Green IT

The best practices collection 2010

Green IT Promotion Council

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Green IT Promotion Council Overview

Establishment Outline

Global warming is a top-priority issue requiring an urgent, global-scale response. Recognizing that radical technological innovation has a critical role to play in achieving harmony between our economic and social activities and the global environment, Japan has created the “Cool Earth-Innovative Energy Technology Program” for the development of new technologies from a long-term perspective. IT and electronics technologies stand to make a major contribution to realizing these new technologies. The greater economic, logistical and administrative efficiency achieved through the sophisticated control and management enabled by IT and electronics technologies should also generate greater productivity and greater energy efficiency in all economic and social activities, contributing substantially to reducing environmental impact. At the same time, by 2025 the full-scale introduction of IT is expected to have boosted international information flows by around 200 times the level in 2006. This information explosion will also vastly increase the number of IT devices in use, positioning the energy consumption of IT devices themselves as a key issue.The Ministry of Economy, Trade and Industry has developed the “Green IT Initiative” as a means of achieving a balance between environmental protection and economic growth. The Green IT Promotion Council was established on 1 February 2008 as an industry-government-university partnership for promoting concrete action under this initiative.We at the Green IT Promotion Council look forward to utilizing the manufacturing, environment and energy-saving technological capacity that is Japan’s strength to transform all aspects of our economy, society and lifestyles, while also working toward further energy-saving in IT devices (‘of IT’) and through IT devices (‘by IT’).

Activities in FY2010

Energy-saving metrics standardization

GIPC is working to establish the Japanese Data Center Performance Per Energy (DPPE) energy efficiency metrics as an international standard through consultation with governments in Japan, the US and Europe and private-sector associations such as The Green Grid.

Assessment of energy-saving contribution and creation of measurement tools

We are establishing green IT assessment benchmarks toward making the effects of green IT (energy-saving, quantitative evaluation of contribution to reducing CO_2 emissions) more visible.

International green IT partnership

GIPC is holding international symposia and fora to exchange information with Asian governments and private-sector representatives. We are also building partnerships with other countries through, for example, the conclusion of MOUs with offshore associations, working to build a global green IT alliance.

Green IT dissemination and education

We are using CEATEC Japan 2010 and other fairs and seminars in Japan and offshore to educate the wider public on the environmental contribution of energy-saving in IT and through IT.

Energy-saving diagnoses in Asia

We will continue making energy-saving diagnoses and proposals for Asian companies, helping to combat global warming in Asia.

Promoting green IT on a global scale

GIPC promoted green IT on a global scale by strengthening international partnership through MOUs.

The Green Grid (USA)	Climate Savers Computing Initiative (USA)	Green Business IT Association (KOREA)	Digital Energy Solutions Campaign (USA)	BITKOM (Germany)

■ Activities in FY2009

Harmonizing metrics on data center energy efficiency

In February 2010, in San Jose in the US, we held a conference on data center energy efficiency measurement methods, metrics and reporting methods. Participants reached consensus on guidelines for data center energy efficiency metrics.

Energy-saving diagnoses in Asia

We made energy-saving diagnoses in Thailand and Singapore. Seminars were held in both countries to report on results, taking into Asia energy-saving proposals, the effects of reduced energy consumption, and Japan's leading-edge technologies.

Study on pioneering energy-saving technologies

We studied pioneering energy-saving technologies in IT systems such as data centers, comparing and assessing these against the technology roadmap produced in 2008.

Examination of energy management systems (EMSs)

Enterprise EMSs and Social EMSs will soon be available as means of optimizing energy use in companies and communities. GIPC considered these systems holistically and in terms of system architecture, etc., examining developments at home and abroad.

Asia Green IT Forum 2009

Government and industry representatives from eight Asian countries (China, Korea, India, Malaysia, Singapore, Thailand, Vietnam) were invited to attend this event, which saw lively discussion and the formulation of a joint declaration that includes future cooperation.

Green IT Awards 2009

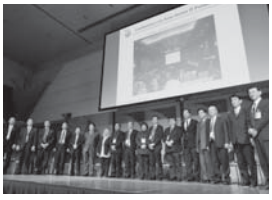
To further accelerate corporate green IT initiatives, we presented awards for products and technologies making an outstanding contribution to combating global warming. (METI Minister's Awards, METI Commerce and Information Policy Director-General's Awards, Green IT Promotion Council Chairman's Awards, Green IT Award Judging Committee Special Awards)

Green IT Pavilion 2009

A showcase of green IT initiatives, the Green IT Pavilion featured exhibitions by member companies and presentations on a special stage.

Green IT Pavilion
Green IT Promotion Council

Green IT Symposium



This symposium introduced the latest information and trends in green IT. A total of 10 sessions were held, including presentations by Green IT Award winners and relevant offshore associations, as well as the results of discussion at the Asia Green IT Forum.

Green IT Handbook / Best Practices Collection

Green IT products of member companies are introduced in this Green IT Handbook / Best Practices Collection booklet. The web version is also available.

Green IT Best Practice URL **http://greenit-bestpractice.jp/**
http://greenit-bestpractice.jp/en

The Activity of the Green IT Promotion Council

This chapter explains what “Green IT” is and the main activity of the Green IT Promotion Council in detail.

■ What is Green IT?

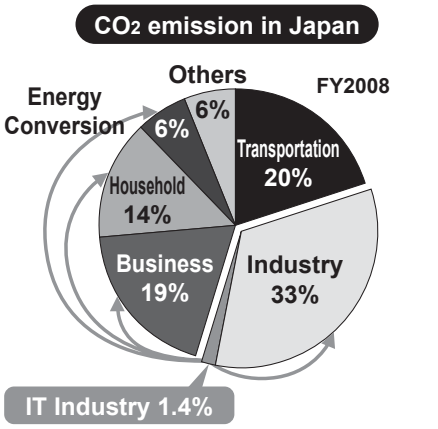
The “Green IT” activities aim to contribute to “greenization”: reduce emissions of greenhouse gases such as CO_2 by using IT technologies and prevent global warming. In order to achieve the goal proposed by Japan that global greenhouse gas emissions must be reduced by half of the current level by 2050, developed countries need to reduce greenhouse gas emissions by 60 to 80%. IT is highly expected to serve as one of the solutions to this problem.

1. The contribution of IT to energy saving in society

There are two ways that the IT industry can contribute to CO_2 emission reduction:

- To reduce emissions from in-house production
- To utilize IT equipment and implement IT solutions that are developed in other industries

The ratio of the IT industry’s CO_2 emissions to the total industry's emissions in Japan is limited; it is only about 1.4%. On the other hand, by utilizing IT equipment and implementing IT solutions more expansively in the future, the IT industry will be able to contribute to CO_2 emission reduction in other industry sectors.



IT industry contributes to improvement of energy efficiency in other sectors.

(Source) Japan's National Greenhouse Gus (Emissions in FY2008)

2. Classification of Green IT

The Green IT Promotion Council examines the energy saving characteristics of IT and classifies the energy saving efficiency into two categories: energy saving of IT equipment (“of IT”) and entire society's energy saving by IT (“by IT”).

of IT (energy saving of IT equipment)

Improving energy efficiency of IT equipment and electronics

Category	Examples
IT equipment	PC, Server, Storage
Electronics	TV, DVD, Refrigerator
Datacenter	Datacenter
Parts	Semiconductor

by IT (society's energy saving by IT)

Improving energy efficiency of the society by utilizing IT solutions

Sectors	Examples
Industry	Improving efficiency of a production process
Business	Telework, TV/web meeting
Household	On-line shopping
Transportation	Eco-drive

In this booklet, energy efficient goods and solutions are introduced according to the classification above. Please see “Product Introduction” on page64.

■ Activities in FY2009

1. Estimation of Green IT's energy saving potential

The Green IT Promotion Council has developed computing methods to objectively indicate the effects of Green IT. At the same time, in order to indicate the importance of Green IT, it was examined how much reduction can be expected in energy consumption and CO_2 emissions by utilizing the "of IT/ by IT" products in the future.

① Energy saving of IT equipment (of IT)

The energy saving potential of following items were examined:

IT equipment	PC, Server, Storage, Router / Switch, Display
Electronic equipment	Television, Home-use recorder/player, Refrigerator, Lighting, Air conditioner

The examination reveals that in Japan, total energy consumption of the 10 products as of 2005 was about 330 billion kWh/year, but it will increase to about 500 billion kWh/year in 2020. However, this is expected to decrease about 130 billion kWh/year in 2020 as a result of technical innovation (Figure 1). The Energy consumption of the five IT equipments and television will increase at a high rate, and the amount will increase to 200 billion kWh/year in 2020, about 4 times the 2005 level. However, this is expected to decrease about 70 billion kWh/year (Figure2).

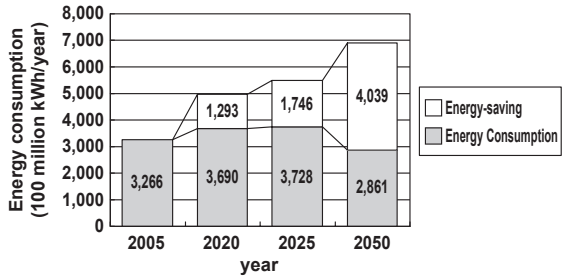


Figure 1: Projection of Energy Reduction Effect in Japan (Total)

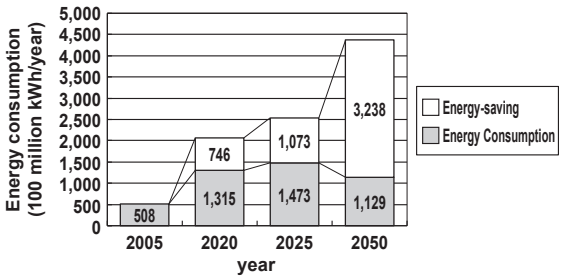


Figure 2: Projection of Energy Reduction Effect in Japan (TV, IT equipment)

② Society's energy saving by IT (by IT)

As for estimating the effects of "energy saving by IT" solutions, a concrete method of computation had to be established. The Council classified the components of the effects. As a result, they were classified into eight categories and formulas were defined for each effect (Table1).

Table 1: Method of computing energy consumption reducing effect by IT solution

Components	Subject of component	Formula of components
①Consumption of goods	Paper, CD, Books, etc.	(Reduced consumption of goods) × (Basic unit of goods consumption)
②Travel of people	Airplane, Automobile, Train, etc.	(Reduced travel of people) × (Basic unit of travel)
③Travel of goods	Track, Railroads, Cargos	(Reduced travel distance of goods) × (Basic unit of travel)
④Office space	Space occupied by men (including working efficiency), spece occupied by IT equipment, etc.	(Reduced space) × (Basic unit of energy consumption per space)
⑤Warehouse space	Warehouse, cold storage, etc.	(Reduced space) × (Basic unit of energy consumption per space)
⑥Power / energy consumption (IT / network (NW) equipment)	Eenegy comsumption of server, PC, etc.	(Power consumption variation) × (Basic unit of of system power)
⑦NW data communication	NW data communication	(Data communication variation) × (Basic unit of communication)
⑧Others	Activities other than the above	(Variation by activity) × (Basic unit concerning variation)

Table 2 indicates the potential of energy saving by IT solutions in 2020 determined based on the formula. The estimation indicates that in Japan, the “of IT” solutions will reduce the energy consumption about 20-40 million t-CO_2/year and the “by IT” solutions will reduce the energy consumption 70-140 million/year.

Please refer to the GIPC’s webpage at <http://www.greenit-pc.jp/> or “FY2009 Survey and Estimation Committee of GIPC Report” for the details

Table 2: Projection of the quantity of CO_2 emission reduction in 2020

Unit: million t-CO_2/year

Categories	of IT	by IT
Industry		7 ～ 14
Household	4.4 ～ 8.9	16 ～ 32*
Business	17.0 ～ 33.9*	9 ～ 18*
Transportation		36 ～ 73
Total	21.4 ～ 42.8	68 ～ 137

* Including the energy saving effect of IT facility.

2. Role of EEMS for Enterprises

① What is EEMS?

Due to the revision of the rationalization in Energy Use Law and the recent trend of ISO 50001, there will be a growing necessity for the establishment of an energy management system to manage entire enterprises. The Committee therefore developed the vision of Enterprise Energy Management System (EEMS) for five years ahead. The study focused on the system techniques to develop energy-related services that will be needed by enterprises.

The Committee discussed about following four points with an emphasis on informatization of energy such as visualization:

② Three requirements for developing EEMS

(1) Infrastructure should meet the needs of enterprises.

Various applications will be developed to meet the energy-related needs of enterprises. They should be able to respond to various services of enterprises.

(2) Optimization should not be performed in limited areas.

Optimization of enterprises should not be conduced based only on area-based management. In order to achieve energy efficiency improvements, areas of optimization should be selected depending on the situation even if several areas need to be optimized.

(3) Four perspectives should be considered in visualization.

It is important for EEMS to be able to respond to following four perspectives of the people and the authorities that are connected to enterprises in various ways:

Outside stakeholder	Stock holders, Customers, Control authorities that monitor compliance with energy saving laws
Manager	EEMS should help to manage the energy consumption as a part of business policies, because implementation of energy saving measures will be more emphasized in the future.
Employee	Visualization of energy consumption should be easy to understand for general employees. EEMS should be able to operate easily.
Energy manager	EEMS should be able to provide various analysis methods to perform advanced optimization of energy consumption.

③ Application of EEMS

EEMS can be applied and utilized for various purposes in addition to rationalization of energy consumption. The application of EEMS should not be performed only to improve energy efficiency in production activities, but also to control emissions of greenhouse gases such as CO_2. EEMS is expected to meet following needs:

- Optimize energy consumption for enterprises as a whole
- Support the compliance with laws and regulations that are related to global warming
- Support the responses to ISO14001, ISO50001, carbon footprints and the Domestic Clean Development Mechanism
- Support Renewable Energy Certificates and Emission Trading when renewable energy such as photovoltaics is utilized

④ Conducting a functional analysis for EEMS

The “EEMS Framework” was established to get the overview of EEMS, and the functional analysis of EEMS was conducted. EEMS consists of three sub-systems: Energy Control System (EIS), Energy Control System (ECS), and Energy Management Platform (EMP).

⑤ Proposal for the future diffusion and the development of EEMS

In order to promote the diffusion and the development of EEMS, some issues were discussed, and following proposals were presented:

Proposal 1: Visualization of energy based on four perspectives

Businesses need to achieve energy optimization depending on various purposes.
The energy-related information that needs informatization should be identified and organized based on the four perspectives: outside stakeholders, managers, employees and energy managers.

Proposal 2: Application of EEMS with its three components

It is important to apply the EMMS framework to achieve energy management goals.
The framework consists of three components: EIS, a system focuses on visualization to identify the necessary functional elements and expand features for the future; ECS, a system for energy control; EMP, a shared technical platform to implement EIS and ECS.

Please refer to the GIPC’s webpage at <http://www.greenit-pc.jp/> or ““FY2009 Technology Study Committee of GIPC Report” for the details

3. Development of Datacenter Performance Per Energy (DPPE)

The Green IT Promotion Council has developed a new metric called DPPE to determine the energy efficiency of a datacenter. The US and Europe share the same vision as Japan, and the discussion is still going.

① Why have datacenters been focused?

Rapid increase of energy consumption is expected in datacenters because of the increase number of the internet mobile users and improvement of server quality that requires large energy. This is why the energy saving of datacenters has been focused.

② What is DPPE? What is the necessity?

Right now, the most widely used metric to indicate datacenter energy efficiency is Power Usage Effectiveness (PUE) developed by the Green Grid. However, in order to improve energy consumption of a datacenter as a whole, a new metric that indicates energy consumption of IT equipment and infrastructure needs to be developed. DPPE (Datacenter Performance per Energy), was developed as a new metric that reflects every component of a datacenter.

Following points were emphasized in the process of the development:

<Important points in the development of a new metric>

- Its measurement and computation should be easy
- Comparison of data among different datacenters should be possible
- Continuance comparison of the energy saving status should be possible throughout the year

③ Defined DPPE sub-metrics and the computation

The starting point of the study is the new formula: DPPE = (Production volume of the data center) / (Power consumption). The metric should be linked to the effects of energy saving measures in the datacenter. Sub-metrics and their formulas were defined based on energy saving activities of datacenters. These four sub-metrics can be used independently.

DPPE Sub-metrics	Formula	Responding activities
ITEU (IT Equipment Utilization)	= Operational Utilization of IT Equipment of data center	Effective operation of IT equipment
ITEE (IT Equipment Energy Efficiency)	= Total rated capacity of IT equipment / Total rated energy consumption of IT equipment	Introduction of energy-saving IT equipment
PUE (Power Usage Effectiveness)	= Total energy consumption of datacenter / Total energy consumption of IT equipment	Energy saving of facility
GEC (Green Energy Coefficient)	= Green (natural energy) power / total energy consumption of data center	Use of green power

Using these sub-metrics, DPPE can be represented as below:

$$\text{DPPE} = \text{ITEU} \times \text{ITEE} \times \frac{1}{\text{PUE}} \times \frac{1}{\text{1-GEC}}$$

④ Agreement on new metrics of datacenter energy efficiency

The Green IT Promotion Council presented DPPE as a new metric at the workshop. Japan, the US and Europe set the direction for further development, of new metrics and decided to continuously hold discussions.

Please refer to the GIPC's website at <http://www.greenit-pc.jp/> or "FY2009 Survey and Estimation Committee of GIPC Report" for the details

4. Promotion of Japanese Green IT products to other Asian countries

① Operation of energy survey projects for IT based energy saving

In ASEAN countries, the amount of energy consumption is increasing as a result of the economic development. Promoting energy saving in these areas is very important to conduct activities against global warming. IT-based energy saving (Green IT) will be able to address the rapid increase in energy consumption.

Therefore, The Green IT Promotion Council and the Japan Electronics and Information Technology Industries Association (JEITA) operated energy survey projects to promote energy saving utilizing IT in ASEAN industry by introducing Japanese IT-based energy-saving technologies and products.

In the survey projects, experts of energy saving were sent to datacenters, public facilities, plants, and factories of ASEAN countries and conducted surveys. The experts estimated improvement effects in the future, and energy saving plans were presented to achieve energy saving utilizing the most sophisticated IT of Japan.

Table 3: Summery of the surveys in Singapore and Thailand

Target Facilities	Main energy saving strategies	Targets	Reduction potential of CO_2 emissions per year
Datacenter (Singapore)	- Introduce Cold aisle capping - Control the air volume of the air blowers - Upgrade the air-conditioning equipment	One compartment of the datacenter	460t-CO_2 (Electric power: 84.1million kWh)
University (Thailand)	20 energy-saving strategies focused on air conditioning and lighting: - Change the preset temperature of the air conditioners - Upgrade the air-conditioning equipment - Install inverter-style FL ballasts - Implement BEMS	A 21-story university building	424t-CO_2 (The reduction potential per building is low, but the number of targets is large)
Factory A (Thailand)	- Identify the difference in the temperature control by installing "control loop diagnostician(s)" and "control valve diagnosing(s)" - Utilize tuning simulator(s), "Tune VP," to improve the temperature control - Conduct tunings for controlling bulbs	2 lines (Current production load)	490t-CO_2 (Water Vapor: 3100t) 4t-CO_2 (Electric Power: 6400kWh)
	- Install inverter-style motors	One motor	668t-CO_2
Factory B (Thailand)	- Identify the spot where needs maintenance by using the audit system (Identify the spot where de-coking is needed.) - Install "smart fault diagnostician(s)" and "steam feed optimizer(s)"	12 ethylene cracking furnaces (The energy saving efficiency was estimated by applying the efficiency of single heat exchanger and single ethylene cracking furnace.)	450t-CO_2 (Electric power: 80.7 million kWh) 50t-CO_2 (Water vapor: 290t) 900t-CO_2 (Fuel: 300t)
	- Install inverter-style motors	One motor	4032t-CO_2

Electric power conversion factor 0.55kg-CO_2/kWh, Combustion gas 3kg-CO_2/kg, Water vapor 0.16-CO_2/kg

② Training and Green IT seminar

The heads of the surveyed facilities and the supervisors were invited to Japan, and training was conducted to promote continuous energy saving practices. During the training and the seminar, the Japanese companies in charge of survey projects introduced Japanese advanced energy saving techniques, and explained about Japanese Green IT activities. Moreover, Green IT seminars were held in Singapore and Thailand, and the survey results and some cases of Japanese Green IT activities were introduced there.

IT seminar in Singapore
Date: February 23rd, 2010
At Pan Pacific Hotel

IT seminar in Thailand, Bangkok
Date: February 25th, 2010
At the Westin Grande Hotel

Please refer to the GIPC's webpage at <http://www.greenit-pc.jp/> or the project report for the details

Grobal Partner Introduction

The Green Grid

Launched February 2007

The Green Grid is a global consortium dedicated to developing and promoting energy efficiency for data centers and business computing eco-systems. The Green Grid does not endorse any vendor-specific products or solutions, and will seek to provide industry-wide recommendations on best practices, metrics and technologies that will improve overall data center energy efficiencies. The organization has developed working relationships with governments, government and industry influencers, and standards bodies around the world to effectively collaborate in creation and adoption of a common set of metrics and measurements for data center energy efficiency. PUE (Power Usage Effectiveness) is one of the key metrics developed and promoted by The Green Grid. This metric helps data center operators quickly estimate the energy efficiency of their data center infrastructures and identify areas where improvements need to be made. PUE has been designated at the industry's preferred energy efficiency metric. Membership in The Green Grid is open to all organizations interested in promoting data center efficiency at the Contributor, General or Associate Member level. By becoming a Member, organizations can participate in global data center efficiency improvement activities and help influence both product developers and end users of data center technology.
Additional information is available at: www.thegreengrid.org

Korea Green Business IT Association

Established in January 2009

A private-sector association that aims to use ICT to boost energy efficiency out in industry and prevent global warming. The association tackles green IT in two main areas. One is the development and dissemination of environmentally-friendly products that can reduce the amount of power used in the IT area, such as high-efficiency computers. The other is the development of environmentally-friendly IT technologies such as factory automation and intelligent transport systems and disseminating these out across industry as a whole to save energy and reduce emissions of carbon and other environmental pollutants.
http://www.greenbiz.or.kr

BITKOM

Established in 2010

BITKOM is the voice of the information technology, telecommunications, and new media industry in Germany. BITKOM represents more than 1,300 companies, with 950 direct members, including practically all German global players as well as 600 key midsize companies. BITKOM's membership generates a sales volume of 135 billion euros annually, exporting 50 billion euros worth of high technology each year. BITKOM thus represents 90 percent of the German ICT market.
BITKOM offers a wide-reaching, powerful network that brings together the best minds and top companies from the digital world. BITKOM organizes a permanent exchange between experts in the field and industry leaders, offering its membership forums to promote cooperation and platforms for contacting crucial clients.

Creating a good environment for doing business is BITKOM's highest priority. Education and the training of tomorrow's IT and telecommunications specialists, green ICT, e-government, e-health, economic policy, copyright and patent law, security and privacy issues, software technologies, consumer electronics, climate protection, and sustainability as well as a new legal framework for telecommunications and the media are the core of BITKOM's political agenda. With the coming digital convergence, BITKOM seeks to promote the collaboration of all those working in the realm of information technology and telecommunications.
Additional information is available at:
http://www.bitkom.org/en/

Climate Savers Computing Initiative

Launched 12 June 2007

A non-profit group of eco-conscious consumers, businesses and conservation organizations.
The Climate Savers Computing Initiative is a global consortium dedicated to reducing the energy consumption of end-to-end computing. The goal of the Climate Savers Computing Initiative is to promote the development, deployment and adoption of smart technologies that can both improve the efficiency of a computer's power delivery and reduce the energy consumed when the computer is in an inactive state. Since 2007, more than 650 members, including large commercial enterprises and technology industry stakeholders, have joined the initiative, and thousands of individuals have pledged their support. As participants in the Climate Savers Computing Initiative, computer and component manufacturers commit to producing products that meet specified power-efficiency targets, and corporate participants commit to purchasing power-efficient computing products.

Mission of the Climate Savers Computing Initiative
This initiative seeks to reduce global CO_2 emissions from the operation of computers by 54 million metric tons per year by June 2011, equivalent to the annual output of 11 million cars or 20 coal-fired power plants.
Additionally, commercial and home networking systems and devices will be incorporated into the organization's environmental mission, with the goal of reducing annual CO_2 emissions by an additional 38 million metric tons by 2015. This is the equivalent of $5 billion (around 500 billion yen) in annual energy cost savings.
For more information and to pledge your support, visit www.climatesaverscomputing.org.

*The initiative is derived from the WWF Climate Savers program, which has mobilized over a dozen companies since 1999 to cut greenhouse gas emissions released from within their business activities not on an intensity basis but on an absolute amount basis, demonstrating that reducing emissions makes good business sense. On the other hand, this initiative focuses on the emissions reductions from the usage of products rather than from within the business activities.

Digital Energy Solutions Campaign (DESC)

Established on November 18, 2008

The Digital Energy Solutions Campaign (DESC) brings together information and communications technology (ICT) companies and associations, non-governmental organizations, customers and other stakeholders who recognize the enabling role that ICT plays in improving our environment and driving long-term economic growth. DESC was launched in 2008 and in 2010 was moved to the Information Technology Industry Council to help advance the Campaign's work.
We are committed to achieving a common objective: advancing policies that help drive sustainable economic growth through ICT-enabled energy efficiency and clean energy innovation across every sector of our nation's economy.
Consider the facts:

- Today ICT represents two percent of the global carbon footprint, but is revolutionizing how businesses, consumers and governments decrease their carbon footprint worldwide through smart homes, smart buildings and smart grids.
- For every one kilowatt-hour (kWh) of electricity used by ICT, from six to 14 kWhs of electricity are saved in the overall economy, or 10 kWhs on average.
- The use of smart technologies could reduce U.S. CO_2 emissions by as much as 22 percent by 2020 – that's $240 billion in cost savings or a reduction of 36 percent in imported oil. Globally, smart technologies can reduce CO_2 by as much as 15 percent.

Increasingly, the barriers to applying smart technologies for a sustainable economy stem less from a lack of technical know-how and more from legal, regulatory and cultural questions that inhibit the deployment and use of smart solutions at the scale needed to transform systems like the electricity grid, transportation, and energy use in buildings and homes.
Developing sustainable products and introducing targeted policies that address key challenges will be an ongoing process, but it is an area in which the ICT sector and its partners are leading by example. We hope that DESC will show you exactly how ICT can bring a net positive impact in the global climate challenge and point the way toward helpful policy changes.
We welcome your ideas, insights, feedback and best practices as we work together toward a stronger and more sustainable economy.
http://www.digitalenergysolutions.org/

Conducting energy saving survey projects in Asia

■ Energy saving diagnoses in Asia

The energy consumption in ASEAN member states is expected to increase rapidly. In order to determine how much contribution IT-based energy saving (Green IT) can make to this issue, energy saving potential in datacenters, public facilities, and plants/factories were examined. After the degree of energy saving potential was constantly evaluated utilizing IT, it was examined whether Japan's newest IT-based energy saving technologies and energy solutions can be implemented. The countries where such audits were conducted in 2009 were Singapore and Thailand. Four Japanese corporations estimated the energy saving potential of four facilities.

Companies that conducted the audit (Japan) and target facilities (Two Asian countries)

No,	Company	Target	
		Company / Organization	Country
1	NTT DATA Intellilink Corporation, Takasago Thermal Engineering Co., Ltd.	Datacenter	Singapore
2	Panasonic Corporation	University	Thailand
3	Yokogawa Electric Corporation	Chemical plant (Olefins (Ethylene / Propylene) plant)	
4	Yokogawa Electric Corporation	Chemical plant (Acrylic polymer / Fiber plant)	
5	Toshiba-Mitsubishi-Electric Industrial Systems Corporation	Chemical plant Two companies	

The summary of each audit appears from the next page.

1 Datacenter (Singapore)

NTT DATA Intellilink Corporation, Takasago Thermal Engineering Co., Ltd.

Main focus

The main target equipments of the audit were the air-conditioners and the air blowers of the datacenter.
The datacenter's concern was that the facility might have been excessive plant and equipment, and super-cooled state as they have responded to customer needs. Therefore, the audit was especially focused on whether the facility, the air-conditioners and the air-blowers have been adequately operated.

Details

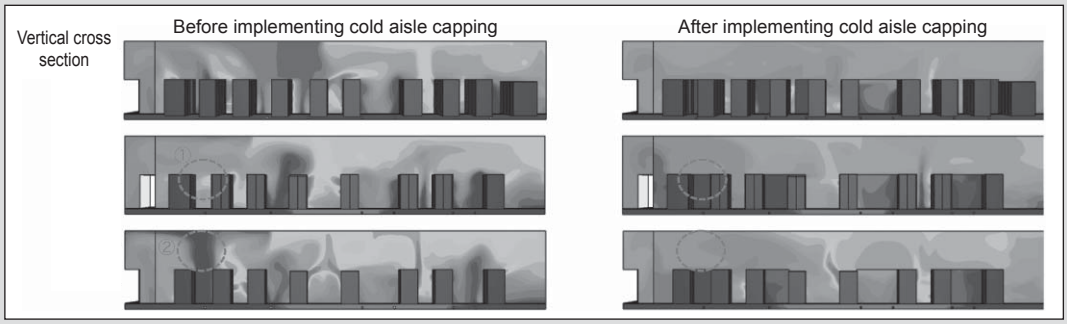
1. Measurement of PUE
   Energy efficiency of datacenter infrastructure such as air-conditioners and lights, are often determined by using a metric called PUE (See P.008). Therefore, a measurement of PUE was performed at the target datacenter.
2. Efficiency of air-conditioners
   In order to check the air flows of the datacenter and its adequacy that control the temperature of the IT equipment, an analysis was developed by using computational fluid dynamics software.
3. Energy consumption data
   Analyzed the datacenter's energy consumption data and examined it if any improvements can be made in the facility operation.

Energy-saving potential

460t-CO_2/year (Electric quantity: 84.1 million kWh/year)

Suggested solutions

Countermeasure 1: Cold aisle capping
Enclose the aisles of the cold air and the warm air by sidewalls to prevent the mixture. As a result, the cooling efficiency of the datacenter improves.



<Effects of cold aisle capping analyzed by a computer>
Improvement in air circulation and air supply was evident.

Countermeasure 2: Air volume control of the air-blowers and temperature control of air supply
Countermeasure 3: Change the air-conditioning equipment to which has higher efficiency

Products

Product introduction p121

2 University (Thailand)

Panasonic Corporation

Main focus

The audit was conducted at a 21-story university building. Energy consumption of a university building is similar to that of an ordinary building in many ways. In general, the key to achieve successful energy saving is to reduce energy consumption of lighting equipment and air-conditioning equipment. Therefore, the main focus of the audit was whether the air-conditioning equipment and the lighting equipment have been adequately operated.

Details

The energy saving committee has been already established at the university, and they have already conducted energy saving activities. For instance, the number of the fluorescent lights had been reduced so that a certain level of energy saving effect was observed.

As a result of the analysis and the audit, it was proved that there is huge room for Japanese energy saving technologies to be utilized in energy saving activities.

Energy-saving potential

424t-CO_2/year/building

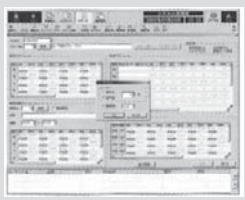
Suggested solutions

20 energy efficiency measures focus on the air conditioning equipment and the lights were suggested such as:

- Change the temperature settings of the air conditioners
- Install new air conditioners that have higher efficiency
- Inverterization of ballasts for fluorescent lights (The fluorescent lights of the school building have used old ballasts. By upgrading the lights with inverter-style ballasts, the energy saving can be more efficient.)

About 4600 iron core ballasts (FL 36W) have been used, and the energy consumption is larger than that of inverter-style ballasts by about 13%.

- Installation of Building and Energy Management System (BEMS) (By installing BEMS, the management of building equipment such as lighting and air conditioning equipment can be unified, and it leads to the effective operation of the facility. At the same time, the installation of the system helps to grasp the current situation and analyze the data. As a result, energy saving measures can be conducted.)



Products

Product introduction p116

3 Chemical plant (Thailand)

Yokogawa Electric Corporation

Target facilities

The survey was conducted in a plant produces several kinds of ophyllene like ethylene and propylene. The heat exchangers and the ethylene cracking furnaces were the main targets of the audit because their energy consumption was large.

Main focus

Heat exchangers and ethylene cracking furnaces require constant cleaning because byproducts are produced due to the operation, and that lowers heat-transfer efficiency.
The main focus of the audit was whether the operation and the maintenance of these equipments have been effectively performed.

Details

- The time to clean the heat-exchanger had been decided based on the operator's experience. However, the timing was visualized by implementing the audit system.
- The condition of the heat exchanging tubes of the ethylene cracking furnaces was visualized by using multivariable statistical analysis software. The best time for cleaning and the method were determined based on the information.

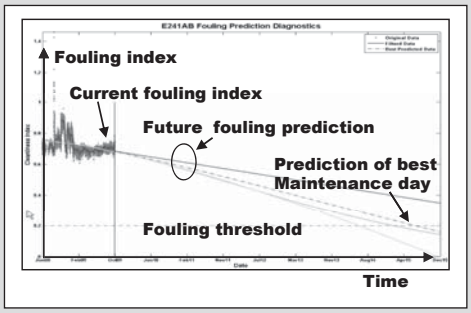
Clogged heat exchanger

Energy-saving potential

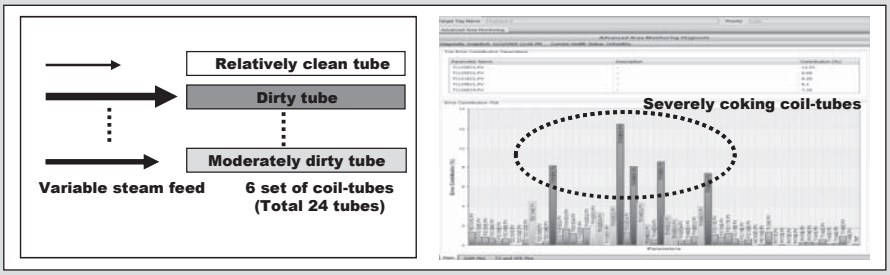
- 448t-CO_2 (240,000KWh) /year
- 46t-CO_2 (290Ton steam) /year
- 900t-CO_2 (300Ton fuel) /year

Suggested solutions

- For heat exchangers: InsightSuiteAE heat exchanger diagnostician measures fouling index and InsightSuiteAE prediction diagnostician predict days to fouling (best time for maintenance).



- For ethylene cracking furnaces: InsightSuiteAE smart fault diagnostician measures coking severity rate of coil-tubes and smart feed optimizer run on "Operation Efficiency Improvement Package (Exapilot)" optimizes steam feed during the decoking.



Products

Product introduction p091 / p092 / p094 / p095 / p096 / p102 / p112 / p125

4 Chemical plant (Thailand)

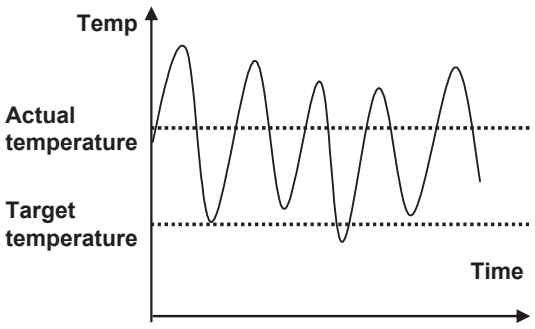
Yokogawa Electric Corporation

Target facilities

The survey was conducted in a plant produces acrylic polymer and fibers. The main target was the control system of the production line.
In particular, the dryers that consume a large amount of steam, the temperature control of the fiber drying equipment, and the main control valves of entire plant were the targets of the audit.

Main focus

If control valves do not work smoothly, there is a temperature difference in a production line, and the operation becomes inefficient.
The audit focused on whether the temperature control of the production equipment has been adequately performed and if excessive behavior of control valves is evident.



Details

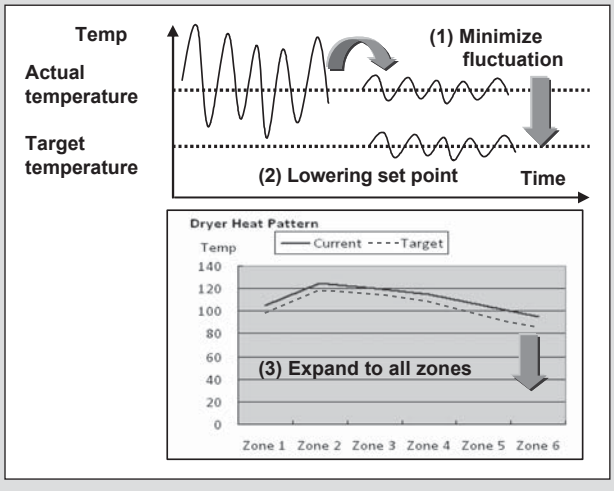
In the audit, the adequacy of the temperature control in the production plant was evaluated. As a result, it was found that the temperature control is unstable and the control valves have worked excessively. It is also found that there is room for tuning.

Energy-saving potential

490t-CO_2 (Vapor content: 3100t) /year
4t-CO_2 (Electric quantity: 6400kWh) /year

Suggested solutions

- Install control loop diagnostician(s) and control valve diagnosing(s) to identify the difference in the temperature control.
- Application of tuning simulator(s) to improve the temperature control.
- Conduct tunings of all control loops and control valves.



Products

Product introduction p091 / p092 / p094 / p095 / p096 / p102 / p112 / p125

5 Chemical plant (Thailand)

Toshiba-Mitsubishi-Electric Industrial Systems Corporation

Target facilities

1. Olefins (Ethylene/Propylene) plant
2. Acrylic polymer/Fiber plant

Main focus

Motor speed control by inverter will be useful for energy saving. The main focus was feasibility of energy saving by survey and analysis of motor operatoin pattern.

Details

Motor operation pattern and site condition for inverter were surveyed and analyzed in detail. In the result, it confirmed that application of inverter can realize big energy saving by variable speed operation.

Energy-saving potential

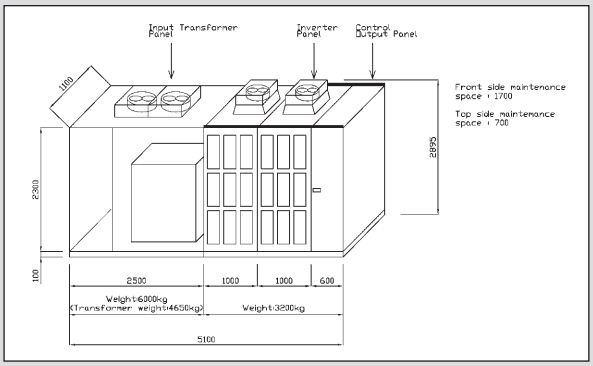
1. CO_2: about 4,000t-CO_2/year
   Electric quantity: about 60%/year
   Cost: about 18 million THB/year
2. CO_2: about 700t-CO_2/year
   Electric quantity: about 57%/year
   Cost: about 3 million THB/year

Suggested solutions

Application of inverter

When motors are operated at a constant speed with the pressure of pump controlled with a valve, great energy loss results.

Energy saving can be realized with inverter speed control instead of valve control.



Outline of high voltage inverter (sample)

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For more information, please contact each companies.

Fujitsu Ltd.

Construction of an in-campus private cloud ~ For use by 1,500 students, teachers, etc. -Japan Advanced Institute of Science and Technology-

Japan Advanced Institute of Science and Technology (JAIST) has reconstructed an all-campus common ICT infrastructure environment for use by students, teachers, and administrators. To reduce the number of servers, optimize resources, and to construct a new environment for the cloud era through virtualization, the JAIST has adopted the virtual server cloud system, realizing an advanced in-campus private cloud.

Point 1

Using cloud technology to reduce the number of servers and effectively use resources based on virtualization

The JAIST has constructed an in-campus private cloud by reducing the previously used 120 servers to 51 Fujitsu blade servers, the PRIMERGY BX920, and by combining the VMware vSphere™ 4 Enterprise and the Citrix XenApp.

Point 2

Reducing the number of servers to conserve electricity and sharply reduce space

The 120 physical nodes are cut to about 50. This lowers electric power consumption by 48% and reduces installation space by 70%. Although the first servers installed required 7 racks, all servers can now be installed on 2 racks.

Point 3

Control of all servers by the in-campus cloud management system

The system and hardware can now be replaced and new versions of the OS introduced with ease. And virtualization has easily created a new image of the servers and permits simple remote scaling up according to need.

Japan Advanced Institute of Science and Technology (JAIST) is now in its 20th year of operation, since it was founded in 1990 as a new concept national school of graduate studies which conducts the world's highest level research in advanced science and technology fields and carries out graduate school education which reflects this research, in order to train personnel who will play leading roles in the creation of next generation science and technology.
We take the 20th anniversary as "The second foundation", are planning various activities as the basis of JAIST's further development as a leading international graduate institute in the world. We are also planning various events including JAIST & ICGA cooperation event 2010.
To perform research and education which will reach the world's top level, it is essential to construct an advanced ICT environment which can easily support the creation, storage, and utilization of information and research data. Its Center for Information Science has created the common all-campus ICT infrastructure to serve as the foundation of this intelligent campus. This center has, since the JAIST was founded, constantly introduced advanced and challenging systems three years ahead of those at other universities. The JAIST also uses ICT infrastructure as research material, and has introduced this infrastructure to constantly incorporate, accumulate, apply, and evolve the most up-to-date designs, ideas, and technologies, while maintaining a balance with stable operation.

Since 2006, the PC terminals used by students, teachers, and administrators have been introduced as thin client terminals to construct the in-campus ICT environment using about 120 centrally controlled servers. But it also studied the creation of a cloud server environment centered on virtualization technology to more effectively use each server and to lower control costs of multiple servers.

The in-campus private cloud which has been constructed reduces the 120 Fujitsu PC servers to 30 by applying virtualization technology, 21 administrative use servers have been introduced for use primarily by research divisions, and all servers are now centrally controlled by PRIMERGY BX920. The construction of the private cloud environment in the campus permits research results and other vital information to be stored in the campus, and allows the time required for evaluation and coordination to be cut.

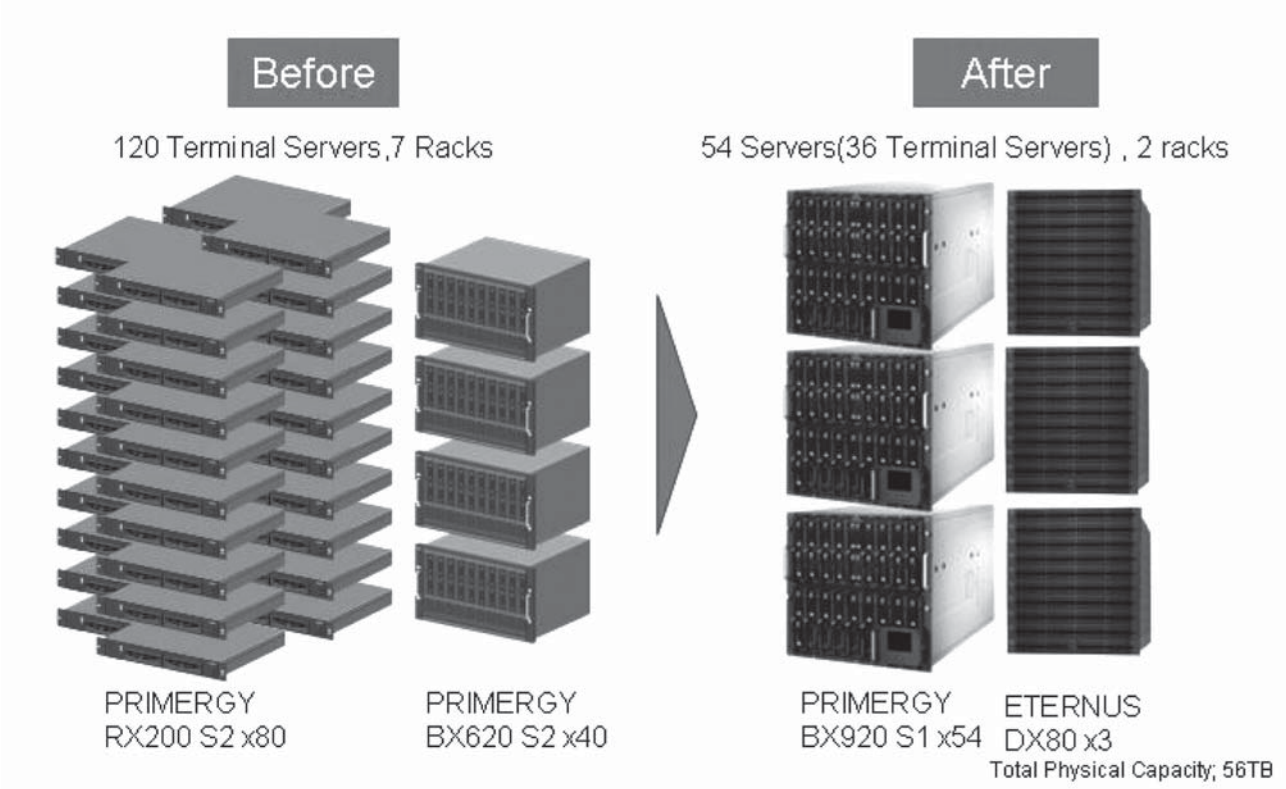
Formerly, servers were provided based on predictions of the maximum accesses and peak use hours, but server usage busy periods differ substantially between students and teachers. And because resources can be shared by virtual servers, it is possible to boost the operating rate. And on occasions when a server or software is temporarily necessary—when new research is performed for example—it is possible to obtain resources without complex server procurement procedures or required times, permitting rapid response to the performance of new research.

And because in this system, all servers can be controlled on an in-campus cloud management system, it is now possible to easily upgrade servers or introduce new versions of the OS and other programs en bloc. This can be counted on to achieve sweeping reduction in management costs and operating costs.

The energy conservation effects of this system are predicted to be an annual maximum reduction of 120 tons of CO_2 emissions (capacity equal to that of 8,571 Japanese cedars) by, for example, lowering electrical power consumption by 48%.

Details of the solution

System configuration (before/after)



PRIMERGY BX900

product introduction

outline of the product

It is a blade server combining high levels of performance, availability, and operability, which are required for large-scale system operation. It is fully equipped with the latest technologies to meet the need for large-scale server reduction at the company-wide level, and to provide mounting density, energy conservation, and virtualization capability etc.

address

FUJITSU LIMITED
HOKURIKU REGIONAL SALES DIV.
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16-1 Showa-cho Kanazawa-shi Ishikawa 920-0856
TEL:076-263-7621

of IT

Hitachi, Ltd.

Construction model data center at modular -Hitachi Information Systems, Ltd.-

Hitachi Information Systems, Ltd. constructed “Modular Datacenter” in its own datacenter and implemented the verification of power saving.
Modular Datacenter was able to save power, reduce term of construction and save space of the datacenter.

Point 1

Power saving
Reduced 38%(*1) of power consumption by adopting high efficient air conditioner and saving power of lighting by remote monitoring.

Point 2

Reduce construction term
Reduced 67%(*1) of construction period by modularization design IT devices and cooling equipment.

Point 3

Space saving
Reduced 32%(*1) of floor space by highly integrated IT devices thanks to improved cooling performance.

In recent years, global warming has become a worldwide concern.
In addition, companies are expected to reduce power consumption.

Hitachi Information Systems, Ltd. implemented the verification of environmental measure technology on datacenter based on “Environmental Datacenter Plan”.
The verification's goal is reduce 30% of power consumption by 2010 compared to 2006.

