

### **PRIMEPOWER's CPU performance smooths centralized processing and enables stable operation with minimum staff.**

**Business :** Education

**Products :** PRIMEPOWER 800

**Solution :** Integrated Data Processing Center System

**Application :** Oracle/SymfoWARE Navigator /HULFT

#### **Issues,**

- Problems from insufficient CPU capacity, increasing user numbers and increases in the frequency of use.
- The dispersed Yamagata prefecture campuses generated a need to reduce the time required for trouble shooting. This in turn creating the requirement for increased server stability.

#### **Results**

- 5-year window – obtained assurance of CPU efficiency scalability beyond current CPU efficiency
- Stable operation making operational management possible with fewer staff.



Yamagata University  
Integrated Data  
Processing Center

Yamagata University, based in Yamagata City, has approximately 9500 students. It consists of graduate schools and special courses within the faculties of Humanities, Education, Medicine, Engineering and Agriculture, as well as six Science departments.

At the Integrated Data Processing Center, where the computing facilities for the entire university are managed, equipment requirements are reviewed every 4 years.

Since February 2002 increased power and operational stability has been provided using PRIMEPOWER.

For details of PRIMEPOWER's introduction we consulted Assistant Professor Toyoharu Umebayashi from Yamagata's Integrated Data Processing Center.

#### **Installation Background**



Assistant Professor  
Toyoharu Umebayashi  
Integrated Data Processing Center  
Yamagata University

#### **Operational Centralization, Insufficient CPU Capacity**

At Yamagata University the requirements of researchers and general students are consolidated and met by using a general-purpose server. The server was last replaced in 1998. Afterwards the ratio of research and education usage both grew, making lack of CPU performance the major issue.

On past and present CPU performance, Assistant Professor Umebayashi said, "Full CPU capacity is particularly essential between November and February, to enable all graduation theses to be completed on time. In addition, for teaching purposes it is necessary to meet the needs of around 100 simultaneous users. Such use has substantially increased compared with 4 years ago. As a result the introduction of a new all-purpose machine was examined. One that could cope with such centralized deployment while providing stability and CPU performance to answer the power requirements of general and research use."

### Introduction Highlights

**The worldwide standard Solaris™ Operating Environment (Solaris OE), with latest specifications, is expected to meet requirements for up to 5 years.**

Yamagata University replaced their former workstations when doing their 1994 renovations. They changed to a base of Solaris OE. Mr. Umabayashi relates the reasoning, “Until then we had numerous workstation problems, but the introduction of a world standard operating environment brought about extensive reform.”

Now with the latest changes Solaris OE remains a major given. That plus a calculated 3-fold increase in CPU performance over the former specification led to the introduction of PRIMEPOWER.

### **Credible and highly stable operation made possible with limited staff**

“Within Japan, Yamagata University is prominent for its dispersed campus,” states Mr. Umabayashi. There are two campuses in Yamagata city, plus one in Yonezawa and one in Tsuruoka. Only Shinshu University with 5 campuses is more dispersed of all the metropolitan and regional public-funded universities. “. In addition due to the Yonezawa and Tsuruoka campuses being tens of kilometers apart, even on-site maintenance takes time. A major implementation decision point was that with stable operation the campus infrastructure could be managed with only three(3) instructors and three(3) technical officers.

### System Summary

#### **PRIMEPOWER800 is at the core of the large-scale system**

Of the four university campuses, Humanities, Education, and three other departments plus the Integrated Data Processing Center are on the Kojirakawa campus in Yamagata city, while the Engineering department is at the Yonezawa campus. This means their size and utilization outweighs the other two campuses.



As a result, large scale systems have been constructed at both the Kojirakawa and Yonezawa. At this iteration, two PRIMEPOWER800 all-purpose servers were introduced, one for each of the two major campuses.

“Looking 5 years out, we have installed the latest in CPU performance. Up to now, calculation intensive processes have also tended to suffer from memory shortages, but that has also been rectified. Plus as we enter the busy

