Green IT

The best practices collection 2011

Green IT Promotion Council

Green IT
The Best Practices Collection 2011 Contents

This booklet introduces the activities of the Green IT Promotion Council (GIPC), which spreads Green IT globally, as well as Japanese most cutting-edge green IT equipment, solutions, and case examples of their adoption.
It is our hope that the use of this booklet will accelerate initiatives for Green IT worldwide.

Activities to Spread Green IT Globally

Introducing Cutting Edge
Green IT Products from Japan

035 Green IT Best Practices

This chapter explains case examples of Green IT conducted by member companies of the Green IT Promotion Council. It introduces what sorts of energy saving effects were obtained through the adoption of Green IT equipment and solutions, together with specific case examples.

050 Product Introduction

This chapter introduces the Green IT equipment and solutions of GIPC's member companies for each type of product and function.

051 of IT

IT equipment	PC
	Server
	Storage
	Router / Switch
	Display
	Others(IT equipment)
Electronics	TV
	DVD / Blu-ray
	Air conditioner
Data center	Data center
Parts	Semiconductor
	Others(Parts)

074 by IT

Industry	FEMS
	Improving efficiency of equipment and facilities
	Improving efficiency of a production process
	Others(Industry)
Transportation	Fuel consumption improvement of a car
	Efficiency improvement of transport
	ITS
	Others(Transportation)
Business	BEMS
	Paperless office
	Improving efficiency with IT
	Telework・TV・web meeting
	Remote medical care・Electronic karte
	Electronic bidding・Electronic application
	e-learning
	Remote control
	Others(Business)
Home	HEMS
	Electronic publishing・Electronic paper
	Others(Home)
Others	Energy conversion

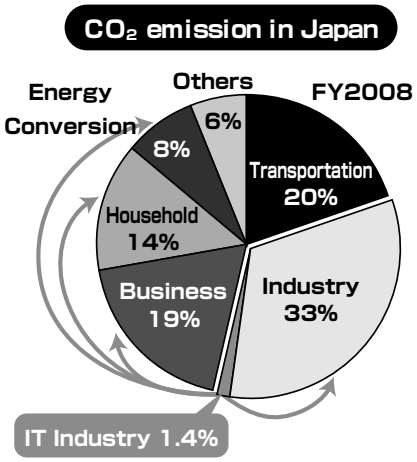
What is Green IT?

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% relative to the current level from back then. IT is highly expected to serve as one of the solutions to this problem.

1. The contribution of IT to energy saving in society

Reducing the emissions that are involved in the production activities at one's own company can be held up as a potential contribution to the IT industry when it comes to countermeasures to global warming. This is being addressed by all manner of industrial sectors. But the proportion of Japanese net emissions accounted for by the IT industry is around 1.4%, which is limited in scale. Yet at the same time, encouraging the efficient use of energy throughout society as a whole by converting the various IT and electronic devices that are widely pervasive throughout society to consume less power and through the application of IT solutions has enormous capacity for spill-over effects (figure at right). The two roles played by Green IT are that of "saving energy from IT devices themselves (of IT)" and "(society's) saving energy by IT (by IT)."

There are broad-ranging expectations placed on the IT industry when it comes to reducing the greenhouse gases emissions of the other sectors, which use the remaining 98% or so of the energy.



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 page 50.

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 FY2011

① Energy-saving index 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.

② 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.

③ International green IT partnership

GIPC is holding international symposia and for a 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.

④ 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.

⑤ Energy-saving survey in Asia

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

⑥ Information on IT technology trends relevant to an Energy-Saving Society

We are providing essential information about Green IT technology for a future real energy-saving society, while maintaining and enhancing quality of life (QoL).

■ Major Activities in FY2010

① Harmonizing world indicators on data center energy efficiency

In October 2010, in Italy, and in February 2011, in Japan, we held international conferences on the Japanese Data Centre Performance Per Energy (DPPE) efficiency index. Participants reached a consensus on promoting standardization in cooperation with Japan, the U.S. and EU. In order to verify the effectiveness and the change of indicators, we carried out projects to measure DPPE in data centers in Japan and two other Asian countries.

② Asia Green IT Forum 2010

In addition to the Asian countries that attended our forum in 2009 (China, India, Korea, Malaysia, Singapore, Thailand and Vietnam), government and industry representatives from Indonesia, Philippines and Chinese Taipei were invited to attend this international conference in 2010. We saw lively discussion on Green IT and the formulation of a joint declaration that includes future cooperation.

③ Green IT International Symposium

This symposium, as a global source of information, introduced the latest information and trends by presentations and panel discussions on Green IT. Participants in the Asia Green IT forum (10 countries and regions), European companies and associations were invited to this event.

④ Green IT Awards 2010

To further accelerate corporate IT initiatives, we presented awards for products, technologies and efforts making an outstanding contribution to a low-carbon society closely connected with energy-saving of IT and by IT.
(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)

⑤ Green IT Pavilion 2010

In cooperation with "Smart Grid Innovation," the special project from CEATEC JAPAN 2010, we provided information about Green IT to educate to the wider public.

