



An Advanced Full-IP Building - A,RE,A Shinagawa



The development of the area to the east of Shinagawa Station is the biggest scheme of its type in central Tokyo. Work began about 20 years ago, and since 1998 a succession of major buildings has been completed in the area. In October 2003, Tokyo gained a new gateway with the commencement of Tokaido Shinkansen (bullet train) services at Shinagawa Station. This new status is expected to provide the impetus for the continued growth of this area as a business center. Towering in front of Shinagawa Station is one of the symbols of the Shinagawa district, the NTT Data Shinagawa Building (popularly known

as "A,RE,A Shinagawa").

The building was opened for business just ahead of the introduction of bullet train services at Shinagawa. The underlying concept behind the design of A,RE,A Shinagawa was to create a next-generation office building with advanced information technology infrastructure. The result is an intelligent building with powersaving systems and other environment- friendly features. Rising 132.42 meters into the sky, the steel-frame structure has a total floor area of 70,306.87 square meters, consisting of three basement levels, 27 floors and two penthouse levels.

Integrated Building Automation System

NTT Data's information technology and solutions have been used extensively in A,RE,A Shinagawa. All communications facilities in the building, including control

and operational systems, monitoring and IP telephony, have been integrated into a single network based on NTT Data's networking technology. NTT Data has installed an integrated LAN system that supports the creation of separate logical networks.

The building automation system is based on the e3Bision™ Professional technology developed by NTT Data. This technology enhances the versatility, functions and security of central monitoring systems created using existing open network technology. By dispersing existing backbone functions to multiple servers, it has also become possible to accommodate larger systems than in the past. Additionally, by actively using Java and other open source resources, as well as Web screens and XML, to build

systems, NTT Data has been able to improve transparency and expandability. There are also cost savings, since the systems are not OSdependent. Of course, there is support for remote monitoring and control via mobile telephones.

These ubiquitous environment elements support a variety of control methods.

Energy Management System

The e3Bision™ Professional building automation system is linked to the EcoVista™ energy management system. Detailed and benchmarked energy usage data from each floor are acquired by the EcoVista™ system, which subjects the data to comprehensive energy analyses and makes any necessary improvements. EcoVista™ was developed as an energy management system for non-specialist users.

Made up of separate interfaces for managers, users and specialists, the system provides variable reports for each purpose.

Security System Linked to LonWorks Technology

The security system monitors the status of locks on all floors and also provides access to historical access data and the situation of users on each floor. Through its LonWorks network linkage, the system can also prevent wastage of electricity by automatically turning off office lights and air-conditioning after the last person to leave

has operated the IC card reader. In addition, the security system works with passive sensors and lighting equipment to provide lighting automatically. An IP camera system has been used to provide video monitoring inside the building. This system ensures the safety of the building itself, and because it is linked to the integrated LAN, the video monitoring system is extremely flexible and expandable.

Environmental Harmony and Enhanced Functionality

The building's exterior features have been enhanced with the Color Light 21 Lighting System, which was developed by NTT Data. This system uses LED lighting equipment and a LONWORKS controller and scheduling unit to create lighting effects that match changing aspects of the environment, such as the season and the weather. Features that would otherwise tend to appear dark and gloomy are transformed into a spatial environment capable of resonating with emotional effects, such as peace of mind, fun, stimulation and healing. The building also has innovative construction features, including a double-skin exterior thermal insulation layer designed to reduce the thermal load. In 2004 A,RE,A Shinagawa was a winner in the Good Design Award competition run by the Japan Industrial Design Promotion Organization. The award was in recognition not only of the building's superb functionality, but also of its highly attractive design, including the futuristic "digital bar" feature.

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