

The progress of small computers and networks enabled inter-operation of computer systems of different models that are connected by a network. This, in turn, has contributed to business process re-engineering and the downsizing of information systems. In addition, information exchange through the Internet is steadily expanding among both businesses and individuals. Toshiba is a leading provider of these and other information and communication devices and systems for multimedia applications.

ATRAS Trading System for Daiwa Securities SB Capital Markets Co. Ltd.



Dealing room

Since its cutover in June 1998, the trading system ATRAS for Daiwa Securities SB Capital Markets Co. Ltd. has been constantly improved, and functions strengthened in August 1999 to deal with the scheduled deregulation of brokerage.

A high level of information processing capacity has been called for in the securities business since the financial Big Bang in Japan. ATRAS, with UNIX® servers forming the core of the system, features faster and more sophisticated trading functions including the issuing of orders to stock exchanges, accurate transmission of information, and simplicity of operation, thereby enabling the dealers and traders to be far more efficient in their dealings. This system also offers flexibility and expandability to respond rapidly to institutional reforms and business strategies.

The computing server (UX7000/E10000™) performs convergence calculations in real time on the basis of the market information received from stock exchanges, and distributes 500 resultant theoretical prices every second to dealers, thereby achieving top-level performance in the securities field.

"UNIX" is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

V Series Integrated Controller

Toshiba has released the integrated controller V series. This product is applicable to two major control domains: FA (Factory Automation), mainly for the production machinery systems industry, and PA (Process Automation), mainly for the process plant and equipment control systems industry.

The main features of this product are as follows:

- Multi-functional and flexible controller, integrating sequence control, loop control and computer control on one common platform.
- Open and global engineering environment based on the international standard of programming language IEC 61131-3.



V series integrated controller

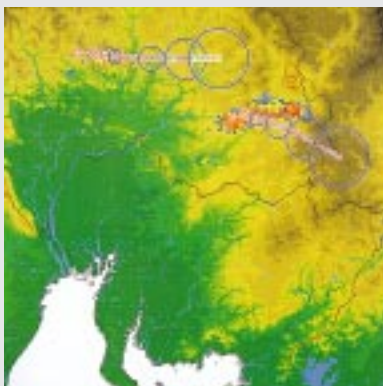
New Weather Radar System

This weather radar system provides information on thunderstorms, rainfall, and the like, which is utilized to manage power lines and river systems for hydraulic power generation. A highly stable Klystron transmitter is utilized and new capabilities based on Doppler technology have been implemented to the system. As a result, the following improvements have been achieved:

- Expanded observation range (198 km → 250 km in radius)
- Improved space resolution (approx. 3 km sq. → 1 km sq.)
- Reduced observation cycle (6 min → 3 min)
- Improved lightning detection capability by new technology based on a thunderstorm transformation mechanism
- Improved lightning detection capability that exploits upper atmospheric temperature of the GPV (Grid Point Value)
- Enhanced ability to predict the movement of thunderstorms and rain areas through the use of Doppler-shift
- Flexible radar sequence control using work stations

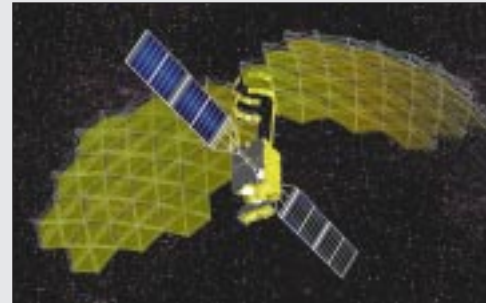


Radar site equipment



Analysis product display image

Large Deployable Reflector for Engineering Test Satellite *



Engineering test satellite 8 (ETS-8)

A large deployable reflector is one of the key technologies for geostationary satellite communications using handheld-size terminals. This large deployable reflector is to be onboard the Engineering Test Satellite 8 scheduled for launch in 2003. The reflector is the

largest class deployable reflector in the world used on a satellite with a size of about 19 m x 17 m. Two of these reflectors are aboard the



Development model of large deployable reflector

satellite. One is for transmitting and the other is for receiving.