⑥ Study on pioneering energy-saving technologies

We studied trends in assessment technology of energy efficiency of IT devices and trends in visualization technology through EEMS (Enterprise EEMS) by IT systems to conceptualize future technologies through the exchange of opinions with relevant associations.

⑦ Energy-saving survey in Asia

In 2010, we expanded energy-saving survey to four countries (India, Singapore, Vietnam and China) and eight companies (In 2009, two countries and four companies). Based on the survey, we made specific proposals to lead the countries towards continuous independent energy-saving.

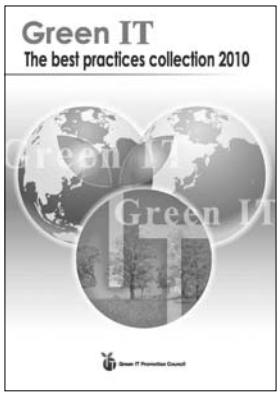
⑧ Asia Green IT Seminar

In Singapore and China (Beijing), where energy-saving survey were made, we held seminars in February 2011 for the local people. We introduced Japanese latest energy-saving technology through the introduction of the DPPE energy efficiency index and presentations by Green IT Award winners, as well as presenting specific examples of the effect of reduced energy consumption through survey and energy-saving proposals.

⑨ Distribution of Green IT Handbook/ Best Practices and website creation

These highlights the latest green IT technologies and products and energy-saving practices of member companies.

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



■ Details of activities in FY2010

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, reductions of about 130 billion kWh/year (about 25% from baseline) can be expected in 2020 as a result of technical innovation (figure below on the left). The energy consumption of the five IT devices and televisions 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 can be expected to decrease about 70 billion kWh/year (about 35% from baseline, figure below on the right) (figure below on the right).

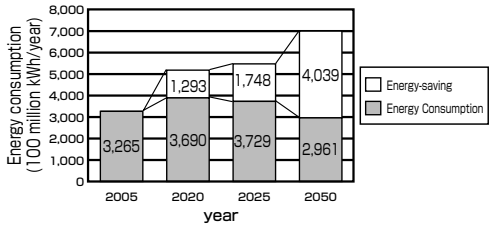


Figure 1: Projection of Energy Reduction Effect in Japan (Total)

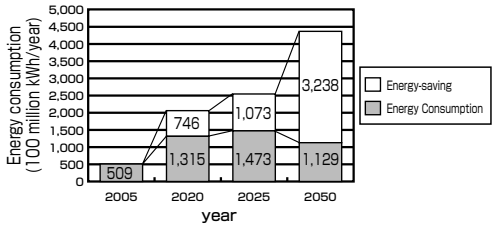


Figure 2: Projection of Energy Reduction Effect in Japan (TV, IT equipment)

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 (table below).

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

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

The effects of reducing CO_2 emissions with "by IT" are complex. For example, when estimating the real amount of change in CO_2 emissions accompanying the adoption of telework, it is necessary to consider not only offices but households as well. What is more, emissions of CO_2 are actually reduced via the drop in the area using air conditioning in the office after the adoption of telework. Discussions were carried out over these sorts of points as well.

The table on the right-hand side 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 Green IT Promotion Council (GIPC) webpage at <http://www.greenit-pc.jp/> or "FY2010 Survey and Estimation Committee of GIPC Report" for the details.

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

Backed by the revision of the Rational Use of Energy Use Law, the standardization of ISO 50001, and compliance with energy conservation, recently there has been a growing necessity for energy management at the level of enterprises. The Committee therefore developed the vision of Enterprise Energy Management System (EEMS) for roughly five years in the future. The study was conducted in FY2009 and FY2010 and 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:

① 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	Providing the appropriate information to 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.

② 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

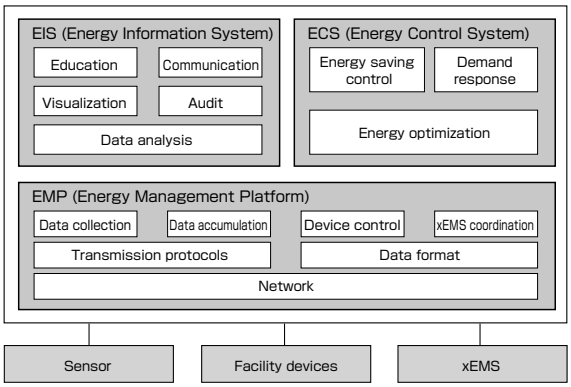
・Support the compliance with laws and regulations that are related to global warming

・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

③ EEMS Framework

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 Information System (EIS), Energy Control System (ECS), and Energy Management Platform (EMP).



Framework

④ Important points when applying EEMS

Based on the examination results for the EEMS framework and architecture, the GIPC compiled the following four important points for when applying EEMS.