Hitachi Information Systems, Ltd. constructed “Modular Datacenter” and implemented verification of the power saving regarding following three items;

1. Power saving

Reduced 38%(*1) of power consumption by adopting high efficient air conditioner and saving power of lighting by remote monitoring.
In addition, Hitachi Information Systems, Ltd. controlled warmer fluid by stopping human being in and out and realized zero power of lighting.

2. Reduce construction term

By creating module patterns, Hitachi Information Systems, Ltd. reduced construction time by approximately 67%(*1).
In addition, Hitachi Information Systems, Ltd. could reduce total construction time.
Because we used modularized patterns, it didn't need adjustment on field.

3. Space saving

Reduced 32%(*1) of floor space by highly integrated IT devices thanks to improved cooling performance.

*1: Hitachi Information Systems' calculations based on average data of own datacenter on July 2010.

Details of the solution

Modularization + high efficient air conditioner can realize simplification and power saving

Installation in a short term

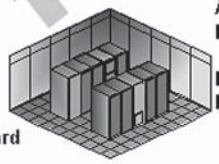
- Reducing design time greatly by standardization of the layout
- Constructing the data center of a scale necessary in total in a short term in the demand time

Power saving

- High efficient air conditioner installation reduced air conditioner power consumption
- The improvement of the value of PUE(*2)

Standardization of the layout (Modularization)

- A rack type air conditioner
- A rack type switchboard
- Expansibility



A high efficient air conditioner

- Rack type/ Hanging type
- Local cooling
- An heat measure

Air conditioning simulation (Option)

- The most suitable placement
- Prior inspection

Space saving and expansibility

- Adopting 19 type IT Rack, air conditioner / the switchboard, and arranges it in a rack line
- Installing from one module. The step-by-step enlargement according to demand

The solution of the heat issue

- Planning minute air conditioning before installation
- Intensive cooling to the cold aisle

*2: PUE (Power Usage Effectiveness)
⇒ The energy saving index of the data center

Modular Datacenter

product introduction

outline of the product

"Modular Datacenter" can optimize layout of server racks and air conditioners in small "Module". This "Modular Datacenter" can reduce air conditioner power consumption by 67% and save space by 80% compared with traditional datacenter(*3).

*3: Hitachi's Calculation based on data from JEITA (Japan Electronics and Information Technology Industries Association) in June 2009.

sales area

Modular Datacenter has provided mainly Europe in foreign countries.

address

Hitachi, Ltd.
Enterprise Server Division
Omori Bellport D Bldg. 26-3,Minami Oi 6-chome, Shinagawa-ku, Tokyo,140-0013 Japan
URL:http://www.hitachi.co.jp/moduledc/

HITACHI
Inspire the Next

Mitsubishi Electric Corporation

Reduction of CO_2 Emission by Consolidating Information Systems in Data Centers

Energy efficiency of data center is excellent by utilizing high-efficient cooling systems and natural energies. CO_2 emission can be reduced by relocating and consolidating information systems installed in general offices or in computer rooms to data centers.

Point 1

Highly-Efficiency Cooling System

By separation of hot air and cold air flow by hanging wall system technology and by cold air circulation from under-floor and hot air return flow through ceiling-cavities, degradation factors such as stagnant air and short circuit are removed to improve cooling efficiency.

Point 2

Using Natural Energy

Photovoltaic power generating system (rated output: ca. 10kW) is introduced. Information processing equipment in the data center is fed power from the photovoltaic system as well as from the commercial power system. Also, roof greening is applied.

Mitsubishi Electric Information Network Corporation has been developing data center business at 5 locations in Japan since 1999. We have been working for the reduction of environmental load ever since. As examples of the activity, “High Efficiency Cooling Technology” and “Utilization of Natural Energies” will be described.

1. High Efficiency Cooling Technology

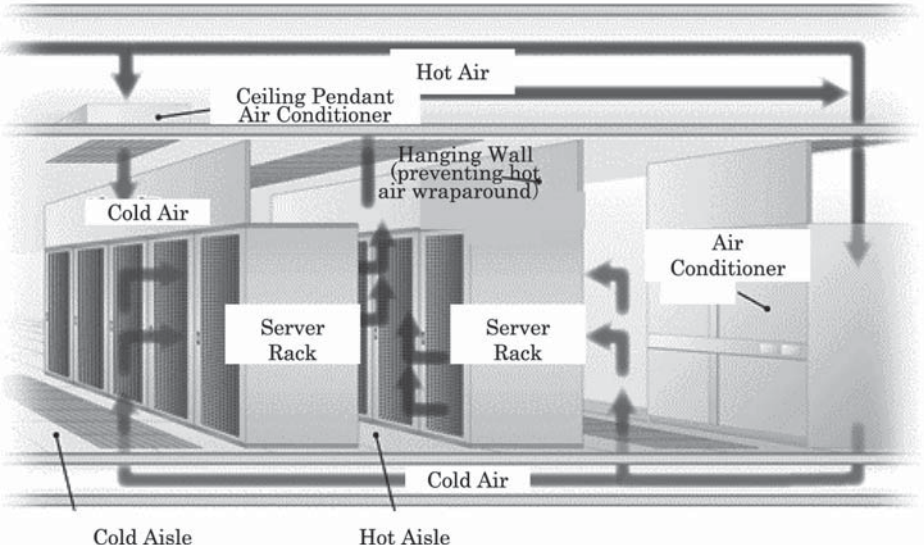
1) Hanging wall system technology: This technology totally isolates per rack, cold air space (cold aisle) supplied from an air conditioner and hot air space (hot aisle) discharged from a server rack. Specifically, a hanging wall on the ceiling of the cold aisle down to the front of the top of the rack separates the spaces. In addition, rack layout management is implemented such that racks are installed per row to intake air from the front and to discharge heat from the rear. These prevent intermixing (wraparound) the hot air from server racks into the cold air.
2) Air flow separation technology: This technology separates supply of cold air from air conditioners and return of hot air exhaust from server racks to air conditioners. Specifically, total separation of cold air and hot air is realized by cold air supply from under-floor and hot air return through double-decked ceiling cavities. In addition, wiring route management of power cables and communication cables under the floor is made to secure the supply path of the cold air. By these, hot air far from air conditioners can be efficiently returned to the air conditioners.
3) Installation of air conditioner hung down over the cieling: A ceiling structure accepting a ceiling hung down air conditioner. It was designed to cope with the increase of local heat generation.
4) Thermal/Fluid analysis and simulation: Since at data centers where 24/7 operation is required, it is difficult to take action such as relocation of racks and change of installation position of air conditioners to improve cooling efficiency after the service started. Optimization is made for the layout of heat sources and air conditioners and for the air flow path by utilizing a thermal/fluid analyzer and simulator of cooling systems from the design stage of the server room.

2. Use of Natural Energy

1) Introduction of photovoltaic power generating system: Photovoltaic power generating panels are installed on the rooftop of the building to supply photovoltaic power (rated output: ca. 10kW) to information processing equipment in the data center in addition to commercial power systems.
2) Roof greening: Roof greening is applied to a part of the building roof.

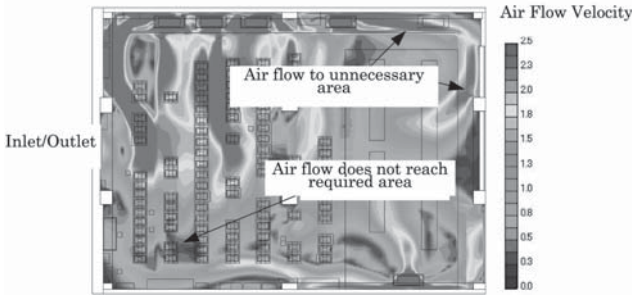
Details of the solution

Concept of High Efficiency Cooling System

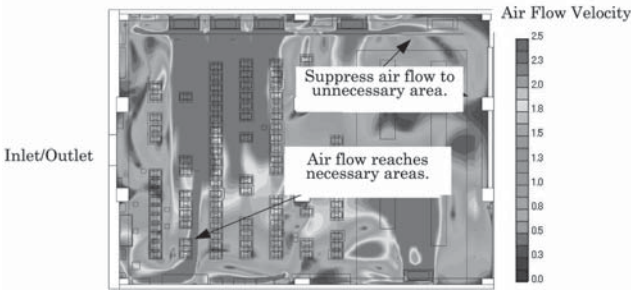


Application of this technology allows 4% improvement of the cooling system efficiency than before.

Example of thermal/fluid analysis and simulation



Air flow velocity distribution of conventional cooling systems:
Useless (cold) air flow wraparound occurred to the upper right area in the figure where there is no need for cooling.



Air flow velocity distribution of the cooling system after the improvement:
To improve cooling loss due to cold air wraparound, actions have been taken not to let cold air reach unnecessary areas by attaching masking plates to the under-floor outlet of the air conditioners or by adding fans to under-floor cold air duct.

MIND Internet Data Center

product introduction

outline of the product
Data center services for new service infrastructure capable of supporting information systems using virtualization and/or cloud technologies are provided at 5 locations, Tokyo (No.1, 2, and 3), Osaka and Nagoya.

sales area
Tokyo, Osaka, and Nagoya

patent · award
Tokyo No.2 iDC : Won ASPIC Award 2009 “Large scale sector grand-prix in iDC category”

address

Mitsubishi Electric Information Network Corporation
Sales Planning Department
1-4-4, Koujimachi, Chiyoda-ku, Tokyo 102-8483, Japan
TEL:+81-3-5276-6821 FAX:+81-3-5276-6426
E-mai:http://www.mind.co.jp/contact/service.html

NEC Corporation

Safety Eco-Navigation System with High-Performance of the PC Level "See-T Navi" -Yamato Transport Co., Ltd-

Yamato Transport Co., Ltd. (referred to as Yamato Transport hereafter) equips the on-board system "See-T Navi", which was developed in cooperation with NEC Corporation (referred to as NEC hereafter), with their pickup and delivery vehicles to enable their sales drivers (referred to as SDs hereafter) to make safe and ecological driving.

Point 1

Improvement of work efficiency

Registration of operations and management tasks incidental to the daily pickup and delivery work to the system.

Point 2

Consideration for global environment

Better eco-driving precision resulting in reduction of CO_2 emission from the vehicles.

Point 3

Safety support for the drivers

Accumulation of digital data about safety pickup and delivery route maps and vehicle driving.

■ Background of introduction of the system

Yamato Transport, which was founded in 1919, has been consistently providing convenient and pleasant services, for example, by the Takkyubin home-delivery service started in 1976. In addition to that, as they have to work on public roads, Yamato Transport has been concentrating their efforts on measures for safety of transportation, setting the safety and security of local residents as their utmost priority matter under the policy of "Safety First and Sales Second". Meanwhile, as they are employing a very large number of vehicles, they regard prevention of global warming as their important issue and they are actively coping with it.

To effectively promote those activities, Yamato Transport had been examining introduction of digital tachographs, but intending possibilities of further expansion such as integration with next-generation in-house information systems, they developed their-specific on-board system together with NEC, which owns core technologies for such as IT, network, and intelligent transport system (ITS).

■ "See-T Navi" components

"See-T Navi" consists of four major components.

1. On-board unit
   The unit has a CPU-installed display that is equipped with Bluetooth and wireless LAN functions. The display is a touch panel that implements superb operability. In the unit, digital tachograph and drive recorder functions authorized by the Ministry of Land, Infrastructure, Transport and Tourism are unified. The unit can serve to acquire and record the three legal factors (speed, mileage, and time), give the SD a warning of a sudden acceleration, abrupt acceleration, and other incidents with voice, provide information about gasoline mileage, and more.
2. SD software
   The SD software is used by the SD to output the daily driving report and handle other daily tasks. The software also allows the SD to register parking spots, prohibited zones, and danger areas on the electronic map and browse data obtained in the on-board unit.
3. Management software
   The management software allows management responsibles in the headquarters, regional branches, principal local branches, and local branches to browse and analyze practical travel data of the vehicles under their control gathered up to the previous day by item such as vehicle, driver, or office, and help their giving directions.
4. Data center
   The data center is that of Yamato System Development Co., Ltd. which is a company of the Yamato Group, managing information about registered events and travel data.

■ Future prospects

"See-T Navi" is developed to have expandability, so by just adding software or peripherals, it can serve to provide information about weather and traffic to public agencies and enable fine temperature control of the on-board freezer/refrigerator.

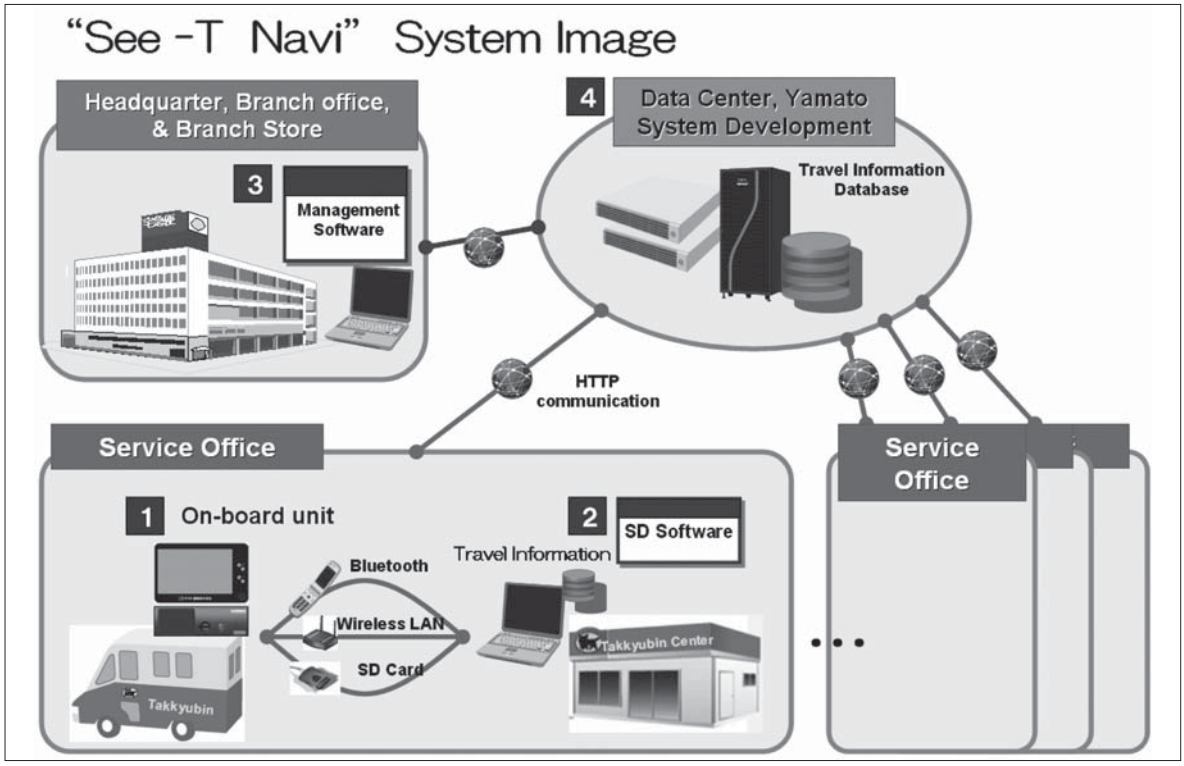
In addition to that, "See-T Navi" can work together with the Yamato Transport main system to support SD's pickup and delivery work by forwarding delivery data as soon as a package is picked and mapping the destinations on the electronic map in the delivery service office. With this scheme, it will be possible to give notice about the precise delivery time by e-mail or another means. "See-T Navi" will be making home-delivery services more convenient and pleasant.

By the end of March 2010, the "See-T Navi" unit will be installed in 6,000 pickup and delivery vehicles, and by the end of FY 2010, it will be installed in 26,000 pickup and delivery vehicles (i.e., it will be fully installed in all 32,000 pickup and delivery vehicles); this will help their giving better services and promoting prevention of global warming.

Details of the solution

Pictures of on-board "See-T Navi"

"See-T Navi" system image



"See-T Navi"

product introduction

outline of the product

Safety eco-navigation system with high-performance of the PC level

address

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Smart Energy and Green Business sales Promotion Department
7-1, Shiba 5-chome, Minato-ku, Tokyo
TEL:+81-3-3798-8984 FAX:+81-3-3798-0742
E-mai:eco-office@mkt.jp.nec.com

NTT DATA CORPORATION

Case in Introduction of Energy Monitoring Solution “Remote One” -Itochu Fresh Corporation

The Shizuoka Center of Itochu Fresh Corporation uses ultra-low temperature refrigeration facilities maintained at -60°C to preserve frozen tuna. The Company has introduced the Energy Monitoring Solution “Remote One” to save its contract demand for these refrigeration facilities and for saving of its energy consumption at the entire Center. The Company has succeeded in reducing its energy consumption.

Point 1 **Succeeded in accomplishing a target - A reduction in contract demand with the power company!**
Thanks to the success in reducing contract demand and energy consumption, the Company anticipates to recover the cost associated in introducing the solution in a short period of two years, instead of four years as originally expected.

Point 2 **Succeeded in reducing energy consumption of the entire Center through energy “visualization!”**
The energy consumption of the entire Center has been reduced by compiling a periodic report to “visualize” energy consumption for each sensor, information on monitoring of equipment and other data, to find wastage.

Point 3 **“Visualization” has changed the awareness of individual employees toward energy saving.**
Visualized information has aroused awareness of individual employees toward wasteful consumption of energy. The awareness to maximize data obtained in visualizing energy consumption has grown among the entire personnel of the Center.

Skyrocketing price of crude oil halted non-utility power generation and energy saving measures went aground

Itochu Fresh Corporation depended on non-utility generation equipment for power saving of its refrigeration facilities that accounted for the bulk of its energy consumption. However, non-utility power generation was stopped due to the skyrocketing price of crude oil and its maximum demand power exceeded 1,100kW, making it urgent for the Center to improve the situation.
Based on this situation, Itochu Fresh Corporation decided to implement “visualization” of the entire energy consumption of its Shizuoka Center using the Energy Monitoring Solution “Remote One” of NTT DATA CUSTOMER SERVICE CORPORATION. Additionally, the Company has installed a set of equipment that automates monitoring, operation and control of the operating status of its facilities receives a periodic report that analyzes energy consumption recorded by each sensor, information on monitoring of equipment and other data.

Success in reducing energy consumption of entire Shizuoka Center through “Visualization!”

“Visualization” of energy consumption through a periodic report has made possible active trials of methods for energy reduction and saving. For example, the storage tank of its wastewater treatment plant was receiving oxygen from a pump 24 hours per day. However, wastage of this operation was found by analyzing data supplied in the periodic report. A timer was then installed and intermittent supply of oxygen was started. An analysis of this intermittent supply of oxygen showed that the overall function would not be affected by supplying oxygen seven hours per day. In the past, only the energy consumption of the entire Center was read and an analysis of which factors contributed to energy saving was rather ambiguous. The visualization of data as detailed values for each equipment broadened the way of thinking toward energy saving, leading to a reduction in energy consumption by the entire Center as a result.

Success in achieving a target - A reduction in contract demand! Initial investment anticipated to be recovered in two years

The periodic report contains energy consumption of each equipment every 30 minutes. A negotiation with the power company was started based on actual consumption data and the power company convincingly reduced the contract demand.
The contract demand of the Center was reduced from 1,100kW to 1,022kW and energy consumption too could be reduced more than 6% in terms of a basic unit for energy. The initial cost was originally anticipated to be recovered in four years, but is now anticipated to be recovered in two years or less.

As a total partner of energy saving after visualization step

Visualization has enabled the Center to map out and implement aggressive measures aimed at reaping results. In fact, at the recommendation of NTT DATA CUSTOMER SERVICE CORPORATION, the Center refurbished its lighting equipment and achieved energy saving in excess of 20%. Itochu Fresh Corporation is planning to study companywide application of the results achieved by its Shizuoka Center to its entire organization.

Visualization Process in the Case

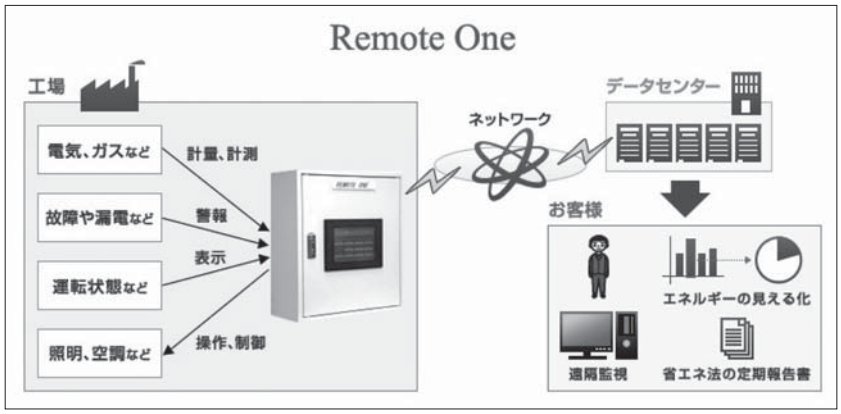
The photos show tuna transported from a workshop and stored in an ultra-low temperature refrigeration facility.

Temperature at storage facilities must be kept at -60°C to maintain freshness of tuna.

Energy consumption at the entire Shizuoka Center including workshops is made visible.

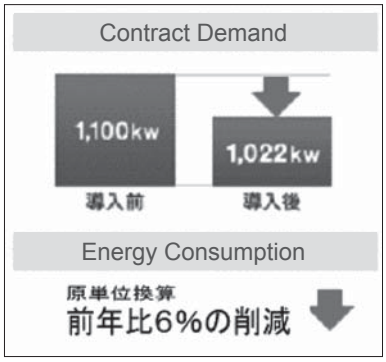
Features of "Remote One" System

- Visualization of energy consumption and support of compilation of a periodic report
- Success in reducing management cost by automating acquisition of energy consumption data
- Warning and alarm issued in case of failure and error



Energy saving effects

As a result of introducing the system, the contract demand could be reduced to 1,022kW and 6% of energy in basic unit for energy (Reduction of compared with the previous year) could be saved per year in energy consumption also.



Remote One

product introduction

outline of the product

A solution that "visualizes" energy consumption of factories, buildings and other structures by remotely monitoring and controlling facilities and equipment in order to save energy. A comprehensive support is provided from consulting of energy saving of customer facilities to preparation of reports required by the Revised Energy Conservation Law.

sales area

Sold at 220 locations throughout Japan. Many inquiries are received from medium and small size business establishments, warehousing business and other businesses.

address

NTT DATA Customer Service CORPORATION
Sales Business Planning & Operations Department
Sales Marketing Division
Toyosu Center Bldg. Annex the 5th floor, 3-9 Toyosu 3-chome, Koto-ku, Tokyo 135-8677
TEL:+81-3-3534-6077 FAX:+81-3-3534-7810
E-mail:sales-stategy@nttdatacs.co.jp

NTTデータ カスタマサービス株式会社

Oki Electric Industry Co., Ltd.

PC Energy Saving by CoolClover®

OKI has introduced CoolClover®, an energy management system for IT equipments, to Warabi OKI System Center, where main system deverlopment center is located, and successfully attained ten percent PC energy conservation.

Point 1

Installation of CoolClover, energy management system for IT equipments

Promote energy saving with installation CoolCIver on 1,500 PCs used by Oki and Oki group company located in OKI system center.

Point 2

Energy conservation activity by user participation

Visualizing power consumption and conservation-activity ranking increase energy conservation awareness of users, and promote self-motivated energy conservation activities.

Point 3

Successfully attained ten percent average PC energy conservation

Automated energy-conservation control and user participating energy management successfully result in average ten percent PC energy conservation.

OKI has installed CoolClover, an energy management system for IT equipments, on 1,500 PCs used by Oki and Oki group company in OKI System Center, where major system development office is located, and promoted energy conservation activities by employees. It has successfully attained ten percent PC energy conservation.

The CoolClover is energy management system for IT equipments, which totally controls energy management configuration of PC and other equipments used in office through LAN and it reduces energy consumption of IT equipments by visualizing power consumption by employees.

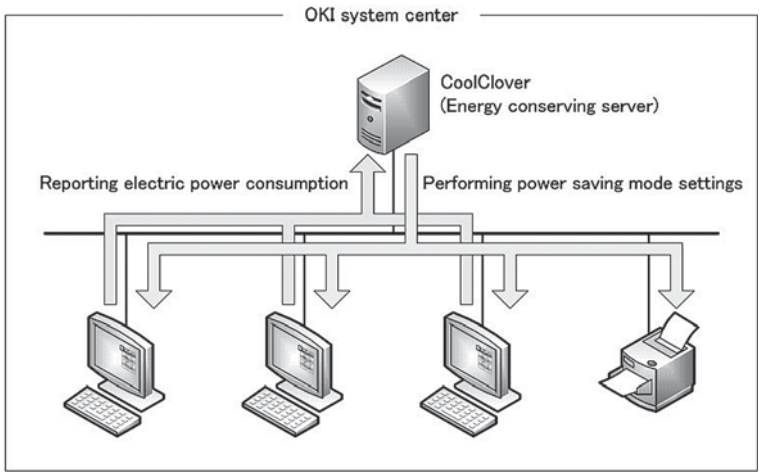
Effective from April 2010, the “Law Concerning the Rational Use of Energy” (Energy Conservation Law) requests company to take effective environmental measures including operational division such as offices.
Energy conservation in office buildings is not just about the implementation of strategies for air conditioning and lighting, but it must include strategies for conserving the use of power drawn from wall outlets.
“Energy Conservation for Office Buildings”, a pamphlet of The Energy Conservation Center, Japan published in March 2009, reveals the energy taken from wall outlets reached a total of 32% of the energy consumed exclusively by the office sector.
Since majority of power taken from wall outlets is drawn by IT equipment, such as personal computers and printers, further conservation of electric power consumed by IT equipment will be a critical issue for the future.

OKI System Center has been promoting environmental measures, mainly energy-conservation and resource saving activities. As an advanced environmental measure, “CoolClover” has been installed in incremental steps from October 2009, to reduce PC power consumption.
Before installing, energy-conservation activities were promoted to effectively manage power-saving settings and about eight percent energy conservation was attained. After installing CoolClover, visualization of power consumption increases employee’s energy conservation awareness and triggers self-motivated energy-saving activities result in additional ten percent energy conservation that contributes totally about 18% energy conservation compared to that of initial power-saving settings without energy management.

CoolClover takes advantage of commissioned work by the New Energy and Industrial Technology Development Organization, and is developed by a project of the Mechanical Social Systems Foundation supported by the JKA Foundation.

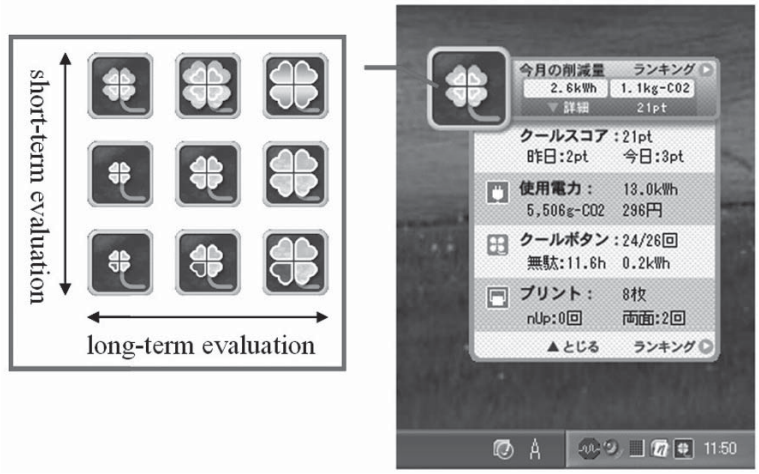
Details of the solution

■ System configuration



A CoolClover has controlled about 1,500 PCs.

■ Example of eco visualization screen display



Desktop dashboard on client PC.
CoolClover icon can represent long-term and short-term energy conservation activity.

CoolClover

product introduction

outline of the product

CoolClover solves IT equipment's energy issues in office.

address

Oki Network Integration Co., Ltd.
Business Development Division
1-16-8, Chuou Warabi, Saitama, 335-8510, Japan
TEL:+81-48-420-7011　FAX:+81-48-420-7017
E-mail:okinw-info@oki.com

OKI
Open up your dreams

Yamatake Corporation

Advanced VAV Solutional Control in the Central Air Conditioning System -The office building of one big bank in Japan-

The introduction of Yamatake solutional control which improves both energy saving and comfort in the Central Air Conditioning System with VAV control.

Point 1

Achievement of 20% reduction of energy consumption compared to conventional control.

The conventional control which supplies the air in the constant static pressure was accompanied by the energy loss by the load status.
Yamatake VAV system can supply only necessary static pressure.
The energy loss is removed, and the customer can achieve energy savings this much.

Point 2

Comfortable at all rooms.

In the conventional control, because the supply air from AHU is at constant temperature, there are some uncomfortable rooms.
In the Yamatake VAV systems which adopt Load Reset Control, the supply air from AHU becomes variable temperature automatically, so that all rooms can be adjusted to maintain the room comfortable.

Point 3

The control stable time is very fast.

By the communication between AHU controller and each VAV controllers, the stable time of the static pressure control, the supply temperature control and the air volume control are very fast.

In the renewal work of the existing another company's BMS to Yamatake BMS, we introduced some energy saving controls.
One of them is the VAV Control Application. We would like to announce the VAV Control Application to you, and it showed a big energy saving effect.

■ Existing Control

VAV Controller of each room controls the room temperature through the changing air volume according to the each room temperature. On the AHU control side, supply static pressure control makes constant the static pressure through the VSD against the change of supply air volume by each VAV.
And this control contributes the energy reduction so so. However, there is the energy loss because there is no relationship between each VAV control and AHU control and they are on the independent loop.

■ Problems in Existing Control

- In the case of a small amount of air conditioning load, there is the pressure loss in the duct because the static pressure is constant anytime.
- There are some rooms that its temperature is out of the target temperature.

■ Yamatake Control Application

Energy(kW)=Flow(m3/sec)×Pressure(Pa)
From above formula, there are 2 ways to reduce energy.
a. Reduce the Air Volume
b. Reduce the Air Pressure
In the existing control, energy is reduced by way-a.
However, regarding the supply air pressure it is always constant. And in the case of little load, there is the energy loss in the supply duct.
In our energy saving application, VSD control signal is not by the supply static control with static sensor at AHU supply duct but by the below logic.

1. The VAV controller calculates the air flow set point by comparing the measured value to the target of room temperature. And modulates the VAV by comparing the flow volume to the air velocity sensor. (Refer to Fig.-1)
2. AHU controller which communicates with VAV controller determines the optimal airflow demands from the sum of the each VAV air flow.
   Moreover, it determines the AHU FAN speed from the drawing that is between the fan speed and demand flow.
   (Refer to Fig.-2)

Also, in the existing control, when the room temperature is lower than the target in the cooling season and a little load, the room temperature becomes even lower sometimes because of the low limit air supply.
In this renewal working, "The Load Reset Control" made the supply air temperature variable.
Therefore all rooms reached to good temperature condition.

Details of the solution

Fig-1 VAV controller and VAV unit signal wiring

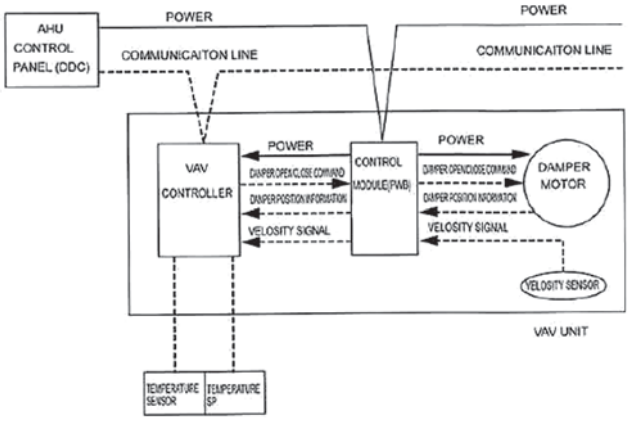
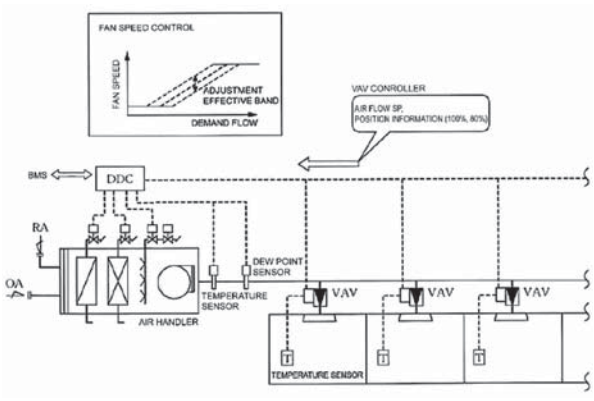
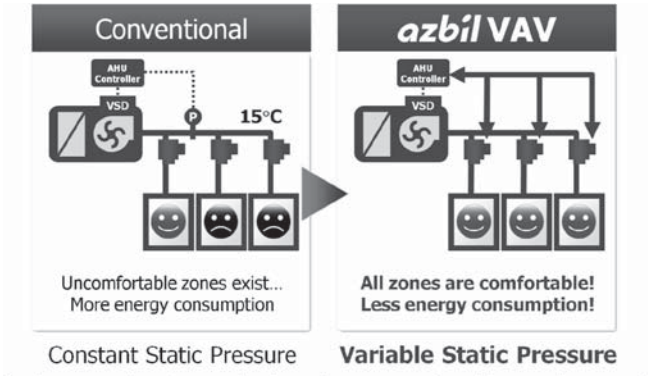
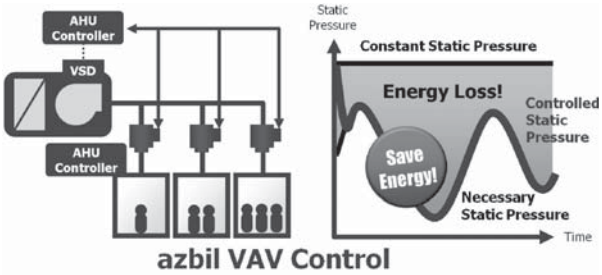


Fig-2 Fan speed control system





In the conventional control, there is some uncomfortable zone because of the constant AHU supply temperature. As for the Azbil control, it varies the AHU supply temperature and makes comfortable anywhere.



By the communication of VAV controller and AHU controller changes the conventional constant static control to new variable static control which supplies necessary air.
It makes VSD more effective operation and reduces the AHU electric power consumption.

Infilex VC (VAV Controller) Model:WY5206C

product introduction

outline of the product

As a single controller, temperature control in parallel with air-volume control is performed.
Infilex VC, combined with AHU control in the BAS, enhances overall controllability and improves building energy management.

address

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Global Sales Headquarters
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Building Systems Company
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TEL:0120-261023(FREEDIAL)
PRODUCT URL:http://jp.yamatake.com/product/ba/bas/ba_netfx.html
http://www.yamatake.com/products/bi/ba/fx/index.html

azbil

Yokogawa Electric Corporation

Ethylene cracking furnace and other equipment's fault diagnostics for energy saving and efficiency increment

IT software solutions for plant assets energy saving and efficiency increment solutions by statistical analysis method which carries out process data set comparison between normal operation and the current to find out abnormal areas and measure its severity rate.

Point 1

Purposes and areas

Availability for measurement of ethylene cracking furnace coking severity rate and other equipment abnormality in industries of refinery, petrochemical, chemical power, iron & steel, pulp & papers etc.

Point 2

Service condition

1 set of PC linked to Ethernet acquires DCS data via OPC server and carries out the diagnostics.

Point 3

Features

- No existing asset modification nor addition is required.
- Measures and displays equipment overall severity rate of abnormality.
- Measures and displays all target process variables' severity rate and abnormality.
- Automated operation to suppress the abnormality collaborated with DCS
- IT software solutions to be installed on a PC

Yokogawa conducted energy saving survey by Green IT in Year 2009 at Rayong Olefin Corporation's ethylene plant in Thailand.

Ethylene cracking furnace requires periodic decoking (cokes combustion removal by steam and compressed air) of its heat exchanging tubes (several set of coil-tubes) due to heat transfer degradation by coke internally formed in accordance with production progress though, currently the decoking is performed by constant steam and compressed air supply as coking spots measurement and the severity measurement are difficult.

Yokogawa applied the subjected solutions to an ethylene cracking furnace, numerically defined the equipment base condition based on process data set of clean condition and statistically measured and compared the following operation conditions.
As this result, measurement of conditional deviation from the base condition and the severity rate of both entire equipment and individual set of coil-tubes becomes available, then calculation of optimum steam and compressed air supply based on these severity rate also be available.

When the above diagnostic results are applied to all 13 cracking furnaces at the plant, it is estimated to achieve the following annual energy saving.

- 240,000 KWh/Year
- 290 Ton Steam/Year
- 300 Ton Fuel/Year

This IT software solutions are to measure abnormal areas of the target equipment and the severity rate, and it is applicable to other energy intensive equipment in addition to the cracking furnaces.
As it basically measures equipment abnormality, it is also applicable to fault mode detection in addition to energy saving.

Details of the solution

→ Challenges

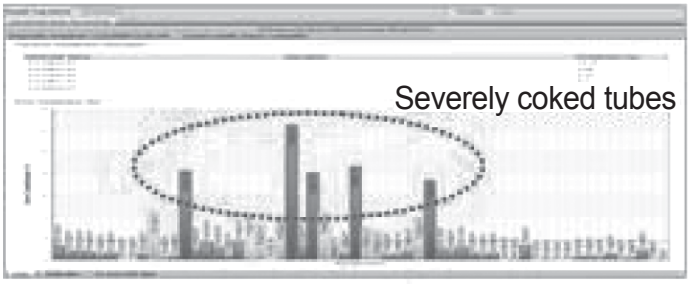
- Measurement of coking severity of 24 tubes
- Constant steam feed is not sufficient for complete decoking as coking severity differs tube to tube.

Cracking furnaces

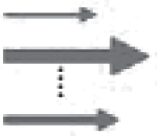
Coils & tubes

→ Solutions

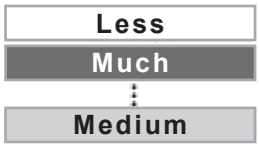
- Each tube coking severity measurement
- Coking severity based variable steam feed -> Next operation cycle extension



Variable steam feed by severity



Coking status of coil-tubes



Asset diagnostics package (ISAE) and InsightSuiteAE service engineering

product introduction

outline of the product

(1) Periodic asset KPI reporting to list up abnormal assets
(2) Bottleneck analysis of the abnormal assets, improvement proposal and the action
(3) Achievement of energy saving and equipment efficiency increment by repeating the above (1)(2) PDCA cycles.

■ Target diagnostics

- For precise measurement and control: Field device diagnostics
- For stable control: Control loop and valve diagnostics
- For increment of equipment efficiency: Equipment performance diagnostics

sales area

Japan and all foreign countries (except export ban countries)

patent · award

Some are granted and some are under examination.

address

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Yokogawa Electric Corporation
Attention:Mr.Michinao Takamuku
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750 Japan
TEL:0422-52-2141 FAX:0422-52-7408
E-mail:michinao.takamuku@jp.yokogawa.com

YOKOGAWA

Green IT AWARD 2010

introduction

Energy Saving of IT

METI Minister's Awards	**QD Laser,Inc.** **FUJITSU LIMITED** **The University of Tokyo**	Semiconductor quantum dot lasers enabling significant reduction in IT equipment power consumption
METI Commerce and Information Policy, Director-General's Awards	**Yamatake Corporation**	Achievement of optimum thermal environment and energy reduction on Datacom by CFD simulation and air-flow improvement.
Green IT Promotion Council Chairman's Awards	**Hitachi, Ltd.**	Disk array enabling efficient power saving operation in data center
Green IT Awards Judging Committee Special Awards	**Alcatel-Lucent Japan Ltd.**	Power Saving Cooling System for Data Center
	Seven Bank, Ltd. **NEC Corporation**	The Third Generation ATMs

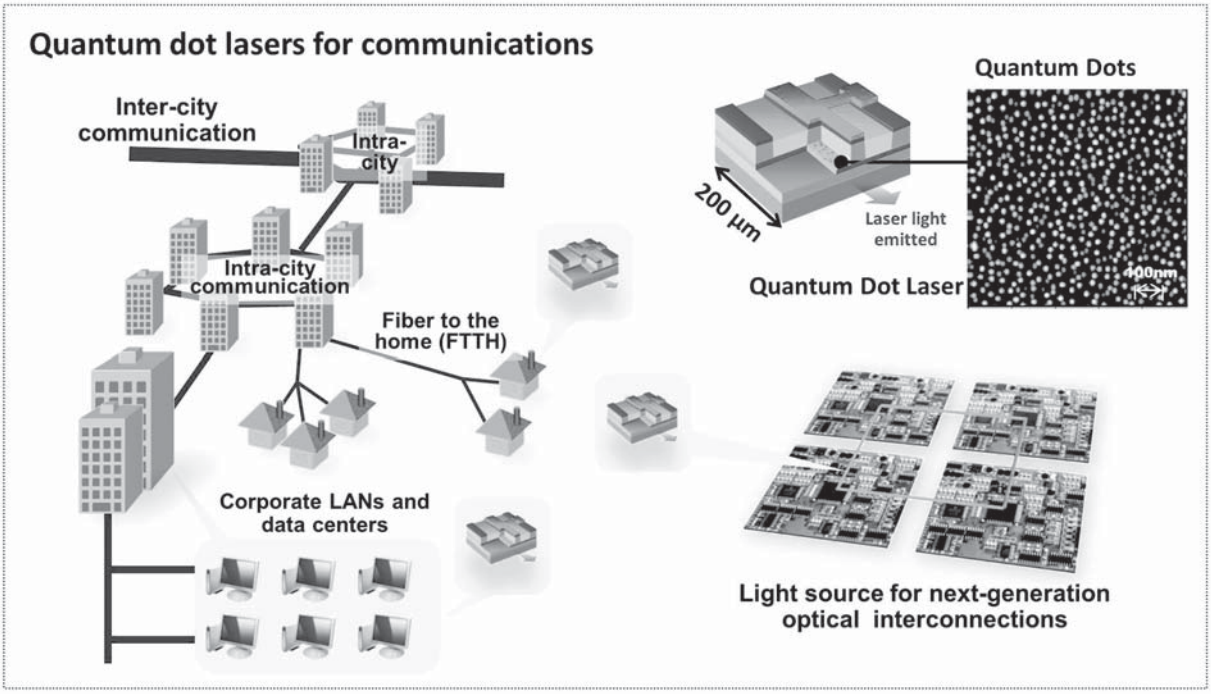
Energy Saving by IT

METI Minister's Awards	**Sharp Corporation** **Kanden Energy Solution Company Incorporated** **Yokogawa Electric Corporation**	IT based energy saving implemented at Green Front SAKAI
METI Commerce and Information Policy, Director-General's Awards	**Kojima Press Industry Co., Ltd.**	Realization of "the green cloud computing" in the user company
Green IT Promotion Council Chairman's Awards	**Mitsubishi Electric Corporation**	Eco Changes Using Green IT
Green IT Awards Judging Committee Special Awards	**DTS CORPORATION**	Software for 3D Simulations of Energy-Efficient Housing and Remodeling
	PIONEER CORPORATION	World's first "Eco-Route Search" to know fuel consumption before driving. Car navigation equipment.

Green IT AWARD 2010
Green IT Promotion Council
METI Minister's Awards

【Energy-saving of IT】

Semiconductor quantum dot lasers enabling significant reduction in IT equipment power consumption



A quantum dot Laser is a State of the art semiconductor laser diode with maximized quantum effects, and has characteristics of energy saving and temperature stable operations. QD Laser, Inc. as a venture company originally from Fujitsu laboratory,which has developed and commercialized the world first mass-produced quantum dot laser devices for telecom applications by utilizing the results of business-academia collaborative researches for more than 15 years between Fujitsu Lab. and the Univ. of Tokyo as the proposer of quantum dot lasers.

QD Laser, Inc. / FUJITSU LIMITED / The University of Tokyo

Green IT AWARD 2010
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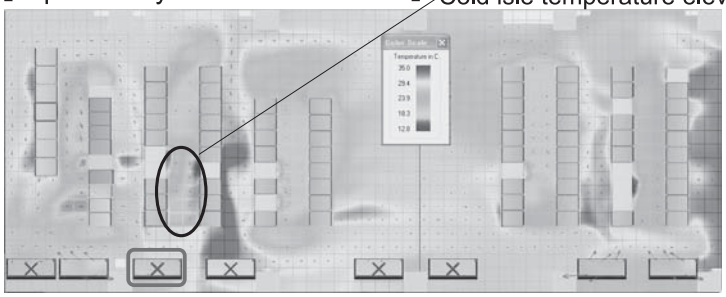
METI Commerce and Information Policy, Director-General's Awards

【Energy-saving of IT】

Achievement of optimum thermal environment and energy reduction on Datacom by CFD simulation and air-flow improvement.

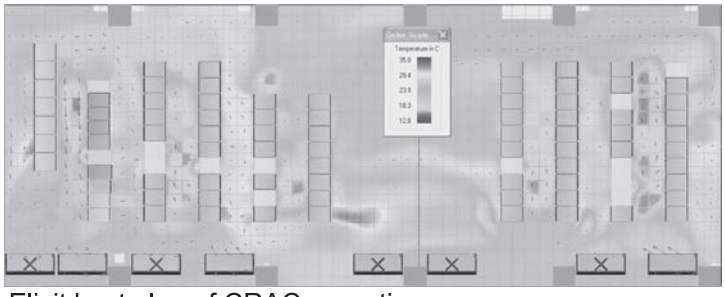
Example of CRAC operation analysis

【Impact analysis of CRAC trouble】 Cold isle temperature elevated



CRAC #3 trouble greatly influences the room environment

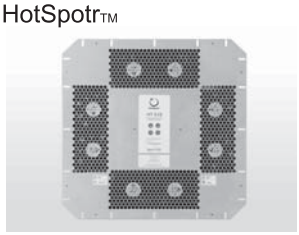
【Result of scenario analysis】



Elicit best plan of CRAC operation

Smart Underfloor Air Mover/ Overhead Air Mover

HotSpotr™



HotSpotr is a trademark of DegreeControls, Inc.

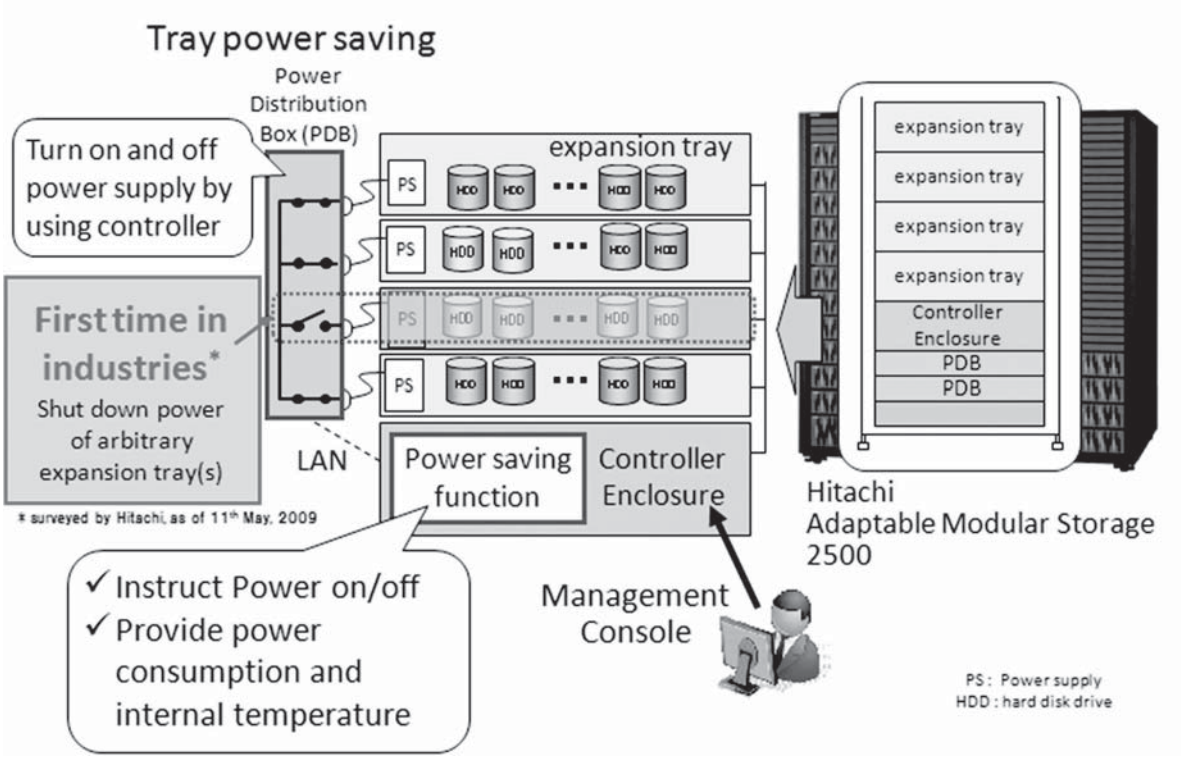
This solution (AdaptivCOOL) consists of three phases, visualization of air flow using CFD (Computational Fluid Dynamics), scenario analysis with a variety of situations and emergencies, installation of air flow management system. A series of these processes achieves not the quick-fix solution but the optimum thermal environment of the individual datacom. As a result, a perfect balance between saving energy and risk reduction is actualized.