The reflector has the following two characteristics:

- To achieve a light weight, the reflective surface is composed of metallic mesh.
- It has a modular structure with 14 hexagonal modules combined to form the whole reflector for design flexibility.

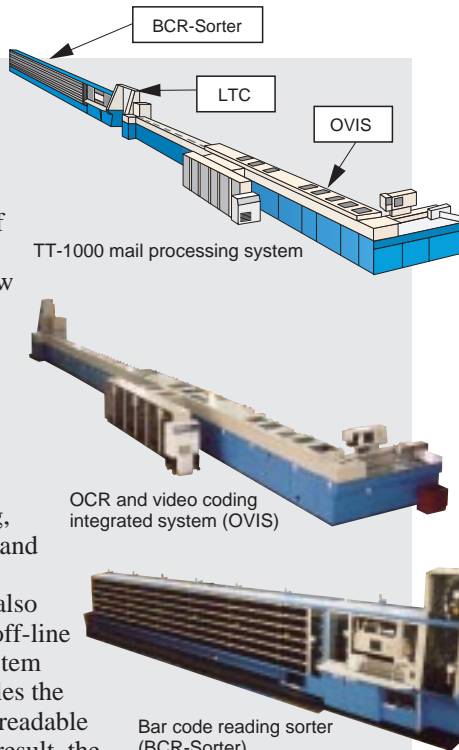
The reflector is currently undergoing testing by using development model and is to be verified further for the validity of its reflector deployment analysis method and estimation method of the mesh reflective surface form in zero gravity. The results obtained from this testing and verification will be reflected in the design of flight models that require high performance.

TT-1000 Mail Processing System

The TT-1000 mail processing system has been developed for overseas users of mail automation devices. This new addition to Toshiba's lineup of mail processing systems is not only equipped with the latest postcode reading, barcode reading and barcode printing technology, but also with an on-line/off-line video coding system (VCS) that enables the processing of unreadable postcodes. As a result, the highly functional TT-1000 mail processing system boasts both high performance and high reliability. The main characteristics of this system are as follows:

- The TT-1000 comprises an OCR and video coding integrated system (OVIS) and a bar code reading sorter (BCR-Sorter) connected by a letter transfer conveyor (LTC). This large scale letter handling system is realized by incorporating an intelligent and highly reliable control system.
- A parallel computing system has been developed to realize high-speed/high-accuracy optical character recognition. This technology is incorporated to create the highly reliable character recognition unit of this system.
- A newly developed monitoring system is incorporated to allow remote monitoring of the TT-1000, and to facilitate the exchange of operational data with the post office.

Toshiba has designated the TT-1000 as its standard mail processing system model for overseas users, and plans to introduce it into many markets.

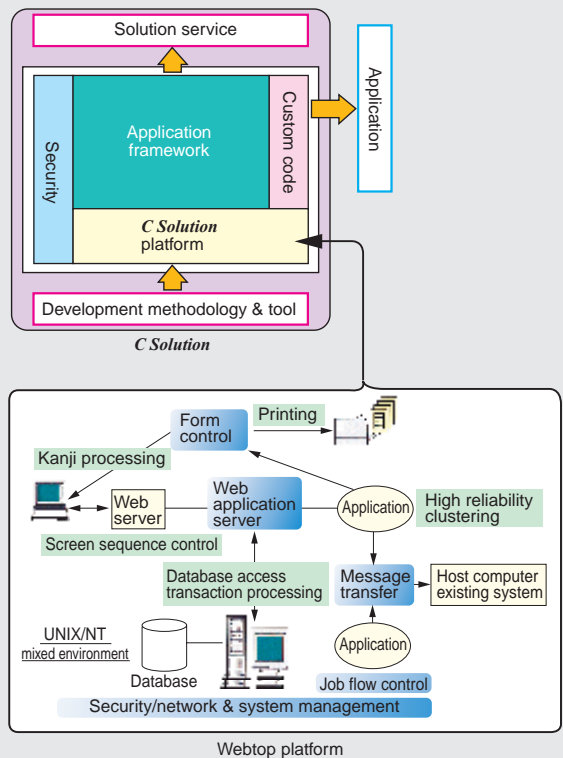


C Solution Webtop Platform Base Environment for Information System in the Internet Era

