over 400 technology, software and service companies posted global revenues of more than $36 billion in the fiscal year ended March 31, 1997.

For more information:

Press Contact:

Toshiaki Koike, Scott Ikeda
Fujitsu Limited, Public Relations
Tel: +81-3-3215-5236 (Tokyo)
Fax: +81-3-3216-9365

URL: http://www.fujitsu.com/

Customer Contact:

Hideo Hoya, Masashi Ura, Tsutomu Kobayashi
Fujitsu Limited,
Business Development & Marketing Division
Tel: +81-3-3215-5237 (Tokyo)
Fax: +81-3-3215-5240
e-mail: globalserver@ign.hon.fujitsu.co.jp

2009
Fujitsu Releases New Global Server GS21

Apr 15, 2009

GS21 1600 Model Group

Fujitsu Limited today announced that it has developed new mainframe sever models, the ultra-high performance GS21 1600 model group and the high-performance GS21 1400 model group, both of which employ a new Fujitsu processor that places four CPUs on a single chip(1). Sales of the new models began in Japan today.

With the new processor, the new models are able to achieve a maximum 30% increase in processing power and a maximum 20% reduction in power consumption compared to their predecessors. Volatile organic compounds (VOCs) have been completely eliminated from the paint used on the chassis, enhancing the environmental friendliness of the new models.

Fujitsu also released today an updated version of its Global System Software 21 internet extension (GSS21i), with improved internal control functions and service-oriented architecture (SOA) compatibility.

In today's challenging business environment, companies are reducing server deployments and operating costs by consolidating servers and storage into datacenters. They are also increasingly interested in intracorporate cloud computing and other IT infrastructure offerings that link multiple systems seamlessly and efficiently using SOA.

At the same time, companies are being judged based not only on the products or services they provide, but also on their levels of business continuity, stability, legal compliance, and environmental consciousness. Amid these trends, the importance of mainframe servers for mission-critical business applications and centralized data processing is being reaffirmed.

With that in mind, Fujitsu introduced the new GS21 models with improved processing performance and reliability, the ability to flexibly accommodate open systems and services, and superior environmental features. The new mainframe servers will allow Fujitsu to further assist its clients in growing their business and creating new value. Placing the highest priority on ensuring the continuity of clients' applications, data, and other assets, Fujitsu is committed to the ongoing hardware and software development, sales, and technical support of the GS21 series.

The models will be on display at Fujitsu Forum 2009, which will be held on May 14-15, 2009 at the Tokyo International Forum.

Source: Fujitsu

Fujitsu Launches New Models in GS21 Series Featuring New Processors

**Marks 50 years since company's first mainframe, continuing a Japan-originated commitment to quality**

Fujitsu Limited

Tokyo, April 03, 2014

Fujitsu today announced the availability in Japan of new mainframe models, consisting of the super-scale FUJITSU Server GS21 2600 model group and the mid-, large-scale FUJITSU Server GS21 2400 model group, all equipped with newly developed processors. The company also announced the availability of FUJITSU Software GSS21sx[1], a new software that supports these models.

The new models use system-on-chip technology to increase processing performance by as much as 40% over their predecessors, while slashing power consumption by up to 50% and reducing required floor space by approximately 70%. Furthermore, the new software makes it easier to utilize mission-critical data from smart devices and various server types.

The year 2014 marks the 50th anniversary of the company's first mainframe[2]. Since then, numerous customers have deployed Fujitsu mainframes, and the company has continued optimizing processing performance, functionality, and specifications to actively reflect customer needs. Fujitsu will continue to help its customers grow their business and create value by enhancing and delivering hardware, software, and support in its GS21 Series that reflects a distinctly Japan-originated commitment to quality.
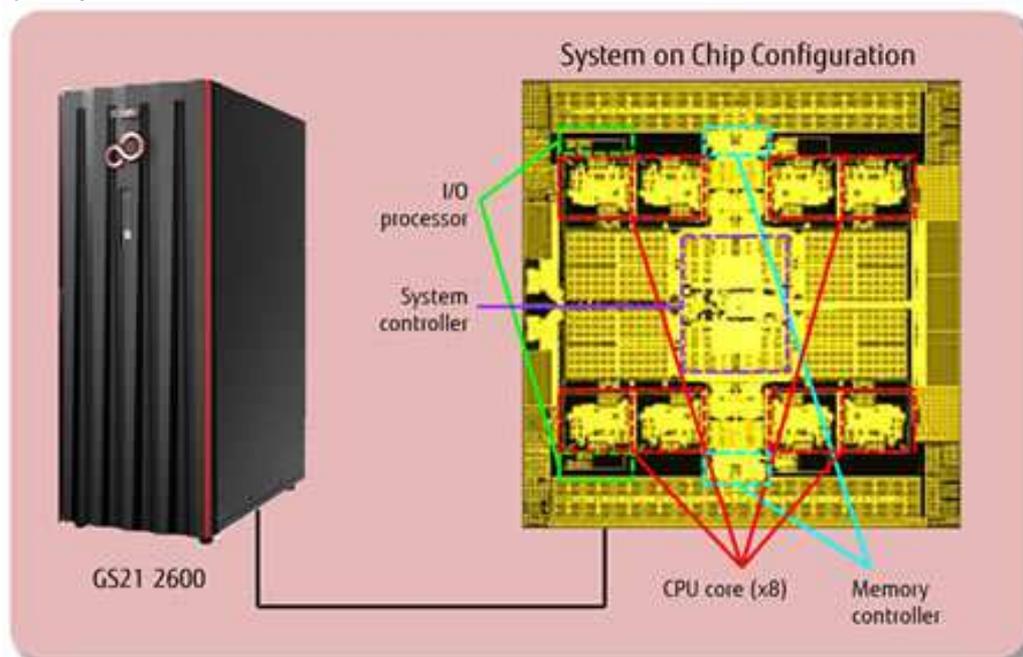
System on Chip Configuration

FUJITSU **Mainframe Computers History**

Background

Mainframes continue to play a central role in social infrastructure systems and mission-critical enterprise systems that need to run reliably 24 × 7. Moreover, to make the best use of crucial data on mainframes, there is a growing need to modernize systems and transform work styles. At the same time, one issue facing mainframe systems is the ongoing need to reduce power consumption and facilities costs.