- What are good KPIs?
- What sort of visualization will incite motivation?
- What are services that are geared towards disseminating EEMS?
- Arrange the roles for and vested interests with EEMS

Please refer to the GIPC's webpage at <http://www.greenit-pc.jp/> or the "FY2009/FY2010 Technology Study Committee of GIPC Reports" for the details. These reports introduce several related case examples of initiatives, while also defining "technology for assessing the efficiency of electricity consumption" as "of IT" energy saving technology and reporting on its placement and trends.

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 increasing 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 ITequipment
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:

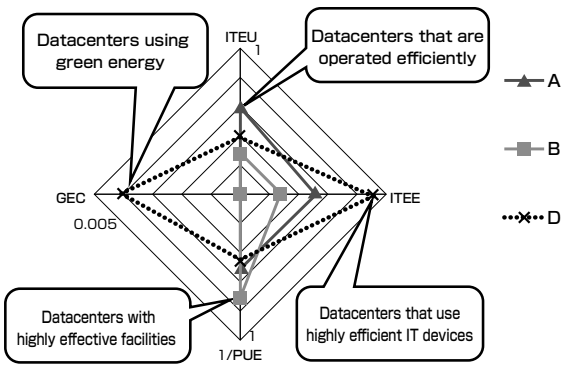
$$DPPE = ITEU \times ITEE \times \frac{1}{PUE} \times \frac{1}{1\text{-}GEC}$$

④ DPPE trial measurement project

The GIPC conducted measurements on the energy consumption of 25 datacenters within Japan. The goals were to verify the practical utility of DPPE, which is being considered as a metric for the energy efficiency of datacenters, as well as to clarify the actual status regarding energy consumption at datacenters. In conjunction with this, similar measurements in Vietnam and Singapore were also performed over a short time period.

From the demonstration results it was learned that in order to boost the energy efficiency of datacenters it will be necessary to not only boost facility efficiency, but also to improve the energy efficiency of IT devices, use green energy, and so on. Since each of these can be improved independently, a holistic framework to address all these aspects is required.

In addition, the measurements in Vietnam and Singapore proved that DPPE is available at datacenters overseas.



Comparison of three characteristic datacenters
(the farther out they are the higher their efficiency)

⑤ 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 "FY2010 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 Asian countries, energy consumption is increasing as a result of the economic growth.

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 Asian 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 Asian 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: Summery of the Survey

	Targeted facilities	Main energy saving strategies	Targets	Reduction potential of CO_2 emissions per year
Data centers	A) Data center business company in Vietnam	· Blank panels · Install a ColdMall · Proper operation of the air conditioner (including stopping it)	One server room in the data center	· 53.8 [t-CO_2] · 99M [VND] / 5,075 [USD]
	B) Major data center company in Singapore	· Upgrade the power supply system to HVDC in order to improve power loss · Cold aisle capping to regulate the air conditioning and ventilation	The data center's server room, heat source room, and control room	· 650 [t-CO_2] · 1,297,284 [kWh] · 194,593 [SGD] / 149,686 [USD]
Buildings · public facilities	C) Dalian University of Technology	(Horizontal deployment) · Thin out the lighting, check against forgetting to turn lights off at night · Energy saving settings for PC, use of power saving taps, thorough checks against forgetting to turn off equipment at night (Additional measures) · Change the temperature on the air conditioner settings, switch to notebook computers, install high efficiency fluorescent lights	A part of the school buildings (About 1,000 m^2, roughly 20 rooms of varying sizes)	Horizontal deployment: · 31.0 [t-CO_2] · 46,293 [kWh], When the additional measures are implemented · 39.4 [t-CO_2] · 58,897 [kWh],
	D) GONGXINGDA Information Technology (Shen Yang)	· PC: Adopt EnePal PC, replace to energy saving typed PC · Lighting: Utilize solar light, reduce fluorescent lights · Servers: Turn the power off at night	400 m^2 office (Beijing City, Building 2F)	· 16.6 [t-CO_2] · 22,300 [kWh] · 22,300 [CNY]/ 3,378 [USD]
	E) Amity University Noida Campus	Proposed 15 improvement measures · Switching pump circulation to inverters (energy savings of approximately 30%) · Eliminating inefficient operation by using timers and sensor controls · Switching pumps, chillers, and cooling towers to automatic operation	Air conditioners, lighting equipment, and heat source equipment (chillers, cooling water pumps, cooling water towers, etc.) for school buildings (about 47,000 m^2)	· 1,438 [t-CO_2] · 1,648,843 [kWh] or more · 8,326,656 [INR] / 185,036 [USD]
	F) UOB Alexandra Building	· Switch to a high efficiency chiller · Switch the current BMS to BEMS · Introduce a multiple chiller control system · Introduce an energy saving application at the chiller plant	Automated surveillance equipment and air conditioners (chillers, AHU, etc.) for the entire commercial building	· 380 [t-CO_2] · 760,000 [kWh] · 167,000 [SGD] / 128,480 [USD]
Plants · factories	G) Cement plant in northern Vietnam	· Control the fans' rotating speeds	Line with a production output of 500,000 t	· 1,380 [t-CO_2] · 2,300,000 [kWh] · 2,518M [VND] / 126,500 [USD]
	H) Wuhan Iron and Steel	· Optimize control functions · Maintain equipment	Cold-rolling process and annealing equipment at the factory	· 14,519 [t-CO_2] (· Secondarily contribute to sales and reduce maintenance costs)