Yamatake Corporation

Green IT Promotion Council
Chairman's Awards

【Energy-saving of IT】

Disk array enabling efficient power saving operation in data center



"Tray power saving" is the green technology, enables cutting down power consumption up to 75%* by stopping rotation of hard disk drives and shutting down drive trays.

In addition, volume capacity virtualization function helps power consumption saving by raising up capacity utilization rate.

* Comparing normal state (i.e. without using "Tray power saving") and full power saving state (i.e. using "Tray power saving") in case of maximum configuration of Adaptable Modular Storage2500.

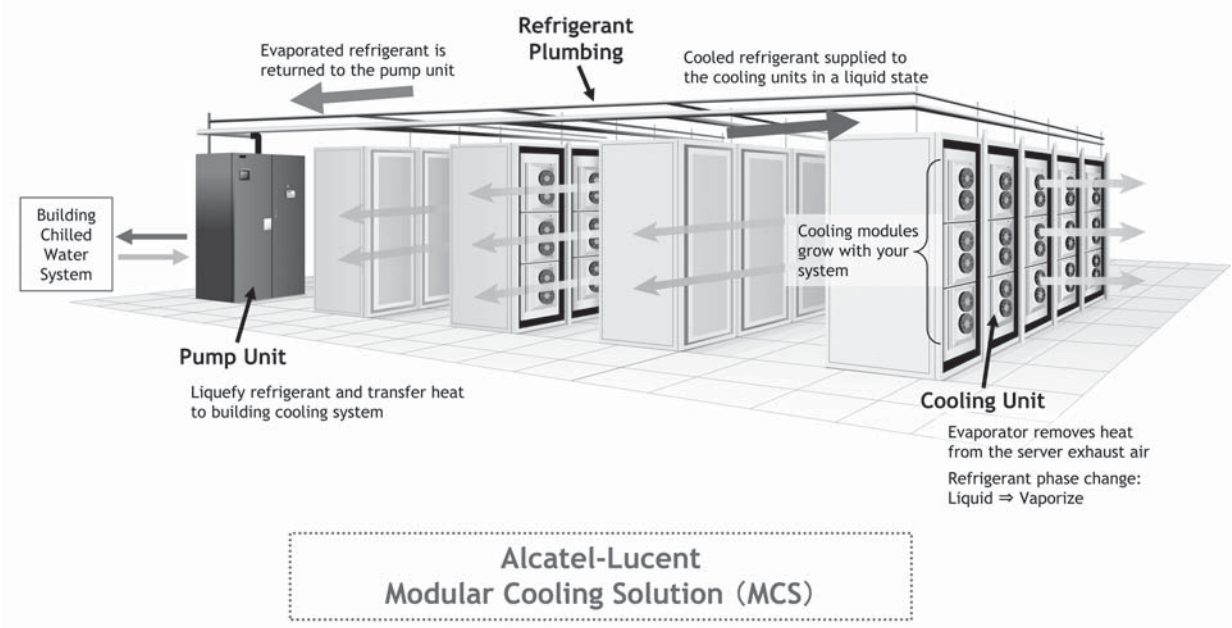
Hitachi, Ltd.

Green IT AWARD 2010
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving of IT】

Power Saving Cooling System for Data Center



- This solution reduces the exhaust heat up to 90% which results in substantially reducing excess energy consumption of cooling system, by installing low power consumption cooling unit as close as possible to IT equipments.
- Adoption of two-phase flow process contributes to realize this highly energy-efficient cooling solution, where low pressure liquid refrigerant will be supplied to cooling unit and evaporator vaporize exhaust heat.

Alcatel-Lucent Japan Ltd.

Green IT AWARD 2010
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving of IT】

The Third Generation ATMs

【The features of the third generation ATMs】

- Energy saving
  Reducing power consumption from the level required for existing ATMs
- Extension the life of component parts
  Saving the maintenance costs by promoting efficiency of the maintenance work
- Boost speed
  Improve customer convenience with faster processing
- Improve cash efficiency
  Reducing the cash transportation costs by increasing paper money capacity

【Energy saving effects】

○Reduction electric energy (per ATM) : about 1,200kWh a year
⇒48% reduction by the existing ratio

○Quantity of reduction CO_2 (per 15,000ATMs) : **about 6,881t a year**※

※Convert CO_2 emissions for 1wh =0.378g

⇒Equivalency to the CO_2 which the forest for about 2,200 hectares absorbs

For more information about the introduction time and functions, we will inform it some other time

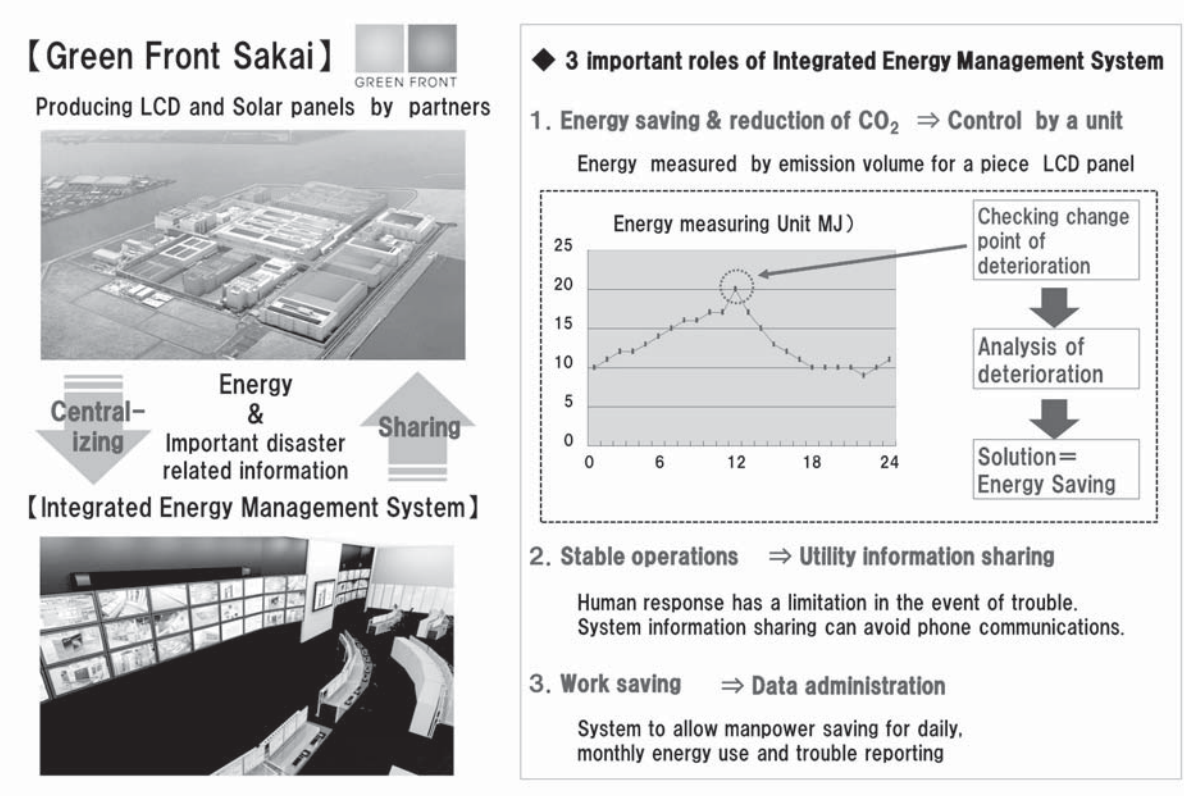
We have developed new Seven Bank ATMs (the third generation ATMs) to replace about 15000 ATMs placed in 7-Eleven stores and so on. New ATMs will operate by energy saving mode except trading mode, moreover we have changed the backlight of screen to LED, and this will reduce almost half of consumption electric power compared with former ATMs and contribute to reduction of CO_2 emissions.

Seven Bank, Ltd. / NEC Corporation

Green IT AWARD 2010
Green IT Promotion Council
METI Minister's Awards

【Energy-saving by IT】

IT based energy saving implemented at Green Front SAKAI



Green Front Sakai is an industry complex where companies from different industries are gathered to support LCD and solar panel production. Over here, energy related information is centralized by IT systems, and energy consumption, waste or inefficient use, and related risk assessments are displayed. Collected information is shared among all partners at Green Front Sakai, enabling stable operations, energy saving & reduction of CO_2, and work saving.

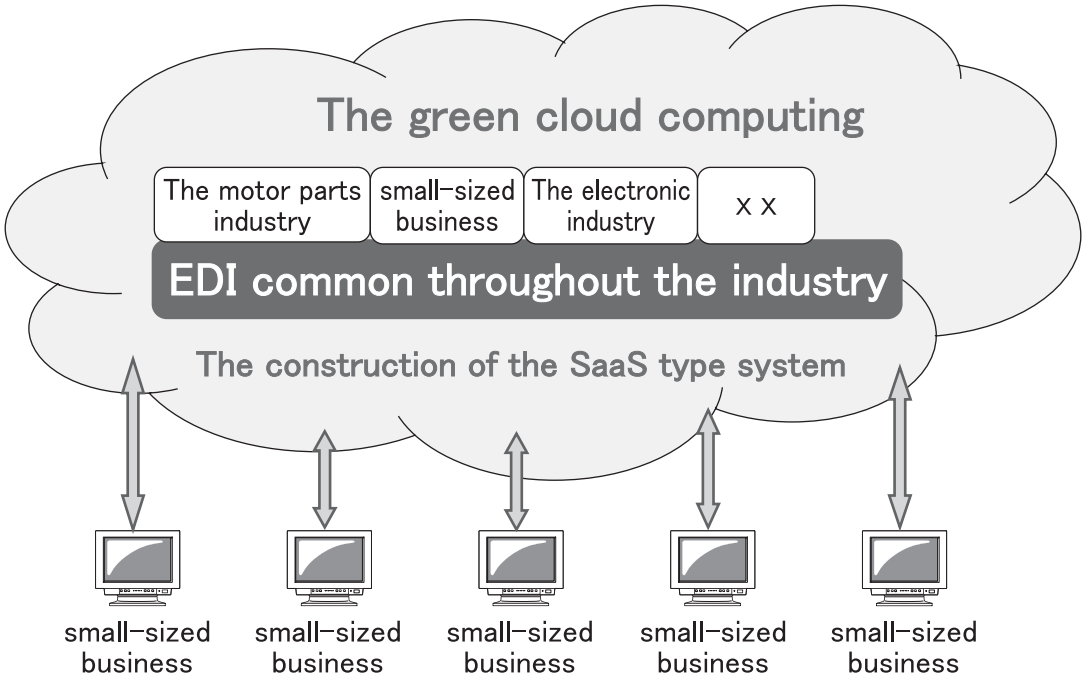
Sharp Corporation / Kanden Energy Solution Company Incorporated / Yokogawa Electric Corporation

Green IT AWARD 2010
Green IT Promotion Council

METI Commerce and Information Policy, Director-General's Awards

【Energy-saving by IT】

Realization of "the green cloud computing" in the user company



Ultimate green IT:
that each company does not need to own hardware and software.

It is necessary to spread 'the green cloud computing' as 'the ultimate green IT' in earnest.

Constructing the SaaS type system which makes possible for both car business and smaller business to use commonly.

We realize 'the green cloud computing' that each company does not need to own hardware and software.

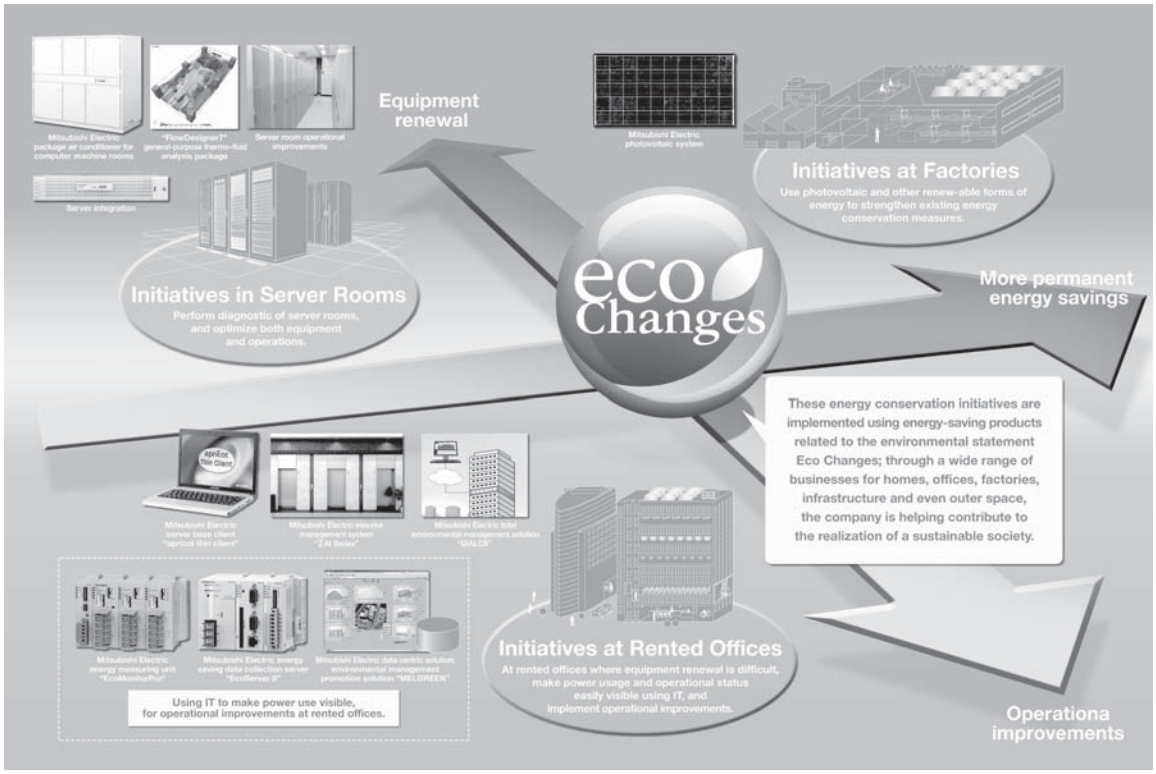
Kojima Press Industry Co., Ltd.

Green IT Promotion Council
Chairman's Awards

【Energy-saving by IT】

Eco Changes Using Green IT

– Company-wide Energy Conservation Initiatives Customized to Each Business Site –



- Categorized business sites into factories, rented offices and server rooms; proposed energy conservation measures customized to suit the characteristics of each site from the viewpoints of buildings, equipment and operations.
- Incorporated Green IT using Mitsubishi Electric products at rented offices and server rooms, which had not implemented measures as quickly as at factories.
- Achieved CO_2 reductions of 8 tons/year at factories, 7.4 tons/year at tenant offices, and 86 tons/year at server rooms.

Mitsubishi Electric Corporation

Green IT AWARD 2010
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving by IT】

Software for 3D Simulations of Energy-Efficient Housing and Remodeling

A CAD system for housing presentations that satisfy client needs for images and information

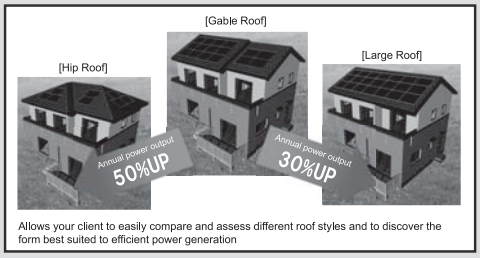
Walk in home 10

Using 3D and graphical images, *Walk in home* gives clear presentations that demonstrate the advantages of energy-efficient housing that may otherwise not be familiar to clients.
Simple to operate, it allows you to present instant simulations while talking with a client.

1 Solar Panel Simulation

- Simple operation to estimate the return on investment in a solar system
-Comparison and consideration to determine the optimal roof form and gradient for efficient power generation
- Comparison and consideration to determine the manufacturers and products best suited to individual houses

A simulation of solar panel layouts provides estimates of power outputs, rough break-even points, environmental contributions and loans.



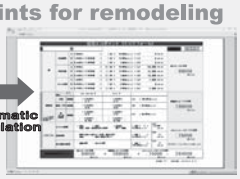
Allows your client to easily compare and assess different roof styles and to discover the form best suited to efficient power generation

2 Remodeling

- Produces a view of the remodeling results in advance to reassure the owner and encourage remodeling
- Performs a structural check and calculates the optimal materials to reduce building waste

3 Simple calculation of Eco-Points for remodeling

Automatic calculation



-A simple operation automatically calculates Eco-Points from the wall and ceiling areas and the size and number of windows.

Walk in home is a computer-aided design (CAD) system used for housing presentations. It enables effective 3D and graphical presentations of solutions that help reduce CO_2 emissions, such as remodeling and solar panel installation, and makes Housing Eco-Point simulations easy. Walk in home translates owners' visions into design proposals tailored to individual properties, helping to promote energy-efficient housing.

DTS CORPORATION

Green IT AWARD 2010
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving by IT】

World's first "Eco-Route Search" to know fuel consumption before driving. Car navigation equipment.

carrozzeria
TRIP to the EDGE

CYBER NAVI

走行前に燃費がわかる業界初※の「エコ・ルート探索」搭載

走行する前からクルマごとに全候補ルートの燃費を測定するサイバーナビの「エコルート探索」。「スマートループ渋滞情報」と独自の「燃費推定技術」により真のエコが実現する。

※ 2010年5月当社調べ。国内市販カーナビゲーションとして（パイオニア調べ）

エコなルートの燃料費:4,860円

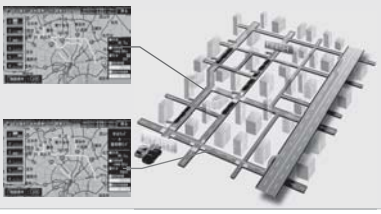
一般的な推奨ルートの燃料費:5,450円（時間は早い）

クルマごとに最適な「エコ・ルート」を提案。

アイドリング時などに排気量の大小で消費燃料が違うことでもわかるように、燃料消費量はクルマによって（重量、排気量、寸法）異なります。サイバーナビはクルマごとの特性も考慮して一台一台に適したエコ・ルートを提案します。

例：小型車の場合
多少右左折を繰り返しても、こまめに渋滞を避けて走行した方が燃料消費が少なくて済むので、一般道の渋滞を避ける赤ルートが最も燃料費が少ない。

例：大型車の場合
高速道路や停止・右左折などが少ない幹線道路を走行時の燃費がいいので、多少距離が長くても青ルートの燃料消費量が最も少ない。



「スマートループ渋滞情報」

常に最新の道路データを反映した地図データを用い、全ての道路状況を把握することで各候補ルートの所要時間を高精度に予測します。

VICS渋滞対応道路約77万km

スマートループ渋滞対応道路（VICS独自情報）約70万km

※パイオニア調べ
※道幅5.5m未満の細街路を除く。

独自の「燃費推定技術」

クルマの燃料消費量と速度の変化には強い相関関係があることに着目し、あらゆるデータからクルマの正確な速度を計測し、精度の高い燃料消費量を推定します。

速度を求めるデータ
GPS　車速パルス　地図データ　Gセンサー

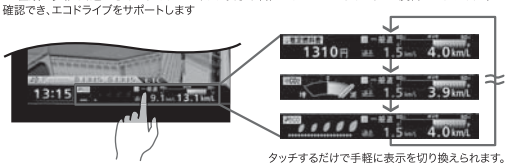
クルマの状態
アイドリング時　加減速時　速度安定時

クルマの違い
車両重量　総排気量　車幅寸法

車検証から数値を入力

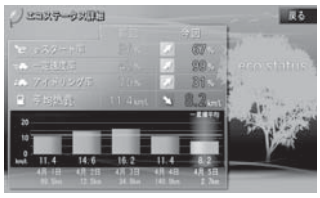
エコ度合いをドライブ中に確認

10種類の多彩な、遊び心あふれるグラフィック表示や音声メッセージによって、エコ度合いをドライブ中に確認でき、エコドライブをサポートします



タッチするだけで手軽に表示を切り換えられます。

エコ運転評価の詳細を表示



▲エコステータス詳細表示例

最も燃料消費量の少ないルートを事前に推定提案

渋滞を考慮しないカーナビ（FM-VICSのみ搭載）に対して
ガソリン代　年間約20,000円お得　CO_2排出量　約20%OFF

※パイオニア調べ（1500ccクラスの国産乗用車による当社指定コースでの比較走行テストの結果（時期:2010年1月）に基づく）
総務省統計局「家計調査（2008年）」をもとに算出。

Pioneer's original "Fuel Consumption Estimation Technology" and "Smart Loop Traffic Congestion Information" equipped with the world's first "Eco-Route Search" feature, let's you realize the true eco-route with the latest technology and vast information available.

Furthermore, you may have fun enjoying the graphics and audio through the eco-drive support. The system may also be used in secondhand cars and older model cars besides the recent eco-cars.

PIONEER CORPORATION

Green IT AWARD 2009

introduction

Energy Saving of IT

METI Minister's Awards	**NTT DATA CORPORATION** **NTT FACILITIES,INC.**	Green Data Center® Service
METI Commerce and Information Policy, Director-General's Awards	**Alaxala Networks Corp.**	Dynamic Energy Saving System for Communication Networks
Green IT Promotion Council Chairman's Awards	**Toshiba Corporation**	Contribution to the prevention of global warming by providing environmentally conscious PCs to global market
Green IT Awards Judging Committee Special Awards	**Hitachi,Ltd.**	Energy Conservation of Servers by Hitachi Virtualization Tecnology
	FUJITSU LIMITED	Blade server system designed for less power consumption and less load on the air-conditioning of data centers
	AMD Japan,Ltd.	Six-core AMD Opteron™ Processor

Energy Saving by IT

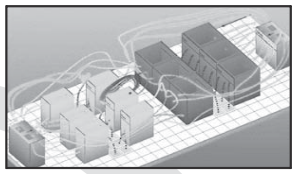
METI Minister's Awards	**Yokogawa Electric Corporation**	Use of IT to Eliminate Energy Waste on Production Lines
METI Commerce and Information Policy, Director-General's Awards	**Suzuyo & Co.,Ltd.** **FUJITSU LIMITED**	Logistic System for CO_2 Reduction by Modal Sift
Green IT Promotion Council Chairman's Awards	**KOJIMA PRESS INDUSTRY CO.,LTD.**	The reduction of CO_2 by Green-IT for user companies
Green IT Awards Judging Committee Special Awards	**NEC Corporation**	CO_2 emission visualization and reduction service for household and region "Carbon Diet"
	Green University of Tokyo Project	The Green University of Tokyo Project: Field Experiments of "Green by IT/ICT" at Faculty of Engineering Bldg.2
	Sumitomo Mitsui Banking Corporation **NEC Corporation** **Oki Electric Industry Co., Ltd.**	The Next Generation Banking Terminal System (CUTE)

Green IT AWARD 2009
Green IT Promotion Council
METI Minister's Awards

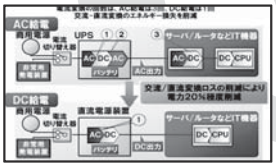
【Energy-saving of IT】

Green Data Center® Service

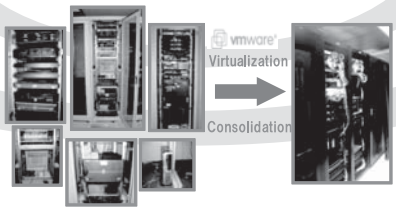
● Solar power system



● Highly-efficient air-conditioning design



● High-voltage DC Power supply system



● Virtualization technology

● High-efficient rack design

NTT DATA CORPORATION is one of the biggest data center suppliers in Japan with about 680,000 m^2 of gross floor area. We are now promoting Green Data Center® Project by integrating our IT and facility technologies in order to reduce negative impacts on the environment from data centers. Specifically, we have introduced several green technologies to our data center located in Tokyo. In order to reduce power consumption, we consolidated and integrated servers with virtualization technologies. At the same time we introduced a carbon-free solar power system to use green power. As to energy efficiency, we improved it by a high-voltage DC power supply system and we also improved cooling efficiency with seismic isolator built-in system "Aisle Capping*."
With these actions altogether, we aim to reduce 30% of annual power consumption comparing to that of our conventional data centers.

NTT DATA CORPORATION / NTT FACILITIES,INC.

Green IT AWARD 2009
Green IT Promotion Council

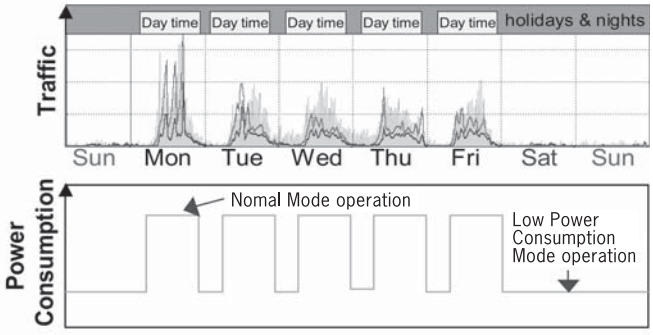
METI Commerce and Information Policy, Director-General's Awards

【Energy-saving of IT】

Dynamic Energy Saving System for Communication Networks

AX6608S

AX1240S



During low traffic hours, Dynamic Energy Saving Network System reduces power consumption by transitioning to low power consumption mode without interrupting communication.

Dynamic Energy Saving Network System can reduce its power consumption while its traffic is low by changing operating mode of its sub-systems without disturbing its communication;

- Decreasing processing capacity of core switches.
- Cutting off the power suply to redundant supervisor module.
- Truning unused floor switches into sleep mode.
- Cutting power feeding to unused line circuits and status display LEDs.

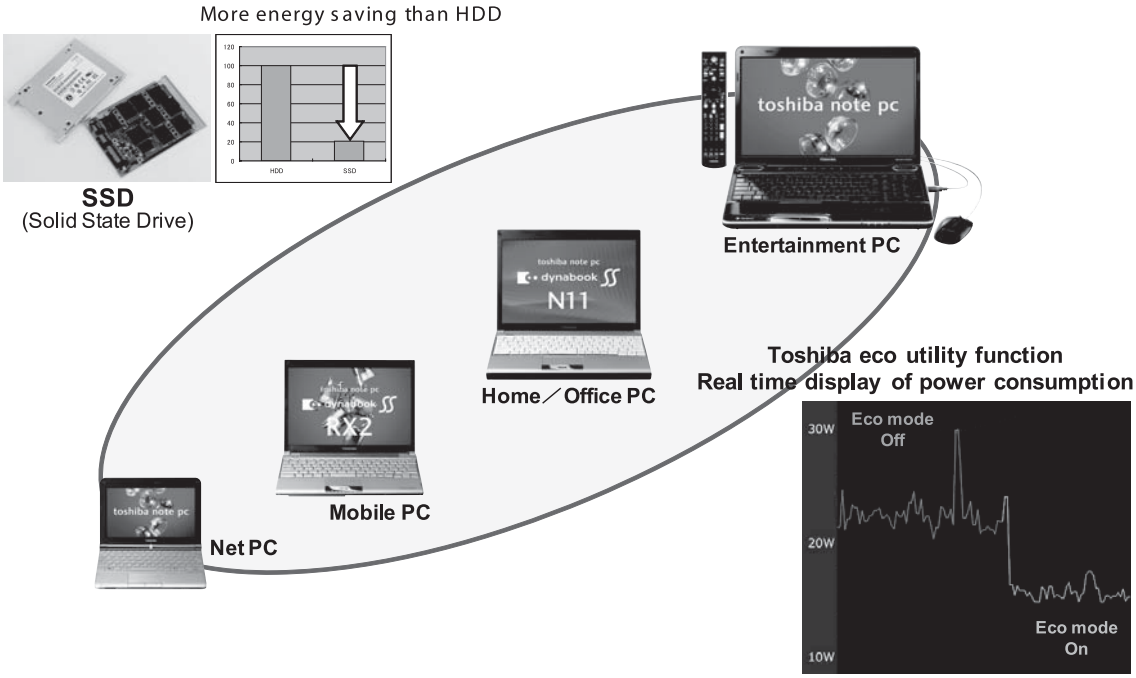
Alaxala Networks Corp.

Green IT Promotion Council
Chairman's Awards

【Energy-saving of IT】

Contribution to the prevention of global warming by providing environmentally conscious PCs to global market

Toshiba new PC lineup



In an effort to prevent global warming, Toshiba has been exerting maximum efforts to seek further energy saving for our products.

We are proud to announce that all Toshiba 2009 New PC Lineups are ENERGY STAR® V5.0 qualified and most of them feature Toshiba Eco-Utility function.

And wide range of lineup is designed ready to incorporate SSD (Solid State Drive) which has excellent environmental efficiency through product life cycle.

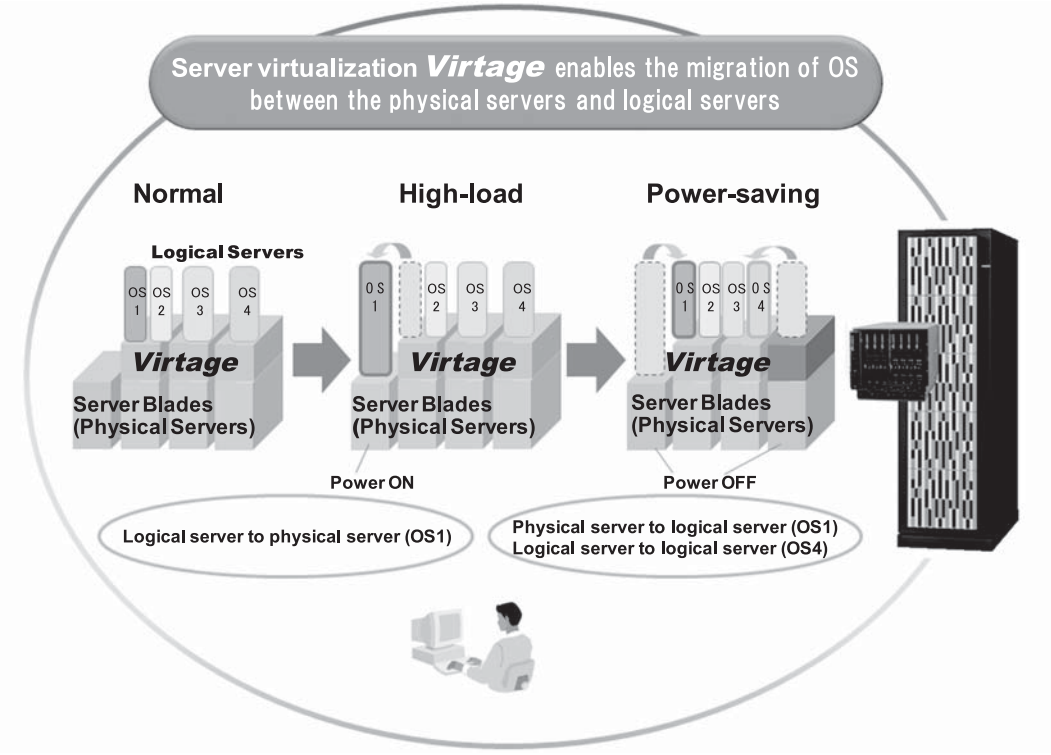
Toshiba Corporation

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving of IT】

Energy Conservation of Servers by Hitachi Virtualization Technology



Hitachi server virtualization technology "***Virtage***" supports migration of operating systems between physical servers and logical servers as well as migration between logical servers. This unique feature is possible since operating systems on logical servers operate very similarly to operating systems running on physical servers. Depending on the user's operating policy, the total power consumption of system can be cut down by moving an operating system on a physical server to a logical server, thereby reducing the number of running physical servers.

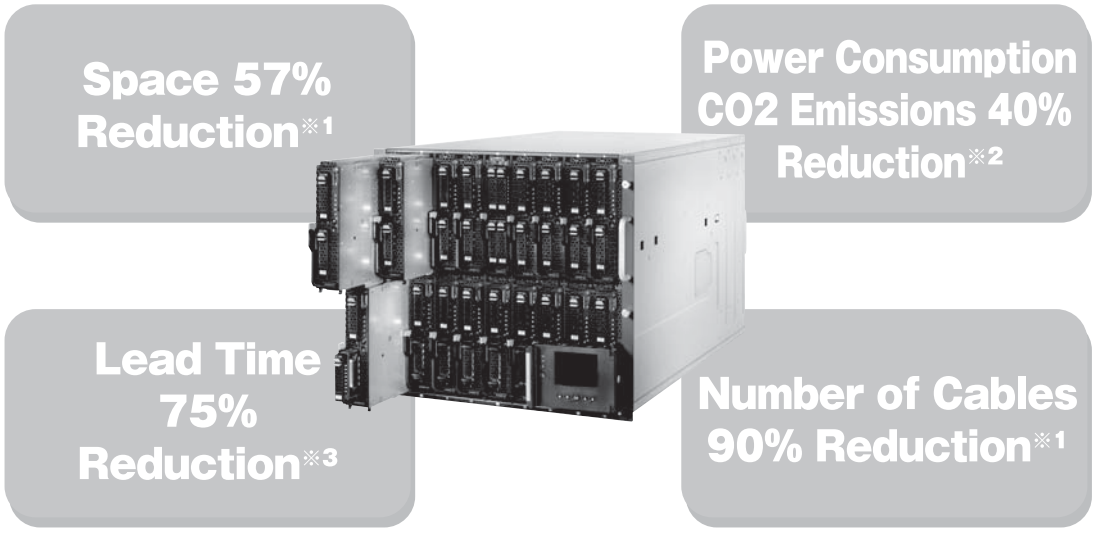
Hitachi,Ltd.

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving of IT】

Blade server system designed for less power consumption and less load on the air-conditioning of data centers



Blade Server PRIMERGY BX900

※1 Comparison with system that combines 18 rack type servers
※2 Effect of reduction of consolidating 18 rack type servers about three years ago
※3 Effect of reduction when rack type server is consolidated in SAN boot system

PRIMERGY BX900 is a blade server for the largest systems.

With the industry's best high-density mounting, of 18 server blades in just 10U of rack space, it is testament to the use of the latest packaging technology and energy conservation techniques.

At just 40% power consumption compared with conventional racked systems, the load on data center air conditioning is greatly reduced. In addition, its highly efficient air-flow design maximizes cooling efficiency.

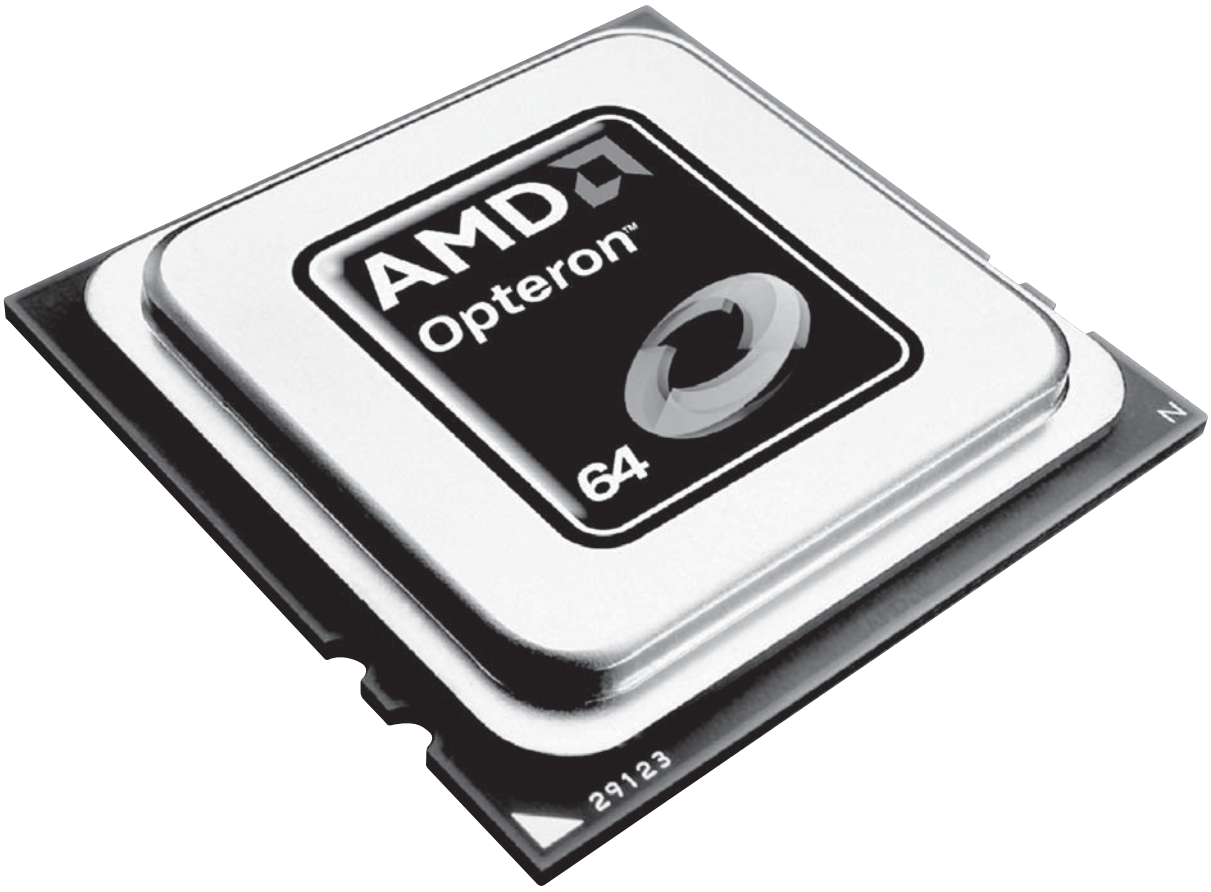
FUJITSU LIMITED

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving of IT】

Six-core AMD Opteron™ Processor



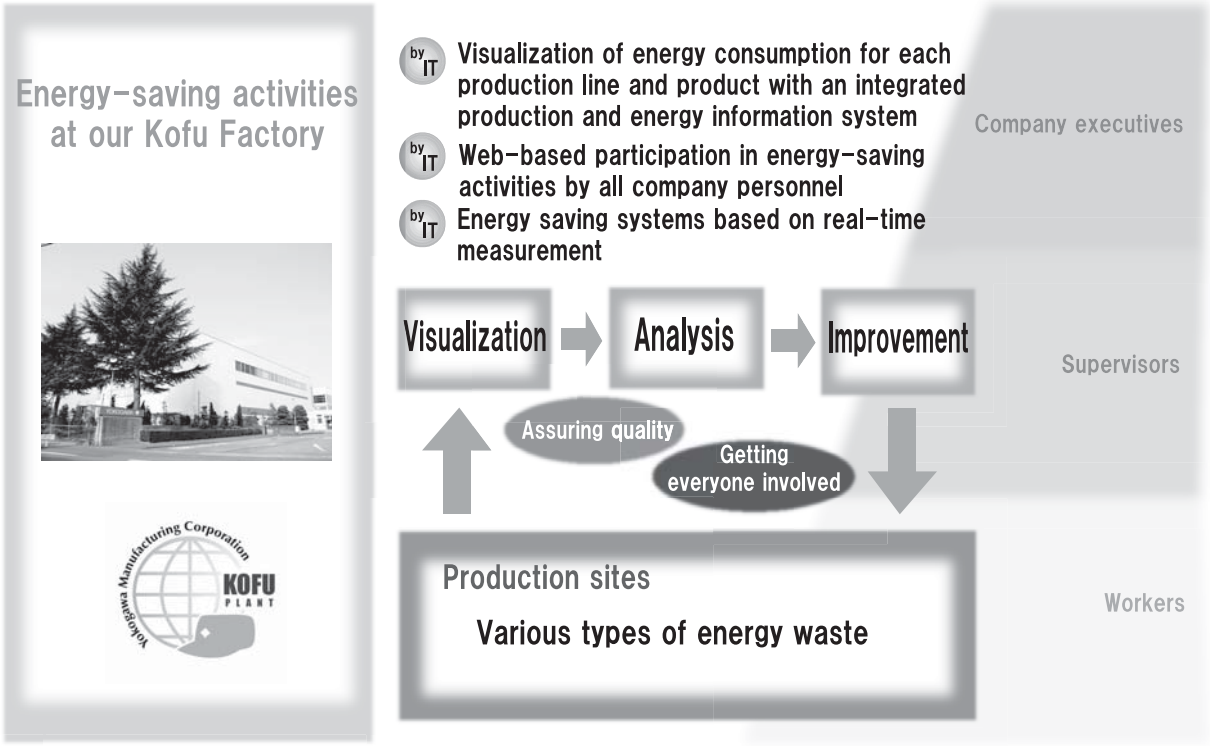
Six-Core AMD Opteron™ processor Series, using a 45nm SOI Immersion lithography process deliver performance efficiency to handle real world workloads with superior value and energy efficiency at every price point. AMD technology-based servers deliver one platform to support the top-line demands of your business with a total cost advantage you can take right to the bottom-line.

AMD Japan,Ltd.

Green IT AWARD 2009
Green IT Promotion Council
METI Minister's Awards

【Energy-saving by IT】

Use of IT to Eliminate Energy Waste on Production Lines



Yokogawa Electric Corporation is making efforts to improve its energy efficiency through (1) the use of an integrated production and energy information system to visualize energy consumption and identify energy waste on a production line and product basis, and (2) Web-based initiatives to increase the participation of all company personnel (including executives). Through these measures, in fiscal year 2008 the Company's Kofu Factory was able to reduce its CO_2 emissions by 18.5%, or approximately 3,000 tons, compared to fiscal year 1998 levels.

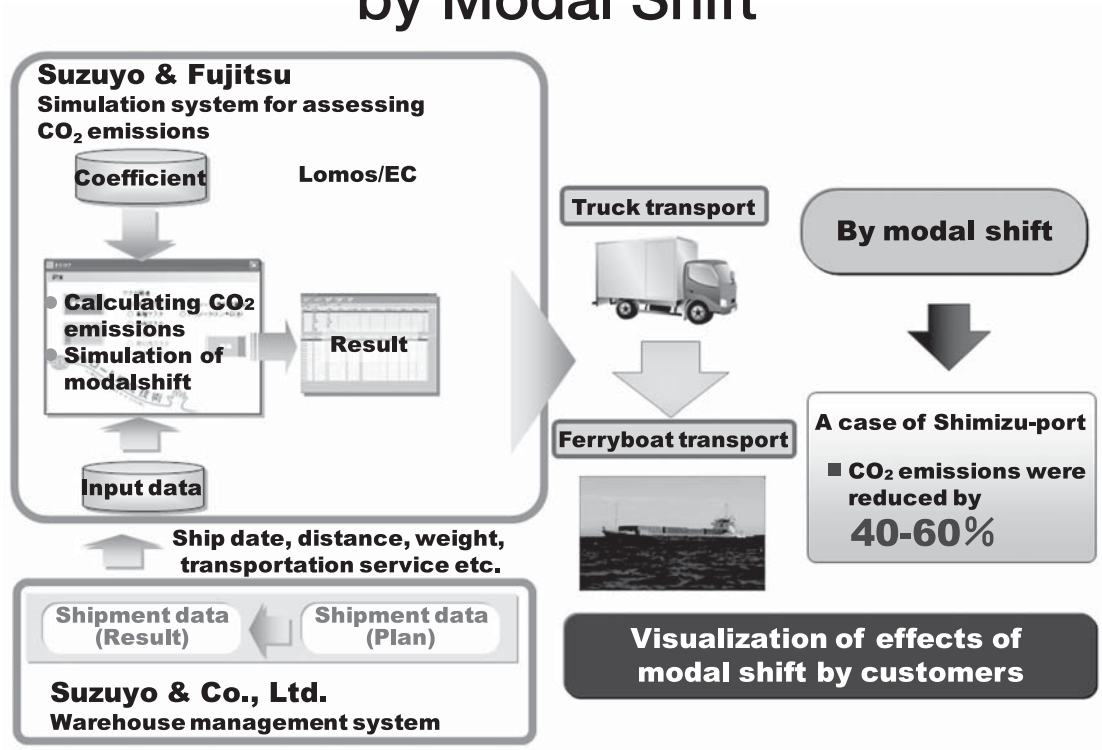
Yokogawa Electric Corporation

Green IT AWARD 2009
Green IT Promotion Council

METI Commerce and Information Policy, Director-General's Awards

【Energy-saving by IT】

Logistic System for CO_2 Reduction by Modal Shift



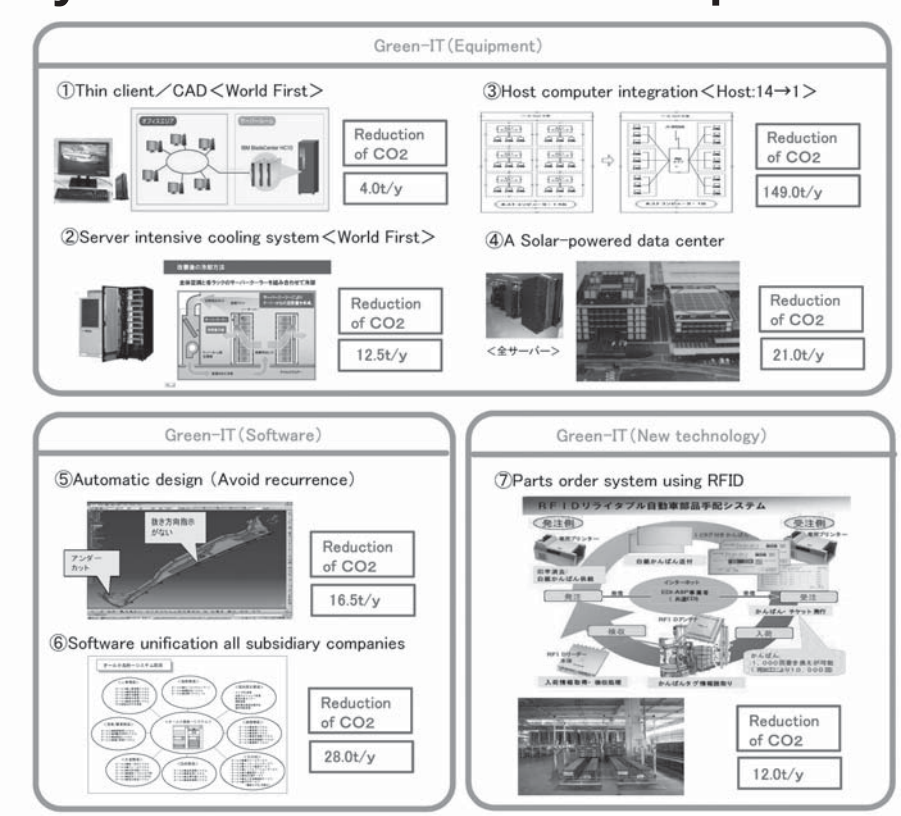
A feature of the logistic system is that it enables users to easily monitor the CO_2 emissions associated with transportation, by combining a warehouse management system and a physical distribution management solution (LOMOS / EC) that visualizes the CO_2 emissions.
An effect brought by a change in transportation such as modal shift and consolidation of cargos will be visualized, which can be used to improve the physical distribution in a proactive manner. For example, a case of modal shift at the Shimizu-port brought reduction of CO_2 emissions by 40 to 60 %.

