

## PRIMERGY Compact Size Servers

### PRIMERGY TX120

#### Leading-edge space-saving, low-power consumption technologies in a high-performance package

This highly reliable, ultra-compact size server incorporates leading-edge, space-saving and low-power consumption technologies, achieving a significantly smaller footprint, reduced noise and energy savings.

Small and lightweight (max. 10kg) for ease of installation. However limited the space, the unit can be set up for vertical or horizontal operation. With total volume reduced by 75 percent from the current TX150 S5, two of these compact size servers can be installed in the space where a conventional-sized server once fitted.

Operational noise can be a major stress factor. But the compact TX120 utilizes an enhanced "heat-pipe" method for cooling the CPU. This holds down noise output to a whisper-quiet 30dB, allowing the server to remain unobtrusive even close to your workspace.



#### A Unique Answer to a Market Requirement:

### PRIMERGY Compact Size Server TX120

**"Make it small, quiet, light, powerful and power efficient," were the customer requirements.**

### PRIMERGY TX120

**99(W) × 399(D) × 340(H)mm**

Equivalent to the size of a desktop PC

In a world of server consolidation and centralized management there is still a need in many organizations for server functionality close to the end-users. In retail, schools, hospitals, libraries and office environments, servers still play an important role in providing local functions; from file sharing to user records, price lookup to student training, mail systems to special projects.

What has changed is the user requirement. They want unobtrusive equipment that doesn't change the ambience of the work environment. Retail has limited space, schools and hospitals should be quiet, offices should be cool and eco friendly, small businesses need all that and price performance as well. Reflecting these potentially conflicting needs, Fujitsu has produced the PRIMERGY TX120 compact sized server. It delivers whisper-quiet operation, Dual-Core Intel® Xeon® processor power, a footprint 1/3rd that of current 1way tower servers, and the lowest power bills in the industry.



#### World's Smallest Footprint Does Not Mean Limited Functionality

Fujitsu has used innovative technology and leading server-class components to shrink the size of the TX120. It uses a Dual-Core Intel® Xeon® 3070(2.66GHz) or 3040(1.86GHz) processor to provide plenty of processing performance well matched to the needs of 1way server use. For high operating reliability, two space-saving 2.5 inch SAS HDD can also be installed and mirrored using RAID 1. Use of server-class SAS disks also ensures full 24 hour operation. The 3 PCI slots provide excellent expansion and connectivity capability, while data security can also be assured by the installation of an internal DAT backup device.

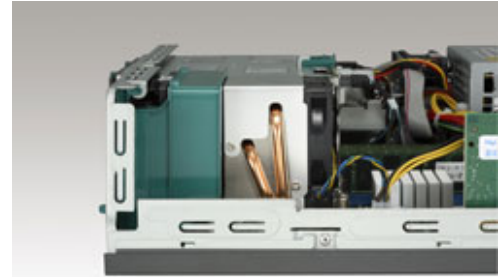
The result is a fully functional server that fits in 1/3rd the space of a typical small tower server and only occupies 1/4th of the volume.

### **Heat Pipe Technology Key to Small Size and Quiet Operation**

TX120 uses a redesigned heat pipe air cooling system. Although previous systems have used heat pipe cooling, reducing the size of the unit required a new component alignment strategy. In the TX120 all heat producing components, CPU, chipsets, etc, are strictly aligned along a linear heat pipe. Two small temperature controlled fans also sit either side of the pipe in a push-pull arrangement. The result is noise output of 32dB in operation and 28dB when idle. This is below the ambient noise of a quiet office environment.

Another benefit of the heat pipe is it enables the user to choose either vertical or horizontal server installation. Unlike water cooling used in some small servers, heat pipe provides similar quiet operation, requires fewer components, and with no potential leakage problems is more reliable.

*The TX120 has a heat pipe and two small fans. Heat sources, CPU, chipsets, etc., are aligned along the pipe in straight lines allowing efficient cooling everywhere.*



### **Remote Management and the Need for Security**

Software such as IPMI 2.0 based Remote Management controller (iRMC) makes remote management possible even where full server management cannot be put in place. It enables restart, power on/off, BIOS update, etc.

Of course if distributed servers are what customers need, then they should be as easy to manage as centralized systems. In-built remote functions enable power on/off and restart away from the physical server while additional software options make possible remote management and update. This is particularly important in the retail industry, for example, where store controllers need to operate uninterrupted locally but be managed and updated centrally on a daily basis.

On the question of physical security, the TX120 is attractive because of its small lightweight form-factor. It also features tool-less access for easy maintenance. Removal or tampering with the device is therefore a potential issue. This has been solved by the provision of mounting points in the casing. When security wires are attached to these points they stop removal or opening of the server. In addition a key is provided for the front cover to prevent unauthorised access to HDD and storage media.

### **Environmental Credentials**

The overall design means that power consumption of TX120 has decreased substantially compared to previous tower configurations. Fujitsu believes that customers sensitive to environmental problems, power consumption, and with concerns about global warming will find the CO<sub>2</sub> emission reductions of TX120 compared with average of standard 1way servers appealing. Using TX120 instead of a larger tower server can reduce CO<sub>2</sub> emissions by the equivalent of planting 31 cedar trees per year.