Note: For the CO_2 conversion coefficient, appropriate items were selected by the companies auditing the surveys for the target facilities

② Training and Green IT seminar

The facility managers and technical persons of the local companies that undergo surveys 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 China (Beijing), and the survey results and some cases of Japanese Green IT activities were introduced there.

Scenes during the seminar

Singapore

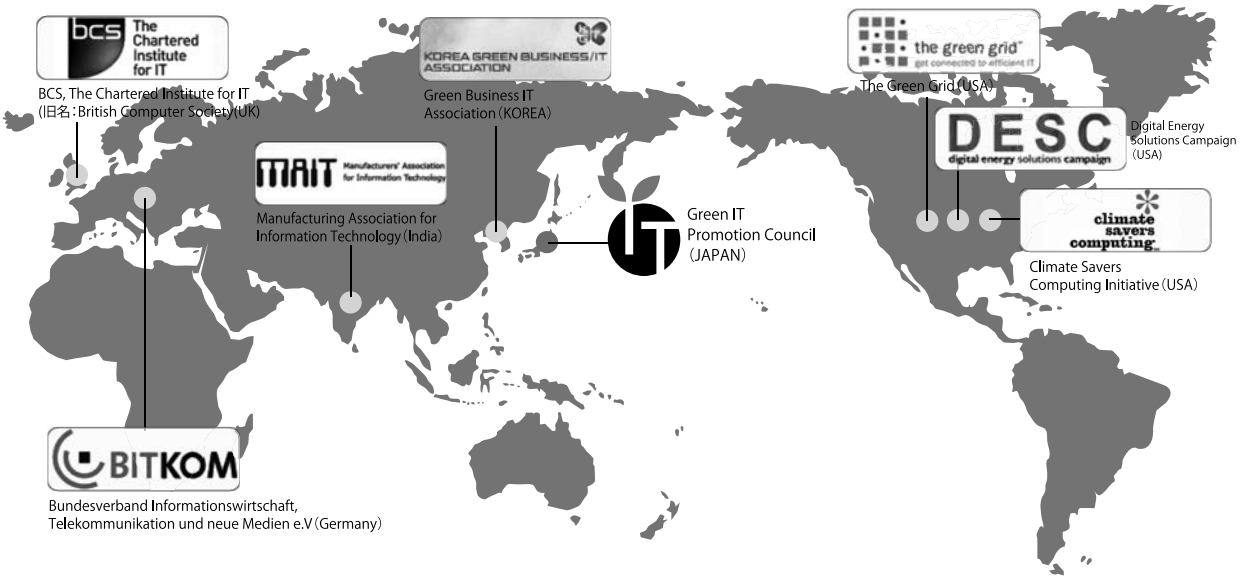
Beijing

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

■ International coordination and cooperation with related organizations oversea

The GIPC signs memorandums of understanding (MOUs) with various organizations throughout the world to promote Green IT at a global scale.

■ Promoting green IT on a global scale



The Green Grid

United States; signed in 2008

http://www.thegreengrid.org/japanese

The Green Grid is a global consortium dedicated to developing and promoting energy efficiency for datacenters and business computing eco-systems. The Green Grid seeks to provide industry-wide recommendations on best practices, metrics, and technologies that will improve overall datacenter energy efficiency. The organization has developed working relationships with governments, government and industry influencers, and standards bodies around the world to effectively collaborate in the creation and adoption of a common set of metrics and measurement methods, such as with its representative Power Usage Effectiveness (PUE).

Climate Savers Computing Initiative

United States; signed in 2008

http://www.climatesaverscomputing.org/

The Climate Savers Computing Initiative is a non-profit group that was derived from the World Wildlife Fund (WWF) Climate Savers program. Since its launch in 2007, more than 700 members with a strong ecological awareness, including large commercial enterprises and technology industry stakeholders, have joined the initiative, and ten thousands of individuals have pledged their support.

Its goals are to promote the development, adoption, and use of smart technologies that achieve electricity efficiency improvements in computers and reductions of electricity consumption when they are idling. Furthermore, the initiative also seeks to reduce global CO_2 emissions from the operation of computers by 32 million metric tons per year across the globe by 2007.

Digital Energy Solutions Campaign (DESC)

United States; signed in 2009

http://www.digitalenergysolutions.org/

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 is 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 economy.