Suzuyo & Co.,Ltd. / FUJITSU LIMITED

Green IT Promotion Council
Chairman's Awards

【Energy-saving by IT】

The reduction of CO_2 by Green-IT for user companies



Recently, the power consumption of IT has been increasing.
However, few users tackle this issue.
When we looked at the power consumption of IT we use, we found out that it made up 83% of the total power consumption of our head-office building.
Therefore, we think about and develop user case study in IT, and realized CO_2 reduction 222 tons per year.

KOJIMA PRESS INDUSTRY CO.,LTD.

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving by IT】

CO_2 emission visualization and reduction service for household and region “Carbon Diet”

Carbon Diet

- **Connect an automated electricity measurement unit to the home electricity meter.**
- **Data is automatically transmitted to NEC's BIGLOBE server.**
  ⇒ Can easily participate in environmental activities.

「Carbon ball(フンコロガシで、エコ)」　「里山を作ろう」

Reduction of CO_2 emission by 10%
(3 month trial from April to June)

Carbon Diet is the web service that automatically measures and transmits the amount of power consumption by a ZigBee-based device attached to the circuit breaker panel.

This service provides games that enable people to reduce the everyday power consumption and CO_2 emission, and to enjoy energy saving.

NEC conducted a three-month trial in 100 employees' homes from April though June this year, resulting in reducing CO_2 emission by 10 percent, compared with the same month last year.

NEC Corporation

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving by IT】

The Green University of Tokyo Project: Field Experiments of "Green by IT/ICT" at Faculty of Engineering Bldg.2

Green university of Tokyo Project
グリーン東大工学部プロジェクト

- Asahi Kasei Microdevices Corporation
- Cisco Systems, Inc
- Citrix Systems Japan K.K.
- Cimx Corporation.
- Daikin Industries, Ltd.
- DSI, Inc.
- Digital Electronics Corporation
- Fuji Xerox Co., Ltd.
- Fujitsu Limited
- ITOCHU Corporation
- Japan Agiletech Co., Ltd.
- KAJIMA CORPORATION
- Kantokowa Co., Ltd.
- KOKUYO Co.,Ltd.
- Mitsubishi Corporation
- Mitsubishi Research Institute,Inc.
- MITSUI KNOWLEDGE INDUSTRY CO., LTD.
- NEC Corporation
- Nippon Telegraph and Telephone Corporation
- NTT FACILITIES, INC
- OMRON Corporation
- Panasonic Corporation
- Panasonic Electric Works Co., Ltd.
- SHIMIZU CORPORATION
- Takenaka Corporation
- Toshiba Corporation
- Ubiteq, Inc.
- Watanabe Electric Industry Co., Ltd.
- WILLCOM, Inc
- Yamatake Corporation
- Yokogawa Electric Corporation
- Facility Network Interoperability Consortium
- Green IT Promotion Council.
- IPv6 Promotion Council.
- Keio University.
- LONMARK JAPAN
- Nagoya University
- OKAYAMA IPv6 CONSORTIUM.
- Ritsumeikan Asia Pacific University
- Shizuoka University.
- The Institute of Electrical Engineers of Japan
- The Institute of Electrical Installation Engineers of Japan
- The University of Tokyo
- Tokyo Metropolitan Research Institute for Environmental Protection
- WIDE Project.

Green University of Tokyo Project has started its activity since June, 2008 as a business-academia collaboration project. At the faculty of Engineering Bldg.2, the project has conducted various demonstration experiments for facility managements in terms of both "Green of IT" and "Green by IT", and also focused on an educational campaign for "Green IT". The project now works on a standardization of facility managements to make our Green IT technologies pervasive.

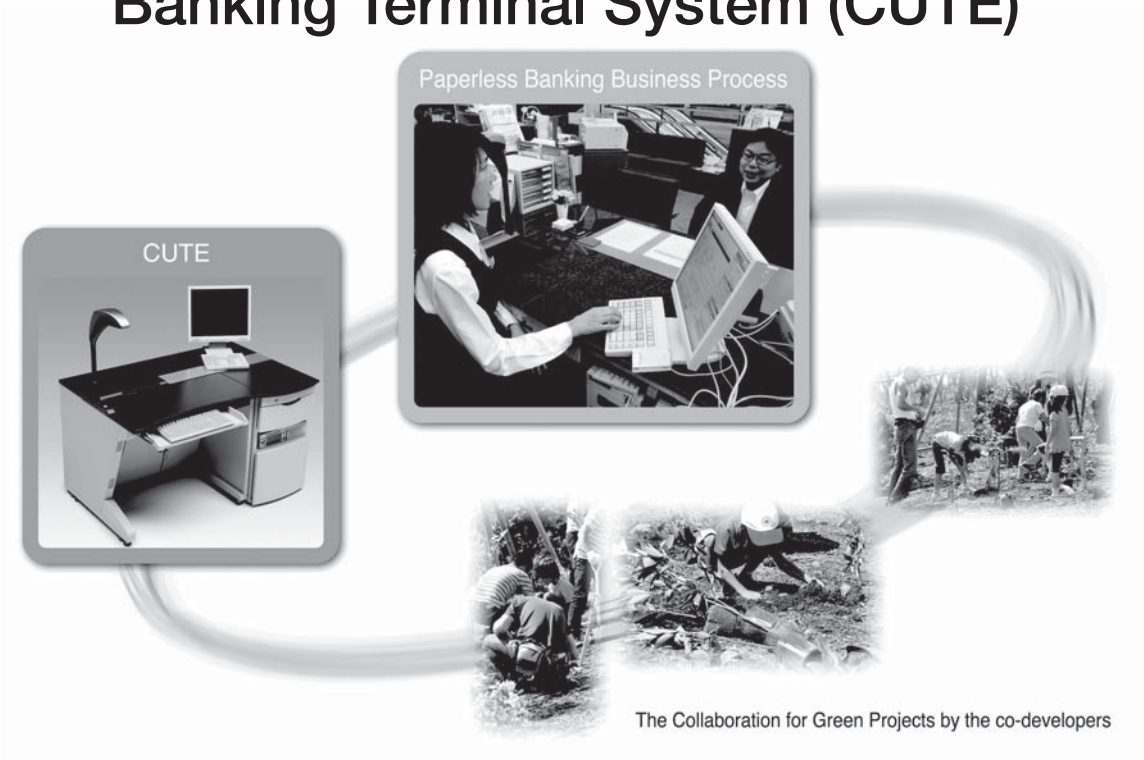
Green University of Tokyo Project

Green IT AWARD 2009
Green IT Promotion Council

Green IT Awards
Judging Committee Special Awards

【Energy-saving by IT】

The Next Generation Banking Terminal System (CUTE)



CUTE is the Next Generation Banking Terminal System, which embodies the concept of the highest care for customer experience.

The system has not only improved the productivity of the employee and satisfaction of our customer, but also contributed to the reduction of environmental load, reducing consumption of over 3 million pieces of papers or CO_2 emission by 23%.

Our company is also committed to keep engaging in the environmentally friendly programs with the co-developers of the CUTE system, NEC and OKI corporations.

Sumitomo Mitsui Banking Corporation / NEC Corporation / Oki Electric Industry Co., Ltd.

Product Introduction

All products and solutions listed on the handbook are subject to change without notice because of product improvement.
For more information, please contact each companies.

# of IT

– Energy-saving of IT –

PC

Energy Efficient Client PC

Intel K.K. Intel® vPro™ Technology

Intel® vPro™ Technology based PC reduces energy and the management cost significantly by its high-functioning manageability.

■ Usage / field

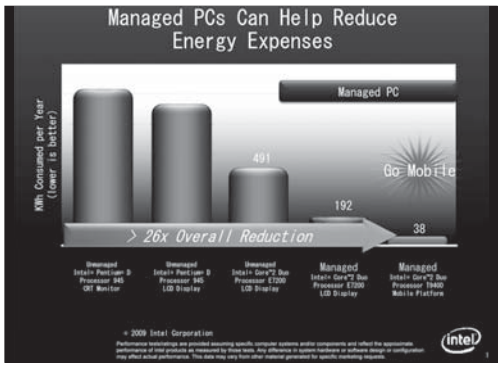
Enhanced performance and energy efficient business client platform

■ Use conditions

Intel® vPro™ Technology based client PC

■ Features

When it comes to the energy cost in IT, data center usually gets the attentiongiven the density of the IT equipments.
While each indivusal energy consumption of PC client devices tends tobe smaller relative to server platforms, overall energy consumption ofthe PC cannot be ignored given volume of the devices placed in the office.
By replacing exisiting client PC with the latest model, an amount of energysaving in return is very significant.



Energy-saving effect

Energy cost is an increasingly important piece of the TCO puzzle.
The number of PCs in the world grows every year.
Intel provides the responses by delivering world-leading performance and energy efficiency, without painful performance tradeoffs. Platform power management and mobile platforms represent the best ways to dramatically reduce your company's energy costs and global energy footprint.

Contact

Intel K.K.

5th Floor, Kokusai Building, 3-1-1, Marunouchi, Chiyoda-ku, Tokyo
TEL 81-3-5223-9100 FAX 81-29-847-8450
URL http://www.intel.com/vPro/

PC

PC with various energy-saving functions as standard installations

NEC Personal Products, Ltd.
Mate Type MG

All-in-one PC which balanced of performance and power conservation

■ Usage / field

Business PC

■ Use conditions

Power AC100V±10%, 50/60Hz
Temperature 10-35°C, Humidity 20-80%

■ Features

Mate TypeMG has enhanced power saving features.
1. Power saving functions
   - Brightness Controll button
   - LCD Back-Light Off button
   - Application for ECO Mode setting
2. Power saving parts
   - Intel low power CPU
   - 2-Lamp LCD

Energy-saving effect

Mate TypeMG achieved over 50% power saving compared with 2005 model.
Annual electricity bill will be decreased by JPY3,830 per unit.
(Calcurated by 1PC. Working time of PC per day is 8 hours. And high power working is 60% in a day. Electricity bill of hour is 22/kWh.)

Reference URL:
http://www.nec.co.jp/products/bizpc/promotion/eco/eco_simulator/index.html

Contact

NEC Personal Products, Ltd.
121 Contact Center

11-1, Osaki 1-Chome, Shinagawa-ku, Tokyo, Japan
TEL 0120-977-121（toll-free only in Japan）
URL http://www.nec.com/

PC

Prevention of Global Warming by energy saving Note PC

Toshiba Corporation Toshiba 2010 New PC Lineups

For new 2010 PC Lineups, CO_2 emission are reduced further by enhanced energy saving function. And this allows all 2009 models to be qualified for international Energy Star V5.0.

Usage / field

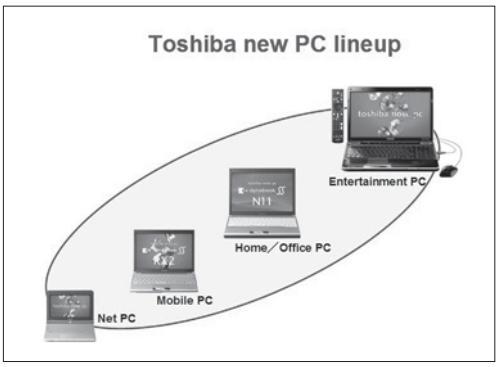
Toshiba Note PC Lineup covers from home to office use.

Use conditions

AC100V-240V (50Hz/60Hz)

Features

In an effort to prevent global warming, Toshiba has been exerting maximum efforts to seek further energy saving for our products.
We are proud to announce that all Toshiba 2010 New PC Lineups are ENERGY STAR® V5.0 qualified and most of them feature Toshiba Eco-Utility function.
And wide range of lineup is designed ready to incorporate SSD (Solid State Drive) which has excellent environmental efficiency through product life cycle.



Energy-saving effect

The ratio of Product Life Cycle CO_2 emission between Desktop and Note PC is 2:1. and it is 5:2 between Desk Top and Mobile Note PC. (Product Life Cycle: from procurement, manufacturing, usage and end-of-life. Life Cycle CO_2 emission is calculated by Toshiba LCA system.)

Contact

Toshiba Corporation
Toshiba PC support center

1-1, shibaura 1-Chome, Minato-ku, Tokyo
TEL 0120-97-1048
URL http://dynabook.com/pc/index_j.htm

Server

FUJITSU PRIMERGY CX1000
INNOVATIVE SCALE-OUT INFRASTRUCTURE FOR CLOUD AND HIGH-PERFORMANCE COMPUTING

FUJITSU LIMITED PRIMERGY CX1000

The PRIMERGY CX1000 is the latest high density platform that is the most suitable for establishing large datacenters targeting cloud computing environments. The main target market is a service provider providing hosting, as-a-service-providers and Cloud services using scale-out systems such as Web/Ap-servers and / or PC-clustering systems.

Usage / field

The Ideal server platform for Cloud computing environments and datacenter development

Use conditions

Power consumption / Thermal rate: 14,000W (max.) / 50,400kJ /h

Features

PRIMERGY CX1000 is designed to deliver as much computing power as possible per data center rack.
The internal chimney-based cooling, system, which quickly funnels hot air through two large extraction fans on top of each rack, means individual server nodes can be fan free.
This vertical architecture allows rows of CX1000 racks to be placed back-to-back saving valuable data center real estate.
Node design places all interfaces on the front of each server. This facilitates easy maintenance as only front rack access is required.
The simplified server node structure also reduces the weight as well as the effort required for installation and servicing.

Energy-saving effect

The replacement of existing servers with CX1000 brings about significant savings in power consumption and dynamic cost reductions in datacenter facility costs.
The following examples show potential cost reductions when 10,000 existing rack servers are replaced with CX1000. All figures are approximate.

- A 13% reduction in server power consumption → A saving of 110 million yen over 3 years in power bills (Main contributing factors: Fan-less server nodes, 2 big central fans per rack, 80 PLUS Gold certified high efficiency power supply units).
- A 13% rreduction in cooling costs → A further saving of 110 million yen over 3 years in power bills (Main contributing factor: Power consumption for cooling is reduced in proportion to the effect of server power consumption reductions on heat generation).
- A 40% rreduction is data center floor space foot-print. → A saving in space facility costs of 280 million yen over 3 years. (Main contributing factors: Higher server node density, improved rack storage and, removal of need for hot aisles - CX1000 racks can be placed back to back as heat is only exhausted upwards.)

Contact

FUJITSU LIMITED
Fujitsu Contact Line

Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo 105-7123 Japan
TEL +81-120-933-200
URL http://primeserver.fujitsu.com/primergy/cx/

Server

Blade server with reduced power consumption by efficient power control

Hitachi, Ltd.
BladeSymphony® 2000

A high-performance, highly reliable blade server inheriting mainframe technologies. Optimizing control of power efficiency suppresses excessive heat generation and power consumption, which contributes our customers' reduction in CO_2 emission.

Usage / field

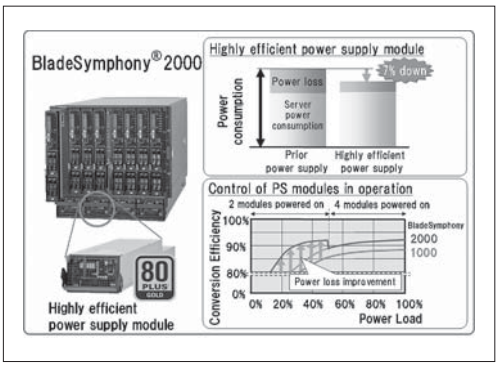
For mid-range and high-end servers requiring I/O performance, expandability, high reliability, and high availability: Web 3-tier system, ERP system, large data base system, mission-critical system, and so on.

Use conditions

Four power supply modules (maximum), AC200-240V single-phase power input

Features

- Provided with a highly-efficient power supply module with conversion efficiency of over 92% (compliant with 80 PLUS® Gold).
- Maintain high coversion efficiency by turning on and off power supply modules according to the power load on server blades in operation.
- Control the operation frequency and voltage of processors according to the power load on server blades, thereby reducing power consumption of the server blades.
- Reduce the power consumption of server blades by setting a ceiling on their maximum power consumption.
- Automatically optimize the rotation speed of cooling fans according to the thermal distrbution inside a chassis, thereby reducing the power consumption of the fans while maintaining their cooling performance.



Energy-saving effect

By using our highly-efficient power supply modules and controlling the number of power modules in operation according to a power load, power loss of power supply modules can be reduced. Power consumption is down by max 7% compared with the power supply modules used in our prior model(*1) (BladeSymphony® 1000).

*1: Release in September, 2004

BladeSymphony is a registerd trademark of Hitachi, Ltd. in Japan and other countries.

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Enterprise Server Division

Omori Bellport D Bldg. 26-3, Minami Oi 6-chome, Shinagawa-ku, Tokyo, 140-0013 Japan
URL http://www.hitachi.co.jp/products/bladesymphony/eco/index.html

Server

High Density Server

Hitachi, Ltd. HA8000-bd/BD10

A high density server, HA8000-bd/BD10 holds 40 server blades in a 5U(*1) chassis. Power consumption of each blade under normal operation is limited to 35W(*2). ***1: 1U=44.45mm *2: Power consumption per server blade under normal operation with 40 server blades set in a 5U base unit***

Usage / field

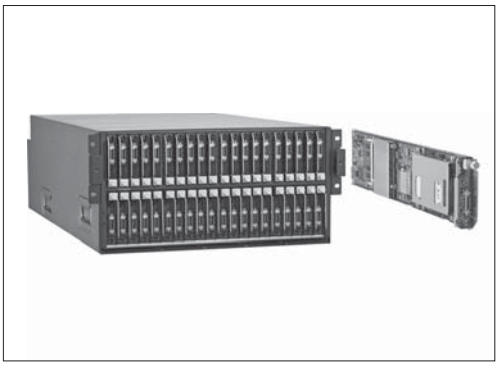
Front end server in web service, distributed parallel processing server

Use conditions

Temperature 10-35°C
Humidity (no condensation) 20-80%

Features

HA8000-bd/BD10 is a space saving entry blade server which enables physical server consolidation. As many as 320 servers can be integrated in a 42U rack cabinet. HA8000-bd/BD10 is suited for scale out approach to expand system, which can be accomplished just by adding server blades.



Energy-saving effect

With 35W power consumption under normal operation, HA8000-bd/BD10 cuts off about 83% of power consumption compared to a typical 1U-sized PC server(*3). To save the power consumption, it is designed with following features;
- Adoption of the power module certified 80 PLUS® GOLD
- Controlling the number of power modules and speed of cooling fans by the system load
- Adoption of the power saving CPU and chipset

*3: Comparison with HA8000/RS110, on sale in April 2010

HA8000 and HA8000-bd are product names of Hitachi, Ltd. in Japan. This product is sold only in Japan.

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Enterprise Server Division

Omori-Bellport D Bldg. 26-3, Minami Oi 6-chome, Shinagawa-ku, Tokyo Japan
URL http://www.hitachi.co.jp/ha8000-bd/

Server

Power Saving by Server Virtualization

Hitachi, Ltd. Hitachi Server Virtualization Technology

Hitachi Virtualization Manager (HVM), Hitachi Server Virtualization Technology, enables server consolidation and power-saving operation, contributing to reduced electricity consumption.

■ Usage / field

Field: Server Virtualization
By applying virtualization technology on blade servers, it is possible to consolidate IT systems, reducing the total energy consumption. This system is applicable to data centers.

■ Use conditions

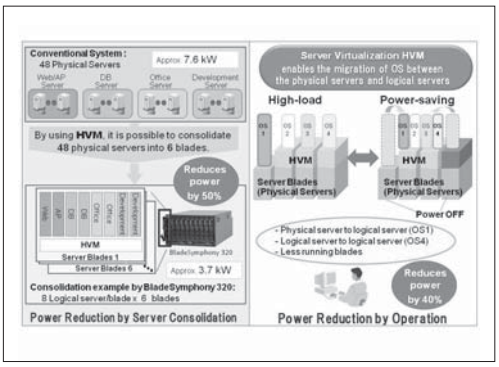
Operates on BladeSymphony® 2000fx /2000 /1000 (V-model) /320 (PCI expansion) server blades.

■ Features

Inheriting mainframe logical partioning technology and adopting I/O passthrough, HVM is the only IA server virtualization technology developed within Japan(*1).
On HVM, the guest operating system can access I/O in a similar manner as physical environments. This hardware transparency feature distinguishes HVM from other virtualization softwares. An operation system installed in a logical unit of disk array system can be booted from both physical and logical servers, providing flexibility to the operation of IT system.
*1: As of June 2010, investigated by Hitachi, Ltd.
HVM was rewarded the Green IT Award 2009.

Energy-saving effect

Case1: Reducing Total Power Consumption by Server Consolidation
Before: Running 48 HA8000s(/130 2005.7 model)(*2) consumes approximately 7.6kW.
After: By running 8 logical servers on 6 BladeSymphony® 320 PCI expansion server blades, the power consumption can be cut to half, to approximately 3.7kW.
*2: name of Japan domestic Hitachi PC servers
Case2: Reducing Total Power Consumption by Operation
Instead of running 4 physical blades constantly to fulfill the demanding month-end workloads, it is possible to run only 2 blades except for the busiest month-end 6 days by using HVM. Reducing the number of running physical servers cuts electricity consumption approx. 40%.
BladeSymphony is a registerd trademark of Hitachi, Ltd. in Japan and Other countries.



Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Enterprise Server Division

Omori Bellport D Bldg. 26-3, Minami Oi 6-chome, Shinagawa-ku, Tokyo, 140-0013 Japan
URL http://www.hitachi.co.jp/virtage/

Server

Energy Efficient Microprocessor

Intel K.K. Intel® Xeon® Processor 5600 Series

The newest Intel® Xeon® Processor 5600 Series based server reduces power consumption by 95% comparing to mainstream servers in 2005.

■ Usage / field

Microprocessor for enhanced performance and energy efficient server product

■ Use conditions

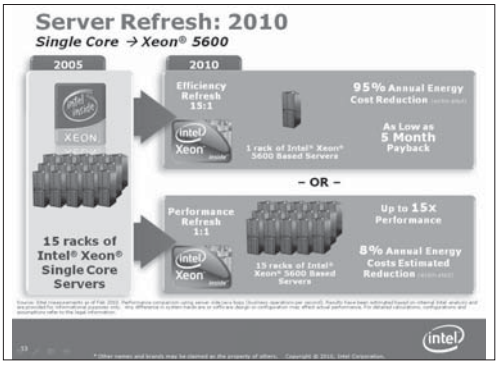
Server based on Intel® Xeon® Processor 5600 Series

■ Features

- The first server and workstation chips based on the groundbreaking, new Intel 32nm logic technology, which uses Intel's second-generation high-k metal gate transistors to increase speed and decrease energy consumption
- Deliver the same performance as a server using the previous generation product, but with up to 30 percent lower platform power
- Power consumption reduction by automated enegy management feature accordingto workload
- Flexible virtualization technology supporting system level utilization improvementwhich enables optimization of total system power consumption

Energy-saving effect

By replacing 5-year-old servers with this microprocessor base server, data centers can replace 15 single-core servers with one server and power consumption can be reduced by 95% while maintaining same overallperformance



Contact

Intel K.K.

5th Floor, Kokusai Building, 3-1-1, Marunouchi, Chiyoda-ku, Tokyo
TEL 81-3-5223-9100 FAX 81-29-847-8450
URL http://www.intel.com/xeon/

Server

IA server which realizes zero discharge of the CO_2 IP-CORE Lab Inc. NX51

We developed the new server which could work with a solar battery. We realized zero discharge of the CO_2 in the field of server for the first time in the world.

Usage / field

Desktop noiseless server operation.
The 19 inches rack deployment server of the data center.
The server which I loaded onto a car.
The server systems construction at the place that supply of the commercial electricity has difficulty. Etc.

Use conditions

A power supply : DC12V, Electric Power : Less than 10W, Temperature : Less than 40°C

Features

With technology of embedded computer, power consumption realized an IA(Intel Architecture) server of 10W. By putting the part which is low power consumption together in a CPU(Intel Atom Z530) of the low power consumption and neighboring Chip set(Intel US15W). And we enable the operation that we continued by the feeding from a second battery when we perform server operation by the feeding from a solar battery and the charge to a second battery in the daytime and lack electricity by cloudiness and rain by a solar battery and a second battery and a combination with the charge control unit in the night.

Energy-saving effect

According to "the report document to the investigation analysis committee" of the Green IT promotion council, the server (volume range) of the datacenter in Japan in 2005 becomes 2.36 million equipment.
In addition, the annual power consumption per one server is 1,918KWh, and 7,700 million KWh of the IT equipment is included in 14,600 million KWh of the power consumption of IDC. Then, the energy-saving effect when 10% of the server is perlaced with NX51(power consumption is 10W) is provisionally calculated.
(1,918KWh-(0.01KW×24h×365days))×2,360,000
×10%=4.32 million KWh As for 432 million KWh, it is reduced electricity equivalent to 5.6% of the IT equipment and 10% of the server.

Contact

IP-CORE Lab Inc.
Market Promotion Division

GRAND VAN OGIKUBOⅡ15-16, Ogikubo-5, Suginami-Ku, Tokyo, Japan ZIP:167-0051
TEL +81-3-6768-8405 FAX +81-3-6768-8401
E-mail contact@ip-core.jp

Server

Energy Saving IT Platforms NEC Corporation NEC Express5800 series and NEC Storage series

As an effect of NEC's approach for energy saving platform "REAL IT COOL PROJECT", NEC devoloped the energy saving server system and contributes the reduction of the environmental impact, realizing 54% reduction for servers and 93% for storage in power consumption.

Usage / field

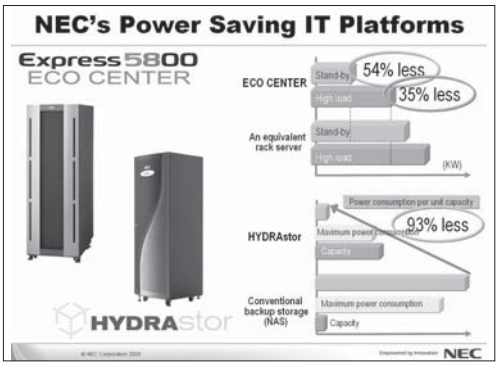
Cloud computiong platform at Data Centers by government or large enterprise

Use conditions

Power consumption:
Server: Max. 350W per server
Storage: Max. 2,280W per 7.1TB

Features

- Adopt NEC Express5800/ECOCENTER as servers reducing max. 54% in power consumption by using 80PLUS Gold power supply with a power coversion rate of 92% and the highly improvement of colling efficiency.
- Adopt NECHYDRAstor as the external storage reducing max. 93% in power consumption with implementation of 1/20 data compression by eliminating overlapped portion of backup data.
- Support virtualizaton platform like VMware and Citrix XenServer and realize evergy saving operation by optimizing the configuration of virtual machines by NEC's integrated software "Web Master".



Energy-saving effect

Server: Max. 54% reduction in power consumption comparing to an equivalent server
Storag: Max. 93% reduction in power consumption in comparison with the case of storing identical logical capacity to normal backup storage

Contact

NEC Corporation
REAL IT COOL Promotion Center
IT Platform Marketing Promotion Division
33-1, Shiba 5 Chome, Minato-ku, Tokyo, Japan
TEL +81-3-3798-6998 FAX +81-3-3798-9726
E-mail realitcool@itpf.jp.nec.com
URL http://www.nec.co.jp/eco/en/annual2009/hl/02.html

Storage

Environment-conscious Storage

Hitachi, Ltd. Hitachi Adaptable Modular Storage 2500

AMS2500, the highest model of "Hitachi Adaptable Modular Storage 2000 series" is environment-conscious midrange disk array system with high performance and reliability, that realizes about 75% power saving at max. configuration by expansion power saving function.

■ Usage / field

Environment-conscious external disk array system to store computer data, which consists of Hard Disk Drives (HDD).

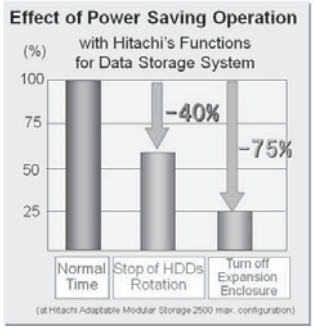
■ Use conditions

Host interface is Fibre Channel or iSCSI.

■ Features

In addition to the power saving by MAID (Massive Array of Idle Disks) function, which stops rotation of HDDs that are not accessed by Computer for long time, our original function(*1) can save more power by turning off power of expansion disk array enclosures. Moreover, AMS2500 is environment-conscious product by following efforts. a) Resource saving by virtualization, b) Collected used products can be utilized as new resources. c) Comply with EU RoHS Directives to totally avoid the use of the following six chemicals: lead, hexavalent chromium, cadmium, mercury, PBB and PBDE..

*1: available only in Japan



Energy-saving effect

By combining our function of turning off power of expansion disk array enclosures with MAID function, power consumption of disk array system can be reduced by about 75% at max. configuration compared to that without these functions. Hitachi developed this function based on the close collaboration with Tokyo University, Institute of Industrial Science, Center for Information Fusion. And they use these functions and they have achieved about average 72% (*) power saving compared to that without these functions based on the university's data. It means saving of 41 tons of carbon dioxide per year.
(*this is not at max. configuration).

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company Disk Array Systems Division, Sales Service, Sales & Marketing Dept.

Omori Bell Port B, 6-26-2 Minami-Oi, Shinagawa-ku, Tokyo,140-8573, Japan
TEL 1-888-234-5601 -Hitachi Data Systems-
Inquiry URL http://www.hds.com/corporate/contacts/
URL http://www.hds.com

Storage

Midrange Disk Array System

Hitachi, Ltd. Hitachi Adaptable Modular Storage 2000

Hitachi Adaptable Modular Storage 2000 Family is disk array systems for midrange market. The thin provisioning function which is one of standard feature enables to improve efficiency of storage use and actualize electric power saving.

■ Usage / field

A broad range of applications such as online trading which requires high response time and large capacity of archive data and backup data.

■ Use conditions

Power supply: single-phase AC100-120V or 200-240V (there is also a DC model)

■ Features

- Improvement of storage efficiency by the Thin Provisioning.
- High performance and high availability by the "Dynamic Load Balancing Controllers."
- High reliability by dual writing to cache and addition of data guarantee code.
- Compliance to RoHS (Restriction on Hazardous Substances).
- Reduction of power consumption by MAID (Massive Array of Idle Disks) technology.
- High density storage expansion tray actualizes small-footprint which is more than doubling the capacity of the standard tray.

Energy-saving effect

The thin provisioning can reduce the number of actually implemented storage drives by virtualizing the storage capacity which servers recognize. It enables to implement additional drives at the point in time when it has become necessary without implementing all the drives at first that might be necessary in future.
It is possible to decrease approximately 20% of power consumption in case of SAS 300GB drive vis-a-vis capacity 40TB with the example which is made initial introduction 30TB with the thin provisioning until remaining 10TB is added.

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company Disk Array Systems Division, Sales Service, Sales & Marketing Dept.

Omori Bell Port B, 6-26-2 Minami-Oi, Shinagawa-ku, Tokyo,140-8573, Japan
TEL 1-888-234-5601 -Hitachi Data Systems-
Inquiry URL http://www.hds.com/corporate/contacts/
URL http://www.hds.com

Storage

Low electric power WORM※ Storage

IP-CORE Lab Inc. LX100system

RAIDstorage is unsuitable for digitalcontents which increases explosively, in view of cost and electric power. LX100system realizes 1/10 or less for electric power. I realize not in automatic replication and virtualization but in Ooen architecture.

■ Usage / field

Judging from cost and electricity, the storage of the RAID type is unsuitable for preservation and management of digital content increasing explosively. LX100system realizes an automatic replication function using an open architecture and enables less than 1/10 consumption electricity.

■ Use conditions

A power supply AC100/200V, Consumption electricity 30-60W (in the case of HDD 8TB)

■ Features

LX100system consists of a group of nodes of plural devices connected in IP. The saved digital content is managed by a file unit not a block unit. Safety of the whole system rises so that nodes increase, and preservation cost per the bit falls. Because the HDD without the access stops by MAID (Massive Arrays of Inactive Disks) technology, low consumption electricity is enabled. The data assume that it is used for 100 years, and data oneself performs replication automatically.
The memory of data can use the USB memory as well as an HDD, too. Therefore I can choose the recording medium which is most suitable for every time, and mixture is possible.
※ : Write Once Read Many

Energy-saving effect

The RAID type storage has bad electricity efficiency to use electricity in large quantities when there is not access. LX100system enabled the smallest electricity by using a part with a little electricity consumption. As well as backup unit using a magnetic tape, I can zero the electricity that is necessary for safekeeping and can cope with a momentary access demand. The RAID type storage of general 10TB was consumption electricity from 300 to 400W, and, however, as for LX100system, the consumption electricity realized 30W in the operative whole. As for 100 RAID type storage, electricity of 100 times is necessary, and, however, as for LX100system, the consumption electricity falls so that number increases.

Contact

IP-CORE Lab Inc.
Market Promotion Division

GRAND VAN OGIKUBOⅡ15-16, Ogikubo-5, Suginami-Ku, Tokyo, Japan ZIP:167-0051
TEL +81-3-6768-8405 FAX +81-3-6768-8401
E-mail contact@ip-core.jp
URL http://www.ip-core.jp

Storage

Disk Array Unit

NEC Corporation NEC Storage D8-30

The D8-30 adopts MAID technology aiming at saving energy.

■ Usage / field

SAN system for midrange to High-end, which required
flexible scalability, comfortable manageability and secure availability.

■ Use conditions

Connecting to host computer with 8Gbps fibre channel

■ Features

- D8-30 employs the eco-friendly and energy-saving technology as well as reduces the cost of power consumption.
  By dedicated software control, the MAID* system turns off the motor power of unused disk drives. *MAID: Massive Array of Inactive Disks
- The resources of the storage system can be virtualized and distributed dynamically within the business.
- The D8-30 uses enhanced virtualization technology to create virtualized resource pools, optimizing the access to the disks.

Energy-saving effect

Reduction rate of power consumption: approx. 61%, reduction rate of CO_2 emission: approx. 75 ton/year
:Ground for calculation (all the comparison is made with our existing products' similar capacity)
;Power consumption of minimum configuration / sotrage capacity
Existing product (S2500): 4285W/37.4TB, This product (D8-30): 13260W/302.2TB
;Yearly usage hours: 365 days/year × 24hrs/day, CO_2 emission coefficient: 0.41kg-CO_2/kWh

Contact

NEC Corporation
IT Platform Marketing Unit

5-33-1 Shiba, Minato-ku, Tokyo, Japan
TEL +81-3-3798-9740
URL http://www.necstorage.com/

Storage

Disk Array Unit

NEC Corporation NEC Storage HS8-20

NEC iStorage HS8-20 is an advanced backup storage system that harnesses the innovative grid storage technology

Usage / field

This is a storage ideally suited for the ever increasing data backup, and for archives of less accessed data and critical data.

Use conditions

Connecting to computer through 1G or 10G ethernet

Features

- With NEC's unique Grid Storage Technology*, the energy and space reductions were achieved.
- With the introduction of 1 TB disk drive and the hich density mountain technology, more than 60% energy reduction compared with the existing products were achieved.
- The products with these technologies can provide our customers the ideally suited environment friendly storage solution for the data centers which requires the energy saving and space saving of IT equipments.

* The technology that by eliminating the duplicated data block, only the difference in data is stored which enables the increase in data compress by 20~50 folds more than the conventional quantity (measured by NEC) and the distributed accelerator node and storage node, that stores the data, are connected as a mesh.

Energy-saving effect

Reduction rate of power consumption: approx. 63%, reduction rate of CO_2 emission: approx. 27 ton/year (*1)
:Ground for calculation *1 (all the comparison is made with our existing products' similar capacity)
;Power consumption of minimum configuration / sotrage capacity
Existing product (HS8-10): 2920W/6.8TB, This product (HS8-20): 4501W/28.4TB
;Yearly usage hours: 365 days/year × 24hrs/day, CO_2 emission coefficient: 0.41kg-CO_2/kWh

Contact

NEC Corporation
Platform Strategic Marketing Division

5-33-1 Shiba, Minato-ku, Tokyo, Japan
TEL +81-3-3798-9547
URL http://www.necstorage.com/

Router / Switch

Dynamic Energy Saving Network System

ALAXALA Networks Corporation AX6700S/6600S/2530S/1240S series

Dynamic Energy Saving Network System can substantially reduce its power consumption, by decreasing its processing capacity without interrupting communication while its communication traffic is low.

Usage / field

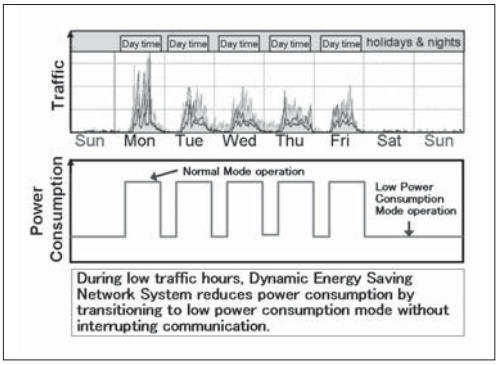
Network Infrastructure for enterprises, governments, service providers and telecom carriers.

Use conditions

Communication networks which traffic changes largely.

Features

Dynamic Energy Saving Network System can reduce its power consumption while its traffic is low by changing operating mode of its sub-systems without disturbing its communication;
- Decreasing processing capacity of core switches.
- Cutting off the power supply to redundant supervisor module.
- Turning unused floor switches into sleep mode.
- Cutting power feeding to unused line circuits and status display LEDs.



Energy-saving effect

With typical network configuration which is composed with core switches and floor switches, it can reduce the network system power consumption by 40% to 50%, if the network is operated through low traffic hours such as nights or holidays.

Contact

ALAXALA Networks Corporation
Business and Sales Division

Shinkawasaki Mitsui Bldg. West Tower, 890 Kashimada, Saiwai-ku, Kawasaki, Kanagawa, 212-0058, Japan
URL http://www.alaxala.com/en/

Router / Switch

Energy-Saving Switch

NEC Corporation IP8800 Series

IP8800 Series' ability to eliminate excess power consumption makes a societal contribution to minimize environmental impacts by founding an environmentally-friendly network.

■ Usage / field

IP8800 Series set up the framework of the green network in the fields of Enterprises, Governments, and Municipalities.

■ Use conditions

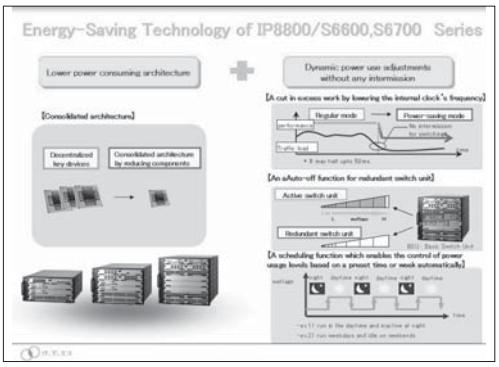
S6708 Consumes 3750 watts maximum with a switching capacity of up to 1.15Tbps.

■ Features

The adoption of the consolidated architecture makes IP8800/S6000 Series consume lower energy by reducing components.
In addition, IP8800/S6600, S6700 Series can adjust power use without any intermission by virtue of the functions listed below:
- A cut in excess work by lowering the internal clock's frequency.
- An auto-off function for redundant switch units.
- A scheduling function which enables the control of power usage levels based on a preset time or week automatically.

Energy-saving effect

- A lower-power consuming architecture makes power reduction by approximately 30% compare to conventional models.
- The combination of excess work mitigation and the auto-off function for redundant switch units can result in up to 50% in power reductions.



Contact

NEC Corporation

UNIVERGE Call Center
TEL 0120-75-7400（toll-free only in Japan）
URL http://www.nec.com/global/solutions/univerge/

Display

ECO plus monitor which turns off liquid crystal screen when user leaves the seat

FUJITSU LIMITED VL-177SRL

This is the ECO plus model which improves the "Energy-saving" and "Security" at the same time. This is the most advanced monitor.

■ Usage / field

This is the ECO plus model which improves the "Energy-saving" and "Security" at the same time, turns off liquid crystal screen by perceiving the user's leaving seat with sensor for person

■ Use conditions

Power supply: AC100V 50/60Hz Connection method: Analog RGB (mini D-Sub15 pin)

■ Features

A 17-inch display that enables power saving through a user presence/absence detection function
- An infrared sensor detects user presence or absence. If the user is absent, the sensor automatically turns off the display after a minimum of 4 sec.
- The display is automatically turned on again when the user returns to the area in front of the display.
- The power of the display synchronizes with the power of main body of personal computer. It corresponds to energy-saving mode of PC's.
- It enhances security by password lock.
- The monitor corresponds to the color reproduction standard "sRGB" and display modes of various images
- It can be used in various scenes with the tilt function and the swivel function that enable to adjust monitors at your favorite angle.
- The monitor confroms to the J-Moss green mark and RoHS Directive.
- It complys with International Energy Star Program and the Law on Promoting Green Purchasing.

Energy-saving effect

Reduces electricity consumption by approx. 96% (From at usual power consumption to at leaving seat)

Contact

FUJITSU LIMITED
Fujitsu Contact Line

Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo 105-7123 Japan
TEL +81-120-933-200
URL http://www.fmworld.net/biz/fmv/product/hard/display/vl_177srl/

Display

Mitsubishi LCD display

Mitsubishi Electric Corporation RDT202WLM Series

Mitsubishi LCD display that supports energy-saving for the office.

■ Usage / field

By Low Power Consumption LCD Panel and "ECO Professional", Mitsubishi LCD display supports energy-saving for the office.

■ Use conditions

The average screen brightness is more than 75% and "3" of ECO SELECT is selected. (compare to "OFF") (Based on ours results)

■ Features

1) Low Power Consumption LCD Panel Significantly reduces power consumption.
2) "ECO Professional" for energy-saving.
   (1) ECO SELECT: approximately 10W reduction at maximum.
   (2) Energy-Saving Management by OSD (on screen display)
   ECO TOTAL (kWh) / ECO RATE (%) / ECO CO_2 (kg)
   (3) ECO METER (Energy-Saving Values shown in real time)
   (4) AUTO POWER OFF / OFF TIMER
   (5) DISPLAY OFF

Energy-saving effect

RDT202WLM and RDT202WM (conventional model) of 100 units in comparision, annual CO_2 reduction is approximately 2880kg.
(12 hours/day, 20 days/month)
1) Low Power Consumption Panel 15W reduction per 1set. (RDT202WLM: 29W / RDT203WM: 44W) Annual CO_2 reduction is 17kg per 1set.
2) "ECO Professional" Maximum 10W reduction per 1set. Annual CO_2 reduction is 12kg per 1set.
-- Conversion factor from the power Consumption to CO_2 emissions is 0.4kg/kWh.

Contact

Mitsubishi Electric Corporation
Display Monitor Business center

2-7-3, Marunouchi Chiyoda-ku Tokyo 100-8310, Japan
TEL 03-3218-6144 FAX 03-3218-6991
URL http://www.MitsubishiElectric.co.jp/display/

Display

ECO-conscious LCD Monitor

NEC Display Solutions, Ltd. MultiSync LCD-EA222WMe

The EPEAT GOLD Certified LCD monitor realizes not only low power consumption and no mercury by white LED back light, but also halogen free to all parts and accessories.

■ Usage / field

LCD Monitor to Enterprises and Personal Users

■ Use conditions

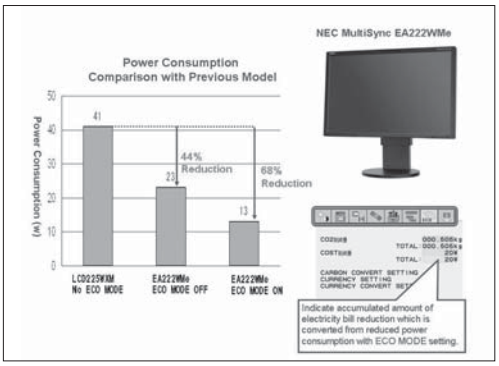
Input Voltage AC 100-240V, 50Hz/60Hz Maximum Power Consumption 39W

■ Features

1. Advanced points
1) No mercury contained by white LED backlights
2) Halogen free in whole products
3) Proactive adoption of energy saving LCD panel and recycled plastic (Use white recycoed plastic for white casing)
4) Adopt paper packaging material and bio materials packaing bags
2. NEC's unique technologies
1) Introduce "ECO MODE" to lower the brightness, which can be uninterrupted low brightness in the offices
2) Introduce "Carbon Meter" to indicated the reduced CO_2 amount and "Cost Meter" for reduced electricity bill by ECO MODE and power management system.

Energy-saving effect

This model realizes
- 44% power reduction comparing with 2007 Product Model and 68% power reduction in ECO MODE.
- 12% power reduction comparing with 2009 Spring Product Model and 24% power reduction in ECO MODE.



Contact

NEC Display Solutions, Ltd.
NEC Monitor Information Center

13-23, Shibaura 4-chome, Minato-ku, Tokyo 108-0023 Japan
TEL +81-3-5446-5300
URL http://www.nec-display.com/global/index.html

Color Digital Multifunction Devices

Fuji Xerox Co., Ltd. ApeosPort-IV,DocuCentre-IV series

Usage / field

full-color digital multifunction devices for offices

Use conditions

electronic power supply AC100V±10%, 15A, 50/60Hz

Features

- The newly developed fusing device incorporates an IH belt which the world's fatest startup time of three seconds.* Thereby the fusing device does not have to be preheated, achieving zero power consumption when not printing.
- Light emitting diodes (LEDs), which allow energy saving, are used as the light sources for image scanning as well as for the exposure unit of the print engine.
- The energy-efficient EA-Eco Toner is adopted for the first time in products for office use. Its fusing temperature is lower by approximately 20°C compared to conventional EA toner, cutting power use in fusing by around 15 percent.

*Applicable for ApeosPore-IV C3370/C2270

Energy-saving effect

The new products incorporate new environmental technologies to lower Typical Electricity Consumption (Note1) by 75 percent compared to a previous model (Note2), achieving industry leading (Note3) energy saving performance.

Note1: The amount of power by a printer, copy machine, or other office equipment over a conceptual week

Note2: Compared to ApeosPort-Ⅲ C4405 PFST

Note3: In case of color multifunction devices with monochrome print speed of 25/35/45/55ppm, as of July 2010

Contact

Fuji Xerox Co., Ltd.
Corporate Social Responsibility Department

9-7-3, Akasaka Minato-ku, Tokyo, Japan
TEL +81-3-6271-5162 FAX +81-3-6271-5167
E-mail takashi.saeki@fujixerox.co.jp
URL http://www.fujixerox.co.jp/eng

The rack system equipped with air-conditioning equipment that greatly reduces total air-conditioning cost of server equipment.