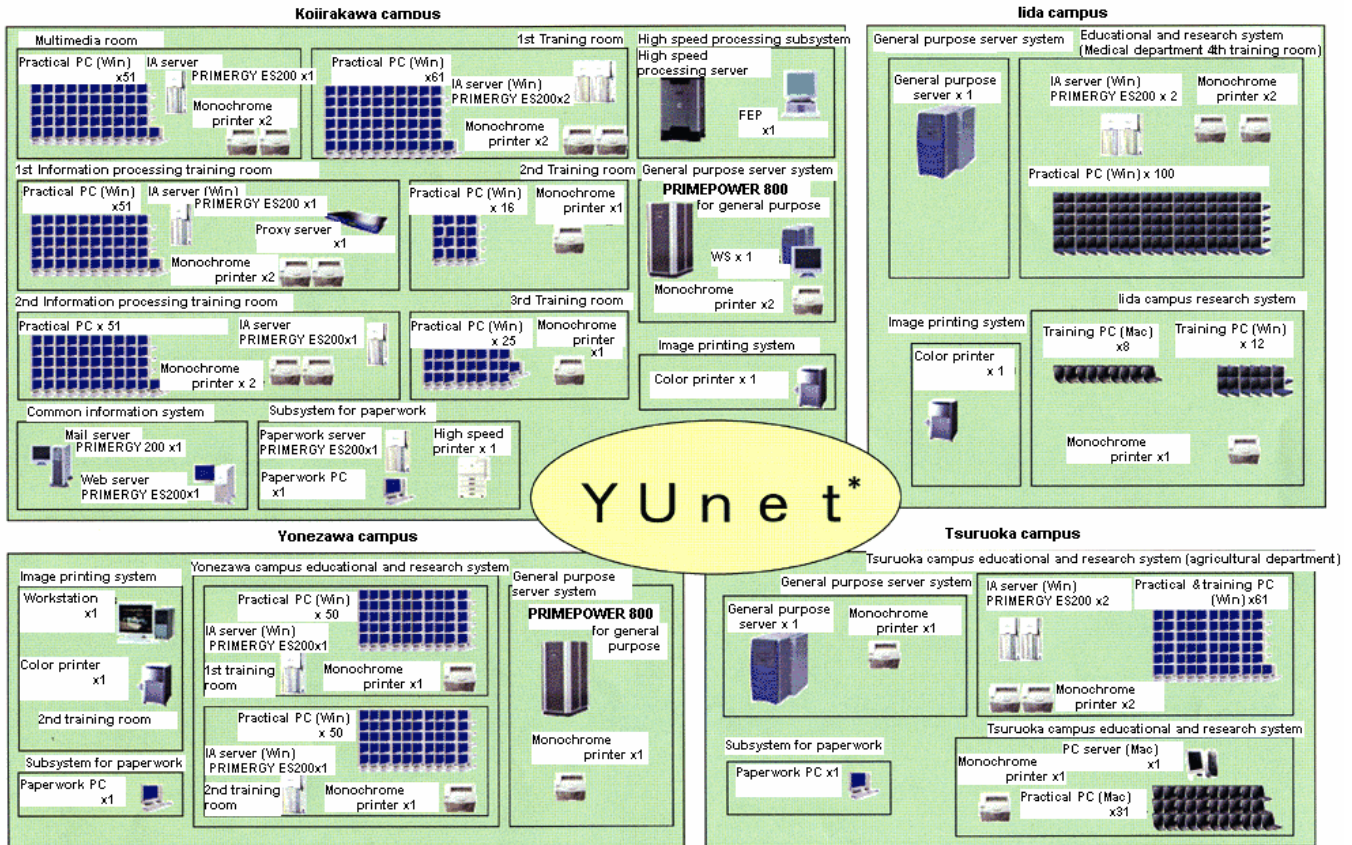
period of thesis production we can meet the requirements,” Says Mr. Umabayashi.

Further, flat rate charging is making it easy for power users, by removing concerns about how much they will be charged for use.

#### **Benefits**

- √ Expected 5 Year window based on current guaranteed up to date CPU performance.
- √ Improved stability enables four(4) campus management with minimum staff.

### Schematic of the Computer Center



\* The four campuses (Kojirakawa, Yonezawa, Iida and Tsuruoka) are linked together using 100Mbps FDDI LAN as part of the University's "YU net" which includes telephone and teleconferencing systems.

### Future Development

**First priority: Stability.**

**Then: Flexibly to match changes in circumstances**

"Previously Solaris OE was introduced for its high stability and network computing ability. That basic decision has not changed," says Mr. Umebayashi. In order to maintain stable operation, efficient support is necessary. Umebayashi continues, "Not limited to maintenance, Fujitsu's overall support capability, with its continuous advice, was evaluated highly."

Yamagata University will continue to maintain its effective user environment by being able to flexibly match the ever-advancing changes in computer technology.

**Name:** Yamagata University, **Address:** 1-4-12 Kojirakawa-cho, Yamagata-shi  
**Enrolments:** As at 1<sup>st</sup> May 2002 (University 8,148, Graduate school 1,221, Others 36)  
**URL:** <http://topweb.kj.yamagata-u.ac.jp/> (Yamagata University)  
<http://kdwww.kj.yamagata-u.ac.jp/> (Integrated Data Processing Center) \* Japanese only

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