Korea Green Business IT Association

Republic of Korea; signed in 2009

http://www.greenbiz.or.kr

This industry organization was established in 2008 with the aim of contributing to reducing the impact on the environment and curtailing global warming by improving energy efficiency and productivity across industry as a whole. What is more, it also seeks to facilitate green competition and create new markets for business by offering strategies, practical work experience, evaluations, and other services related to green business.

Federal Association for Information Technology, Telecommunications and New Media (BITKOM)

Germany; signed in 2010

http://www.bitkom.org/en/

BITKOM is the voice of the information technology, telecommunications, and new media industry in Germany, and represents more than 1,350 companies. BITKOM's membership generates a sales volume of 135 billion euros annually, with exports worth 50 billion euros. BITKOM's highest priority is creating a good environment for doing business by harnessing the strengths of its extensive and powerful network. Examining political issues pertaining to education for IT and telecommunications specialists, green IT, global warming countermeasures, sustainability, e-government, e-health, economic policy, copyright and patent law, security, software technologies, and consumer electronics is at the core of BITKOM's activities.

Manufacturers' Association for Information Technology (MAIT)

India; signed in 2010

http://www.mait.com/

MAIT is an organization that was established in 1982 with the goals of improving the international competitiveness of India's IT industry and promoting the use of IT within India. It has 65 member companies, with its aims being to establish demand for ICT in particular, digitize the government, and create a top-class IT industry ecosystem in both an environmental sense and an ethical sense.

BCS The Chartered Institute for IT

United Kingdom; signed in 2011

http://www.bcs.org/

BCS is a research institution that has received a royal charter from the Queen of the United Kingdom. Its objectives are to promote research and practice related to computing, as well as knowledge and education for the public interest. It has 70,000 members, including companies, experts, academic experts, students, and others within and outside the United Kingdom, and acts as an organization that represents its members and IT specialists when it comes to a variety of different important matters. It also shares information among industry, government, and academia; promotes new concepts and the structuring of curricula, shapes public policy, and carries out activities to convey these to society.

Green IT Promotion Council, Members List

Membership 323 companies/associations (July 19th, 2011)

■ Green IT Promotion Council　Regular Member

A

ALAXALA Networks Corp.
ALPS ELECTRIC CO.,LTD.
Asahi Kasei Microdevices Corporation
Association of Super-Advanced Electronics Technologies (ASET)

C

CAC Corporation
CANON INC.
Canon IT Solutions Inc.
CiRCLE Corp.
Citrix Systems Japan K.K
Communications and Information network Association of Japan
COSEL CO.,LTD.

D

DENSO CORPORATION
Digita Electronics Co.

F

Fuji Electric Co.,Ltd.
Fuji Xerox Co.,Ltd.
FUJITSU FIP CORPORATION
FUJITSU LIMITED

H

HIRAKAWA HEWTECH CORP.
Hitachi, Ltd.
HORIBA, Ltd.

I

IBM Japan, Ltd.
IDC Frontier Inc.
Intel K.K.
Internet Initiative Japan Inc.
IP CORE-Lab. Inc
IT Holdings Corporation

J

Japan Business Machine and Information System Industries Association
Japan Electric Lamp Manufacturers Association
Japan Electric Measuring Instruments Manufacturers' Association
Japan Electronicsand Information Technology Industries Association
Japan Information Technology Services Industry Association
Japan Luminaires Association
Japan radio co,ltd.
Japan Science and Technology Agency
Japan Users Association of Information Systems
JVC KENWOOD Holdings, Inc

K

Kanden System Solutions Co.,Inc.
KOA Corporation

M

Microsoft Co.,Ltd.
Mitsubishi Electric Corporation
Mitsubishi Electric Information Network Corporation
MITSUBISHI ELECTRIC INFORMATION SYSTEMS CORPORATION
Mizuho Information & Research Institute, Inc.
Murata Manufacturing Co.,Ltd.

N

NEC Corporation
Net One Systems Co.,Ltd.
Nihon Dengyo Kosaku Co.,Ltd.
Nihon Densan Setsubi Co.,Ltd.
Nihon Unisys, Ltd.
Nipron Co. Ltd
Nomura Research Institute, Ltd.
NTT DATA CORPORATION
NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, INC.

O

Oki Electric Industry Co.,Ltd
OMRON Corporation
OPTIM
Optoelectronic Industry and Technology Development Association
OTSUKA CORPORATION

P

Panasonic Corporation
PCA CORPORATION
PFU LIMITED
Plat'Home Co.,Ltd.
Polycom (Japan) K.K.

R

RICOH COMPANY, LTD
RISOKAGAKU CORPORATION

ROHM CO.,LTD.
Rubycon Corporation

S

SAKURA Internet Inc.
Semiconductor Industry Research Institute Japan
SGI Japan, Ltd.
SHARP CORPORATION
Skyarch Networks Inc.
Solution & Technology Ltd.
Sony Corporation
SUMITOMO DENSETSU CO.,LTD.