FUJITSU NETWORK SOLUTIONS LIMITED
Facility Cube

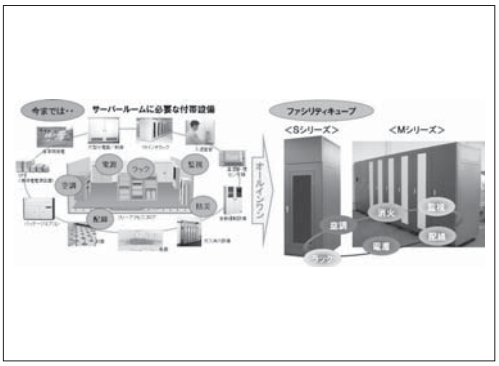
The facility cube is a rack system that can accommodate the air-conditioning equipment, the firefighting equipment, the 19-inch equipment mounting rack, the environmental watch device, wiring, and the power supply as a package. The 2 series are available. The S Series is the single rack system that equipped with air-conditioning equipment in the rack. The M series is the rack system that is equipped with the air-conditioning equipment on both sides, and can connect up to five 19-inch equipment mounting racks.

Usage / field

The rack system that accommodates necessary equipment (air-conditioning equipment, firefighting equipment, power supply, and watching device, etc.),free the server room construction.

Features

(1) Equipped the necessary equipment (air-conditioning, power supply, wiring, firefighting equipment, and watch) as a package in the rack.
(2) High energy-saving effect and cost reduction.
  a. Great cost-saving compares with newly constructing the server room.
  b. Effect of power consumption reduction is higher than that of the package air-conditioning equipment.
  c. Miniaturize the installation area.
  d. Air-conditioning ability: S Series: 5.2kW (2hp.) / M Series: 10.7kW (4hp.) [One side]
  e. COP value (air-conditioning energy efficiency) is 2.3 to 2.7.
(3) Cooling system by air flow (cold air flow)
  Since the limited sealing up space is cooled, the consumption of the air-conditioning energy is low. Moreover, the cooling effect is kept in the work when the door is opened by the air flow (flow of the cold).



Energy-saving effect

Effect comparison by the certain user introduction results (M series)
- Introduced into four nationwide bases (March, 2008 to May, 2009).
- Replaced the existing server room to facility cube (M series)
- Number of racks: 112

⇒Saved 75% istallation space (1,206m2→301m2), 37% power consumption decreased (7,632MWh/year to 4,827MWh/year)

Contact

FUJITSU NETWORK SOLUTIONS LIMITED

Kawasaki Nissincho Bld. 7-1 Nissin-cho kawasaki-ku Kawasakisi, kanagawa
TEL +81-44-210-6600
URL http://jp.fujitsu.com/group/fnets/services/facility/environment.html

Lighting

LED Lamps

SHARP CORPORATION DL-JA51N and others

-Excelletnt "eco friendly" and economy LED light; Long lifetime, less energy consumption and UV less.
-Broad line up to cover various applications; traditional incandescent lamp, compact type, candle type, etc.

■ Usage / field

Suitable for replacing incandescent lamps used at hotels, restaurants and other commercial facilities.

■ Use conditions

Rated voltage: AC100V
Lamp base: E26 standard screw base and E17 standard screw base

■ Features

DL-JA51N E17-base compact lamp achieves best in class*1 luminance (500 lumens) and luminous efficiency (96lm/W).
DL-JC2BL (clear cover) E17-base chandelier lamp utilizes a light diffusion lens to provide illumination over a wide area; meets the needs of commercial establishments.
DL-LA41N/-LA32L E26-base general lamp weighs only 85g, which is approx. 50% reduction compared to existing Sharp models*2.

*1 As of July 13, 2010, for E17-base compact general lighting LED lamps sold in the Japanese market (based on Sharp research).
*2 Comparison between the current DL-L401N (118g, 340 lumens) with DL-LA41N (85g, 485 lumens), and the current DL-L601L (168g, 360 lumens) with the new DL-LA32L (85g, 380 lumens).

Energy-saving effect

Energy comsumption:
E26 general lamp DL-LA41N/LA32L 7.5W; 50yen/month
E17 compact lamp DL-JA51N/JA42L 5.2W; 35yen/month
E17 chandelier lamp DL-JC2BL/JF2BL 4.3W; 29yen/month
Excellent energy sarving performance
*1 electricity expense per month: 10h per day for 30 days in use. electricty cost 22yen/kWh (tax included)

Contact

Sharp Corporation
Customer consultation service

3-1-72, Kitakamei-cho, Yao-shi, Osaka, Japan
TEL 81-6-6792-1582 FAX 81-6-6792-5993
URL http://www.sharp.co.jp/led_lighting/consumer/index.html

TV

LCD TV

SHARP CORPORATION LC-52LX3

AQUOS Quattron LCD TVs with Four-Primary-color Technology, LX series

■ Usage / field

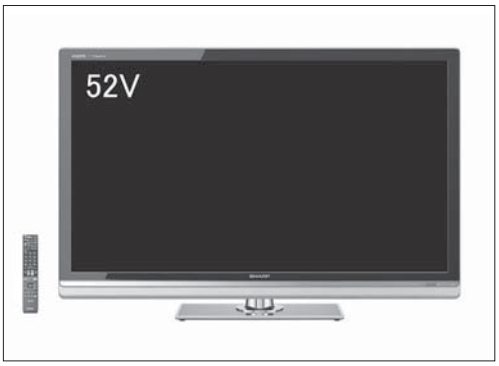
52V LCD TV

■ Use conditions

Power Requirement AC100V 50/60Hz Operating temperature 0 to +40

■ Features

Debut of AQUOS Quattron LCD TVs
- Four-primary-color technology faithfully renders colors to provide vivid, high-quality images.
- "ARSS" eight-speaker system integrates video and audio, puls "Duo Bass" low-vibration woofer.
- Acquired authorization of the THX display standard.



Energy-saving effect

High Energy Conservation in Industry Measures
- Yearly Power Comsumption 150kWh/yr
- Energy Conservation Achievement 162%

Contact

Sharp Corporation
Customer Response Center

22-22 Nagaike-cho, Abeno-ku, Osaka-city
TEL 0120-001-251 FAX 043-297-2696
URL http://www.sharp.co.jp/aquos/index.html

TV

LCD TV embedded with Intelligent Presence Sensor

Sony Corporation BRAVIA™ LX900 Series

By adopting Edge LED backlight, the LX900 series reduces power consumption and make the sets thinner. Additionally, this series features Intelligent Presence Sensor that helps customers save energy.

Usage / field

Energy efficient 3D LCD TV with Edge LED backlignt embedded with Intelligent Presence Sensor that helps customers save energy.

Use conditions

Electricity AC100V, 50/60Hz

Features

- By adopting Edge LED backlight, the LX900 series reduces power consumption and make the sets thinner.
- These models are equipped with Intelligent Presence Sensor that detect face and motion and will dim the picture or turn it off automatically if no-one is watching. It offers an easy way to reduce energy usage.
- These models incorporate an Energy Saving Switch that reduces power consumption to nealy zero without unplugging the AC cord from the outlet.
- This series features integrated 3D functionality.

Energy-saving effect

- By adopting Edge LED backlight, this series achieved 133%(60V), 133%(52V), 120%(46V) and 114%(40V) of the standard set forth under Japan's Law Concerning the Rational Use of Energy.
- The embedded Camera Sensor with face detection will dim the picture or turn it off automatically if no-one is watching.
- Energy Saving Switch reduces power consumption to nealy zero without unplugging the AC cord from the outlet.

Contact

Sony Corporation
Environmental Center

1-7-1, Konan, Minato-ku, Tokyo, 108-0075
TEL 81-3-6748-3445 FAX 81-3-6748-3451
E-mail ead-com@jp.sony.com
URL http://www.sony.co.jp/

DVD / Blu-ray

Blu-ray Disc Recorder

SHARP CORPORATION BD-HDS53

The BD-HDS53 has "10x recording mode" and you can record Digital Broadcasting programs on a 50GB Blu-ray Disc, allowing up to approx. 36 hours of recording time on one disc.

Usage / field

Blu-ray Disc recorder with built-in 320GB HDD. Designed to let you enjoy recording Digital Broadcasting programs and watching Blu-ray/DVD movie contents-using time shifting.

Use conditions

AC 100V, 50/60Hz

Features

- "10x recording mode" allows you to record approx. 36-hours full HD contents onto a 50GB Blu-ray Disc and approx. 195-hours onto built-in 320GB HDD.
- "AQUOS Pure mode" optimizes color base output to AQUOS LCD TVs.
- "HD resolution recording" let you record a Digital Broadcasting program in the HD format and you can enjoy Digital Broadcasting's high quality Video and Audio.
- "ECO-mode" allows you to minimize its stand-by power consumption.

Energy-saving effect

- "ECO-mode" provides you 75% reduction in stand-by power consumption, compared with "Standard mode".
- Auto power off function: Automatically power off after approx. 3-hours of inactivity.
- Lead-free solder on all the circuit and connections.
- The carton for the product consists of pulp-mold, instead of Styrofoam.

Contact

Sharp Corporation
Customer Response Center

22-22 Nagaike-cho, Abeno-ku, Osaka-city
TEL 0120-001-251 FAX 043-297-2696
URL http://www.sharp.co.jp/bd/index.html

Refrigerator

Refrigerator with Sharp Unique Plasmacluster Technology

SHARP CORPORATION SJ-XF60S and others

This refrigerator gives a consideration to the family health and cleanliness. In addition to the Plasmacluster Technology, which inactivates the adhering germ to the inside of the refrigerator, and with the "Advanced Hybrid Cooling" Technology preserves the food fresh and prevents dryness of the food.

Usage / field

Household Refrigerator

Use conditions

Required Mono Supply, Rated Current 15A. AC100V

Features

With the Sharp Unique Plasmacluster Technology which inactivtes the airborne mold and adhering germ in the cool air, thus inactivates germs adhering to the lip for pouring on drinks.
The Plasmacluster ions float in a method of wrapping the upper case of the vegetable room, enabling the inactivation of the adhering germs in approximately one day.
The cool air wraps the inside of the refrigerator and cools the compartment with the application of the "Advanced Hybrid Cooling" Technology.
Thus supplying cool air with condensed humidity to the inside of the refrigerator through door opening.

Energy-saving effect

This model adopts the Sharp Unique Energy Sarving "e-cool system", realized by the implementation of High Performance compressor.
In addiction, with the "wide linear inverter control", the efficient design and the positioning of the route of the cool air, and the design construction to minimize the heat loss, Sharp was able to acccomplish a lowering of energy consumption.
This is equipped with an "Eco-Mode" which works to operate the unit in a more low in energy performance based on the various refrigerator operation.

Contact

Sharp Corporation
Customer Response Center

3-1-72, Kitakamei-cho, Yao-shi, Osaka, Japan
TEL 81-6-6792-1582 FAX 81-6-6792-5993
URL http://www.sharp.co.jp/reizo/index.html

Air conditioner

Comfotable and Energy-saving central air-conditioning system

azbil group Yamatake Corporation 'Kikubari'

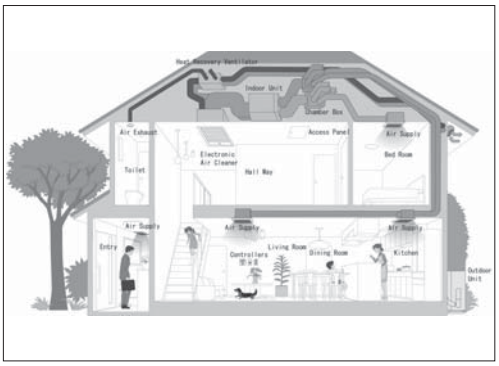
'Kikubari' is the heating and cooling system with heat recovery ventilation and air cleaner. It creates comfotable environment which has few difference of temperature in your house.
Also, Schedule controller and heat revovery ventilation save much energy.

Usage / field

New and existing single-family house

Features

Kikubari can minimize difference of temperature in your house and make it comfortable. Also, air-clearning unit removes pollen and house-dust in your house effectively.



Energy-saving effect

- Auto-schedule controll
  Kikubari has the schedule of preset temperatures which includes 5 different preset temperatures in each 5 time zone in each day of the week. It operates automatically accoriding the schedule.
- Heat Recovery Ventilation
  Heat recovery ventilation unit can ventilate your house without much heat loss. It recovers heat in the exhaust air.
- Comfortable and energy-saving use
  Because you can hardly feel the deference of temperature anywhere in your house, you don't have to overheat or overcool to feel comfortability as you do with room air-conditioner. You can set temperature 1 or 2 degrees lower (higher) in the winter (summer) than that when you use room air-conditioner.

Contact

azbil group Yamatake Corporation
Home Comfort Department

Nihonseimei Kawasaki Bldg., 1-1, Minamimachi, Kawasaki-ku, Kawasaki-shi, Kanagawa
TEL 81-44-223-5087
E-mail ask@kikubari.com
URL http://www.kikubari.com

Data center

Air flow management system

azbil group Yamatake Corporation AdaptivCOOL

It reduces energy consumption and CO_2 emission by contributing to stabilize operation of datacenter and cut excessive energy cosumption due to overcooling, etc. Problems will be discovered by visualizing datacenter structure utilizing air flow simulation. Based on problems found in the process, solution will be discussed for introduction of suitable system.

Usage / field

An integral solution that covers assessment to system introduction, providing optimized air conditioning by solving problems such as heat accumulation or overcooling.

Use conditions

A raised floor datacenter mainly consisting of open server rack.

Features

By utilizing a simulation software employing computational fluid dynamics, invisible air flow will be visualized to discover problems in a datacenter. Then, the best strategy will be formed to introduce an optimal system. The system includes "Smart Under Floor Air Movers" connected to openings on front panels of server racks to supply proper amount of cooled air, and "Smart Over Head Air Movers" that return accumulated hot air to air inlets of CRACs. Both products have thermal sensors for variable air speed control.

Energy-saving effect

By utilizing "Smart Under Floor Air Movers" and "Smart Over Head Air Movers", air flow in datacenter will be optimized, eliminating HVAC loss. With this, temperature may be set higher, or a number of HVAC equipments running at any given time may be reduced. In the US, 30% reduction of HVAC energy demand was achieved in 2,000 square meter class datacenter. In Japan, CRACs could be reduced from 30 to 20 in 1,000 square meter class datacenter, but kept optimal air conditioning environment for datacenter on air flow simulation.

Contact

azbil group Yamatake Corporation
Global Sales Department, Building Systems Company
Shinagawa Seaside South Tower, 4-12-1
Higashi-Shinagawa, Shinagawa-ku, TOKYO
TEL 81-3-6810-1107
URL http://www.azbil.com/

Data center

Environmetal-friendly data center adopted by advanced green technology

FUJITSU LIMITED.
Fujitsu Tatebayashi System Center

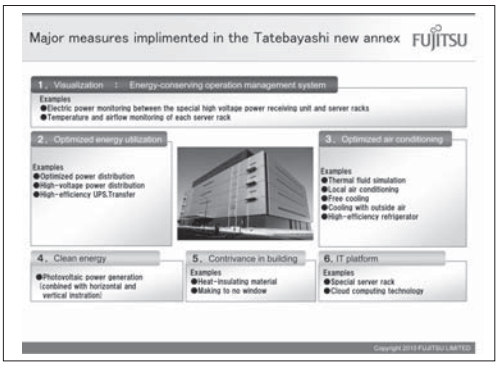
The leading-edge data center can reduce customers' environmental load with achieving high reliability and security

Usage / field

Covers every kinds of IT equipment and various systems as our outcourcing service in one stop operation management

Features

- Due to leading-edge technology (Wired sensor network system, thermal current simulation...etc) and energy-saving operation management, the new data center can greatly reduce environmental load.



Energy-saving effect

- Potentially reduce 40% energy consumption of facility. (40,000ton / year)
- Environmental-friendly data center can be a significant foundation for various IT services to contribute to environmental load reduction.

Contact

Fujitsu Limited.
Fujitsu Customer Center
Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo Japan 105-7123
TEL +81-120-933-919
URL http://fenics.fujitsu.com/idc/idc/tatebayashi.html

Data center

Modular Datacenter

Hitachi, Ltd. Provides Energy-Saving and Space-Saving Datacenter Environment

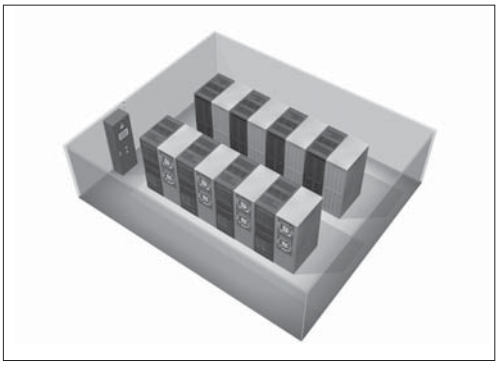
"Modular Datacenter" could optimize layout of server racks and air conditioners in small "Module". This "Modular Datacenter" could reduce air conditioner power consumption by 67% and floor space by 80% over traditional datacenter.

Usage / field

Provides Power saving data center environments from the small-scale server room in the office area to the large-scale data center to a lot of customers.

Features

"Modular Datacenter", Hitachi will carry out in advance a consultation on new construction or improvement of a data center, via the "Air conditioning environment consulting service" utilizing Hitachi's proprietary cooling optimization technology. Based on the results, Hitachi will construct a "Modular Datacenter" where the racks carrying the servers, storage devices and other IT equipment, and the cooling systems, etc., are laid out in small-sized "Modules" so as to maximize equipment operation efficiency.
Furthermore, being constructed from modular units sized as small as roughly 22m^2(*1), these data centers can be flexibly enlarged according to users' requirements.
Refrigerant is used for the air conditioner to cool datacenter's equipment including the IT equipment such as servers.
In "Modular Datacenter", by using the power created when refrigerant is vaporized and rises due to the heat of the servers, as well as the power created when the refrigerant cools, condenses, and falls, User has applied a proprietary "Natural refrigerant cycling system" that does not use compressors or other such engines.
This system makes it possible to save even more energy at data centers.
In addition, a monitoring and control panel is also provided to optimize data center operations.
These measures contribute even further to a reduction in facility administrator work and TCO (total cost of ownership).
*1: Size of modules is 6.3 × 3.6m (approximately 22m^2).



Energy-saving effect

Reducing Air-Conditioner power consumption by 67% over traditional(*2) Under Floor Air-Conditioner.
Reducing datacenter floor space consumption by 80% over traditional(*2) datacenter.

*2: Hitachi's Calculation based on data from JEITA (Japan Electronics and Information Technology Industries Association) in June 2009.

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Enterprise Server Division
Omori Bellport D Bldg. 26-3, Minami Oi 6-chome, Shinagawa-ku, Tokyo, 140-0013 Japan
URL http://www.hitachi.co.jp/moduledc/

Data center

The 3rd Yokohama Datacenter

Hitachi, Ltd. Environment conscious data center

The 3rd Yokohama Datacenter has been deployed harmonizing with the environment with Hitachi's cutting edge technologies, such as highly efficient air conditioning/power feeding systems, and use of natural energy sources.

Usage / field

The deployment of the datacenter to harmonize with the environment through utilization of components for energy saving and development of cutting edge technologies for energy reduction.

Features

The 3rd Yokohama Datacenter is one of the advenced data center in Hitachi which intends full use of the energy efficient ITs in Hitachi and also the highly efficient power feeding and cooling technologies in Hitachi under Hitachi group's total design coordination.
Hitachi Integrated Control Center in the 3rd Yokohama Datacenter is offered to support a prompt trouble shooting. 365days full time support with the single uniform managements copes with various needs in IT administration and contributes enhanced management and operation for datacenter users.

Energy-saving effect

Air conditioner "FMACS -V*1" and uninterruptible power supply "UNIPARA" provide lower power consumption than traditional ones. Three-dimensional heat flux body simulator "AirAssist" builds the environment where the efficient air flow is provided to save energy in cooling system. The sensors installed on the server racks pick up temperature, humidity, and power consumption, etc. periodically and transfer the data to Hitachi Integrated Control Center where datacenter operators in Hitachi can monitor various data for server rooms concurrently with Hitachi original visualization system. The visualization achieves coexisting of qualified stable operation and cost reduction in datacenter.
Rooftop gardening with water retentively porous concrete panels reduces the thermal loading and improves the air-conditioning efficiency.
*1: FMACS is a registered trademark of NTT FACILITIES, INC..

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Cool Center Controlling Department, Outsourcing Data Center, IT Management Services Division
Hitachi Systemplaza Shinkawasaki, 890 Kashimada, Saiwai, Kawasaki, Kanagawa, 212-8567 Japan
TEL +81-44-549-1322 FAX +81-44-549-1191

Data Center

High Voltage Direct Current (HVDC) System

Japan radio co.,ltd. FRESH HVDC

The FRESH HVDC System is designed to supply high voltage direct current power to IT equipment including servers. The JRC high-efficiency and high-reliability power supply system is provided to the next-generation data centers and other facilities which have the needs for reduction of power consumption and environmental protection.

Application

This HVDC system can be effectively used by next-generation data centers needing high-voltage DC power and requiring energy saving.

Features

* Flexibility in system configuration by the use of building block method
* High reliability by simple circuit design and redundancy of basic system components
* High efficiency of power conversion: 96 to 97%
* High safety by the use of JRC's original arc control technology
* Applicable not only to data centers but also small to large scale high voltage DC power supply systems

Energy-saving effect

* The HVDC system allows the direct supply of high-voltage DC power after AC/DC conversion to IT equipment such as servers. It eliminates repeated power conversions which have been required in the conventional systems, thereby contributing to higher efficiency of power conversion and effective discharge of exhaust heat in a data center.
* The HVDC system allows high-voltage, low-current and low-loss power supply to reduce the power loss in feeders that has been a problem in DC power supply.
* The HVDC system allows an energy saving system combined with solar power generation.

Contact

Japan Radio Co.,Ltd.
International Business Department

1-1, Shimorenjaku 5 Choume, Mitaka-shi, Tokyo
TEL +81-422-45-9890 FAX +81-422-45-9968
E-mail hvdc-contact@jrc.co.jp
URL http:/www.jrc.co.jp/

Data center

ICT Hosting Service

Nihon Unisys, Ltd.

Nihon Unisys, Ltd's ICT Hosting Service is a cloud-type hosting service with a highly energy- efficient operation. It uses advanced air conditioning facilities including ventilation systems as well as the latest ICT equipment

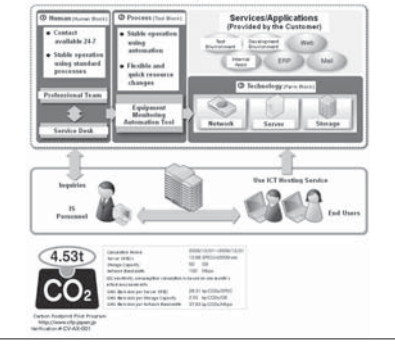
Usage / field

This cloud service is designed for enterprise use, providing servers, storage and network resources for enterprise information system platforms. Users pay only for the resources and time used.
Users can benefit from lower startup and ongoing maintenance costs because they do not need to purchase new system resources. They can also use the system immediately since the resources are already in operation before the user uses them.
This is a one-stop service which provides robustness, flexibility and availability

Features

The features of the energy efficiency of our next generation iDC platform MiF® and the virtual cloud iDC which constitute the ICT Hosting Service are as follows:
- Thorough adoption of the latest energy saving IT equipment (vendor agnostic)
- Dynamic reallocation of virtual layer which maximizes power efficiency in the physical layer
- Total air conditioning management including pumping power in addition to the effective use of cooling with outside air
- High temperature settings enabled by fully automated operation and elimination of portable media devices

Energy efficiency of the ICT Hosting Service is made visible by measuring electricity at the virtual server level.
In March 2010, our ICT Hosting Service received authorization from the Ministry of Economy, Trade and Industry (METI) to use the Carbon Footprint (CFP) label in the ministry's Carbon Footprint Pilot Program. It is the first and only authorization granted in the Service/IT area. The following shows the CFP label



Energy-saving effect

By applying the above features, the following estimated reductions can be expected against electricity use percentages by category for a common iDC:
(Note) Source: Ministry of Internal Affairs and Communications, "Study Group on ICT Policy for Addressing Global Warming" Report, April 2008
- Electricity use of IT equipment: 80% reduction in 36% of overall electricity use -> 30% overall reduction
- Air conditioning: 90% reduction in 44% of overall electricity use -> 40% overall reduction
- Other (UPS, power supply etc.): 20% of overall electricity use -> no change

Contact

Nihon Unisys, Ltd.
ICT Services

1-1-1 Toyosu, Koto-ku Tokyo 135-8560 Japan
TEL 03-5546-4111
E-mail green-ict@ml.unisys.co.jp
URL http://www.unisys.co.jp/services/ict/hosting.html

Data center

Green Data Center

NTT DATA CORPORATION Green Data Center®

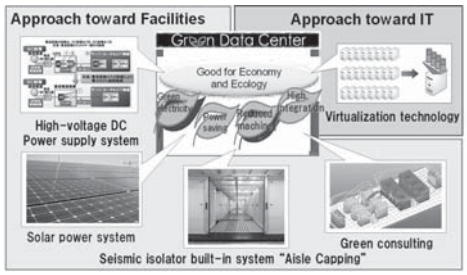
Data centers of the next generation type that attempts the service improvement to the customer while considering the environment by promoting high efficiency and power saving.

■ Usage / field

Total solution that achieves approach from all angles to conservation of energy as data center

■ Features

"Green Data Center" is the total solution that achieves the approach from all perspectives to power saving. Solar power system, High-voltage DC Power supply system, highly effective air-conditioning, and highly efficient rack design-seismic isolator built-in system "Aisle Capping" and Green consulting as an approach from the facility, and the energy efficiency improvement that uses the virtualization technology as an approach from IT are promoted. This solution aims to correspond to the customer's demand for green IT by combination of these five.



Energy-saving effect

- High-voltage DC Power supply system: Power consumption is reduced by 20% or more through cut of the conversion loss of energy.
- Highly effective air-conditioning/highly efficient rack design: Power consumption can be reduced by adopting Aisle-Capping by 30% or more.
- Virtualization technology: The number of servers was able to be reduced from 18 to 3 at our section server integration, for instance, and to reduce operation hours from 408 to 230 per month.
- Solar power system: It contributes to the CO_2 reduction by using clean energy to be equipped.

Contact

NTT DATA CORPORATION
Data Center Business Unit, Business Solutions Sector

Toyosu Center Building, 3-3, Toyosu 3-chome, Koto-ku, Tokyo 135-6015
TEL +81-50-5546-8348 FAX +81-3-5546-9635
E-mail greendc@am.nttdata.co.jp
URL http://bs.nttdata.co.jp/green/

Semiconductor

High-speed Small Current Sensor

Asahi Kasei Microdevices Corporation CQ-206x/CQ-209x

These current sensors achieved high-speed response (1μs) using the compound semiconductor Hall element. These also materialize both high-reliability and high-accuracy. [Under development. MP; 2011]

■ Usage / field

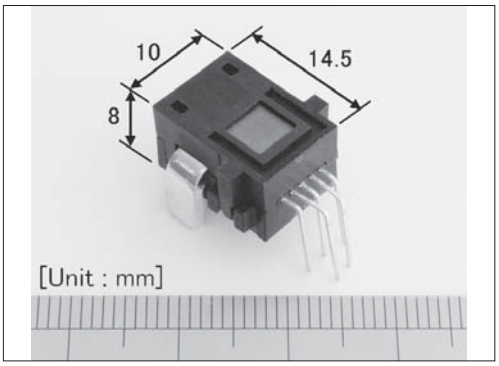
These sensors are especially suitable for current sensing in the fields of home appliance and industrial instrument such as the inverter unit.

■ Use conditions

Supply Voltage; 5V
Operating Temperature; -40°C~+90°C

■ Features

* Compact open-type current sensor
* 1-package assembly which consists of the linear Hall IC, the magnetic core and the bus-bar
* Isolated output from the bus-bar
* High speed response: 1μs
* Low-noise output: 2mVrms
* Minimized variance of sensitivity and offset (factory-trimmed)
* Small temperature drift of sensitivity and offset
* Direct connection to A/D converter available without the external amplifier circuits



Energy-saving effect

This current sensor is a must item for high-efficiency technology of the inverter unit. And, CQ-206x reduces power loss to about 1/200 compared with the 20mOHM shunt resistance. (except power loss at the resistance of mounting solder)

Contact

Asahi Kasei Microdevices Corporation
M&S Center Magnetic sensors

1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, JAPAN
TEL +81-3-3296-3961 FAX +81-3-3296-3962
URL http://www.akm.com

Semiconductor

IGBT Module

Mitsubishi Electric Corporation Mega Power Dual

This module is used for switching electricity to and from AC/DC current, mainly incorporated in products for renewable energy such as wind and solar power generation.
By improving its electricity conversion efficiency, it contributes to the reduction of product energy consumption.

■ Usage / field

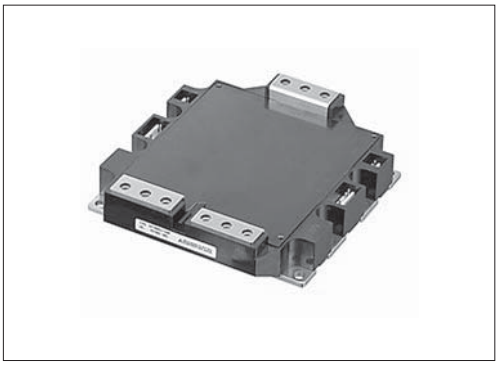
- For large capacity inverters of wind power generation and photovoltaic generation etc
- For AC power equipment
- For uninterruptible power supply (UPS)

■ Use conditions

Level of general industry

■ Features

1. Large current and high voltage
2. Low saturation voltage, contributing to improvement of power converter efficiency
3. Enables size reduction of heat radiation components in inverter systems
4. Internal design that realizes low inductance
5. Optimized shape fit for mounting driving circuit substrates improves convenience for users



Energy-saving effect

Recently, inverters are widely used in wind and solar power generation equipment as well as to drive and control industrial machinery. By tuning power frequency in inverters according to the electricity load, energy consumption in these products becomes highly efficient.
Given their high efficiency, there is a growing demand for IGBT modules that incorporate IGBT chips and diodes used for driving these inverters. IGBT modules play an important part in reducing switching loss in inverters, which therefore contributes greatly to energy efficiency in products.

Contact

Mitsubishi Electric Corporation
Semiconducter & Device Group

Tokyo Building, 2-7-3, Marunouchi, Chiyoda-ku, Tokyo 100-8310, Japan
TEL +81-3-3218-3198 FAX +81-3-3218-4862
E-mail hanjij.document@bk.MitsubishiElectric.co.jp
URL http://www.mitsubishielectric.co.jp/Global/

Semiconductor

A semiconductor laser by using quantum dot technologies to contribute to energy savings of ICT equipment

QD Laser, Inc.
Quantum dot laser device for optical telecommunications

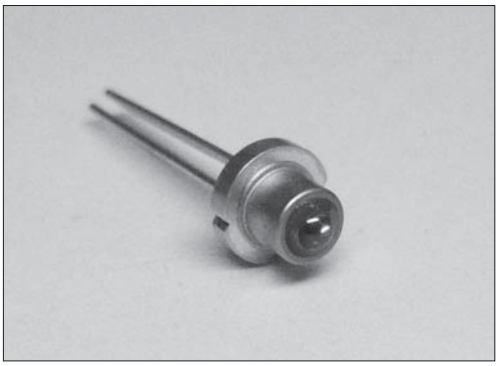
The quantum dot laser succeeded in the world first mass-production for telecommunication systems, and operates in the use of low power consumtions, temperature insensivity and significant high temerature durability

■ Usage / field

* Optical telecommunications over fibers in the use of FTTH, LAN and Fiber channel.
* Optical interconnections for equipment to equipment, board to board and chip to chip connections in a next generation PCs, super computers and consumer electronics equipment.

■ Features

* Energy saving; Approximately 30% Less power consumptions at 85°C
* Temperature stability; Since quantum dot lasers enable temperature stable operations even in changing of temperature environments compared to conventional semiconductor lasers, and the characteristics simplify electrical contorol circuits and reduce adjustment costs which were needed in conventional lasers. And also quantum dot lasers work in very high temperature environments higher than 150 degrees C.
* Mass-production capability and cost effectiveness; Conventional telecommunicaton lasers use expensive InP (Indium Phosphied) substrates. On the other hand, GaAs (Gallium Arsenide) substrates which are used in quantum dot lasers cost lower and size bigger.



Energy-saving effect

A quantum dot laser for FTTH type telecommunications achieved approximately 30% less power consumption compared to a conventional lasers.

Contact

QD Laser, Inc.

Keihin Bldg. 1F 1-1 Minamiwataridacho, Kawasaki-ku, Kawasaki, Kanagawa 210-0855 Japan
TEL +81-44-333-3338
URL http://www.qdlaser.com/japanese/index.html

Others(Parts)

Capacitive Type Small Humidity Sensor

ALPS ELECTRIC CO., LTD. HSHCAA Series

With its compact shape and lower power consumption, the HSHCAA Series Surface Mounting Type Capacitance Change Humidity Sensor functions as an internal/external environment sensor for a variety of devices to promote energy conservation

Usage / field

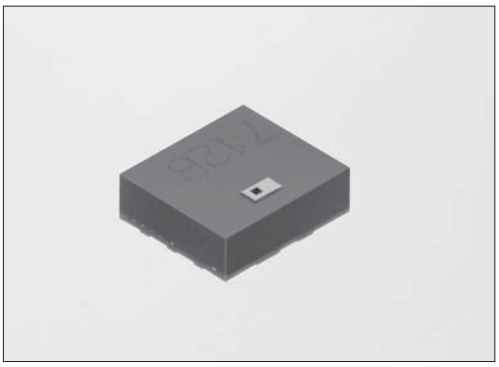
IT device-related equipment, IT devices, general consumer devices, air conditioning, Air cleaner, photocopiers

Use conditions

Operating Voltage: 2.2V to 3.6V / Operating temperature range: +20 to +85 degrees C.

Features

1. Industry's smallest level created by original process technology
2. Compact for surface mounting
3. Sensor measures low to high humidity by detecting change in capacitance
4. No need for temperature adjustment



Energy-saving effect

To achieve energy conservation among expanding data sensors and IT equipment-related infrastructure, it is becoming increasingly necessary to determine the environmental status of each point in the overall system. This Surface Mounting Type Capacitance Change Humidity Sensor can be mounted on a compact circuit board, and with its ability to measure a variety of humidity levels, the sensor promotes overall energy conservation by enabling the creation of an optimum environment.

Contact

ALPS ELECTRIC CO.,LTD.
Products Information Center

1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo 1458501
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

Low-Power Consumption All-in One WLAN Module

ALPS ELECTRIC CO., LTD. UGFZ1 Series

The UGFZ1 Series Low-power Consumption All-in One WLAN Module enables easy setup of wireless sensor networks

Usage / field

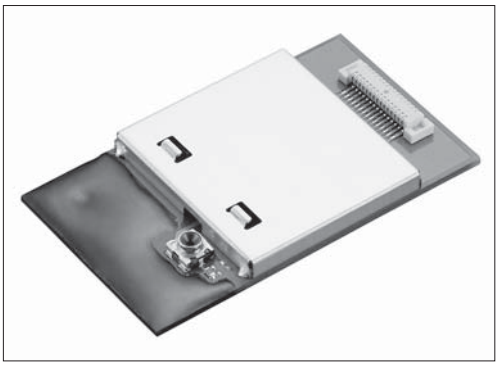
Smart meter and home appliance communication, factory air conditioning management, and environmental management in plant factories

Use conditions

Operating Voltage/Temperature:+2.8V to +3.6V / -10 to +70 degrees C.

Features

- All-in-one type with built-in antenna, OS, WiFi drivers and Wifi protocol
- 10 years of operation on a single battery is possible
- Autonomous operation without a host CPU
- Japan certification acquired



Energy-saving effect

Attention is being drawn to sensor network systems that promote efficient energy usage by monitoring power consumption, temperature, humidity and lighting and use collected data to control devices. As the environment is increasingly ready for WiFi infrastructure, needs are developing for easily configurable wireless network systems. This all-in-one type wireless LAN module features a compact antenna with pre-installed WiFi Protocol and a connecting application, thus eliminating the need for a host CPU on the set device side. The module is able to operate for a long period on a single AA type lithium thionyl chloride battery.

Contact

ALPS ELECTRIC CO.,LTD.
Products Information Center

1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo 1458501
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

Piezoresistive Type Small Pressure Sensor

ALPS ELECTRIC CO., LTD. HSPPA Series

This product supports environment sensors and energy conservation in home appliances and mobile devices

■ Usage / field

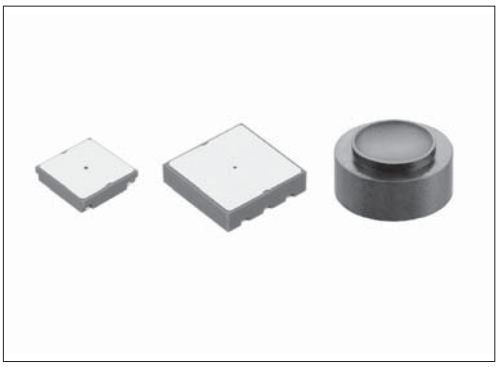
IT device-related equipment, general consumer devices and various mobile devices

■ Use conditions

Supply Current/Voltage: HSPPAR Icc=0.55mA/ HSPPAA Vdd=2.5+-0.125V/ HSPPARC Icc=0.55mA
Operating temperature range: -20 to +85 degrees C. (SMD)/
-20 to +60 degrees C (Water proof type)

■ Features

1. Compact package created by the latest MEMS technology
2. Compact for surface mounting
3. Little variation in sensitivity due to original process technology
4. Waterproof type also available



Energy-saving effect

This sensor is optimal for determining the environment status of IT equipment-related infrastructure as well as the internal environment of IT devices. With its small size and support for surface mounting, the sensor can be installed in a variety of telecommunication equipment to enable formation of an environmental network.

Contact

ALPS ELECTRIC CO.,LTD.
Products Information Center
1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo 1458501
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

Power Inductor Liqualloy™

ALPS ELECTRIC CO., LTD. GMLC Series

The GMLC Series High Efficiency Power Inductor enables low power consumption for DC/DC converters

■ Usage / field

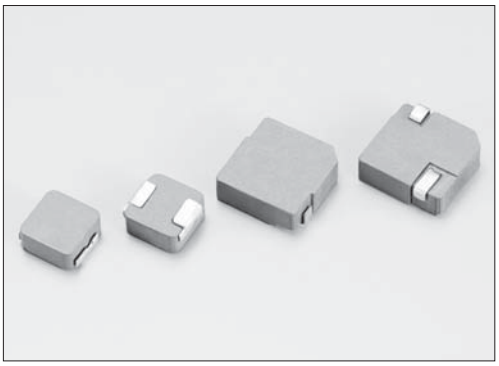
Notebook and tablet PCs, servers, DC/DC converters for game consoles

■ Use conditions

Embedded in IT-related devices, general consumer devices, etc

■ Features

1. For high efficiency DC/DC converters
2. Superior low heat generation characteristics
3. Supports high frequency DC/DC converters



Energy-saving effect

To support highly-functional IT-related devices and general consumer devices, CPU DC/DC converters are increasingly being designed to handle high frequencies and ever greater electric current. This power inductor uses our original core material Liqualloy™ to achieve high efficiency with excellent low heat generation characteristics, enabling even further advanced functionality in IT-related devices as well as power conservation in general consumer devices.

Contact

ALPS ELECTRIC CO.,LTD.
Products Information Center
1-7, Yukigaya-otsukamachi, Ota-ku, Tokyo 1458501
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

80Plus corresponding, High efficiency & High power ATX power supply.

Nipron Co., Ltd.
HPCSA-1000P-E2S

One of the best-suited power supply in this age of green innovation should be 1000W peak ATX power supply which complies with 80Plus and high efficiency and high power. This is the perfectly matching product especially at this years for contributing energy saving and CO_2 reduction. High efficiency results in decreasing fever and long life.

Usage / field

ATX power supply for computer

Use conditions

Input voltage: 85-264VAC (Worldwide input)
Output power: Continuous 822W, Peak 1000W

Features

[1] Total 1000W peak output with 4CHs at 12V output.
The latest CPU can be operated stably.
[2] Silent due to TSFC motor.
[3] Output harnesses are removable and optional.
Very flexible to meet your spec.
[4] All outputs comply with the minimum load current of 0A.
It matches various types of outputs.

Energy-saving effect

[1] High power 1000W and high efficiency ATX power supply with 80Plus standard corresponding. Contribute to high efficiency 86.5% at 115VAC input. Compared with a general switching power supply with efficiency 70%, able to reduce electric bills approx 38,194 yen/year, and CO_2 emission approx 721.8kg/year. (Conditions: AC115V input, 800W output, 24-hour for 365 days, 20 yen/kWh conversion, 0.378kg CO_2/kWh conversion)
[2] Compliance with ErP directive. Fulfilling the less standby power of 1W.

Contact

Nipron Co., Ltd.
Overseas sales group

1-3-30, Nishinagasu-cho, Amagasaki-city, Hyogo 660-0805 Japan
TEL +81-6-6487-0605 FAX +81-6-6487-2212
E-mail support1@nipron.com
URL http://www.nipron.com/

by IT

– Energy-saving by IT –

■ Industry

■ Transportation

■ Business

■ Home

■ Others

FEMS

Energy management & analysis package

azbil group Yamatake Corporation EneSCOPE R130

EneSCOPE collects and stores the energy consumption and related data those are snapshot and accumulated values.
It provides tools to analyze and check these data for energy-saving action. In addition, it publishes the data charts by browser.

Usage / field

Package for energy management & analyzing to collect, store, calculate, analyze and publish the energy consumption data of single/multiple office/ factory.

Use conditions

Max number of data collection pts: 38400 pts
Max number of data management pts: 6000 pts

Features

EneSCOPE is a energy management package covered from a factory to whole company.
It can handle electric energy and flow quantity of various fuel, related data (temperature, pressure, Ph, conductivity, production volume etc).
Also it can handle long-term snapshot data that make you recognize the detailed energy usage.
Its tools show you trend charts, correlative graphs, the histograms easily.
It publishes data chart by WEB browser.

Energy-saving effect

You can save energy by
1) Help to find the cause of useless energy at the non-operating time for energy saving action
2) Energy basic unit management
3) Energy consumption management
4) Preventive maintenance by the facilities efficiency monitor

Contact

azbil group Yamatake Corporation
Global Sales Department, Advanced Automation Company
1-12-2 Kawana, Fujisawa-shi, Kanagawa, 251-8522, JAPAN
TEL 81-466-52-7024
URL http://www.azbil.com/

FEMS

Utility plant operation optimization package

azbil group Yamatake Corporation U-OPT

Energy saving of utility plant by optimize the plant operation.
Online U-OPT operates utility plant to minimized the energy usage.
Offline U-OPT is the simulator for energy saving planning.

Usage / field

Mass thermal energy usage factory and plant such as semiconductor factory, automobile factory, district heating & cooling plant.

Use conditions

Large and complex utility plant with thermal storage tank, generator etc.

Features

The installation of U-OPT provides the following benefits.
Stable supply of utilities
Energy savings and reduction of CO_2 exhaust
Reduction of operator workload
Utility management
Monitoring of performance trends of utilities equipment, which is helpful for preventive maintenance

Energy-saving effect

Automobile factory: 4 through 7% total energy usage of the factory reduction (Actual result)

Contact

azbil group Yamatake Corporation
Global Sales Department, Advanced Automation Company
1-12-2 Kawana, Fujisawa, Kanagawa, 251-8522, JAPAN
TEL 81-466-52-7024
URL http://www.azbil.com/

FEMS

Optimization System for Facilities Energy

Yokogawa Electric Corporation Enerize E3

From [Visualization] to [Optimized energy operation]. Achieve energy-saving operation by Energy KPI (Key Performance Indicater).

Usage / field

In plants, facilities
- Support optimized operation
- Find Energy KPI
- Establish continual improving activities

Use conditions

Server/MS2008, CPU/Quad-Core Xeon, Memory/4GB and more, HDD/500G and more

Features

- Received Green IT AWARD 2009, Minister of METI AWARD for our Kofu factory. Enerize contributes their energy-saving.
- Find many Energy KPI by combine energy and production information
- Visualization of control status by modeling is very useful for all related people continually
- Automatic calculation of enrgy consumption are based on energy flow model, control model and production model
- The calculation system is flexible for production line and apparatus modification

Energy-saving effect

Beyond simple visualization, by automatic calculation supported by visualbuilder, customers can find many Energy KPI. By the Energy KPI control, find abnormal condition and select items for improvement rapidly. The system can continue energy-saving activities by strengthen performance.

Contact

Yokogawa Electric Corporation
IA HQ Green Factory Solution Center MK Gr

2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5951 FAX 0422-52-8054
URL http://www.yokogawa.co.jp/eco/

Improving efficiency of equipment and facilities

Compressor control system for energy saving

azbil group Yamatake Corporation ENEOPTcomp

ENEOPTcomp savings electric for compressors by PID control, matching the actual load to the number of load compressors, matching the production schedule.

Usage / field

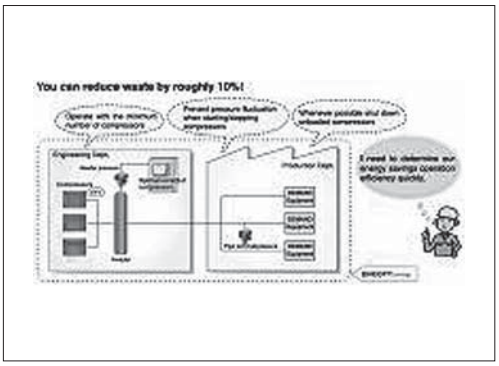
Energy saving by integrated control for three or more compressors.

Use conditions

Three or more compressors are used, and the compressor should be able to be controlled from the outside.

Features

ENEOPTcomp saves electric usage of compressors by matching the actual load to the number of load compressors and matching the production schedule to some compressor operation parameters. It increases total efficiency by using a device with good load adjustment efficiency as the capacity controller.
It provide you the monitoring window on power usage, CO_2 emissions and air unit consumption sate to quickly determine the actual energy saving and efficiency.



Energy-saving effect

Electric power saving for compressors
Electric Parts factory: about 20% reduction
Automobile factory: about 10% reduction
Pulp & Paper plant: about 8% reduction
Chemical Plant: about 4% reduction

Contact

azbil group Yamatake Corpration
Glbal Sales Depertment, Adbanced Automation Company

1-12-2 Kawana, Fujisawa, Kanagawa, 251-8522, JAPAN
TEL 81-466-52-7024
URL http://www.azbil.com/

Improving efficiency of equipment and facilities

Air Compressor Energy-saving System

Yokogawa Electric Corporation Econo-Pilot-Comp

Original control technology enable to reduce energy of plural compressors operation. Annual power reduction ratio is up to 35%.

Usage / field

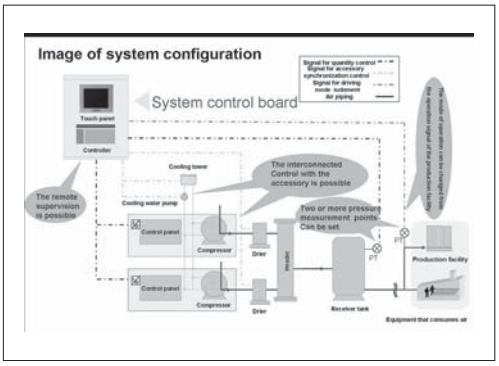
Energy-saving system to control plural air compressors

Use conditions

In case of switching operation of plural air compressors

Features

- Control by pressure drop level. It can stop compressor without pressure loss.
- It can change number of working compressors by fine control. It is based on combination of different volume.
- The combined control is not affected by type of compressor manufacturers.
- The system can show power consumption, flowing rate and reserve data.
- The interconnected Control with the accessory is possible.
- The fluctuated pressure range is controlled to minimum level.
- Gradual energy-saving is possible because change of setting pressure is easy.