An information system based on Internet and WWW (World Wide Web) technology, called Web-Based System, is expected to be used for many application domains.

C Solution provides a Webtop platform to develop and manage Web-based systems with high reliability, performance, scalability and connectivity to existing systems.

Webtop platform has been applied to many application systems, for example, order entry systems for manufacturing, and history management systems for bank.



C Solution Webtop platform

MAGNIA™3020 PC Server



The entry-level PC server MAGNIA™3020, which is ideal for corporate workgroup and departmental servers, offers reliability and expandability.

MAGNIA™3020 PC server

MAGNIA™3020 provides redundant capability for key hardware components.

Hard disk drives and power supplies are hot-swappable. CPU and hard disk drives are expandable up to 2 CPUs and a maximum of 6 hard disk drives. MAGNIA™3020's tower cabinet can be converted easily into a rack cabinet, enabling it to be installed in a rack easily.

RAID BOOSTER™



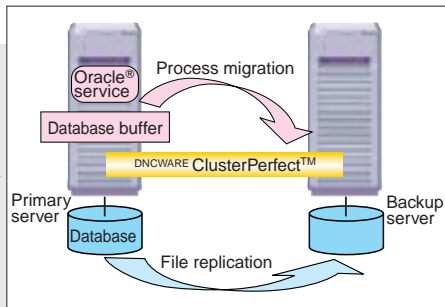
RAID BOOSTER™ board

Toshiba has developed the RAID (Redundant Array of Inexpensive/Independent Disks) accelerator named RAID BOOSTER™ which can increase disk access speed by adding to the RAID controller under the WindowsNT® environment. RAID BOOSTER™ improves write performance by utilizing the log structured file system technology which changes random write action to sequential write action.

When using it in RAID 5 mode, it is possible to improve system performance about 2 to 6 times. (Toshiba evaluation)

"WindowsNT" is a registered trademark of the Microsoft Corporation.

DNCWARE ClusterPerfect™ for Oracle® Quick Recovery



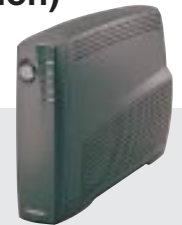
Net-business is increasing the demands for high-availability database systems. A cluster system can shorten database system

Configuration of cluster system

down-time, but a database recovery process is needed while fail-over takes place and this stops database services for several minutes or more. This software eliminates the Oracle® database recovery process and enables Oracle® database service to resume within a minute by using Toshiba's unique process migration technology.

"Oracle" is a trademark of Oracle Corporation.

PCX1000 Cable Modem (DOCSIS 1.0 Specification)



PCX1000 cable modem (DOCSIS 1.0 specification)

This cable modem (PCX1000) for cable network systems is for home and use offers high speed communications (43 Mbps maximum in downward direction and 10 Mbps maximum in upward direction) based on TCP (Transmission Control Protocol) / IP (Internet Protocol) between Central CATV Station and private homes through the CATV network.

For communications protocol, center modem of CableLabs® (CATV Technology Standardizing Organization in the U.S.) and PCX1000, DOCSIS (Data-Over-Cable Service Interface Specifications) Ver. 1.0, have been adopted. Toshiba is the first manufacturer in the industry to acquire DOCSIS certification, doing so in March 1999.

Marketing was initiated in April 1999 and it became firmly established in the United States. It is also being promoted in Japan as well as in the European market.