T

TABUCHI ELECTRIC CO.,LTD.
Taiyo Yuden Co.,Ltd.
Takasago Thermal Engineering Co.,Ltd.
TDK Corporation
THE JAPAN ELECTRICAL MANUFACTURERS' ASSOCIATION
Toshiba Corporation

Y

Yamatake Corporation
Yokogawa Electric Corporation

■ Green IT Promotion Council　Supporting Member

A

Accenture Japan Ltd
AIMS Corporation
Alegria, Corporation.
Alexsolutions inc.
ALPHA TECHNO CO.,LTD.
Alpine Electronics, Inc
AMD Japan, Ltd.
Anritsu Corporation
Anywire Corporation
APC Japan, Inc.
ARCHES Co.,Ltd.
ASIA NETWORKS CO.,LTD.
Attractlive Co., Ltd
Autodesk Ltd.
Avago Technologies Japan, Ltd.
Azport Co.,Ltd

B

Bit-isle Inc.
BSP Incorporated
BURRTEC. CO.,LTD.

C

CASIO COMPUTER CO.,LTD.
CERTRUST Co.,Ltd.
CHINO CORPORATION
CiMX CO.,LTD.
Circle-one Co., Ltd.
Cisco Systems G.K.
CLARA ONLINE,Inc.
CLC Inc.
CMK CORPORATION
Comleading Co., Ltd.
CONEXTIVO Inc.
COPAN Systems
Credo Consulting Group Co., Ltd.
CSK HOLDINGS CORPORATION
Cyber Creative Institute, Ltd.

D

DAIDO ELECTRIC IND.CO.,LTD.
Daiwa Institute of Research Business Innovation Ltd.
Daiwa Institute of Research Ltd.
Dell Japan Inc.
Deloitte Touche Tohmatsu
DELTA ELECTRONICS (JAPAN), INC.
Denki Kogyo Company, Limited
D-Link Japan K.K
Dreamnet Corporation
DTS CORPORATION

E

EAST Co.,Ltd. Japan
Echelon Japan k.k.
ECHONET Consortium

Eco Concierge Co.,Ltd
EcoCom co.,ltd
E-NA CO.,LTD.
ENS inc.
eshopacademy
Eta Electric Industry Co.,Ltd.
Evixar Japan, Inc.

F

FDK CORPORATION
FOSTER ELECTRIC CO.,LTD.
Freespace Inc.
Fujikura Ltd.
FUJITSU ADVANCED ENGINEERING LIMITED
Future Facilities KK

G

Garenet Co.,Ltd.
GE Japan Corporation
Gemest Co.Ltd.,
Global Gates Co.,Ltd
GMK co.,ltd.
GMO HOSTING & SECURITY, INC.
Gomez Consulting Co.,Ltd.

H

HBA Corporation
HIMACS, Ltd.
himico Solutions, Inc.
HIOKI E.E. CORPORATION
Hitachi Appliances,Inc
Hitachi Cable,Ltd.
Hitachi Electronics Services Co., Ltd.
Hitachi Information Systems, Ltd.
Hitachi Kokusai Electric Inc.
Hitachi Metals, Ltd.
Hitachi Software Engineering Co.,Ltd.
Hitachi Systems and Services, Ltd.
HMC Co.,Ltd.
HOKURIKU ELECTRIC INDUSTRY CO.,LTD.
HONDA ENGINEERING CO.,LTD.

I

i2ts, inc
IACT CORPORATION
id-vanced, Inc.
INES Corporation
Infineon Technologies Japan K.K.
Infinitec Co.,Ltd.
INFOCOM CORPORATION
INFORMATION DEVELOPMENT CO.,LTD
Information Services International-Dentsu, Ltd.
Information Technical Center
INTEC Holdings, Ltd.
ISA Co., Ltd.
Isoroot, Inc.
ITOCHU Techno-Solutions Corporation
ITOH DENKI Co.,LTD.
ivyedge inc.
IWATSU ELECTRIC CO.,LTD.
IX Knowledge Inc.

J

JALCO CO.,LTD
Japan Computer System Seller Association
Japan Electrical Wiring Devices and Equipment Industries Association
JAPAN IMAGE AND INFORMATION MANAGEMENT ASSOCIATION
Japan Information Processing Service Co.,Ltd.
Japan Institute of IT
Japan Novel Corporation
Japan Photovoltaic Energy Association
Japan Resistor Mfg. Co.,Ltd.
Japan Ryouka System Co., Ltd
Japan Snow Engine Co., Ltd.
JFE Systems, inc.

K

KAJIMA CORPORATION
Kawamura Electric Inc.
KEISOKU GIKEN CO.,LTD.
Kikusui Electronics Corp.
Kojima Press Industry Co., Ltd.
Konica Minolta Business Technologies, Inc.
KONISHIYASU CO.,LTD.
K-Opticom Corporation
KOZOKEIKAKU ENGINEERING Inc.
KYOCERA Corporation
Kyuden Infocom Company, Inc
KYUSHU ELECTRIC POWER CO.,INC.