Energy-saving effect

- Maximum energy-saving ratio is 35%.
- Reduce air leak caused by low blowing pressure.
- Improved air pressure fluctuated range.

Contact

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URL http://www.yokogawa.co.jp/eco/

Improving efficiency of equipment and facilities

Energy-saving by optimizing BTG operation

Yokogawa Electric Corporation
Energy-saving solution by optimizing BTG operation

It is important to keep constant pressure and temperature of boiler at production line. However it is difficult to keep it because of sudden work load change etc. By the energy-saving solution by optimizing BTG operation, customers can save energy and stabilize power which enable to reduce cost and operator's work load.

Usage / field

BTG (Boiler Turbine Generator) : Power or production facilities which use Boiler, Turbine or Generator.

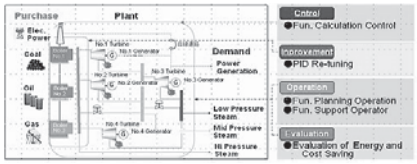
Use conditions

The system works on DCS (Yokogawa¥'s process automation system)

Features

The system achieves to energy-saving and cost reduction by optimum plant control and optimization of the work load.

-- Fun. Calculation Control: By using process response model, predicts future variation. It realize very stable operation.
-- PID Re-tuning: By improving re-tuning and control logic, fulfill better basic controllability.
-- Fun. Planning Operation: Prepare operating schedule to minimize total cost of the energy.
-- Evaluation of Energy and Cost Saving: Real time evaluation of CO_2 and cost of whole BTG plant



Energy-saving effect

[Application at chemical plant]
-- Manual intruding operation: Before: around 5,800 event/day -> After: around 3,000 event/day
-- Energy-saving effect: Around 45% improvement of whole DCS event in 10 days analysis.
[Other application]
-- Energy-saving effect: 1 to 5 % of Energy and cost savings by the energy-saving control technology

Contact

Yokogawa Electric Corporation
IA HQ Green Factory Solution Center MK Gr

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TEL 0422-52-5951 FAX 0422-52-8054
URL http://www.yokogawa.co.jp/eco/

Improving efficiency of a production process

Instumentation network modules

azbil group Yamatake Corporation NX series

**The NX series is a series of instrumentation network modules including energy saving modules.
Each module has Ethernet communication function and can be set on a network remotely.
And supervisory modules, one of the series, control multiple controllers.**

Usage / field

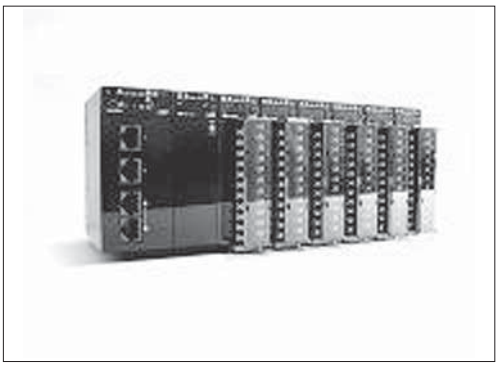
The NX series controls temperature, pressure or flow etc. It reduces energy consumption by optimum control for machines or facilities.

Use conditions

Power supply DC24V ±10%, ambient temperature 0 to 50°C, relative humidity 10 to 90%RH

Features

Each module has Ethernet communication function to realize high-speed communication and set on a network remotely. It communicates its parameters process values etc with PC.
Supervisory module controls some controllers for cooperation control. Supervisory module with energy saving algorithm can control setup behavior machines or facilities to save energy. (Optimum start-up control and peak-power limiting control)



Energy-saving effect

Optimum start-up control reduces the start-up energy by optimizing the time differences between machines or facilities. (patented control) Peak-power limiting control restrains peak-power 50% at the maximum by sharing the start-up power between machines when they start at the same time. (patented control)

Contact

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1-12-2 Kawana, Fujisawa-shi, Kanagawa, 251-8522, JAPAN
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URL http://www.azbil.com/

Improving efficiency of a production process

Core Application for MES

Mitsubishi Electric Information Systems Corporation MELNAVI-AP

- MELNAVI-AP is a generic packaged software for MES to visualize results and quality at a production line and to improve efficiency and quality.
- Monitoring operation and facility will improve efficiency and energy loss.

Usage / field

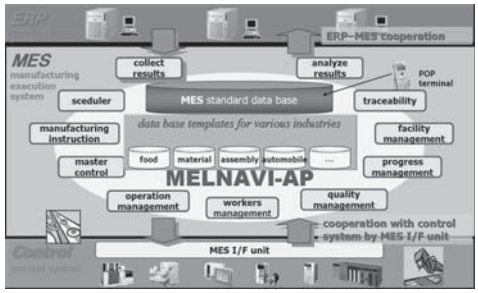
Packaged manufacturing instructions and performance management, and templates available for discrete/process manufacturers

Use conditions

Application servers, database servers and client PCs

Features

- By using models and templates without programming, the system can be built in a short term at various business and industries.
- Web-based applications make it easy to facilitate the system to any departments and maintenance. Anywhere instant check progress of manufacturing.
- Interface with both FA and SAP ERP etc. regularly contained, and enables consistent system construction.
- Only customizing programs in servers, user can input data from major manufacturers' wireless handy terminal. Reduce the system operation load.



Energy-saving effect

- By using models and templates without programming, MES system can be built in half term of scratch way.
- Setting parameters and utilizing model systems will reduce development volume by 70%.
- Monitoring operation and facility will improve the efficiency, quality, energy loss, and avoid downtime.
- Cooperation between ERP/FA/scheduler enable real-time measures and decisions at every layer. Significantly improve the efficiency of manufacturing management

Contact

Mitsubishi Electric Information Systems Corporation
Manufacturing Marketing Department B

MS Shibaura Bldg, 4-13-23 Shibaura Minato-ku Tokyo
TEL 03-5445-7458 FAX 03-5445-7791
E-mail diamxm_melnavi@mdis.co.jp

Improving efficiency of a production process

EMI Suppression Support Tool

NEC Corporation EMIStream

This tool uses cad data and enables to run EMI check rapidly with ease at initial design phase. Threshold value calculated by NEC laboratory is set as a default. It does not only allow you to streamline design process to reduce the number of components, site test and work hours for noise suppression, but also it helps CO_2 reduction.

Usage / field

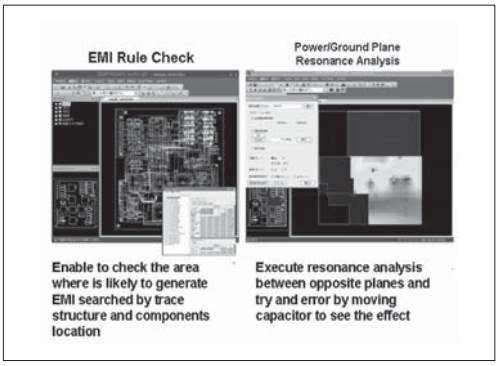
To check EMI (undesirable electromagnetic radiation) and power and ground plane resonance analysis for PCB level.

Use conditions

OS: Windows XP Professional, Windows Vista
CPU: Celeron/Pentium4 1GHz or more
Memory: 1GB or more
Disk: System 20MB + Data range Must
S/W: Microsoft Excel

Features

Verified rules and threshold values by NEC laboratory
No library is required (Simple operation)
Compatible with variety of CAD layout tool
Enable speedy response and quick EMI check



Energy-saving effect

50% reduction of design data verification work
40% reduction of site test cost (inc. the number of test, transportation expenses, work hours) Reduction of scrap cost for unnecessary prototype boards
74% reduction of CO_2 generation
*This is a case study from existing EMIStream user.

Contact

NEC Corporation
Embedded System Solutions Division

5-21-6 Shiba Minato-ku Tokyo JAPAN
TEL +81-3-3798-6402
E-mail sales@emistream.jp.nec.com
URL http://www.nec-nis.co.jp/emistream/

Improving efficiency of a production process

Advanced process control solution

Yokogawa Electric Corporation Exasmoc

It is a multi-variable control suite that is able to compute sequences of manipulated variable adjustments for the purpose of maximizing operational efficiency and ensuring safety at the same time in the continuous process of a plant.

Usage / field

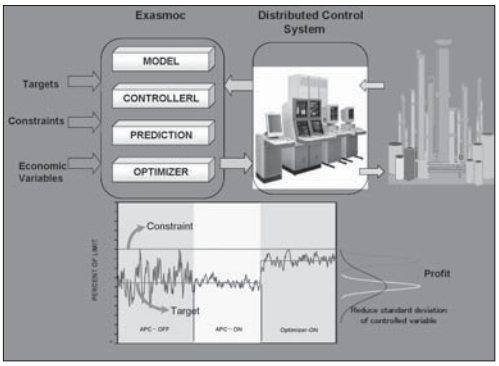
It is a multi-variable control suite that is able to compute sequences of manipulated variable adjustments for the purpose of maximizing operational efficiency and ensuring safety at the same time in the continuous process of a plant.

Use conditions

Connected to distributed control systems (DCS) and OPC interface

Features

1) Adopting visualized model, Exasmoc always provides optimum model which is easier to build or to revise.
2) Exasmoc allows feedforward control of intermediate variables gathered from operation and control.
3) Exasmoc minimizes the effect of unmeasurable disturbance occurred by fluctuation in feedstock composition and external temperature, estimating from predicted value of the model and actual process data.
4) Exasmoc possess a man-machine interface most suitable for tuning and process monitoring.



Energy-saving effect

This solution minimize energy consumption by optimizing control of plant operation with keeping the lowest level of constrained conditions as follows:
1) Reduces specific energy consumption by maintaining production with less energy
2) Reduces specific energy consumption by minimizing the effect of unmeasurable disturbance causing an increase in product yield We have a report that Exasmoc control system achieved energy conservation of over 500 kiloliters per year calculated in crude oil equivalent at a distillation tower in a oil refinery.

Contact

Yokogawa Electric Corporation
IA HQ Marketing Center

2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5634 FAX 0422-52-9802
URL http://www.yokogawa.com/

Improving efficiency of a production process

Laser gas analyzer measurement control solution

Yokogawa Electric Corporation TDLS200

For the industries which use combustion furnaces, it is essential to save energy by optimizing the air and fuel mix used in combustion systems, to reduce CO_2 emissions, and to stabilize operations. To achieve optimum combustion, it is required to have the gas analyzers which constantly measure Ox and CO concentration with maximum accuracy and optimal combustion control.

Usage / field

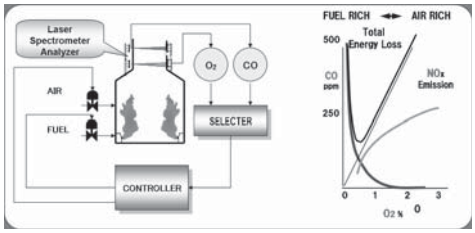
It is a solution to optimize the operation of furnaces by controlling combustion with measurement signals of the laser gas analyzer directly attached to the furnace.

Use conditions

Process pressure up to 1 MpaProcess temperature up to 1500° Celsius

Features

1) The laser gas analyzer attached to the furnace directly measures concentration of Ox, CO, moisture, and NH3 with high accuracy even under severe environmental condition such as high temperature, high pressure, corrosive gas, irritant gas, or high dust concentration.
2) With the unique true spectra area method, the laser gas analyzer enables peak area unchanged regardless of the background gas composition and measures at high speed of less than six seconds with high accuracy despite the change of pressure and temperature.
3) The control system on which the software package for optimum combustion control was installed offers optimum combustion operation by leveraging measurements of the laser gas analyzer.



Energy-saving effect

1) The laser gas analyzer dramatically improves combustion efficiency by controlling combustion utilizing simultaneous measurement of O2 and CO in furnaces or boilers used in the industries of oil, chemical, and petrochemical. It also achieves energy-saving operation by reducing feed fuel.
2) This combustion control solution contributes to energy conservation and NOx emission reduction, which leads to preventing global warming and environmental pollution.

Contact

Yokogawa Electric Corporation
Analytical Business Center
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5617 FAX 0422-52-6792
URL http://www.yokogawa.com/

Others(Industry)

Hitachi Motor Drive Conservation Service "HDRIVE"

Hitachi, Ltd.

Visualize energy saving amounts after installing energy saving equipment by using Hitachi monitoring system.

Usage / field

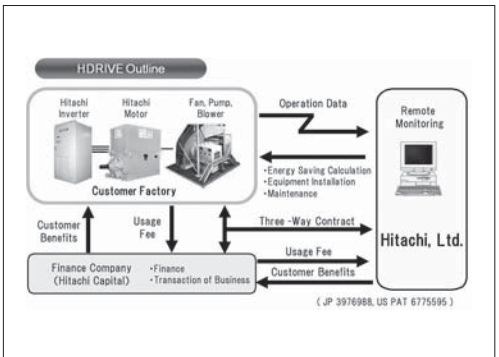
Installing energy saving equipment for utility facilities such as boiler fans, circulation pumps, etc. and we monitor the energy saving amounts.

Use conditions

Target: Energy intensive plants. (Large fans, pumps, etc.)

Features

- Hitachi supports customers from selecting target equipment to installing energy saving equipment.
- Hitachi shows estimated energy saving effects before installing energy saving equipment.
- Hitachi calculates energy saving amounts by using Hitachi monitoring system.
- Customers can use stored energy saving data for the environmental report.



Energy-saving effect

This service reduces power consumption by an average of 23%. Estimates for reducing CO_2 emissions forecast that a total of 460,000 tons will be saved by 2015.

* The figures for lowered CO_2 emissions and reduced power consumption are estimates calculated by Hitachi, based on actual performance made after implementation.

Contact

Hitachi, Ltd., Information & Control Systems Company
Electrical & Drive Systems Engineering Dept.
Automation & Control Systems Div.
1-18-13 Sotokanda, Chiyoda-ku, Tokyo, 101-8606
TEL +81-3-3258-1111
URL http://www.hitachi.com/

Fuel consumption improvement of a car

Precision Power Analyzer

Yokogawa Meters & Instruments Corporation WT3000

WT3000 contributes improvement of the performance of an electric motors and inverters used for an electric vehicle with its world top class measurement accuracy and intuitive user interface.

Usage / field

WT3000 is the electric power meter with the world top class accuracy. It visualizes an improvement of efficiency of motors and inverters.

Use conditions

Operating Temp.: 5 to 40C deg.
Humidity: less than 80%(RH)
Power: AC100 to 240V, 50/60Hz, 150VA

Features

WT3000 evaluate and analyze an improvement of efficiency of electric motors and inverters with its world top class measurement accuracy and variety of analysis functions.
WT3000 displays the measurement results in both numeric and waveform.

Energy-saving effect

The performance of electric vehicle is strongly affected by the inverters and motors. Therefore, in evaluation of these key components, high accuracy measurement instrument is required. WT3000 is the world top class precision electric power meter of 0.02% of reading

Contact

Yokogawa Meters & Instruments Corporation
Global Sales Dept.

6-1-3, Sakaecho, Tachikawa city, Tokyo
TEL +81-42-534-1413 FAX +81-42-534-1426
URL http://tmi.yokogawa.com

Efficiency improvement of transport

Comprehensive Traffic Management Support System

HORIBA ITECH Co.,Ltd. HSSE

This telematics system, which utilizes the Internet, provides comprehensive traffic management support and helps contribute to safer driving, improved fuel economy and overall operational efficiency.

Usage / field

With this service it is possible to analyze and browse data on the Internet that has been monitored and recorded by the in-vehicle unit, which contains various devices, such as a drive recorder and digital tachograph.

Use conditions

Devices such as computers connected to a high-speed Internet connection (Please ask for more detailed information.)

Features

If sudden increases and decreases in acceleration or swerving or idling, etc., are detected, the in-vehicle unit immediately issues audible guidance. This helps to improve fuel efficiency.
Achieving higher levels of driving performance with no sudden braking or accidents helps to build customer trust and peace of mind.
Driving data is sent to a dedicated server on the Internet via a communications module installed in the in-vehicle unit and can also be sent from other computers using dedicated software.
Data is automatically collated and provided on the internet in an easy-to-understand way.

Energy-saving effect

Inputting refueling volumes enables the system to automatically calculate fuel efficiency and CO_2 emissions based on the distance travelled, which can also be viewed at a glance.
Ascertaining vehicle and driver movement helps to improve not only fuel consumption, but also overall operational efficiency.
With the HSSE system it is possible to output idling and rapid acceleration/ deceleration frequency on a daily basis, which helps to provide an objective evaluation of driving performance.

Contact

HORIBA ITECH Co.,Ltd.

29-1 Maekawaharacho, Kisshoin, Minami-ku, Kyoto 601-8510, Japan
TEL 81-75-694-1700 FAX 81-75-694-1800

Efficiency improvement of transport

Mitsubishi Integrated Logistic Information System

Mitsubishi Electric Information Systems Corporation
Dr. Logis

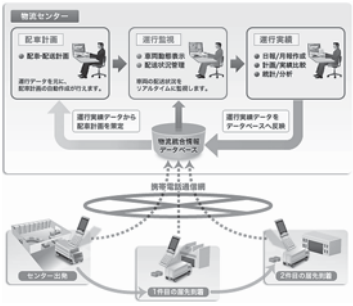
Dr. Logis is a logistic control system that integrates/links the logistic processes such as vehicle dispatch/delivery planning, travel monitoring, and record control; improves vehicle utilization efficiency; brings out an cost-reduction effect; and enables each company to achieve optimal logistic operation.

■ Usage / field

A logistic information system (LES) that promotes improvement of efficiency throughout the logistics by linking vehicle dispatch/delivery planning, travel monitoring, and record control.

■ Features

- Visualizes CO_2 reduction effect by using the function for simulating a CO_2 emission plan
- Reflects the delivery state in the vehicle dispatch/delivery plan in real time
- Links with a navigation map system
- Achieves optimization of the vehicle utilization efficiency by using a powerful planning engine
- Capable of linking with the backbone system and the existing travel control system
- Creates an optimal vehicle dispatch/delivery plan that meets the actual driving in a short time
- Enables the increase in accuracy of the next vehicle dispatch plan by feeding back the driving record and operating time



Energy-saving effect

In one case, a total of 167.6t of CO_2 was reduced within a year after adopting the system by increasing the loading ratio and the load mixing efficiency.
- Travel distance: Reduced by 256,000km
- CO_2 emissions: Reduced by 167.6t

(Note) The CO_2 emission reduction is calculated from fuel (light oil) reduction. For the specific consumption of light oil, 2.62kg-CO_2/l is used.

Contact

Mitsubishi Electric Information Systems Corporation
Service Division, Industry and Service Systems Group

MS Shibaura Bldg., 4-13-23, Shibaura, Minato-ku, Tokyo, Japan
TEL 03-5445-7602 FAX 03-5445-7791

ITS

Traffic Information ASP Delivery Solution

NTT DATA CORPORATION ViewRoad

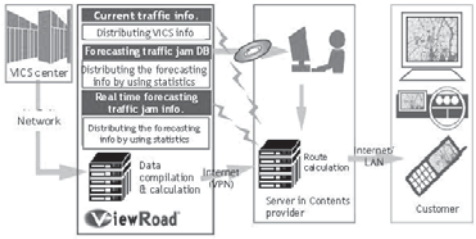
View Road" provides forecast traffic jam information by original methodology base on the current traffic information which VICS center delivers.

■ Usage / field

View Road" provides forecast traffic jam information by original methodology base on the current traffic information which VICS center delivers.

■ Features

- Selects an efficient route at a specific date and hour, and supports the planning of the best delivery.
- Generates the optimal route and the travel time for the rushing business etc. corresponding to emergent event such as accidents.
- Applies the congestion forecast data to the car navigation terminal etc., and achieves the driving plan service that specifies the arrival and departure hours.
- Enables area marketings with traffic information.



Energy-saving effect

- Offers the forecast time required between locations enabling the driving plan to specify the arrival and departure hours in advance.
- Enables the drivers to avoid traffic jams by taking the route of the driving plan.
- Reduces idling and, as a result, CO_2 exhaust and the consumption of gasoline.

Contact

NTT DATA CORPORATION
Service & Platform Business Unit, Business Solutions Sector

Sanno Grand Building 7F, 14-2 Nagata-cho 2-chome, Chiyoda-ku, Tokyo 100-0014
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E-mail viewroad@gis.bds.nttdata.co.jp
URL http://madore.glbs.jp/viewroad/index.html

ITS

Ubiqlink Traffic Information System

UBIQLINK, Ltd.

Dynamically creating a real time Road Congestion and traffic flow information by gathering massive positioning information form active cars on the road.

Usage / field

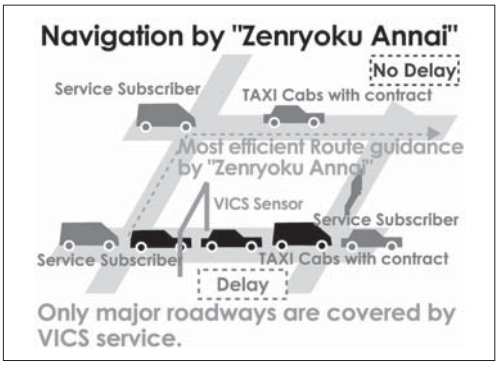
Road Traffic Information based Services with Cell Phones and Automobile Navigation system which covers a wide area but small detailed section with high information refresh rate.

Use conditions

Cell Phones with Digital Data Communication and with GPS Capability.

Features

- A wide area but small detailed section with high information refresh rate based traffic congestion information provision are made possible with 12,000 Taxi Cabs with contracted cooperation with Ubiqlink with in entire Japan, and also with the Next Generation mobile navigation system service "Zenryoku Annai by Ubiqlink" customers providing positioning information country wide.
- Could be used for the planning of new Roads and Bridges, as well as the Before and After of the Traffic Flow Analysis once they are built.
- "Zenryoku Annai by Ubiqlink" is the world first Mobile Phone Network based Commercial Traffic Congestion Information Service based on the active information from cars on the road.



Energy-saving effect

- By avoiding the traffic congestion, the reduced travel time and fuel cost savings could be achieved.
- With an experiment done by the Ubiqlink's Parents company "NRI" in City of Tokyo, following data were gathered.

Comparing with just using the major road routes only, maximum of 33% travel time reduction with an average of 19% reduction. Comparing with just using the major road routes only, maximum of 24% fuel usage reduction and an average of 14% reduction (based on the mid-size Automobile).

Contact

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Marketing & Business Planning Division

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E-mail info@ubiqlink.co.jp
URL http://www.ubiqlink.co.jp/english/business/index.html

BEMS

Energy saving by BEMS (visualization of environment)

azbil group Yamatake Corporation savic-net FX and FXBMS

Building Management System (savic-net FX) utilizes wide variety of energy application to put energy saving into practice. In addition to energy saving, BEMS function built into savic-net FX (FXBMS) supports evaluation of building mamagement by visualizing data such as energy consumption.

Usage / field

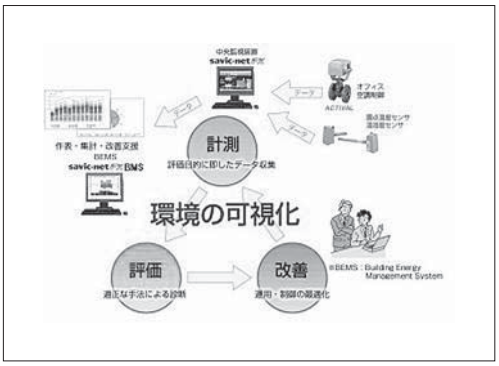
It helps to optimize working and living environment, and save energy consumption of whole building, in every types of building including offices, hospitals, shops, factories, and laboratories.

Use conditions

Regularly scheduled maintenance is required to keep optimal operation of this system.

Features

Buildng Management System (savic-net FX) links a number of energy saving functions closely in HVAC systems to enable optimization of living environment and energy saving of the entire building at the same time; thus contributes to heighten environmental property of a building. In addition to energy saving, BEMS function built into savic-net FX (FXBMS) supports evaluation of building mamagement by visualizing data such as energy consumption, equipments' operation status, etc. Energy saving models like "measurement - evaluation - improvement" cycle can benefit from the visualzation function provided by BEMS.



Energy-saving effect

The foundation of energy saving is formed by understanding energy consumption of each equipment. From every energy consumption data such as electricity, gas, and water to environment data such as ambient temperature or relative humidity, add collected data will be managed centrally with savic-net FXBMS. In Yamatake's own Fujisawa tech-center, energy consumption was redused significantly by optimizing operation of heat source system and fume hood exhaust based on analisis of collected data. Optimal living environment and energy saving (15% less than the previous fiscal year *1) can be attained simultaneously by applying "measurement - evaluation - improvement" cycle continuousely.
(*1 Actual environmental performance of the building No. 100 in Yamatake's Fujisawa tech-center recorded in 2008)

Contact

azbil group Yamatake Corporation
Global Sales Department, Building Systems Company

Shinagawa Seaside South Tower, 4-12-1 Higashi-Shinagawa, Shinagawa-ku, TOKYO
TEL 81-3-6810-1107
URL http://www.yamatake.com/products/bi/ba/fx/index.html

BEMS

Biulmo

Digital Electronics Co.

I realize "MIERUKA" by the expression that can grasp the data that I measured intuitively.

■ Usage / field

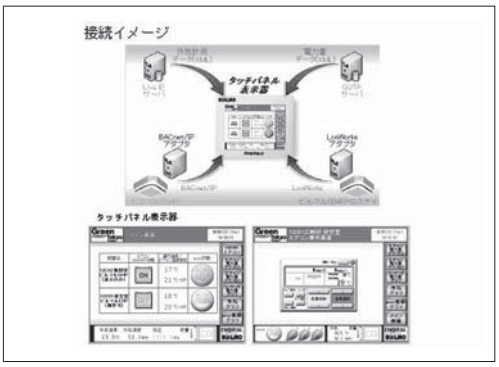
The "MIERUKA" solution spin control terminal of BEMS

■ Use conditions

Please access a reference.

■ Features

This solution devises power of expression abreast for energy saving mind.



Energy-saving effect

It promotes stocktaking and consciousness improvement by always displaying fresh air measurement data, electricity consumption, an air-conditioner load state.

Contact

Digital Electronics Co.

6F Huric-Torigoe Torigoe Taito-ku Tokyo Japan
E-mail masashi.murakami@mail.digital.co.jp

BEMS

Total Building Management System Futuric/SX Series

FUJITSU LIMITED Futuric/SX Series

The building management system Futuric/SX series is building automation(BA) systems to collectively manage and control information about electricity supply, air-conditioning, lighting, and crime/disaster prevention, while sharing information with users.

■ Usage / field

Total Building Management System

■ Features

For the protection of the environment and conservation of energy, facility data, such as air-conditioning data, are transmitted to servers and remote PCs in cooperation with BEMS (Building and Energy Management System) to maintain the optimum operating conditions.
The system is used to tally up accumulated energy data in order to visualize the amount of CO_2 and environmental load with the aim of supporting efforts to reduce CO_2 emissions.
Fujitsu has developed a solution to protect the environment and conserve energy in order to support energy-saving promotion activities conducted by companies and other bodies.

Energy-saving effect

The system is used to tally up accumulated energy data in order to visualize the amount of CO_2 and environmental load with the aim of supporting efforts to reduce CO_2 emissions.

Contact

FUJITSU LIMITED
Fujitsu Contact Line

Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo
TEL +81-120-933-200
URL http://fenics.fujitsu.com/products/futuric/sx/

BEMS

Total Environmental Management Solution

Mitsubishi Electric Information Systems Corporation
DIALCS

Gathering and visualizing the energy usage in each department of the corporate, DIALCS comprehensively supports the PDCA (Plan-Do-Check-Act) cycle for low-carbon activities.

■ Usage / field

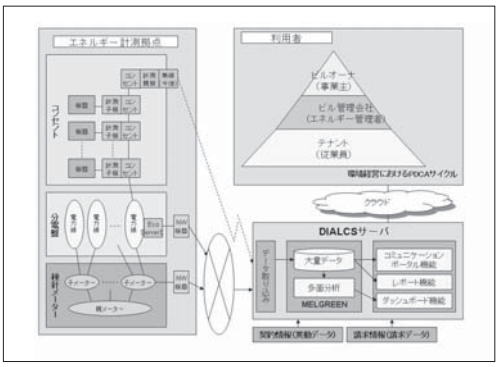
Energy-saving for building owners, for multi-branch/factory companies, and for companies required to report in accordance with the Energy Conservation Law.

■ Use conditions

Internet connection

■ Features

- Support the PDCA cycle for energy-saving by the Communication Portal function which shows energy consumption status and messages.
- Comprehensibly display planned and result values on dashboard which helps each corporate hierarchy.
- Long-term-stored energy usage data enables the multi-aspect analysis.
- Enable to figure out the monthly usage status and assist to prepare the reports in accordance with the Energy Conservation Law and the regulation of local government.



Energy-saving effect

- Enable building owners to implement effective measures based on the energy management index, and the aggressive energy-saving policy leads to the strengthening of own brand.
- Enable energy managers to figure out points to be improved by checking visualized usage status.
- Enable employees to practice daily energy-saving activities by getting various educational messages from energy managers.

Contact

Mitsubishi Electric Information Systems Corporation
Service Division, Industry and Service Systems Group
MS Shibaura Bldg., 4-13-23, Shibaura, Minato-ku, Tokyo, Japan
TEL 03-5445-7445 FAX 03-5445-7794

BEMS

Energy consolidating management solution

NTT DATA Customer Service CORPORATION REMOTE ONE

REMOTE ONE is a energy saving solution by remote energy consolidation management.

■ Usage / field

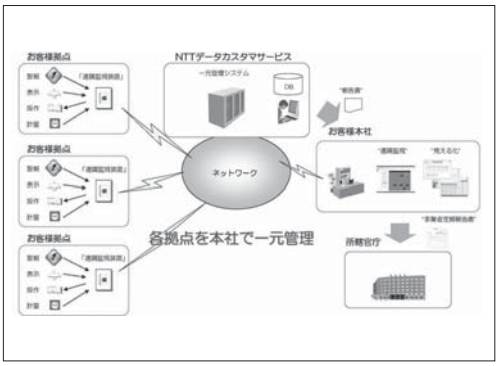
REMOTE ONE measures the amount of the energy use of facilities and equipment, and support making regular reports.

■ Use conditions

You need to connect to Internet.

■ Features

- It is not necessary to remember a difficult manner of operation by an easy operation with the touch panel.
- The equipment is driven in the schedule automatically, and manager's business is reduced.
- It measures the amount of the energy use.
- The temperature and the current of the equipment are observed, and the trouble can be prevented beforehand.



Energy-saving effect

- A real-time energy usage can be checked by remote management.
- It enables Planning/review of conservation of energy plan
- The energy management business is reduced according to remote management.

Contact

NTT DATA Customer Service CORPORATION
Sales Business Planning &
Operations Department Sales Marketing Division
Toyosu Center Bldg. Annex the 5th floor, 3-9 Toyosu 3-chome, Koto-ku, Tokyo 135-8677
TEL +81-3-3534-6077 FAX +81-3-3534-7810
E-mail sales-stategy@nttdatacs.co.jp
URL http://www.nttdatacs.co.jp/

BEMS

Environmental information gathering service

Oki Network Integration Co., Ltd. Websensing

Did you take measures of new Energy Conservation Law? It is one of the important management strategy problems including the approach on green IT.

■ Usage / field

It is environmental information gathering service that uses the network. By collecting and measuring the energy use of office or store, you can determine the current usage.

■ Use conditions

Windows XP/Vista, Since Internet Explorer 6.0 SP2

■ Features

1. Central energy management for the electric power and the gas on each branch.
2. In the optimization of the standby power requirement, it is reduction in costs as for the electric rate.
3. To feel the environment to be familiar, the approach of all company environmental measuresis given to achievement.

Energy-saving effect

It is useful for the consideration putting on conservation of energy for user by seeing the conservation of energy activity. Even only the user's effort can reduce about 6% of the amount of power consumption in the office by introducing this service.

Contact

Oki Network Integration Co., Ltd.
Business Development Division

1-16-8, Chuou, Warabi-shi, Saitama, Japan
TEL 048-420-7011 FAX 048-420-7017
E-mail okinw-info@oki.com
URL http://www.okinw.co.jp/

BEMS

Energy Saving Management System

Sumitomo Densetsu Co., Ltd eBMS(e-Building Management System)

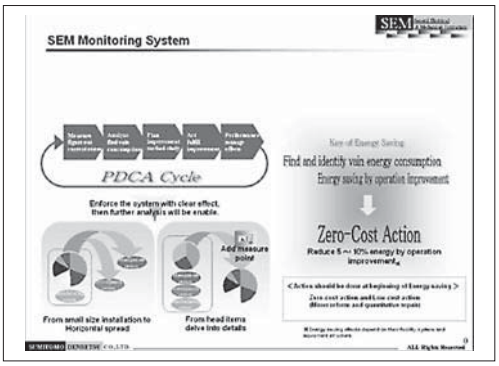
To quantify requirement, find tendency and indentify vain energy consumption, we will support to improve operation through energy saving IT technology.

■ Usage / field

Benefit commercial facilities such as office buildings, data-centers, industries, shopping centers and franchises like convenience store and also be useful to public institutions, schools, hospitals or laboratories.

■ Features

SUMITOMO DENSETSU co; ltd actively undertake building energy saving support business such as the energy management system or the monitoring system with IT technology. The monitoring system helps you to find potential losses by showing your temporal sequence consumption and quantifying requirement. The energy management system provides you analyses, plans and evaluations. Furthermore, it is able to be utilized to share information or energy saving enlightenment. Our manufacture-independent solutions offer cost effective network designs and compatibility with existing systems.



Energy-saving effect

According to facility systems or equipment structures, an energy reduction effect would vary. However, through our analysis, plan and evaluation with the energy management system, we expect from 5 to 8% reduction by changing inefficient instrument or improving operation.

Contact

Sumitomo Densetsu Co., Ltd
eBMS Department

3-12-15 Mita, Minato-ku, Tokyo 108-8303
TEL +81-3-3454-7040 FAX +81-3-3454-7041
URL http://www.sem.co.jp/english/

BEMS

Energy-saving System for Circulation Pumps

Yokogawa Electric Corporation Econo-Pilot series

The control system contributes amazing energy-saving. For secondary circulation pumps, it reduces the electric power by 90%. And for first circulation pumps and cooling water pumps, It reduces it by 70% while protecting the heat source.

Usage / field

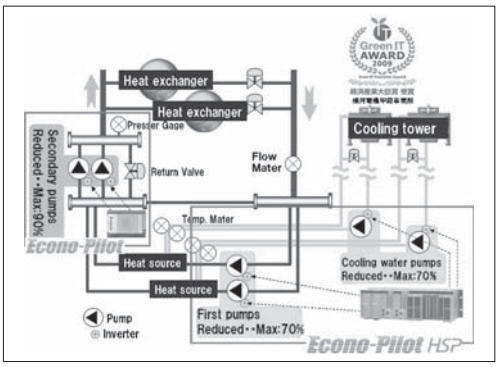
It is energy-saving system to control circulation pump and cooling water pump of air-conditioner and production facility.

Use conditions

Supplying cold/hot water by using the water pump in central air-conditioning system etc.

Features

- Received Energy Conservation Award 2009.
- Received Green IT AWARD 2009, Minister of METI AWARD for our Kofu factory. Econo-Pilot contributes their energy-saving.
- Reduce annual pump power consumption by up to 90% (Econo-Pilot), 70% (Econo-Pilot HSP)
- Easy to introduce into existing systems, just add a compact controller to it.
- Operation control window provides visible real time power reduction data.
- It is equipped with the security function of the heat source by the standard.



Energy-saving effect

- Develop control method whichi enable to supply stable flow volume annually. The big reduced volume is closed to theoritical value. (power consumption varies as the cube of pump revolution)
- In case of secondary pump of closed water line, reduce up to 90% of annual electric power. (Econo-Pilot)
- In case of first pump and cooling water pump of closed water line, reduce up to 70% of annual electric power. (Econo-Pilot HSP)

Contact

Yokogawa Electric Corporation
Green Factory Solutions Business Headquaters Energy Conservation Solutions Center
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 81-422-52-6396 FAX 81-422-52-8054
URL http://www.yokogawa.co.jp/eco/

Paperless office

Paperless Office Consulting

CAC Corporation Innovation Consulting

We help customers implement a paperless office with business and office innovations designed to increase the productivity of white-collar workers.

Usage / field

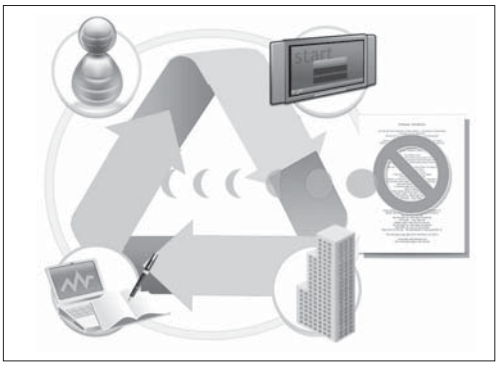
* Making offices paperless, paper stockless, and energy-saving
* Making white-collar jobs laborsaving, more efficient, and faster

Use conditions

Not applicable.

Features

Reducing stocked paper is only a start toward implementing a paperless office. Systems that don't produce paper and operations that work without paper must also be established. This requires innovation that encompasses business processes, facilities, employee activities, rules, and operations.
Our solutions not only create a paperless office, they also conserve energy and reduce CO_2 emissions by supporting clients in their efforts to increase operational speed and efficiency and develop businesses that run without paper.



Energy-saving effect

Example: Service provider (250 employees) Improved business processes, offices and work rules; implemented systems and software tools to support communication; and achieved computerization of office paperwork.
-> Paper produced: 49% down after 4 months, still declining
-> Paper stocks: 32% down after 4 months, still declining
-> CO_2 reduction: 363kg/month
Example: Manufacturer (6000 employees) Annual paper consumption 46M sheets-> 33M sheets (after) -> CO_2 reduced by 350 tons.

Contact

CAC Corporation
Low Carbon System Initiative
24-1 Hakozakicho, Nihonbashi, Chuo-ku, Tokyo
TEL 81-3-6667-8025 FAX 81-3-5641-3177
E-mail info-lcsi@cac.co.jp
URL http://www.cac.co.jp/product/lcsi/index.html

Paperless office

Dematerialization of business transactions.

DESC's contribution
Intel Corporation Reduction of paper across supply chain & associated transport.

It is possible to save CO_2 emissions associated with paper based business transactions across the enterprise by utilising IT enterprise resource planning solutions.

■ Usage / field

By enabling 100% E-business transactions with all Intel suppliers, Intel has received significant productivity benefits but also through the concept of Dematerialization; developed a paperless office environment for Biz-Biz transactions.

■ Use conditions

Nothing especially

■ Features

- All business transactions completed online through supplier management portal.
- Elimination of paper based transactions across the supply chain.

Energy-saving effect

- Elimination of paper based transactions
- Elimination of transport across supply chain of paper.

Contact

Intel Corporation
(by collaboration from DESC)

2200 Mission College Blvd. Santa Clara, CA 95054-1549 USA
TEL -408- 765-8080 -US-
URL http://www.intel.com

Paperless office

Eco-conscious Forms solution

NEC Corporation WebSAM Rakuform

The eco-conscious electronic-form software providing the infrastructure to develop and manage the forms. It enables creating and managing the forms and printings, and reduces the environment load which arises during the form-printing.

■ Usage / field

Reduce the use of paper and logistics by using electronic-forms in the legacy-migration of the form-printing system.

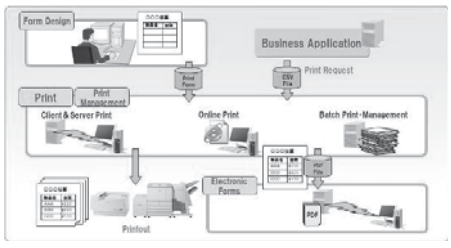
■ Use conditions

Electricity (165W), Network access (1.5Mbps)

■ Features

[Distributed printing function]
* Reduce the electricity costs by using multiple office-printers instead of the existing high-speed forms printer
* Reduce the logistics costs as it is directly printable from the printer of the remote office
* Reduce unnecessary printing by viewing the form-image before printing

[Electronic-forms function]
* Reduce the amount of printed forms and the storage space of them
* Improve the business efficiency through the form managemernt function which enables users search and browse forms on the internet



Energy-saving effect

WebSAM Rakuform emits 8.9t in contrast with that the existing printing system emits 19.8t CO_2, according to the annual CO_2 emissions calculation from the six environmental loads arises from the printing operation (using devices, using papers, logistics, using objects, storing objects, and using network).
Introducing WebSAM Rakuform reduces 10.9t of CO_2, that is, 55% of CO_2 can be reduced annually. Especially WebSAM Rakuform is highly effective on reducing the usage of paper (4.4t reduced) and logistics (8.9t reduced).

Contact

NEC Corporation
Platform Sales Division

33-1, Shiba 5-chome, Minato-ku, Tokyo, JAPAN
TEL +81-3-3798-7177 FAX +81-3-3798-8414
E-mail contact@soft.jp.nec.com
URL http://www.nec.co.jp/middle/WebSAM/products/Rakuform/

GOCE® - Global Mail Hosting Service

Nihon Unisys, Ltd.

GOCE® is a global mail hosting service in which we provide all required resources and services for operating the servers and domestic/overseas network etc. for a global mail system that the customer's information system department would usually need to manage.

***GOCE: Global Office-work Communication Evolver**

Usage / field

This service provides an enterprise communication platform that can be used for global e-mail and schedule.

Use conditions

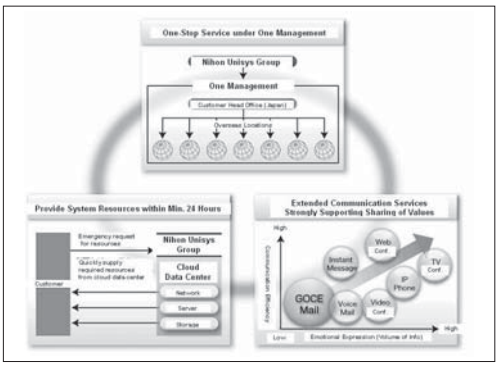
Mail Client: Outlook Outlook Web App (OWA)
Client System Requirements:
OS: Windows XP SP2 and later
Outlook: Outlook2003 and later
Browser: IE 6.0 SP2 and later (Light), IE 7.0 and later (Premium)

Features

Global mail hosting service GOCE® has the following features:
1. Direct Connection with the Corporate Intranet
- The customer's corporate intranet and mail hosting environment are directly connected without requiring network address translation.
- Better network stability and security than other services that are provided via the internet.

2. Service Provided from a Domestic iDC
- Service is provided from a domestic iDC with high security and robustness.
- The location of data provided by the customer is clearly indicated.

3. Asset Off-Balancing
- E-mail related assets are treated as cost (off-balance sheet) so that the customer's financial aspects including ROA can be improved.



Energy-saving effect

1. This service makes use of Nihon Unisys, Ltd's ICT Hosting Service, which enables an estimated 30% to 40% reduction compared to a common iDC.
2. CO_2 emissions can be reduced by reducing the use of transportation.

Contact

Nihon Unisys, Ltd.
ICT Services

1-1-1 Toyosu, Koto-ku Tokyo 135-8560 Japan
TEL 03-5546-4111
E-mail green-ict@ml.unisys.co.jp
URL http://www.unisys.co.jp/services/ict/goce.html

Report Superintendence System

NTT DATA BUSINESS BRAINS CORPORATION Pandora-AX

It is a paperless system that generates the slip output digitally, and reads, refers, and prints on personal computers.

It supports effective development of the enterprise by reducing the cost for printing and storage, achieving the efficient job and promoting BPR.

Usage / field

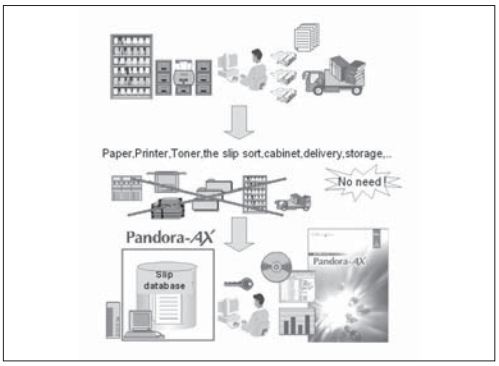
System that digitalizes slips output by computer without printing, and refers and retrieves on personal computers.

Use conditions

OS:Windows2000 Server/2003 Server

Features

- Achieves a great cost reduction by paperless.
- Automates the slip sort with no need of delivery.
- Extracts the slip data to Excel.
- Achieves the speedup of the inquiry answer.
- Keeps security of the slip.
- Raises the operating effectiveness by an advanced retrieval and the work flow.
- Achieves the automatic fax delivery.
- Manages collectively all the data in various fomats such as PDF and CSV.



Energy-saving effect

- Reduces the consumption of the output paper.
- Reduces the consumption of the toner, and reduces the number of the printer by decreasing the amount of the output.
- Ablishes labor/transporting operation by substituting for the automation and the network transmission of the slip sort.
- Clears up the storage and reduces/abolishes the slip disposal operation, with reduction of environmental impact of about 48% in total.

Contact

NTT DATA BUSINESS BRAINS CORPORATION
Package Business Group of Sales Division

Daiyu Building, 9-10, Shiba 2-chome, Minato-ku, Tokyo 105-0014
TEL +81-3-5443-9905 FAX +81-3-5443-9907
E-mail PKGSupport@nttd-bb.com
URL http://www.nttd-bb.com/product/pandora/

Improving efficiency with IT

Carbon Management System

azbil group Yamatake Corporation CO_2 Management System

CO_2 emission of the entire company can be managed centrally. In addition to optimization of management, CO_2 Management System can improve emploees' awareness of energy saving and CO_2 emission reduction.

Usage / field

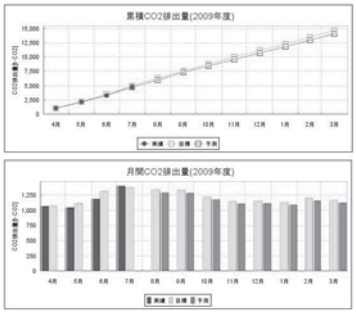
A total energy and CO_2 management system covering from CO_2 resulting from energy generation to GHG 5.5 gas in ASP and SaaS format.

Use conditions

Internet Environment

Features

- By utilizing ASP and SaaS, the system can flexibly adapt to future regulation changes, etc.
- Low introduction cost.
- Data required by number of laws and regulations can be calcurated.
- Margin of improvement can be calcurated by utilizing BAS data.
- A target value can be set to evaluate monthly progress.
- Useful function including comparison function based on total floor size or user types, ranking function, etc.



Energy-saving effect

By letting each office enter current data for analysis, difference between target value and actual value can be visualized. This practice has increased emploees' awareness of energy reduction and CO_2 emission reduction. The result was 926 ton reduction of CO_2 in FY 2008 in comparison to FY 2006.

Contact

azbil group Yamatake Corporation
Global Sales Department, Building Systems Company

Shinagawa Seaside South Tower, 4-12-1
Higashi-Shinagawa, Shinagawa-ku, TOKYO
TEL 81-3-6810-1107
URL http://www.azbil.com/

Improving efficiency with IT

Material Flow Cost Accounting

Canon IT Solutions Inc. Ecovation MFCA & Consulting Services

MFCA is an method how the material flows by the manufacturing process, and the evaluation and analyzing the loss (waste) in the manufacturing process. New reducing costs are achieved, and the negative environmental impact are decreased.

Usage / field

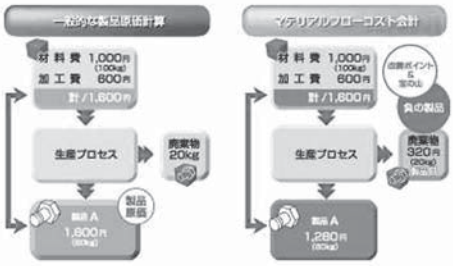
It is an environmental accounting method for making visible the uselessness hidden in the manufacturing process by aiming at the material and the loss.