Fujitsu developed the new model groups in the GS21 Series and accompanying software to address these needs through improved processing performance, enhancements in smart device connectivity, and lower total cost of ownership.

The new models in the GS21 Series will be exhibited at Fujitsu Forum 2014, running May 15-16 at the Tokyo International Forum in Tokyo.

Features of the New Models

1. Enhanced platform functionality to support customer business growth

(1) Higher performance, higher reliability

The new models use a system-on-chip design with the latest CMOS technology to boost transaction-processing performance up to 40% over previous models, while also increasing reliability. Each chipset hosts up to 8 cores, equipped with a 256 KB primary cache, as well as a secondary cache of up to 24 MB, an I/O processor, a memory controller, and a system controller.

(2) Expanded scalability

When configuring large-scale virtual machines (VM) with around 20,000 virtual I/O devices as a development environment, previous models were limited to configurations of three VM per cluster[3]. However, new models offer both hardware and software enhancements that enable a dramatically larger number of virtual I/O configurations of over 10 VM. This allows concurrent development, revision and testing for different applications regardless of scale.

2. More added value from mainframe resources

(1) Effective use of crucial data

The new GSS21sx Data-Utilization Pack software provides direct access from an open server to GS21 Series network databases and relational databases via a standard SQL interface. This expands the server options available for developing and running mission critical applications.

(2) New work styles

FUJITSU Software WSMGR for Web, open-server software for using GS21 Series mainframes from mobile terminals such as smart devices, is now bundled with a GUI customization tool. This tool enables a significant workload reduction for application developers in information-systems departments when designing and building terminal interfaces.

Also newly available is Mainframe Connect, a solution that lets customers rapidly deploy SFA/CRM environments that link mobile devices to GS21 Series mainframes. Mainframe Connect is an all-in-one solution providing WSMGR for Web deployment support, terminal interface design support, and secure network services that include user authentication and ID management.

3. Reduced TCO

(1) Lower power consumption

The new models use system-on-chip technology to consolidate what had been 14 separate chipsets into a single chipset. Furthermore, features such as a compact, high-performance power unit reduce power consumption by as much as 50% over previous models, with the same processing performance.
(2) Lower facilities costs

The various dedicated components of a multi-cluster system[4], including the system-storage unit (SSU[5]), CLCU[6], and SVPM[7] have been integrated and consolidated from five separate chassis to two in the new models. This reduces the floor space, including maintenance areas, needed to achieve the same processing performance by up to approximately 70% for drastic cost reductions when utilized for outsourcing.
In addition, the use of a front-intake, rear-exhaust cooling system, and redesigned power and signal cable runs allow both conventional underfloor wiring and in-ceiling wiring, making these systems easier to deploy in datacenters, and greatly reducing the expense of dedicated air-conditioning equipment and floor installations.

Pricing, Fees, and Availability

Pricing, Fees, and Availability		
Model Name	**Pricing & Fees (excl tax)**	**Shipment**
GS21 2600 model group (35 models)	From JPY 11,382,000/month	Rollout begins end of Sept 2014
GS21 2400 model group (29 models)	From JPY 1,015,000/month	Rollout begins end of Sept 2014
GSS21sx (basic pack)	From JPY 837,000/month	From end of Sept 2014
GSS21sx Data-Utilization Pack	From JPY 227,000/month	From end of Sept 2014
WSMGR for Web (v7.2L30)	From JPY 130,000 and up (one-time charge)	Available now
Mainframe Connect (solution)	From JPY 290,000/month	From May 2014

Sales Targets

700 units for mainframes as a whole over the three years of fiscal 2014–16 (Fujitsu's fiscal year ends March 31).

- [1] FUJITSU Software GSS21sx

  Global System Software 21 smart extension. Consists of a platform software pack that consolidates the basic functions of a leading-edge enterprise information system, along with four higher-level software packs providing a variety of solutions. Combined, these make it possible to quickly build high-quality systems with consistency between applications, and make it easy to get the most out of the GS21 Series.

- [2] 50th anniversary of the company's first mainframe

  Fifty years ago Fujitsu (then known as Fuji Telecommunications Equipment Manufacturing) developed and introduced the FACOM 230 mainframe computer. The mid-sized version of the FACOM 230 mainframe computer was introduced in 1964, followed in 1965 by large and small versions, completing the FACOM 230 Series.

- [3] Cluster

  A GS21 Series CPU. Typically equates to a single server.

- [4] Multi-cluster system

  A system that uses parallel processing (parallel transaction processing, parallel batch processing, high-speed hot standby, load sharing) while communicating via an SSU to multiple other clusters.

- [5] SSU

  System-storage unit. A high-speed, high-capacity external storage device consisting of semiconductor memory that communicates at high speed among clusters and uses automatic configuration control to respond when clusters are added or dropped.

- [6] CLCU

  Cluster connection unit. A LAN controller used in multi-cluster systems.

- [7] SVPM

  Service processor manager. A console subsystem that activates, monitors, and controls the configuration of multi-cluster systems.