L

Lasmile Corporation
LEADER ELECTRONICS CORP.
LG Electronics Japan Inc.

Lifeware Service Co.,Ltd.
LINCREA CORPORATION
Logicom Corporation
Logizard co.,Ltd

M

Marubeni Information Systems Co.,Ltd.
MARUWA CO.,LTD
Media Place Co., Ltd.
Media Work
MIC Associates, Inc.
Micro Arts Corporation
Mitsubishi Corporation
MITSUBISHI ELECTRIC INFORMATION TECHNOLOGY CORPORATION

N

N2-Technology Corporation
Nakayo Telecommunications,Inc.
NCL Communications K.K
NEC Soft, Ltd.
Net Brains, Inc.
NET CHART JAPAN Inc.
Netcube, Inc.
NETMARKS Inc.
New Japan Radio Co.,Ltd.
nextEDGE Technology K.K.
NHK Engineering Services,Inc
NIHON FORM SERVICE CO.,LTD.
NIHON KOHDEN CORPORATION
Nihon TANDBERG K.K.
Nikkei Business Publications, Inc.
NIPPON CHEMI-CONCORPORATION
Nippon Computer System Co., Ltd.
Nippon DICS Co Ltd
Nippon informationTechnology Consulting Co.,Ltd.
NISSHO ELECTRONICS CORPORATION
NITTO KOGYO CORPORATION
NS Solutions Corporation
NSK Corporation
NTT BizLink, Inc.
NTT Communications
NTT FACILITIES, INC.

O

OCE
Oi Electric Co.,Ltd.
One Off Inc.
Openstyle Technology Inc.
Osaka Gas Information System Research Institute Co.,Ltd.

P

PANDUIT CORPORATION
Paragon Software K.K.
PC Help Desk
PIONEER CORPORATION
primus

Q

QD Laser, Inc.
Quality Corporation

R

Raritan Japan, Inc.
RAUL Inc.
realdelight
Renesas Electonics Corporation
RENET. co.ltd
Research and Development Association for Future Electron Devices
Research Center of Computational Mechanics, Inc
Rittal K.K.

S

Samsung Japan Corporation
Sankosha Corporation
SAS Institute Japan Ltd.
SAXA, Inc.
SBF Consulting
Second Selction Inc.
SEIKO EPSON CORPORATION
Shiba Soku Co.,Ltd.
SHINDENGEN ELECTRIC MANUFACTURING CO.,LTD
SHOWA-MARKETING-SYSTEMS
SJI Inc.
skuld. inc
SMK Corporation
SORUN Coop.
Spline Network Inc.
Stanford Internet Solutions, Corp.
STANLEY ELECTRIC CO.,LTD.
Storage Networking Industry Association Japan Forum (SNIA-J)
SUMIDEN TOMITA SHOJI CO.,LTD
Sumisho Computer Systems Corporation
Sumitomo Electric Industries,LTD.
SUN-WA TECHNOS CORPORATION

Symantec Japan, Inc

syslink-net.jp

T

Taisei Kiso Sekkei co. ltd

TAIYOSHA ELECTRIC CO.,LTD.

tatemura

TechVisor.JP, Ltd.

TEIKOKU TSUSHIN KOGYO CO.,LTD

TEMPSTAFF TECHNOLOGIES

TERRA Inc.

Texas Instruments Japan Limited

The Energy Conservation Center, Japan

THE FURUKAWA ELECTRIC CO.,LTD.

TOEI DENGYO CO.,LTD

Tomorrow Net Co.,LTD

TONETS CORPORATION

TOSHIBA SOLUTIONS CORPORATION

TOSHIBA TEC CORPORATION

Tridata Inc.

TUV Rheinland Japan Ltd.

U

UCHIDA YOKO CO., LTD.

UEJIMAKIKAKU

V

V-cube, Inc.

Venus Technologies, Inc.

VICTOKAI CORPORATION

VORTECHS CORPORATION

W

weave Co.ltd.

We'll co-operate Inc.

Will Co., Ltd.

WILLCOM, Inc.

X

Xyratex Japan Limited

Y

Yamato Business Support Corp.

YASKAWA ELECTRIC CORPORATION

Z

Zuken Net Wave, Inc.

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.

■ Principal Product Areas Covered by JEITA

Industrial Equipment

Mainframe computers, servers, workstations, software, solution services, cloud computing, network storage equipment, computer terminal equipment (displays, printers, image scanners, OCR, etc.), terminal equipment (financial, POS, handy, KIOSK, etc.), broadcast equipment, wireless communications equipment, wireless application equipment, medical electronic equipment, electronic measuring instrumentation, industrial testing control equipment, road transportation system equipment, RFID-related equipment, etc.

Electronic Devices

ICs, semiconductor devices,
LCD, PDP, OLED panels, modules,
EDA tools, etc.