Use conditions

Ecovation MFCA
OS: Windows Server 2003, CPU: 3.0GHz

Features

1) By the thing to pursue the flow of the material in the manufacturing process, a new improvement point is discovered.
2) It comes to see all elements that compose the cost such as the material, energy, the system, and waste management, and the overall judgment for the cost reduction becomes possible.
3) Consideration to the loss on the production site is revolutionized, and the improvement consideration is urged.



Energy-saving effect

1) The reduction of vast waste is achieved from the analysis and the improvement of the manufacturing process by introducing MFCA.
2) The environmental indicator for the saving resource is offered by understanding vague waste quantitatively in each product and each process.
3) The uselessness of energy in the manufacturing process is made to visible, and reduced.

Contact

Canon IT Solutions Inc.
Environmental Solution Sales Department

11-28, 3-chome, Mita, Minato-ku, Tokyo
TEL +81-3-5730-7064 FAX +81-3-5730-7147
E-mail ecovation@canon-its.co.jp
URL http://www.canon-its.co.jp/environment/mfca/index.html

Improving efficiency with IT

Data Collection, Operation and Analysis Support Software SLIMOFFICE/SLIMOFFICE EX

FUJITSU LIMITED
SLIMOFFICE/SLIMOFFICE-EX

Software to support the collection, operation and analysis of data on the environmental performance (environmental performance results) of organizations. This product is useful in creating ISO 14001 support, environmental accounting, environmentalreport and initiative promotion plans to prevent global warming.

Usage / field

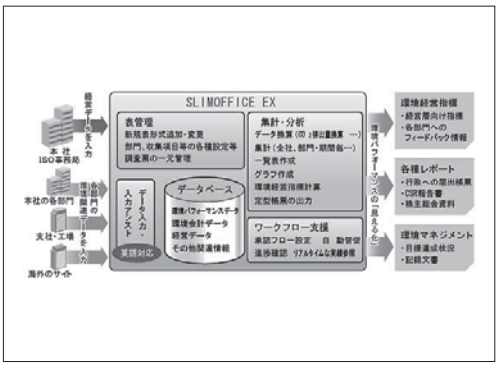
Software to support the collection, operation and analysis of data on the environmental performance (environmental performance results) of organizations.

Use conditions

Server: Windows server 2003 (SP1) + ⅡS6.0
Client: Windows 2000, XP

Features

Environmental management information system "SLIMOFFICE EX" is software exclusively for the total management and analysis of companies. The software supports everything from the collection of environmental-performance data to the environmental accounting of organizations.
Environment-related information is collected and analyzed efficiently from various bases to highlight the environmental performance of organizations. Template-ledger sheets for environmental accounting are fitted as standard, enabling users to introduce environmental management easily.
This product can be utilized to create ISO 14001 support, environment accounting, environmental reports and initiative promotion plans to prevent global warming. Various ordinances, regulation and controls (revised Law Regarding the Rationalization of Energy Use supported) are also available.



Energy-saving effect

The effect of "SLIMOFFICE/SLIMOFFICE-EX" is a CO_2 reduction of 26.5%, in addition to reduction of each person in charge and manager workload. (The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

Contact

FUJITSU LIMITED
Fujitsu Contact Line

Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo 105-7123 Japan
TEL +81-120-933-200
URL http://jp.fujitsu.com/group/fip/services/environment/management/performance/

Improving efficiency with IT

Multi-Biz Media Service TWX-21

Hitachi, Ltd. SaaS Multi-Enterprise EC

TWX-21 is a SaaS type of Business Media Services for the Enterprises and Trading Partners. Its services of Web-EDI (JEITA), Environment (JAMP), and Central Purchasing Management for MRO are used by 41,000 companies over 20 countries.

Usage / field

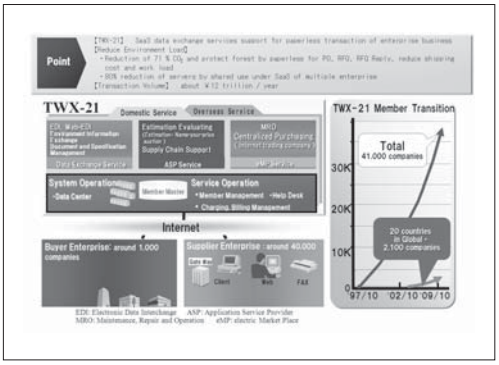
Support the Enterprise data exchange processes in design, purchase, manufacture, sales and environment for global deployment.

Use conditions

Internet, Internet Explorer 6.0 SP2, or newer release

Features

One-Stop Service for Multi-Enterprises in their design, purchase, manufacture, sales and environment business transactions under the Internet with low cost and short-time to deploy. High security management with the business SaaS technologies of access control by rights and roles of enterprise, division and individual task level. Increase process accuracy by sharing most current information and visibility on process status. Multi-language supports of screen (Chinese, English and Japanese) and Help Desk for globalization



Energy-saving effect

Annual CO_2 reduction of 71% by TWX-21 Web-EDI services, used by 7,000 companies in data exchange for RFQ, RFQ Reply, PO, Delivery Reply, and Invoice, generating over 120,000 forms per year, in reducing of FAX, forms and paper, and up efficiency (assessed by the Hitachi Group methodology SI-LCA). The SaaS technologies has reduced 75% of servers, facility space and development resource, and eliminate individual development and operation task by deploying the JEITA standard.
Protect forest by paperless process

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Industrial Manufacturing & Services Sysytems Division

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Improving efficiency with IT

Office Energy Use

DESC's contribution
Intel Corporation Reduction of energy use in the office through Awareness and Management

It is possible to save energy in the office environment at material levels, by providing end users with Awareness of how much energy is being used and at what cost as well as the management of client power management profiles.

Usage / field

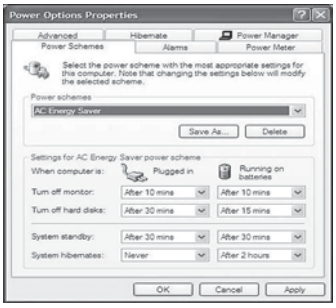
By providing end users with information, Awareness, of how much energy is being used and at what cost, as well as with some energy savings tips and tricks, we found they voluntarily reduced their energy consumption by as much as 20%. Additionally, managed (enforced) client power profiles reduced client energy consumption by as much as 10% (not additive to above example).

Use conditions

Nothing especially

Features

- Real time user interface of energy consumption, cost, and other meaningful indicators
- Friendly competition of energy savings between groups.
- Centrally management of client energy profile settings
- Client side agent tracks usage and provides "soft" metering capabilities



Energy-saving effect

- Awareness = knowledge of "current" energy use updated "real time" with associated cost or other meaningful indicator results on voluntary reduction of energy usage. Traditionally this in the 10%-15% range (studies in the home) but in our Enterprise PoC we saw an average reduction of 22%.
- Power Management = 3rd party central management of client side power profile settings from usually always on to enforced standby after 30 minutes of inactivity resulted in an average 10% reduction of client energy consumption.

Contact

Intel Corporation
(by collaboration from DESC)

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URL http://www.intel.com

Improving efficiency with IT

Improving efficiency with IT

Sustainable printing solutions

DESC's contribution
Intel Corporation Reduce paper consumption through sustainability printing technology

It is possible to save paper and reduce CO_2 emissions associated with printing in the office environment, by enabling technologies which prevent wasteful printing techniques.

Usage / field

In today's busy office environments how many times have you printed out a documented and forgot to retrieve it? Beside any printer in today's office environment you shall see stacks of paper piling up at the printer. To address this in Intel we enabled sustainable printing technologies and achieved 2 major benefits:-
1) Protection of Intel confidential data,
2) Elimination of wasteful printing and accumulation of paper.

Use conditions

Secure Printing driver installation

Features

- Awareness of sustainability principles and printing
- Pin enabled printing.
- Centralized printing model
- Tracking paper saved on monthly basis.
- Elimination of printing out papers.

Energy-saving effect

- Each year Intel churns out more than 100 million copies and spends millions $$'s on printing. Yet about 40 percent of those printouts are discarded within 24 hours, according to a major industry study.
- Sustainable printing solutions gives us an opportunity to reduce printing costs by 20 percent, save about 2,500 trees, and enhance the protection of Intel's Intellectual Property and confidential information.

Contact

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Microsoft Unified Communications

DESC's contribution
Microsoft Co.,Ltd. Unified Communications

Microsoft's Unified Communications (UC) solutions harness the power of software to streamline how people communicate, enable new work style like Telework while improving their business outcomes in a more environmentally sustainable way.

Usage / field

Microsoft Unified Communication is a software solution that integrates with your existing Telephony, mail, instantmessaging, Video conference, Webconference.

Use conditions

Software licence, Hardware, Client access License

Features

The two product cornerstones of Microsoft UC are Exchange Server - powering secure email, calendaring and voice mail - and Office Communications Server -- the platform for presence, instant messaging, conferencing, and enterprise voice for businesses around the world. Together Exchange and OCS give IT organizations the flexibility and control they need to better manage their communications infrastructure, and provide an extensible platform for communications-enabled business processes.

Energy-saving effect

- The World Wildlife Fund estimates that increasing telecommuting and virtual meetings by UC "could, without any dramatic measures, help to save more than 3 billion metric tons of CO_2 emissions in a few decades; this is the equivalent to approximately half the current U.S. CO_2 emissions."
- In the US, reduced commuting accounts for 75% of the potential savings, with the other 25% coming from reduced air travel. Savings on this level are possible when flexwork is embraced at scale - with 30-45% of workers are flexworking 2-4 days a week and 1/3 to 2/3 of business trips are replaced with virtual meetings.

Contact

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Corporate Affairs

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Demand Monitoring System

Mitsubishi Electric Business Systems CO., LTD.
The Denryokuban for Web

It achieves "visual demand control" on the Web. It is capable of providing a diagrammed display of the measured data and the estimated value of the target demand value for each department and can be used as an energy-saving promoting tool because it enables the user to monitor status in real time from anywhere as long as the terminal is connected to the Internet.

Usage / field

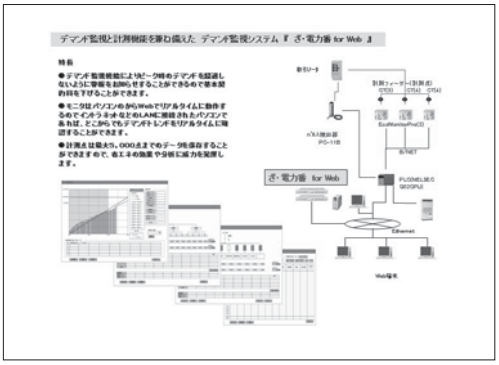
A Web system that enables real-time monitoring of the electricity demand of the customer who signs the electricity contract for a high receiving voltage (6.6kV), and allows setting of target demand, demand estimate, and analysis for each transformer and department.

Use conditions

Client (Web terminal): Microsoft Windows 2000 Pro, XP Pro or VistaLine: LAN

Features

(1) It is not necessary to set up the software in each terminal since the system can operate on an existing PC without using special equipment, and the monitor screen is operable on the Web.
(2) The user can easily build a system by simply importing various measurement data to PLC.
(3) Capable of supporting even a large system at a low cost (capable of controlling up to 5,000 measurement points).
(4) Allows estimate/analysis control for each transformer, office, and feeder.
(5) Enables the user to freely output data through general-purpose search and analyze it with Excel or similar software.
(6) Allows a system to be built by using wireless LAN.



Energy-saving effect

The system encourages the user to reduce power consumption of production equipment, air conditioners, and lightings under measurement and prevents demand surplus by estimating the demand value at the measurement point by using the demand-monitoring function. In addition, it is capable of easily extracting data by using the general-purpose search function and performing analysis for promoting energy-saving since it can store measurement data (up to 5,000 points) of each feeder for a long period (5 years).

Contact

Mitsubishi Electric Business Systems CO., LTD.
SALES PLANNING DEPARTMENT

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Improving efficiency with IT

Green Management Solution

Mitsubishi Electric Information Technology Corporation
MELGREEN

A solution that accurately supports PDCAs for reducing the environmental impacts by figuring out and analyzing the status, drawing up measures, and checking the effect through unified control of enormous volumes of various environment-related data throughout the company.

Usage / field

A solution designed for companies/organizations in which large amounts of environment-related data are generated (with respect to volumes, types), including large companies, financial/distribution services with many bases, and building administering firms.

Use conditions

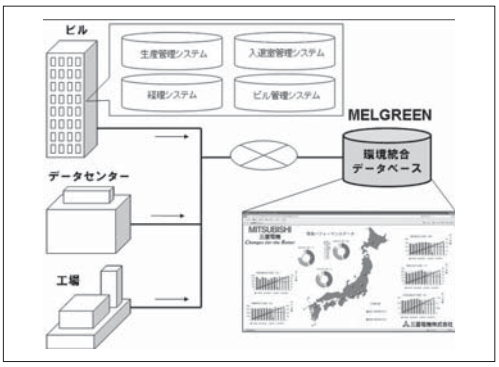
Operating environment of the server:
- Microsoft Windows Server 2008, Standard 32-Bit, or Microsoft Windows Server 2008, Enterprise 32-Bit

Features

- High-performance ETL and templates that enable flexible and easy import of various data such as environmental data (e.g., electricity/gas consumption, air conditioning temperature, room temperature, waste emission), security data, management data, and meteorological information that spread across companies and corporate groups.
- Mitsubishi Electric's unique high-speed database technology that enables unified control of enormous volumes of environment-related data, ultra-fast aggregation/search against 100 million records within 3 seconds and various analysis
- An environmental information cockpit that enables the user to identify necessary information at a glance according to the standpoint of the analyzer.

Energy-saving effect

Introduction of MELGREEN to office buildings (3 buildings, 33,000 square meters, 2,400 employees) resulted in the following.
- The man-days for preparing monthly reports intended to promote energy-saving were shortened (10 man-days -> automated).
- Provision of information became timely (information printed on paper posted at end of next month -> published on the web at beginning of next month).
- These promotion efforts resulted in thorough implementation of light-off during lunch time and absence, compliance with air conditioning preset temperature, etc., thus leading to energy-saving.



Contact

Mitsubishi Electric Information Technology Corporation
Planning Department, Sales Promotion Section

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Improving efficiency with IT

The Server Virtualization Solutions

Mitsubishi Electric Information Technology Corporation
VMINTEGRA

This set of solutions help reduce electricity consumption and CO_2 emissions by efficiently integrating multiple servers that operate in a distributed manner within the company by using a virtualization technology. It also achieves cost and workload reduction by efficiently operating the integrated system, with operation management software.

Usage / field

A software-and-service product that provides comprehensive support by the integration of servers to the operation and management of the integrated system.

Use conditions

VMware-certified server

Features

VMINTEGRA is a software-and-service product that efficiently achieves server integration through virtualization and integrally manages the operation after integration.
It has the following features:
(1) It provides the visualization templates (previous designed information of virtual machine) that facilitate server integration using VMware (a virtualization software).
(2) It provides an operation management portal that integrally manages the hardwares including virtual servers, OSes, and applications. In particular, a function for batch power-off of virtual servers and physical servers helps make daily operation easier and contributes to reducing the electricity consumption.

Energy-saving effect

(1) In a case where eight servers used in a company are integrated into one server, an electricity cost reduction of 500,000-700,000 yen/year is expected, resulting in the reduction of CO_2 emission.
(2) Previously, server integration required an expensive and complex system. VMINTEGRA made it possible to introduce it efficiently in short time because of the introduction templates, etc.
(3) In addition, it achieves improvement in work efficiency of the information system department and efficient server operation by using an operation management portal that unifies the operation after the introduction.

Contact

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Energy Saving Office Service

NEC Corporation EnePal PC Pack

The EnePal PC Pack enables visualization of the power consumption and CO_2 emission by PCs in offices and automatically reduces unnecessary power consumption. It also enables central management of the usage statuses of multiple PCs.

Usage / field

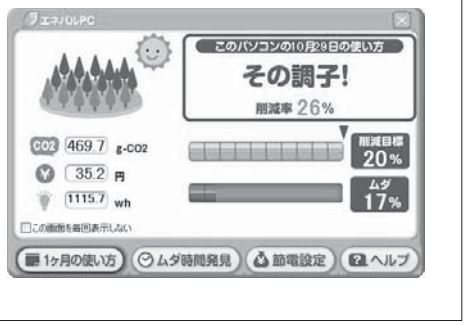
The EnePal PC Pack is groundbreaking software that reduces unnecessary power consumption and CO_2 emission by PCs in offices.

Use conditions

WindowsXP SP2, 3 WindowsVista Windows7

Features

- Visualization
  Power consumption and CO_2 emission can be visualized for each PC.
  Unnecessarily consumed power can also be clarified, raising energy saving awareness.
- Autonomous control
  The PC learns how the user regularly behaves, including when the user attends regular meetings, goes out, and takes lunch, to automatically control the power supply.
- Central management
  The manager can centrally manage the power consumption and CO_2 emission of all PCs.
  A target can be specified for each department or division.



Energy-saving effect

Case study of EnePal PC introduction
Average power consumption reduction ratio: approximately 29.4%
Power reduction: approximately 26,500 kWh
Company: NEC Fielding, Ltd. (headquarters, sites across Japan, technical centers, etc.)
Scale: approximately 7,000 PCs (desktop: 47.5%, notebook: 52.5%)
Period: use for one month (20 business days) in May and June 2010
Specified reduction target by using EnePal PC: 20%

Contact

NEC Corporation
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ASP Type Shared online service system for retail securities Brokerage firms

Nomura Research Institute, Ltd.
STAR-IV

ASP Type Shared online service system which used by many securities brokerage firms could make a drastic reduction in Carbon Dioxide (CO_2) emissions problem.

Usage / field

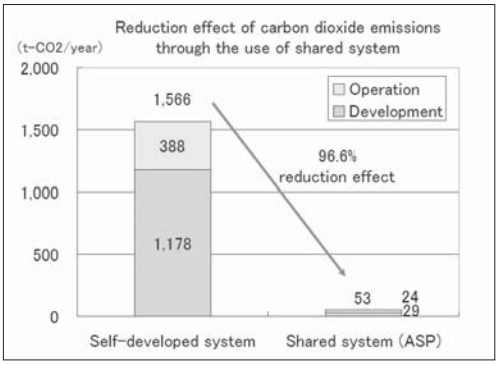
Comprehensive back-office system for retail securities brokerage companies, including an account management, trading and settlement service.

Use conditions

Dedicated Non-Switched Data Communication line access

Features

Retail securities berokerage firms do not need to develop their own back-office systems and can use NRI's ASP Type shared service systems with a dedicated data communication network.
NRI's shared system has been maintained and updated regularly to remain as the latest and at most reliable system service including regulatory changes.
As of the summer of 2009, there are dozens of securities firms, especially those mid-size securities brokerage firms use NRI's shared system service.



Energy-saving effect

1,533 tons of CO_2 per each securities firm can be reduced annually by utilizing NRI's shared system service instead of each developing their own system (based on NRI's study).
Because the system service platform is shared, these dozens of firms combined could reduce the CO_2 emissions by more than 96.6% in average by comparing with if they all had their own computing system each.
As this System Service is shared among many users, if more securities firm will join to use this service, total reduction in CO_2 will increase, and also each company's own reduction will increase as well.

Contact

Nomura Research Institute, Ltd.
Corporate Communications Department

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URL http://www.nri.co.jp/english/

Improving efficiency with IT

Authentication Printing System

NTT DATA CORPORATION Authentication Printing System with [u:ma]-G card reader

"Authentication Printing" reduces paper use in your office by preventing misprinting. IC Cards such as user's current employee ID can be used for its authentication realizing "no waste of resource" simply and effectively.

■ Usage / field

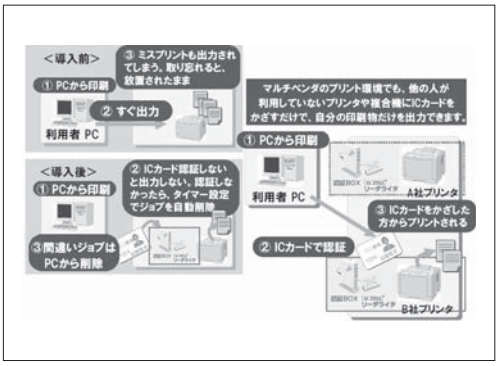
Reduction of unnecessary printing by compulsory authentication through IC cards.

■ Use conditions

Windows2000:SP4, XP:32bitSP2, Vista32Bit or later versions

■ Features

- Prevents documents from being left uncontrolled or mixed into others, as files of the user holding IC card over the reader are printed out.
- Compatible with printers (incl. multifunction printers) from various manufacturers.
- IC cards such as currently used employee ID can be used for authentication.
- Jobs can be cancelled from client PCs or automatically after certain period enabling reduction of misprinting.
- Selecting printers reduces waiting time and makes their utilization more effective.
- Printing records are archived for later analysis.



Energy-saving effect

Case Study (NTT DATA Corporation)
- 32% cut in printing paper use leading reduction of toner for printers and energy for disposal.

Little initial impact on environment
- No need to replace printers and IC cards currently in use or to install new servers. Constructing very little also means remarkable saving in resourde consumption and cost.

Contact

NTT DATA CORPORATION
IC Media & Web Service Business Unit, Business Solution Sector

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E-mail uma@kits.nttdata.co.jp
URL http://www.nttdata.co.jp/release/2009/051300.html

Improving efficiency with IT

Print cost reduction system

Oki Network Integration Co., Ltd. PretonSaver

You are not only able to start the eco-activity easily, but also the cost reduction activity.

■ Usage / field

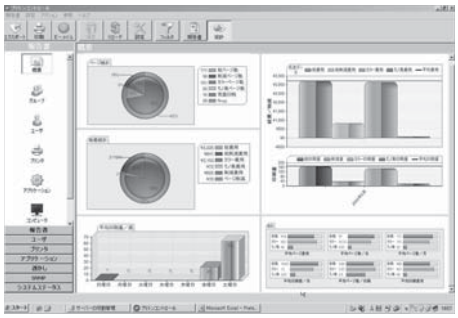
Continuous environmental compliance can act in the enterprise and the organization because the operation realities of the printer in the organization are analyzed in detail reducing the articles of consumption cost of the printer, and it can execute the print policy by the top down.

■ Use conditions

Windows 2000, XP SP1/SP2, Vista

■ Features

1. Reduce the total cost of the print.
2. Easy system introduction.
3. Complete management of rule-based printing.



Energy-saving effect

This system can be set to force and to reduce toner or ink for each application. This enables the cost reduction of about 40%.

Contact

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The front solution of personnel business

Solution & Technology Ltd. WiMS

Employee service of the service management system of standard equipment of diversification and compliance correspondence of employment, a personnel application, etc. is covered, and paperless and increase in efficiency are enabled. Furthermore, much more effect rise is attained by offer of SaaS type service.

Usage / field

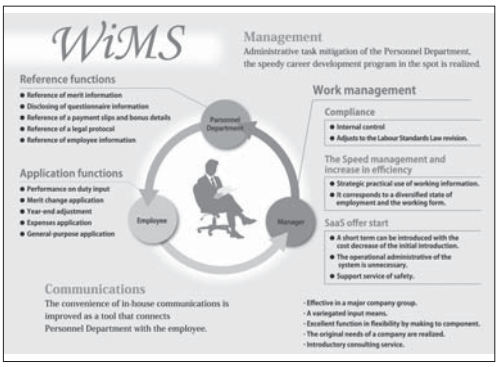
The front service business of a personnel system, an employment management system.

Use conditions

Introduction of a system package or use by SaaS type service.

Features

* It corresponds to a diversified form of employment.
The system that achieves a peculiar work management business to the customer is offered by abundant parameter settings.
* Strengthening of personal management and compliance.
For promptness to act amendment correspondence to display and working regulation change of overlabor control warning.
* Strategic use of work information.
The data analysis at all angles like the plan, the schedule, the results comparison, and the man-hour management according to the project, etc. is achieved.
* Variegated input means.
It corresponds to abundant input means like the Web input, the representation input, the time card, EXCEL, and mobility, etc.
* Application business, reference business
Information communication which raises employee service is realized.



Energy-saving effect

The energy-saving effect of 15,760kgCO_2/year was obtained by workforce optimization during 1,966kgCO_2/year for A company introduction case (12,000 peoples including five group companies) because of the consumption reduction of paper like the duty roster and the pay advice, etc. Additionally, the effect of secondary conservation of energy such as the power consumption reductions by the control of the movement and the document transportation of the person and the overtime work control was brought.

Contact

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Solution Marketing Div.

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Distributed Control System (DCS) solution

Yokogawa Electric Corporation CENTUM VP

In response to economic and market changes, it is always necessary to take in cost, efficiency, and quality of the entire factory in real-time as well as to optimize the entire plant along with the changes. For that purpose, it is necessary to have contro

Usage / field

It is a solution of distributed control system which controls and monitors plants with high reliability for the industries such as oil, petrochemical, chemical, power, iron and steel, etc.

Use conditions

Installed in a control room

Features

1) CENTUM VP provides the necessary data for plant operation in a real-time and precise manner giving the condition to monitor the plant comprehensively.
2) CENTUM VP offers control applications to realize efficient and safe plant operation.
3) CENTUM VP always delivers the right information to operators for optimum plant operation.
4) CENTUM VP provides a platform which makes it possible to create advanced solutions such as advanced control package, plant information management, and asset management.
5) CENTUM VP secures highly-reliable product design and support system, which ensures safe and continuous operation 24 hours a day, 365 days a year.

Energy-saving effect

CENTUM VP contributes to plants' energy saving by providing optimum control applications for those plants with the distributed control system as a platform as follows:
1) Oil: Applications such as atmospheric distillation and reboiler control, etc.
2) Chemical: Applications such as electrolysis tank control, etc.
3) Iron & steel: Applications such as sintered waste heat recovery and air-heating exhaust heat recovery control, etc.
4) Pulp & paper: Applications such as recovery boiler, paper machine heat recovery, and output change control, etc.

Contact

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Telework / TV / web meeting

Cisco Virtual Office (CVO)

DESC's contribution
Cisco Systems G.K. ISR G2, CCE, CS-Manager

Management of a remote office comprising the latest collaboration and the security on a large scale at low cost. Reduction of the energy that the movement of the employee and the office uses by the decentralization of the office function.

Usage / field

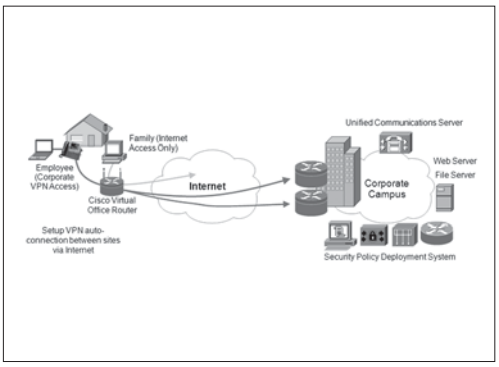
The Cisco® Virtual Office solution provides secure, rich network services to workers at locations outside of the traditional corporate office.

Use conditions

The environment that can communicate via the Internet, ISR G2, CCE, CS-Manager

Features

· Distribution of Router and IP phone to the remote office
· Sending the necessary configuration automatically to setting environment from the center
· Division of the segument into LAN for families and the LAN for business with necessary security in duties
· User authentification for access of wireless and wired LANs
· Cisco IP phone or Web Meeting in a procedure same as an office
· Centralized automatic management of the distributed office where there was not large-scale development in terms of setup and running cost.



Energy-saving effect

- 50% reduction in the electricity consumption of the Ethernet Ports
- Almost 40% reduction in energy consumption by the reduction of the office use opportunity
- Reduction of energy to use by commuting and the CO_2 discharge

Contact

Cisco Systems G.K. (by collaboration from DESC)
Cisco Contact Center

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Telework / TV / web meeting

Telepresence

DESC's contribution
Cisco Systems G.K. Cisco TelePresence

High Performance videoconferencing system. Cisco TelePresence realized "Immersive and Face-to-Face" meeting with remote location.

Usage / field

Cisco TelePresence systems combine life-size, ultra-high-definition video (1080p), spatial audio, a specially designed environment, and interactive elements to create the feeling of being "in person" with meeting participants in remote locations. This simple, easy-to-use solution allows you and other participants to communicate naturally and effectively.

Use conditions

Video conferencing HW/SW, IP-VPN/MPLS/NTT-NGN

Features

- Business trip cost/CO_2 is reduced by immediately connecting it with the customer, the partner, and the colleague.
- The distance, the environment, and the culture are exceeded and trust, understanding, and the relation are constructed.
- The conference participant sits in an immersive virtual table, and a reformative collaboration is promoted.
- A decision making with the promptly, intelligently is possible, and time necessary for the launching can be shortened.
- Up to 48 video streams are supported.
- Even home worker/teleworker can offer the same environment by the interoperability of Any-to-Any.

Energy-saving effect

Cisco's internal usage situation
As of July 2010 - Almost 200 Weeks since Program Launch -

- Over 140,000 Meetings avoided travel to date
- Travel savings: about $600M
- Metric tons of emissions saved: over 300,000 (~over 70,000 cars off the road)

Contact

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Telework / TV / web meeting

Video Collaboration Solutions

DESC's contribution
Hewlett-Packard Japan, Ltd. Halo

HP Halo Telepresence Solution is Global and Sustainable Communication Infrastructure ~Not on your LAN/WAN. No NW upgrades required~

■ Usage / field

Global and Sustainable Communication Infrastructure. Collaboration with distributed team ans customer.

■ Use conditions

No NW upgrades required. HP deliver full managed service with NW.

■ Features

HP Halo offers a suite of telepresence and video conferencing solutions and managed services that increase both productivity and your company's ability to reduce its carbon footprint. The only telepresence solution that runs on a private network designed specifically for video collaboration. Delivers fully duplexed audio, company-to-company connections and 24/7 support with Concierge Service. Multiple studios around the world at one time. Halo gateway support H320/H323 VCS connection.

Energy-saving effect

Between April 2007 and March 2009, HP Halo studios at both HP and customer facilities have saved over 66,000 metric tons CO_2e.
This is equivalent to 880 tanker trucks worth of gasoline or 12,000 US passenger vehicles off the road for one year.

Contact

Hewlett-Packard Japan, Ltd. (by collaboration from DESC)
Halo Business Development, ProCurve Networking Business Unit

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URL http://www.hp.com/jp/halo

Telework / TV / web meeting

Hitachi Visual Communication

Hitachi, Ltd. Wooolive

What we seek to achieve is "High quality video conferencing anywhere at anytime" NetCS-HD clients can join a video conference with Set-top but also computer or even IP telephone and mobile videophone.

■ Usage / field

NetCS-HD system allows you to experience the stress less visual communication with high quality images but also a clear and crisp voice.

■ Use conditions

IP Network, including Internet

■ Features

- High quality video: Supports up to 1280×720 (HD resolution)
- H.264/SVC supported: It is possible to send or receive smooth motion video by adjusting resolutions automatically even if network conditions get worse.
- MIC Array supports an echo cancellation function to optimize echo cancellation in a changing acoustic environment, i.e., it cancels echo caused from opening and closing of doors, people moving in and out of rooms, etc.
- You can have audio conference with participants using IP telephones connected to Hitachi
- NetCS-HD client allows you to share application with other meeting participants during a conference.

Energy-saving effect

Introducing Wooolive system will contribute greatly to the environment preservation by reducing energy use for transportation. For example, if you travel by air from Tokyo to Fukuoka, 208kg of CO_2 will be released for round trip. Using NetCS-HD system allows you to not only reduce CO_2 but also cut travel time, and thereby you can increase the work efficiency dramatically. Furthermore, application sharing function allows you to save printer costs and to reduce CO_2 that will be released when discarding any documents.

Contact

Hitachi, Ltd., Information & Telecommunication Systems Company
Telecommunications & Network Systems Division

216Totsuka-cho, Totsuka-ku, Yokohama-shi 244-8567, Japan
TEL +81-45-881-1221 FAX +81-45-865-7077

Telework / TV / web meeting

Video Conferencing

DESC's contribution
Intel Corporation Room based high definition - Tier based

Having communications roadmaps with alternatives that support virtual meetings improves employee and program productivity as well as reducing travel footprints. Employees who used to spend days traveling now get valuable work time back and aren't subjected to travel fatigue.

Usage / field

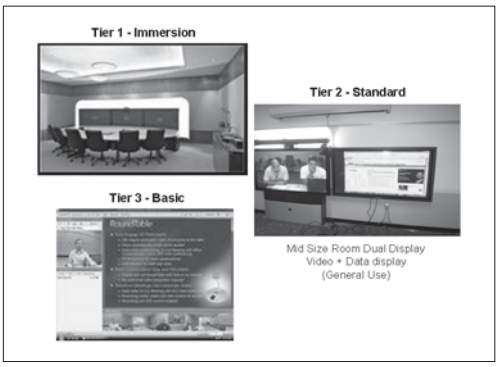
By using a multi-tiered video strategy of immersed, standard and basic, we are able to offer a virtual meeting system with integrated audio, video team collaboration and presentation that supports positive meeting behavior changes, quicker decision making and productivity that all supports a reduction in the travel footprint.

Use conditions

Video conferencing HW/SW, Internet access

Features

- Video industry has evolved on price, functionality, quality, and time to deploy.
- Employees can meet "face to face", share presentations and use white board capabilities.
- High definition resolution with fully immersive room video.
- Effective and efficient communication is achieved by synergetic participation.
- Web Conferencing w/Video as well as PC to PC Audio/Video.
- Live Web Casts, Web Cast replay and Corporate Video playback.



Energy-saving effect

- CO_2 foot print reduction (~1K metric tons/video conferencing room/year) plus travel cost savings.
- Need to build on the momentum and key learning's on usage models.
- Use the window of "no travel" to reinforce behavior change and productivity, $$ benefits to date.
- Accumulated travel avoidance from Q1'08 to Q2'09 is ~$6.57M based on self reported travel savings.
- Consistent 95% satisfaction reported.
- Utilization high across 14 rooms.

Contact

Intel Corporation
(by collaboration from DESC)

2200 Mission College Blvd. Santa Clara, CA 95054-1549 USA
TEL 408-765-8080
URL http://www.intel.com

Telework / TV / web meeting

Video Conference System

Mitsubishi Electric Information Network Corporation
MIND Video Conference Solution

We provide the newest, good user interface, high quality video conference solution with the concept based upon the idea of "Anytime, Anywhere, and Environment-friendly". We consult customers to deploy the most suitable systems based on the company size, purpose of use, and so on. We also provide a one-stop solution-from planning to maintenance.

Usage / field

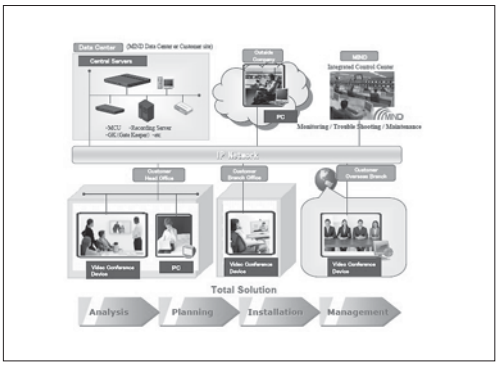
To deploy video conference system, we provide a total solutionincluding planning, installation, management and maintenance.

Use conditions

Depending on the system specifications.

Features

Propose optimal video conference system based on customer environment and purpose of use.
Provide multiple vendor options and multiple networking options.
Provide a one-stop service from planning to management and maintenance.
Provide a helpdesk service that can reduce administrator workload.



Energy-saving effect

You can reduce a large amount of CO_2 emissions by replacing business trips with video conference between distant locations.
You can also reduce CO_2 emissions by using presentation functionality which can reduce use of paper.
One of our customer having 2000 employees and 10 locations: reduced 628 tons of CO_2 emissions a year by reducing business trips, reduced 1 ton of CO_2 emissions a year by reducing use of paper and achieved higher work efficiency by reducing travel time.

Contact

Mitsubishi Electric Information Network Corporation
Sales Planning Division

ZENITAKA ANNEX 1-4-4 Kojimachi, Chiyoda-ku, Tokyo 102-8483
TEL +81-3-5276-6821 FAX +81-3-5276-6426
URL http://www.mind.co.jp/service/network/communication/video.html

Telework / TV / web meeting

Visual Communication

Panasonic Corporation HD Visual Communication System

Quite different from conventional teleconference systems, communications are achieved as if all attendees would share the same "room". Better not just for reducing travel-related environmental loads but for improving work and cost efficiencies and keeping on business even in case of disasters and pandemics.

■ Usage / field

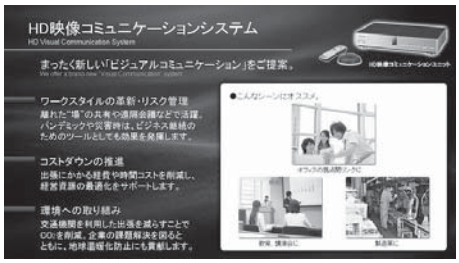
- Communication links between offices
- Remote learning and lectures
- Manufacturing and other sectors

■ Use conditions

Supply power (100V), Internet/NGN access

■ Features

- High-quality images and soundsFull high-definition images and clear sound create a shared "room" for all attendees
- Advanced technology applicable with enough security even on the InternetBand fluctuations-responsive automatic rate control, among others, ensuring stablequality
- Easy installation and connectionsHDMI cables required to hook up with existing HD-capable TV sets and video cameras



Energy-saving effect

- When shuttling between Osaka and Tokyo train, for example, about 21kg of CO_2 is emitted. This amounts to ca. 1050-kg CO_2 emission a year if a businesstrip is made every week (50 weeks). By using the visual communication systemand not traveling, the emission can get down to about 1 ton year after year.
- Labor productivity can also be improved thanks to management's quick decisionmaking, and huge cost and time necessary to send staff and move materialscan be cut down. (In the above case, the cost of about 1.4 million yen maybe saved.)
- Documentation is computerized to make your offices more paperless, savingnatural resources.

Contact

Panasonic Corporation
0120-878-410 (Panasonic, System Customer service)
4-1-62, Minoshima, hakata-ku, fukuokashi, fukuoka-ken, 812-8531 Japan
TEL 0120-878-410

Telework / TV / web meeting

Video Conferencing (Connect Meeting)

DESC's contribution
Philips Electronics Japan, Ltd. Realistic remote meeting

Improved productivity of business as well as reducing travel costs and time by introducing Video conferencing solution with high-speed and high-quality.

■ Usage / field

This is an easy-to-use videoconferencing solution that uses large plasma screen TVs. All of the meeting rooms for this solution have exactly the same look and feel, which means that after a minute or so, people who are participating in the meeting actually forget that their partners can be on the other side of the world.

■ Use conditions

Video conferencing HW/SW, Lighting and High-speed internet access

■ Features

- Meeting with face to face
- Sharing presentation
- Smooth video function with high quality
- Possible to connect with multiple sites (Multipoint) up to 12 locations
- 32nd Connect Meeting rooms available in the world

Energy-saving effect

- Travel cost savings(target is 20% annually).
- Support our sustainability objectives by reducing the carbon footprint associated with frequent air travel.

Contact

Philips Electronics Japan, Ltd. (by collaboration from DESC)
Communications
Philips Bldg. 13-37 Kohnan 2-chome Minato-ku
Tokyo 108-8507 Japan
TEL 03-3740-4561 FAX 03-3740-5011
E-mail corp.comm.japan@phlips.com
URL www.philips.co.jp <http://www.philips.co.jp>

Remote medical care / Electronic karte

Receipt examination support system

NTT DATA CORPORATION Dr.Receipt & Dr.Kaikei

Dr.Receipt automates the process of checking the medical bill called "Receipt" and improves efficiency and accuracy of billing process.

Usage / field

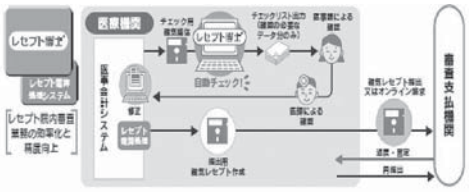
Dr.Receipt automates the process of checking the medical bill called "Receipt" and improve efficiency and accuracy of billing process.

Use conditions

Windows Vista/XP, Office 2003, 2007

Features

- Improvement of accuracy of receipt by automatizing the checking process.
- Standardization the business process.
- Reduction of refund, assessment, and mistaken claim.
- Reduction of doctor's overtime work to make the doctors to spend their time on diagnosis and treatment.



Energy-saving effect

- Reduction of overtime work for checking the receipt
- Reduction of paper use
- Decrease of refund and assessment by reducing mistakes in making the "Receipt"

e.g.
In case of Hospital T which has 359 bed, the average of overtime work was reduced from 27 hours to 13 hours.

Contact

NTT DATA CORPORATION
Medical treatment welfare division, Healthcare Systems Sector

Toyosu Center Bldg. Annex, 3-9, Toyosu 3-chome, Koto-ku, Tokyo 135-8671
TEL +81-50-5546-2462 FAX +81-3-3532-0928
URL http://www.drreceipt.jp/

Electronic bidding / Electronic application

Prior Notification Service for Utility Charges

NTT DATA BILLING SERVICE CORPORATION Koufuri-Kun

This service, provided for various public and private organizations countrywide, achieves rationalization to the complex office work in utility charges payment by notifying accounting data in advance and synchronizing with the organization's financial systems.

Usage / field

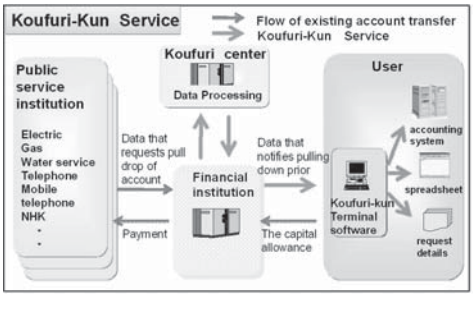
Supporting service to achieve great reduction, and rationalization of the payment work of the utility charges from business partners and public authorities every month.

Use conditions

Electronic banking services provided by financial institutions

Features

(1) Notifies to the user the customer number in the direct debit data of the agency to receive tax beforehand (through electronic banking services provided by financial institutions).
(2) Enables the user sort out claims according to its content (specifically of the post, the accounting subject, and items of expenses, etc.).
(3) Distinguishes the individual claims according to its content and automates the input to the accounting system, previously done manually.



Energy-saving effect

It contributes to the negative environmental impact decrease by the reduction of paper through work operation reduction and conversion from utility payment slip to electronic claim. The entire system produces the effect of about 1,455t-CO_2 reduction annually and expects cut by 75% compared to before the system was installed.
e.g.
(1) A local authority: The office working hours were shortened from 644 hours to 35.
(2) B company: JPY 7 million cost reduction in a year.

Contact

NTT DATA BILLING SERVICE CORPORATION
Business Planning Department

NTT DATA Tsukiji Building, 11-17, Tsukiji 2-chome, Chuo-ku, Tokyo 104-0045
TEL +81-3-3549-0270 FAX +81-3-3545-4007
E-mail koufurikun_support@nttdatabs.co.jp
URL http://www.nttdatabs.co.jp/

Electronic bidding / Electronic application

Shared service for the industry of real estate securitization

NTT DATA CORPORATION RESPORT

RESPORT is the SaaS service that aims at the improvement of accuracy, efficiency, and compliance in the industry of real estate securitization. It aims to contributes to the development of the industry and the player enterprises, with the first step of instructions sheet service for the bailee.

Usage / field

RESPORT is the SaaS service that aims at the improvement of accuracy, efficiency, and compliance in the industry of real estate securitization by standardizing and digitalizing the process of instructions sheet.

Use conditions

Environment that can use the Internet (Correspond to WinXP, Vista, IE6, and 7).

Features

[Improvement of accuracy and efficiency]
- Efficiency improvement by standardization of business flow and instructions sheet format
- Improvement of data retrieval by automation of ledger making about instructions sheet

[Compliance and strengthening of security]
- Enhancing of control on business by managing with cases and businesses.
- Improvement of security by security wall and secured business flow

[Cost reduction]
- Reduction of delivery frequency, use of papers, and storage space

Energy-saving effect

[Improvement of accuracy and efficiency]
- Efficiency improvement by standardization of business flow and instructions sheet format
- Improvement of data retrieval by automation of ledger making about instructions sheet

[Compliance and strengthening of security]
- Enhancing of control on business by managing with cases and businesses.
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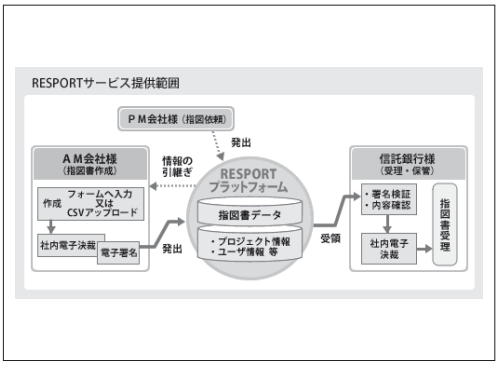


Contact

NTT DATA CORPORATION
Retail and Service Business Sector, Global IT Services Company

KDX Harumi Building, 12-1, Harumi 3-chome, Chuo-ku, Tokyo 104-0053
TEL +81-50-5546-2016
E-mail resport@am.nttdata.co.jp
URL http://www.resport.jp/

e-learning

e-Learning Service

NEC Corporation Cultiiva Global

Total Human Resourse solution which uses SumTotal, U.S.'s No.1 market share LMS, as engine and added NEC own value, can support global training on a large scale (scale of several hundred thousand participants) in multiple languages.

Usage / field

Compliance, Certification Mgmt., Total Human Resourse Development which include Goal Mgmt., Performance Mgmt., Succession Planning, Compensation Mgmt. and Training, in the company.

Use conditions

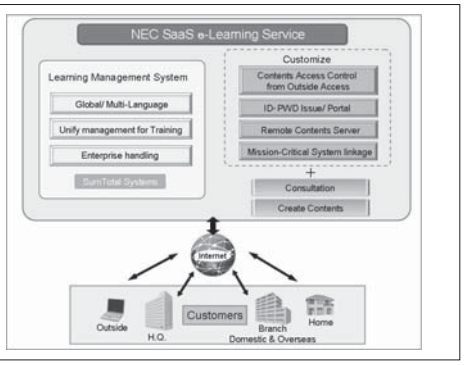
- intel Pentium 333MHz processor
- 128MB RAM
- Resolution 800X600 and more

Features

- Digital signature and Auditing based on FDA Part11
- Multi-Language (11 original and 26 option)
- Define certificaiton and link to certain courses
- Remote contents server function which allows user contents to be located either in NEC DC or in customer DC
- Contents access control which restricts access from outside of company
- Various type of courses such as English version, Chinese version, Corresponding course and its blended course can be defined as 1 course.

Energy-saving effect

* Reduction in CO_2 emissions by about 95% as a result of a reduction in the physical transfer of users and the promotion of paperless operations.
* Paper documents are not required for learning history management and performance review management.
* The management of compliance agreements for 5,000 users (paper documents, storage space, history management) is not necessary.



Contact

NEC Corporation
Global Services Operations Division

1753, Shimonumabe, Nakahara-ku, Kawasaki-city, Kanagawa JAPAN
TEL +81-44-431-7184 FAX +81-44-431-7049
E-mail CultiivaGlobal@ssjh.jp.nec.com
URL http://www.nec.co.jp/eco/en/product/soft/2008_06.html

e-learning

LearningCast® - SaaS-type e-Learning Service

Nihon Unisys, Ltd.

LearningCast® is a LMS (Learning Management System) developed using advanced technologies and our experience in cooperating with government and academia. The system provides total support for various learning styles. Employing the SaaS model enables the burden on the environment to be reduced as well as cost and workload.

■ Usage / field

LearningCast is a service (SaaS) type enterprise learning platform which can be used for human resource development including e-learning, course application and learning history management.

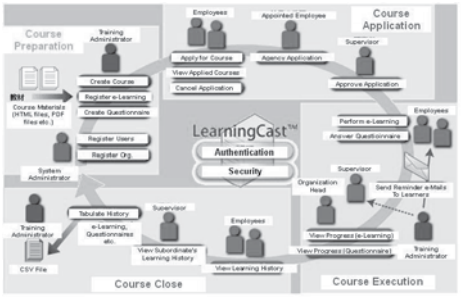
■ Use conditions

A web browser connected to the internet is required

■ Features

LearningCast has features to broadly support training and education in the enterprise from course management to e-learning. The following are the major features:

1. SaaS model enables shorter time for deployment and cost reductions of up to 90% compared to other education systems.
2. APIs (Application Program Interface) enable linking with the customer's existing systems such as HR systems.
3. Contract is flexible to support customers' usage including term of usage and number of users.
4. Course management function supports enterprise organization structures.
5. SCORM, the international standard for e-learning course material.
6. Supports various file formats including HTML, PDF, Word and PowerPoint. Course materials can be uploaded with a simple operation.
7. Supports distribution and tabulation of tests and questionnaires.



Energy-saving effect

1. This service makes use of Nihon Unisys, Ltd' ICT Hosting Service, which enables an estimated 30% to 40% reduction compared to a common iDC.
2. CO_2 emissions can be reduced by reducing the operation of training facilities and use of transportation by learners and trainers.
3. CO_2 emissions can be reduced by promoting paperless courses.

Contact

Nihon Unisys, Ltd.
ICT Services

1-1-1 Toyosu, Koto-ku Tokyo 135-8560 Japan
TEL 03-5546-4111
E-mail green-ict@ml.unisys.co.jp
URL http://www.unisys.co.jp/solution/learningcast/

Remote control

Remote Management System

azbil group Yamatake Corporation BOSS-24

For buildings with floor size of up to 15,000 square meters, BAS can be linked with our BOSS center via network, enabling remote management of the buildng without administration personnel on site. Upon request from tennants, or in case of equipment failure, equipment can be remotely started / stopped, or configured; thus significant reduction of dispatch to the site.

■ Usage / field

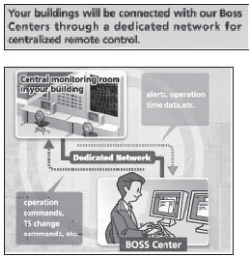
Building management, equipment maintenance, data managemant, etc.

■ Use conditions

Building permitted by law to be managed remotely

■ Features

* Full time remote surveillance and management via dedicated network
* Upon request from tennants regarding temperature or humidity settings, real-time detection of equipment failure or equipment operation can be performed remotely; thus, significant reduction of personnel dispatch to the site. This results in reduction of environment load as well.



Energy-saving effect

By responding to requests from tennants or equipment failures, personnel dispatch can be reduced to 1/3 (from 180 times/year to 60), reducing fuel usage of service vehicles. Reduced dispatch instances of 120 times average 10km traveling distance equals approximately 240 liters of gasoline. The result will be 556kg reduction of CO_2 per building.

Contact

azbil group Yamatake Corporation
Global Sales Department, Building Systems Company

Shinagawa Seaside South Tower, 4-12-1 Higashi-Shinagawa, Shinagawa-ku, TOKYO
TEL 81-3-6810-1107
URL http://www.azbil.com/

Remote control

Database search system via Web-browsers

NEC Software Hokkaido, Ltd. SimpWright

It provides a user-friendly tool to operators with flexibility of database searching and updating through Web browsers.

■ Usage / field

Database search system via Web-browsers

■ Use conditions

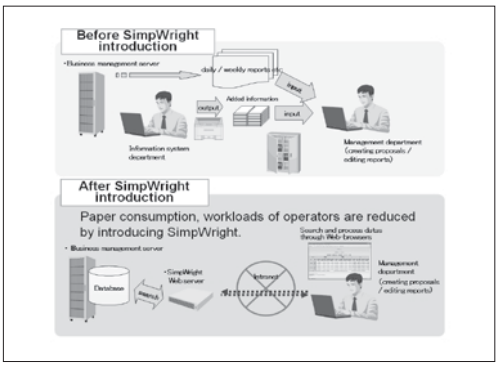
Server Operating System: Microsoft Windows Server® 2003, Microsoft Windows Server 2008, Red Hat® Linux, Turbolinux®, MIRACLE LINUX®, HP-UX®, Solaris™
Database: Oracle® 9i/10g/11g
Character encoding: UTF-8, Shift_JIS
Client Operating: Microsoft Windows® XP, Microsoft Windows Visita®, Windows7
Web broeser: Microsoft Internet Explorer® 6.0/7.0/8.0

■ Features

- A customer-friendly database access system through Web browsers, with flexibilities of searching, summarizing, printing data and designing its layout.
- One-click conversion of search results for Excel data.
- No complicated processes at both installing and daily operations.

Energy-saving effect

Paper consumption, workloads of operators, and about 50% of CO_2 annual emissions are reduced by introducing SimpWright.



Contact

NEC Software Hokkaido, Ltd.
Solution Promotion Division Platform Solutions Department
Sapporo L-PLAZA, 28 Kita 8 Nishi 3, Kita-ku, Sapporo-shi, Hokkaido, Japan
TEL 011-746-6405 FAX 011-746-6368
E-mail simpwright@ml.dnes.nec.co.jp
URL http://dnes.jp/ss/simp/index.html

Remote control

Remote management service of output devices

RICOH COMPANY, LTD. @Remote(at remote)

A new kind of support service, which achieves greater operating efficiency for output devices.

■ Usage / field

@Remote is anew kind of internet-based support for remote management of digital multi-purpose devicesand laser printers. The status of devices on the network can be monitored in real time, required services can be delivered rapidly.

■ Use conditions

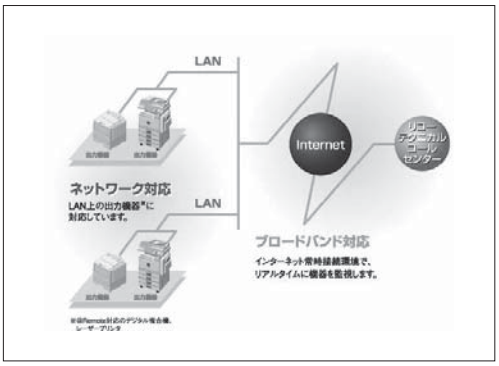
internet

■ Features

- Periodic monitoring and self-diagnostic system of each device on the network can prevent breakdowns.
- In the event of a breakdown, the system of notifying a center, checking situation and delivering service can eliminate downtime to a minimum.
- The automatic toner ordering function raise the efficiency of day-to-day device management. The detailed device information will be provided.
- Proposals on how to use the devices, based on the environment in which they operate will be provided.

Energy-saving effect

Collecting and analyzing the situation of the devices via network, energy consumption and CO_2 emission can be reported on request of customer. Also the service reports detailed device usage such as double-sided printing rate and usage in each mode, which reduces paper cousumption can be provided. The proposal for efficiency on use of the devices based on suchdata, can be devoted to environmental protection by reducing CO_2 emission.



Contact

RICOH COMPANY, LTD.
Public Relations Department
8-13-1 Ginza, Chuo-ku, Tokyo 104-8222, Japan
TEL +81-3-6278-5228 FAX +81-3-3543-8126
E-mail koho@ricoh.co.jp
URL http://www.ricoh.com/remote/

Others(Business)

Mitsubishi High Efficient ice storage unit

Mitsubishi Electric Corporation MKHV-P-AE seriese

Highly effective ice thermal storage unit that achieves "Leveling the electricity consumption", "Cutting down runnning cost", and "Reducing CO_2 emission".
It's eazy to build up coexistance system of ice storage unit and non-ice storage.

■ Usage / field

Wide usage from the air-conditioning usage in the large-scale space and the factory like the process cooling etc. of manufacturing.

■ Use conditions

Outside: -15 to 43 degree
Coolingwater outlet: 5 to 25 deguree
* only temperature cooling use

■ Features

Award "The 12th Power Load Leveling Equipment and System" winning (prize of secretary of Ministry of Economy, Trade and Industry Agency for Natural Resources and Energy)
1. We change common sense, which ice storage is not effective (bad COP) and the amount of CO_2 emission is increase.
   High efficient heat source "Compact Cube", equipped with the inverter with excellent part load performance is adopted, and the highest ice storage COP in this market is achieved.
2. We change common sense, ice storage system is expensive.
   "Compact Cube" can be used for over load part in the ice storage system with a controller.
   Because the number of ice storage unit will be decrease, initial cost will be down.

Energy-saving effect

55% redeuced to the absorption chiller 15 years ago.
31% reduced to the our past model 15 years ago.
[Remarks]
(1) Scale: total12,000m^2
(2) Usage: office
(3) Composition:
  a) Compact Cube ICE 120HP * 3 set
  b) Absorptionchiller (cooling capacity 1,125kW (COP1.03), heating capacity 941kW (COP0.86) sold 15 years ago
  c) ice storage unit (past model) KAH-P5000E (120HP) * 3 set
(4) Weather area: Tokyo
(5) Charge menu:
  a) Tokyo electric power company commercial power
  b) Tokyo waterworks bureau general 100mm general sewage
  c) 1st kind of Tokyo gas industrial use A contract

Contact

Mitsubishi Electric Corporation
Nagasaki Works Air-conditioning & Refrigerating Marketing Section

517-7, Hamada-go, Togitsu-cho, Nishisonogi-gun, Nagasaki, 851-2102, Japan
TEL +81-95-881-1145 FAX +81-95-881-1470
E-mail Hirao.Taira@bk.MitsubishiElectric.co.jp
URL http://www.mitsubishielectric.co.jp/

Others(Business)

Outlet with Power measurement function

NTT DATA INTELLILINK CORPORATION Xechno TAP

Power consumption of the PC in the Office, monitoring and control.

■ Usage / field

Enable monitoring, and measure the power consumption of office equipment in the Office, PC etc..

■ Use conditions

To use the managing S/W for Windows PC(OS:XP or later) is required.

■ Features

Outlet functions:
Power consumption measurements, and hand switch power on/off switching.
Controller functions:
Max. 64 Outlet controlled.
Management software:
Max. eight controller. Outlet on/off schedule. Manual control mode. Electric power data capture.

Energy-saving effect

10-15% reduction by scheduling the power management (depends on the environment of the Office).

Contact

NTT DATA INTELLILINK CORPORATION
Green Consulting Business Unit, Green Consulting Business Division

Pacific Marks Tsukishima, 1-15-7, Tsukishima, Chuo-ku, Tokyo 104-0052, Japan
TEL +81-3-5843-6856 FAX +81-3-5843-6854
E-mail grc-sales@intellilink.co.jp

Electronic publishing / Electronic paper

SaaS Based Easy, electronic application system

NTT DATA KANSAI CORPORATION
SaaS Based Easy, electronic application system

This system can satisfy both of the public administration and the residents by making the application procedures of the resident easy and convenient, and achieving low cost of introduction and operation.

■ Usage / field

An easy introduction and operation became possible by low cost of introductions and operation.
Application system that achieves customer satisfaction for the administration and the resident.

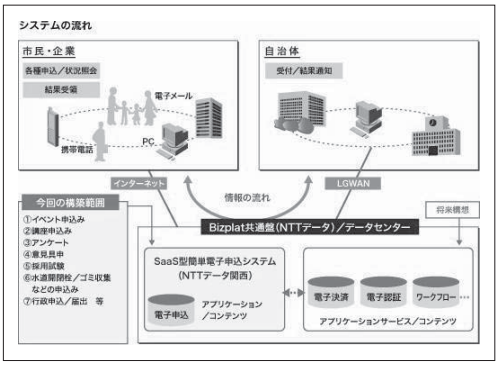
■ Use conditions

The personal computer and the cellular phone

■ Features

[Advantage of administration]
- Reduction in costs with initial cost and operation cost by SaaS
- No need to own server equipments and software
- Advanced security and the enhanced system of the support

[Advantage of resident]
- Available without installation and setting.
- Available with personal computers and the cellular phones, anytime and anywhere



Energy-saving effect

- Reduction of about 440t-CO_2/year compared to the system of non-SaaS type.
- When this system is introduced in a prefecture, 56.5%. reduction of CO_2 is expected.

Contact

NTT DATA KANSAI CORPORATION
PLANNING AND GENERAL AFFAIR DEPARTMENT(PUBLIC RELATIONS)

Meiji-Yasuda-Seimei Osaka-Umeda Bldg, 3-20, Umeda 3-chome, Kita-ku, Osaka 530-0001
TEL +81-6-6455-3186 FAX +81-6-6455-3158
E-mail information@nttdata-kansai.co.jp
URL http://www.nttdata-kansai.co.jp/service/apply/

Others(Home)

Central air-conditioning system in renovetion

azbil group Yamatake Corporation 'Kikubari'

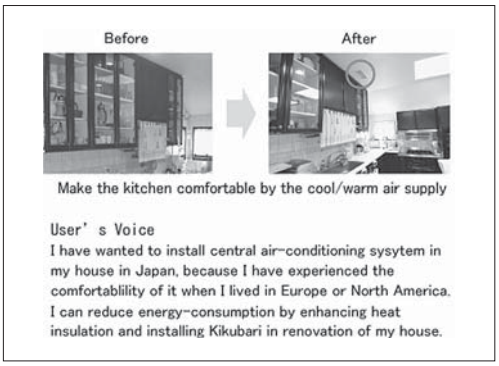
We can install central air-conditioning sysytem 'Kikubari' in renovating your house, although it is mainly installed in new construction because of some difficulties in installing systems. Our over 3500 experience of Kikubari installing makes us overcome the difficiulies in installing 'Kikubari' in renovating house.

■ Usage / field

Existing single-family house

■ Features

Kikubari can minimize difference of temperature in your house and make it comfortable. Also, air-clearning unit removes pollen and house-dust in your house effectively. We are confident about making your house comfortable by installing 'Kikubari' in your renovation, because we have over 3500 experience of central air-conditioning system.



Energy-saving effect

- Auto-schedule controll
  Kikubari has the schedule of preset temperatures which includes 5 different preset temperatures in each 5 time zone in each day of the week. It operates automatically accoriding the schedule.
- Heat Recovery Ventilation
  Heat recovery ventilation unit can ventilate your house without much heat loss. It recovers heat in the exhaust air.
- Comfortable and energy-saving use
  Because you can hardly feel the deference of temperature anywhere in your house, you don't have to overheat or overcool to feel comfortability as you do with room air-conditioner. You can set temperature 1 or 2 degrees lower (higher) in the winter (summer) than that when you use room air-conditioner.
- Get and Use Ecopoint
  You can get Ecopoint by renovation to improve heat insulation in Japan. At the same time, you can use the Ecopoint to order the additional installation such as air-conditiner, kitechen unit, or renovatioing bath.

Contact

azbil group Yamatake Corporation
Home Comfort Department

Nihonseimei Kawasaki Bldg., 1-1, Minamimachi, Kawasaki-ku, Kawasaki-shi, Kanagawa
TEL 81-44-223-5087
E-mail ask@kikubari.com
URL http://www.kikubari.com

Others(Home)

Home Network "FEMINITY" IT Power measuring unit

TOSHIBA HOME APPLIANCES CORPORATION
IT Power measuring unit

This system displays the amount of the electric power use for the home in detail.

■ Usage / field

Electric energy used is displayed in the interphone. Moreover, the user can see data from PC and the cellular phone. The user can use this data for conservation of energy.

■ Use conditions

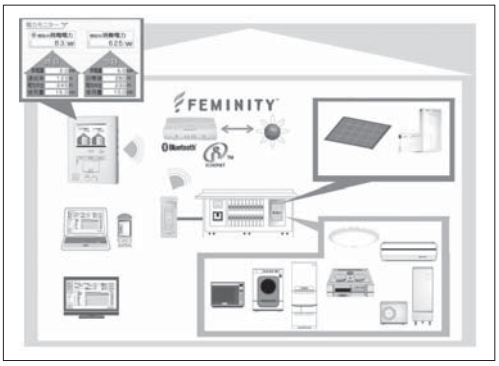
The user can connect this product with an existing distribution panel.
The Internet is necessary.

■ Features

The user can check the quantity consumed of the electric power in detail at home. As a result, the energy conservation action is promoted.
More check chances can be given to the user by displaying the measurement result in the cellular phone and the interphone that the user daily uses.
The amount of the natural energy power generation can be measured with this system.
This system is an open system based on ECHONET that is an international standard.

Energy-saving effect

It is necessary to visually present the amount of the electric power use to promote conservation of energy continuously.
There is a report that the energy-saving effect of about 20% can be expected when the monitor system continuously displays the amount of the electric power use and the electric rate (rough estimate value).
(ECCJ 2008 *1)
More check chances can be given to the user by displaying the measurement result in the cellular phone and the interphone that the user daily uses.
*1 http://www.eccj.or.jp/ (The article existed 2008/7/16)



Contact

TOSHIBA HOME APPLIANCES CORPORATION
Home IT Network Promotion Group

2-15 Sotokanda 2-chome, Chiyoda-Ku, Tokyo 101-0021, Japan
TEL +81-3-3257-5749 FAX +81-3-3257-5915
E-mail kenichi.kunugida@toshiba.co.jp
URL http://feminity.toshiba.co.jp/feminity/feminity_eng/index.html

Energy conversion

Middleware that Reduces Power Consumption of PC's

FUJITSU LIMITED. Systemwalker Desktop Patrol V14g

Systemwalker realizes energy-saving and cost reduction through visualizing power consumed by each PC in offices and consolidating the management of energy-saving setup

■ Usage / field

Total management of IT resources in security setting, asset management, power consumption and energy-saving setup enables visualization of power consumption and energy-saving.

■ Use conditions

Management Server: Windows 2000 Server, Windows Server 2003, 2008
Client: Windows 2000 Pro., XP, Vista, 7, Windows 2000 Server,
Windows Server 2003, 2008

■ Features

- Systemwalker Desktop Patrol V14g can display estimated amounts of power consumed by PC's in offices.
- It allows administrators (management servers) to change the power saving setting of each PC.
- Reports are created for administrators with the amounts of power consumption and reduction

Energy-saving effect

[Prerequisite]
Working hours per day, 9 hours (including break time), is reduced by 40% (3.6 hours).
[PC model used for power cousumption calculation]
Desktop PC (FMV D5380) / Laptop PC (FMV E8280)
[Annual power consumption]
--Desktop PC: 9 hours × (281+37) W × 20 days x 12 months= 686.8kWh
--Laptop PC: 9 hours × 28W × 20 days × 12 months= 60.5kWh
[Estimated amounts of reduced power]
--Desktop PC: 3.6 hours × (281+37) W × 20 days × 12 months= 274.8kWh
--Laptop PC: 3.6 hours × 28W × 20 days × 12 months= 24.2kWh

Contact

Fujitsu Limited.
Fujitsu Contact Line

Shiodome City Center 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo Japan 105-7123
TEL +81-120-933-200
URL http://www.fujitsu.com/global/services/software/systemwalker/

Energy conversion

General-Purpose Heat and Fluid Analysis Package

Mitsubishi Electric Information Network Corporation
FlowDesigner

This tool enables the user to study energy savings by calculating airflow, temperature, humidity, and contamination level through airflow analysis; by improving the warm environments of office, plant, store, atrium, electric room, server room, and data center; and by finding out the optimal value of the air conditioning set temperature.

Usage / field

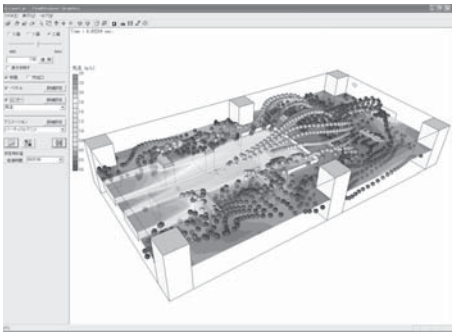
A tool that adapts to the following
- Studying warm environments, air conditioning and ventilation of general houses, condos, stores, plants, etc.
- Dust analysis at time of clean room designing and ventilation/thermal design inside machinery/equipment
- Studying energy savings of server rooms, data centers, and electric rooms and studying improvement of warm environments
- Studying problems of outdoor wind and exhaust heat from outdoor units

Use conditions

Used with a PC running on Windows XP or VISTA (CPU: 2GHz or more and RAM: 2GB or more recommended)

Features

The major features of FlowDesigner are that its basic functions, which are in high demand, are easy to use, and it is capable of performing high-speed stable calculations by adding a few limits such as calculating only for incompressible fluids as opposed to the conventional software for researchers. As a result, the analysis and calculation operations, which previously required much time, were substantially faster. This leads to the streamlining of design.
In October 2009, it will be evolved into the more advanced FlowDesigner 7 that will enable the user to create complex models more easily and be more useful as it will be equipped with a function for converting models to parts.
The enterprise version will be equipped with a reverse-analysis function, and it is also expected to produce an unexpected result related to air-conditioner operating conditions for energy-saving proposal.



Energy-saving effect

The reduction in power consumption at data centers and large server rooms where power-consuming IT equipment are concentrated will lead to substantial energy saving, which is a measure to promote green IT. To find out measures to identify the status and to solve a specific problem through simulation, it is important to select a tool that minimizes the time required for the simulation. FlowDesigner enables the user to find out the optimal improvement measure by shortening the analysis time and analyzing more parameters. Specifically, FlowDesigner proposes energy saving by performing analysis of a countermeasure to remove the heat pool and demonstrating that raising the set temperature of the air conditioner will cause no problem on the basis of a basic model that reproduces the existing warm environment.

Contact

Mitsubishi Electric Information Network Corporation
Sales Planning Division

ZENITAKA ANNEX 1-4-4 Kojimachi, Chiyoda-ku, Tokyo 102-8483
TEL +81-3-5276-6821 FAX +81-3-5276-6426
URL http://www.mind.co.jp/service/application/package/fluid.html

Energy conversion

Energy Management System for IT Equipment

Oki Network Integration Co., Ltd. CoolClover

Energy saving for IT equipment, such as PCs, in office via IP network.
Visualize power usage, reducible power, and effect of energy conservations activities.

Usage / field

CoolClover solves IT equipment's energy issues in office.

Use conditions

Windows 2000, XP, Vista

Features

Maximize energy saving effect by providing end user friendly visualization of energy management and automated context-aware based energy control according end user's working style. The system manages not only PCs but also printers which equipped SNMP. It monitors printers status and controls energy saving mode, also detects unused printers in the night.

Energy-saving effect

CoolClover saves more than 20% of energy of PCs in office. The system let people to enhance energy conservation mind by visualization human energy-saving activity and competition of energy conservation. It also saves HVC energy because saving IT equipment energy is equivalent to minimizing heat emission.

Contact

Oki Network Integration Co., Ltd.
Business Development Division

1-16-8, Chuou, Warabi-shi, Saitama, Japan
TEL 048-420-7011 FAX 048-420-7017
E-mail okinw-info@oki.com
URL http://www.okinw.co.jp/

Predicted Energy Optimization System

Yokogawa Electric Corporation Enemap

It is important to reduce generated energy cost and CO_2 for production and district air conditioning. Enemap predicts customer's energy consumption volume and achieve optimum energy supply.

Usage / field

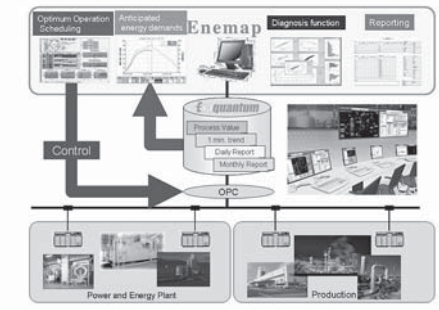
Enemap is applied for operating control system to generate energy of district air conditioning, co-generation, plant utilities.

Use conditions

Enemap works with operating control system at energy generating plant which is composed several energy generating facilities.

Features

Enemap can predict the following day's energy work load based on daily operating data and weather forecast. It enable to find best operating schedule of energy plant. Mainly it is very useful to decide the load combination ratio of electric power, town gas, heavy oil etc. The optimum operation schedule function of Enemap is cooperate with Yokogawa's control system and supply better operation environment.



Energy-saving effect

[Energy Saving Effect]
* Improving system COP of power plant : more than 10.0% improvement
* Energy Saving Ratio (Cost reduction/Total plant energy cost) : more than 1% improvement

[Automated Effect]
Enemap can reduce manual operation by control each load

Contact

Yokogawa Electric Corporation
IA HQ Green Factory Solution Center MK Gr

2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5951 FAX 0422-52-8054
URL http://www.yokogawa.co.jp/eco/

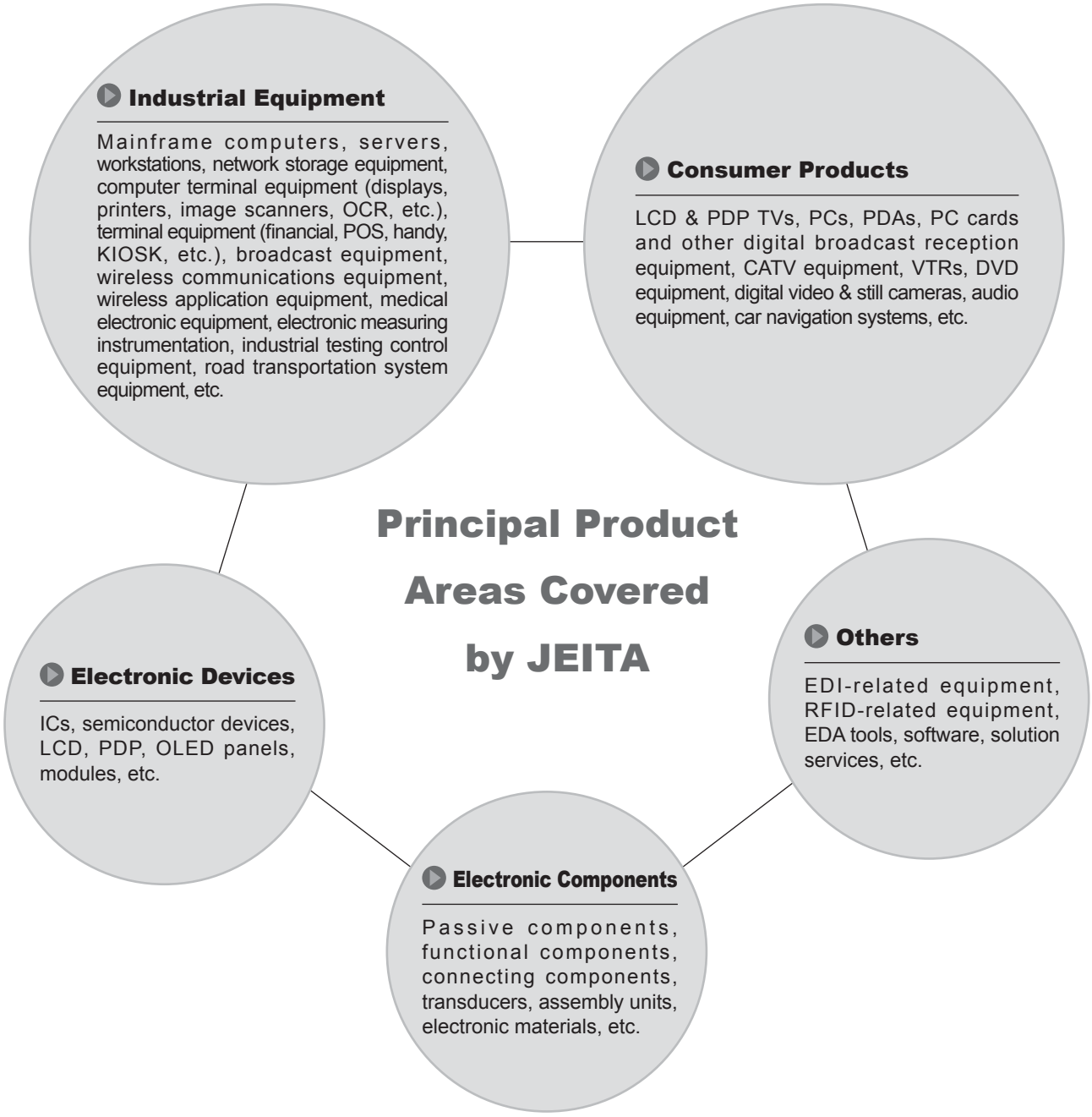
What Is JEITA?

The objective of the Japan Electronics and Information Technology Industries Association (JEITA) is to promote the healthy manufacturing, international trade and consumption of electronics products and components to contribute to the overall development of the electronics and information technology (IT) industries, and thereby further Japan's economic development and cultural prosperity.

The world is now connected via the Internet, and electronics technologies and IT are penetrating global markets. With the evolution of electronics and progress of IT, technologies in information, communications, imaging and audio are converging to create new systems and products, which are causing enormous changes not only in the economy, but also in our lives and culture.

JEITA's mission is to foster a digital network society for the 21st century, in which IT advancement brings fulfillment and a higher quality of life to everyone.

To this end, the Association is actively submitting plans and proposals to government organizations on behalf of the industries, supporting the diffusion of products into new fields, and promoting environmental preservation initiatives, including those to combat global warming.



To Support Corporate Activities – For the Environment and Growth –

As one of Japan's largest industry associations, JEITA is directly linked to the corporate activities of its member companies, which help sustain the ¥40 trillion global electronics and IT industries.

Global Warming Countermeasures

Having identified the usage of IT and electronics to combat global warming as an issue of utmost importance, JEITA is taking a leadership role in and actively pursuing activities to help achieve a global social structure sustaining both environmental preservation and economic progress.

Ensuring Global Competitiveness

JEITA promotes Fair Trade Agreements and Economic Partnership Agreements, and cooperates with government-level negotiations under the World Trade Organization (WTO). The Association also supports international competitiveness through measures such as taking the lead in declaring against protective trade trends and helps build the foundations for mutual development in Japan and other countries in Asia.

Protecting Intellectual Property

JEITA is strengthening its activities to ensure adequate protection of intellectual property rights. In addition to preparing official requests related to countermeasures to forged products, JEITA dispatches missions, holds "intellectual property protection conferences" and supports various related measures.

Taxation System Amendments and Regulatory Reforms

To help Japan win against ever-growing global competition, it is necessary to ensure equal international footing. For this reason, JEITA supports national policy formation in the form of taxation system amendments, including corporate income tax rate reviews. JEITA also actively proposes technology reforms and conveys details of industry opinions to realize a low-carbon-emission society.

Fostering Human Resources

To ensure a stable level of highly skilled engineers in Japan, JEITA works with the academic sector to resolve issues including the decreasing number of young people studying the physical sciences. The Association is actively pursuing human resources development through programs tailored to the ages and knowledge of young people from the elementary through graduate school levels.

Promoting Research and Statistics Gathering

JEITA is active in performing research and gathering statistics in order to accurately understand increasingly global industrial trends. These activities include the implementation of periodic autonomous surveys of shipments by the industries and the publishing of results of these surveys.

Introduction of Activities

1. Opportunities for Communication with Industry Leaders

JEITA's annual New Year's Reception is a major opportunity for interchange, not only for leaders and executives of member companies, but also for the many representatives of the industry, government and academia who attend. In 2010, the reception gathered 2,000 attendees from the industries alone. Other occasions for members to communicate include the reception after the Annual Conference of JEITA and the year-end Board of Directors Reception.

New Year's Reception

2. Hosting and Participating in International Conferences and Dispatching Delegations

JEITA sponsors international meetings in Japan and actively participates in meetings held outside Japan. In October 2009, the Association organized the Green IT Symposium and Asia Green IT Forum. JEITA is also strengthening international links in a variety of fields as a leading industry organization, for example, through the Japan/US/EU Trilateral IT-Electronics Associations Meeting, World Electronics Forum (WEF), Asia Electronics Forum (AEF), World Semiconductor Council (WSC), International Semiconductor Environment, Safety and Health Conference (ISESH), World LCD Industry Cooperation Committee, (WLICC), JEITA-CECC Environment Conference and JEDEC-JEITA Standardization Joint Conference. JEITA also sends observers to overseas trade exhibitions—including the IFA Berlin Show, CeBIT, COMPUTEX and International CES—and sponsors research missions to the Americas, Europe and Asia. In April 2010, JEITA sent a joint public-private mission to the USA cosponsored by Japan's Ministry of Economy Trade and Industry (METI) and New Energy and Industrial Technology Development Organization (NEDO).

Asia Green IT Forum

3. International Standardization Activities and the Formulation/ Issuing of Industry Standards

JEITA proactively participates in activities of international standardization organizations such as the International Electrotechnical Commission (IEC) and International Standards Organization (ISO). JEITA has 29 chairpersons and executive secretaries in this area. As an international advisory organization, JEITA also has 33 related committees and sent about 250 personnel to international conferences in scal 2009 (April 2009 to March 2010). In addition, JEITA enacts and issues standards (JEITA Standards, provisional standards and technical reports). It has established more than 600 standards in areas from AV to information communications equipment, electronic application equipment, electronic components, semiconductors, display devices and JISSO systems. About 160 of these standards have been published in English.

JEITA Standards
(Japanese & English)

IEC TC111
(Environmental Standardization for Electrical and Electronic Products and Systems)

4. Publication of Reports and Materials on Industry Achievements

Achievements of JEITA's committee activities are published in a wealth of research reports and publications available to all member companies. These publications include the Production Forecasts for the Global Electronics and Information Technology Industries, Global Demand Forecast for Major AV Products, Statistics on Domestic Shipments of Consumer Electronic Equipment, Electronic Components Technology Roadmap, Report on Global Production of Major Electronic Equipment, IC Guidebook, FPD Guidebook and Japan Jisso Technology Roadmap.

IC Guidebook

Industry Review: Electronics and Information Technology Industries in Japan

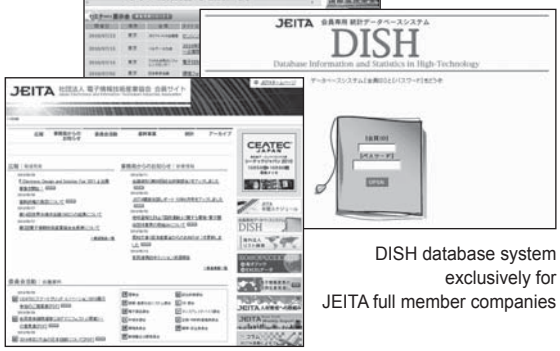
Production Forecasts for the Global Electronics and Information Technology Industries

5. Proactive Information Publication Centered on the JEITA Website

In addition to introducing the Association and its activities, the official JEITA website contains announcements of various data, as well as comments by and on behalf of the industries in press releases, seminar and symposium information, periodicals and applications for JEITA standards, and other statistics and data. Full member companies have access to a dedicated website and the special DISH database system, which allows data searching and downloading from the official website.

http://www.jeita.or.jp/

JEITA's official website



DISH database system exclusively for JEITA full member companies

Website for JEITA full member companies

6. Timely Lectures and Seminars with Specialized Themes

Environment Forum

JEITA actively holds forums and seminars to report the achievements of its specialized committees. These events are publicized on the official website, where seats can also be reserved. About 40 events were held in fiscal 2009. On April 27, 2009, the day after the Provisional Budget Plan was submitted to the Japanese Diet (Parliament), JEITA held the "Lecture on Economic Stimulus Measures" for member companies with the cooperation ofthe Ministry of the Economy, Trade and Industry (METI). In addition, JEITA's Kansai Branch Office hosts events such as technology and environment seminars. In addition, JEITA proactively disseminates information among its member companies through events such as the “Additional Economic Stimulus Measures Lecture” program.

7. Trade Shows that Draw Visitors from around the World

CEATEC JAPAN, one of the world's most comprehensive trade shows for the IT and electronics industries, focuses on imaging, information, communication and other fields, and is on a par with the IFA Berlin Show and International CES.

The 2009 show was held in October at Makuhari Messe with some 600 exhibitors. Some 150,000 people, from industry insiders, to government employees, researchers and students, visited the five-day show. Media from around the world covered the show in print, on television and on the web.

The International Broadcast Equipment Exhibition (Inter BEE) is a special trade show held every November emphasizing broadcasting facilities and studio/production equipment. In line with continuing advances in digital broadcasting and broadband, the number of exhibitors surpassed 820 in 2009.

Other JEITA-sponsored shows include the Electronic Design and Solution Fair (EDSFair), a special trade show for the semiconductor design field.

CEATEC JAPAN

Inter BEE

Outline Major of Activities (Fiscal 2010)

1. Basic Policy and Recommending Policy (Achieving both Environmental Preservation and Growth)

● Recommending policy and basic policy

To enable the IT and electronics industries to contribute to the realization of abundant lifestyles and a low-carbon-emission society, JEITA promotes initiatives supporting international competitiveness based on activities for the "achievement of both environmental preservation and growth."

Specifically, through the proactive response to new growth areas such as the Smart Grid and other countermeasures to global warming, JEITA strives to further the creation of new business opportunities for member companies. In addition, while working to strengthen government policies related to innovation and growth strategy development, JEITA promotes recommendations related to regulatory and tax reform policies.

● Recommending policy to strengthen the business environment and create business opportunities to improve competitiveness

① Reflected industry opinion on the government's New Growth Strategy and New IT Strategy
- Promoted development of innovative energy-saving, environmental technologies and proposed expansion of penetration of environmental technologies and energy-saving products
- Proposed development and introduction of equipment related to the creation of a Japanese Smart Grid
- Submitted proposals targeting the formation of a new economic social system using IT to improve the safety, security and convenience of Japanese lifestyles and to enhance the efficiency of public procedures

② Proposed regulatory and tax reforms to improve international competitiveness and submitted official appeals supporting the international expansion of products such as information systems

③ Promoted a strategic approach to international standardization
- Reflected industry opinion on international standards with a view to the global expansion of the Smart Grid and other environment-related businesses

2. Global Warming Countermeasures

● International contribution and new markets related to global warming

① Sent a public-private sector mission for the establishment of cooperative relations between the environmental policies of Japan and other nations as represented by the Smart Grid, and supported international expansion thereof

② Strengthened links with relevant organizations in other nations to promote green IT at the global level

● Meeting midterm targets

① Regarding government targets, maximized implementation efforts as an industry and worked to achieve a framework to evaluate the contribution to the environment of green IT, a special characteristic of the IT industry

② Clarified the industry's stance toward midterm objectives and expressed industry opinion on the next COP16 framework and support measures for developing economies through government-level nancial cooperation

● Promoting Kyoto Protocol goals

① To contribute to meeting the goals of the Kyoto Protocol, made steady progress on autonomous activity plans and responded to the Energy Conservation Law and Global Warming Countermeasure Law

② Contributed to the awareness of the potential contribution of the industry's products with the aim of realizing initiatives to reduce the emissions of consumer products

3. Standardization

● Strategically approaching international standardization

① Reflected industry opinion and reinforced collaboration for technological innovation with the aim of expanding environment-related businesses globally

② Responded to international conferences through activities such as the International Electrotechnical Commission (IEC) Chair and secretariat nation, and through the Japan Committee

③ Worked with related institutions, academic and other organizations to develop human resources to promote international standardization

● Promoting Electronic Data Interchange (EDI)

Promoted penetration of the ECALGA electronic commerce standard to seamlessly connect business processes between different companies

4. Creating Markets

● Creating markets

① From a security and user-friendly perspective, promoted the harmonious development of hardware and software for cloud computing-related businesses

② Worked on diffusion measures, defining issues and establishing the business environment to ensure the healthy development of 3D televisions and related products

③ Worked to create new markets for mobile information terminals and other information and communications equipment combining software and hardware in areas such as the integration of the telecommunications and broadcasting sectors

④ Made policy recommendations for the reinforcement of product development in the medical field and worked toward new expansion through integration with information systems

⑤ Expanded the market through the use of information and communication technologies (ICT) for the full-scale operation of the Smart Way Service

5. International Collaboration and Cooperation

● Trade policy

Cooperated with intergovernmental negotiations (World Trade Organization (WTO) & Non-Agricultural Market Access (NAMA) negotiations, Information Technology Agreement (ITA) product review and ITA member nation expansion, promotion of establishment of Free Trade, Economic Partnership and Economic Integration agreements)

● International collaboration

① Strengthened cooperation with IT and electronic industry associations in the Americas, Europe, Asia and other regions (World Electronics Forum (WEF), Asian Electronic Forum (AEF), Japan/US/EU Trilateral IT-Electronics Associations Meeting, etc.)
② Promoted trade and investment liberalization and facilitation (APEC, etc.)
③ Responded in concert with related nations on autonomous policies such as China Compulsory Certification (CCC)
④ Implemented international cooperation activities such as human resource development to expand the industry in individual nations
⑤ Strengthened cooperative relations toward the Asia-Pacific Partnership on Clean Development and Climate (APP), the Japan-China Energy Conservation Forum and other initiatives in collaboration with government and related organizations

6. Promoting Digital Broadcasting

● Promoting digital broadcasting

① Responded to post-2011 broadcasting-related topics such as new Broadcast Satellite digital broadcasting and applications of property opened up by the cessation of analog television broadcasting; Worked on initiatives to expand contents
② Strengthened promotion of digital television reception equipment and recycling in advance of the full-scale shift to digital broadcasting in 2011

7. Promoting Product Safety

● Preventing product accidents and conveying preventative information

① Considered and made recommendations on issues related to the establishment of standards for the Electrical Appliance and Material Safety Law with the aim of realizing a legal framework for rationalized product safety
② Studied integrated international safety standards incorporating safeguards based on product hazard analysis, and promoted advanced accident prevention
③ Responded to the "Collection and Publication System of the Information of Product Accidents" of the Consumer Affairs Agency of Japan with the aim of promoting safe usage of electronics and IT equipment

8. Research and Statistics

● Research and statistics

① Promoted the accurate understanding of the global market
(2010 Production Forecasts for the Global Electronics and Information Technology Industries)
② Maintained JEITA statistics for the management of member companies

9. Strengthening Industrial Foundations (Environmental Preservation, Intellectual Property Protection and Human Resource Development)

● Preserving the environment

① Responding to chemical substance and product environments
- Responded to and expressed industry opinion on regulations including the Revised Chemical Substances Control Law, Law for the Promotion of Effective Utilities of Resources, and Waste Management and Public Cleansing Law
- Responded to foreign environmental regulations such as REACH, RoHS and ErP

② Responded to issues related to the recycling of household electrical and electronic equipment toward the formation of a resource-circulating society

● Responding to laws and regulations related to intellectual property and other corporate activities

① Reflected industry opinion on issues related to laws and regulations on intellectual property, such as the Patent Law, Trademark Law and Design Law
② Presented industry opinions on issues related to the Copyright Law, including the copying of contents for personal use in the digital age, regulations on technological protection mechanisms and financial compensation

● Product forgery countermeasures

① Working with the Chinese government and the China Electronic Chamber of Commerce (CECC), promoted effective countermeasures to product forgery and intellectual property protection activities
② Through participation in the International Intellectual Property Protection Forum (IIPPF), implemented activities to deal with product forgeries in China and emerging economies

● Human resource development for the expansion of the IT and electronics industries

① Implemented a model curriculum for training university personnel in IT and electronics technologies
② Implemented instruction of young students by engineers and researchers, and developed easy-to-understand educational materials

10. Reinforcement of Business Management

● Further strengthened foundations for the smooth transition to a General Incorporated Association and reinforced secretariat functions

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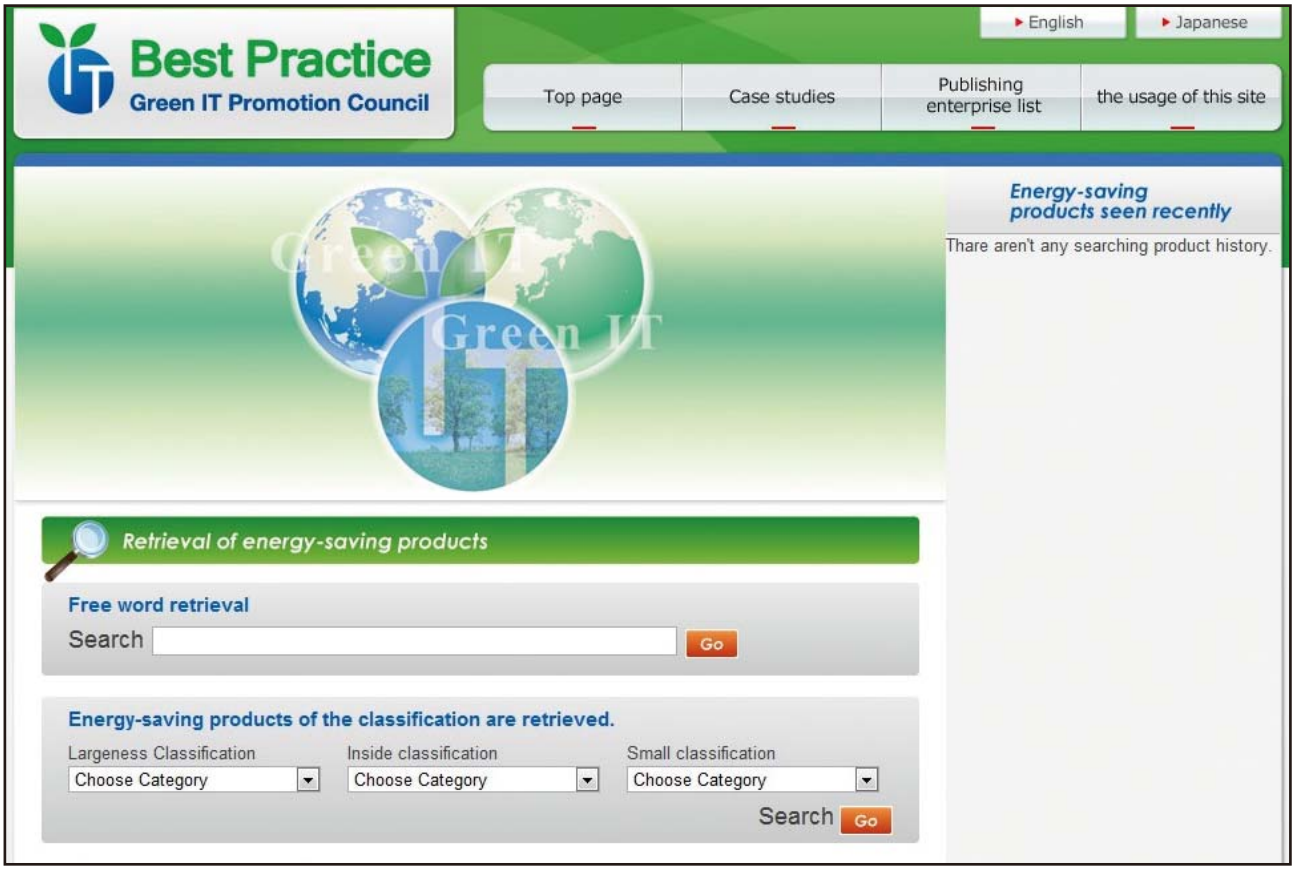
Green IT Best Practices Collection website
is now available.

URL http://greenit-bestpractice.jp/en/



You can search for Green IT Promotion Council member companies' green IT technologies, products and energy-saving activities using any of the following methods.

1. Search by **keyword**
2. Search by **information category**
3. Search **recently viewed items**
4. Search **company list**
5. Search **detailed information**

Green IT Promotion Council HP (http://www.greenit-pc.jp/en/)

Contents:

- Reports of original surveys: Summary of Survey and Estimation Committee of GIPC Report etc.
- Reports on international and domestic activities: Green IT International Symposium, Asia Green IT Seminar etc.
- Introduction of Green IT products: Green IT Award, Best Practices Collection

Admission and inquiry

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Japan Electronics and Information Technology Industries Association
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