Electronic Components

Passive components, functional components, connecting components, transducers, assembly units, electronic materials, etc.

Consumer Products

LCD & PDP TVs, PCs, PDAs and other digital broadcast reception equipment, CATV equipment, BD&DVD equipment, digital video & still cameras, audio equipment, car navigation systems, etc.

Others

EDI-related equipment, etc.

■ 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

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

Hosting and Participating in International Conferences and Dispatching Delegations

JEITA sponsors international meetings in Japan and actively participates in meetings held outside Japan. 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 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

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 390 personnel to international conferences in fiscal 2010 (April 2010 to March 2011). In addition, JEITA enacts and issues standards (JEITA Standards, provisional standards and technical reports). It has established more than 500 standards in areas from AV to information communications equipment, electronic application equipment, electronic components, semiconductors, display devices and JISSO systems. About 150 of these standards have been published in English.

JEITA Standards (Japanese & English)

IEC TC111 (Environmental Standardization for Electrical and Electronic Products and Systems)

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.

World-wide Production of Major Electronics

Industry Review : Electronics and Information Technology Industries in Japan

Production Forecasts for the Global Electronics and Information Technology Industries

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

Timely Lectures and Seminars with Specialized Themes

JEITA actively holds forums and seminars to report the achievements of its specialized committees. About 40 events were held in fiscal 2010.
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.

At the seminars

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 2010 show was held in October at Makuhari Messe with 616 exhibitors. Some 180,000 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.

CEATEC JAPAN

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 824 in 2010.

Other JEITA-sponsored shows include the Electronic Design and Solution Fair (EDSFair), a special trade show for the semiconductor design field.

Inter BEE

■ Outline of Major Activities (Fiscal 2011)

Basic Policy (achieving both environmental protection and economic growth)

■ Help corporations recover from the serious damage caused by the Great East Japan Earthquake on March 11, 2011.
■ Promote the Green Innovation Strategy through R&D and other activities in cooperation with related organizations to achieve both environmen tal protection and economic growth. Demonstrate that the IT and electronics industries can contribute to an affluent life and low-carbon society.
■ Develop and promote growth areas. Focus on "actively proposing policies for establishing competitive conditions that ensure a level playing field internationally" and "supporting strategic business development targeting large customers such as emerging countries."

1. Measures for recovery from the Great East Japan Earthquake

In cooperation with the Japanese government, consider and implement measures as an industry to cope with the power shortage primarily in the Kanto and Tohoku regions.
Propose medium- and long-term measures in addition to immediate measures for a rapid recovery from the disaster. Strive to quickly restore public life, the economy, industries, and global supply chains.

2. Policy proposals

● **Proposing industrial and economic policies that accelerate innovation and increase competitiveness**
Demonstrate the contribution of the IT and electronics industries to environmental protection and economic growth in terms of related government measures. Propose policies to facilitate the development and promotion of new growth areas, establishment of global competitive conditions, and development of strategic business targeting large customers such as emerging countries. Encourage the government to make such efforts.

● **Urging the revision of tax systems**
Aim to establish a world-class business environment in order to increase and maintain the global competitiveness of member companies, prevent companies from moving overseas, and maintain domestic employment (specifically, lower the effective corporate tax rate, expand and extend tax breaks to promote research and development, etc.)

● **Strengthening the competitiveness of global logistics**
Make proposals to industries on how to maintain and improve global supply chains, and how to increase the competitiveness of international logistics.

3. Efforts to build a low-carbon society

● **Proposing policies for the next international framework**
Propose policies to establish the next international framework that is internationally fair and effective in order to promote the reduction of greenhouse gas emissions, including contributions through products and services, on a global scale.

● **Implementing the next action plan**
To help achieve the goals of the Kyoto Protocol, steadily implement the voluntary action plan and draw up the next medium-term goals and action plan.

● **Establishing bilateral offset credit and other systems**
In cooperation with the Green IT Promotion Council, develop the method of calculating the contribution of products and services to CO_2 reduction, consider its international applicability, analyze the feasibility of crediting the emissions reduced by replacing home appliances with energy-saving ones, and establish bilateral offset credit systems.

● **Engaging in consistent activities to clarify the contribution of components and products to CO_2 reduction**

4. Creating markets

● **Creating markets**

① Promote cloud computing.

② Expand the markets for new products such as information terminals, electronic books, and 3D televisions.

③ Promote Green IT to help create a low-carbon society.

④ Promote the building of Smart Communities featuring both energy conservation and comfort, and create markets for related businesses.

⑤ Promote the networking of information systems in the medical field, and the deregulation and speeding-up of approval procedures for enhancing the development of equipment.

⑥ Promote the creation of new markets for new services related to digital broadcasting.

5. International collaboration and cooperation

● **Trade policy**

① Promote the signing of FTAs and EPAs and early participation in the TPP negotiations, and support the promotion of international frameworks such as the WTO Doha Round negotiations and ITA.

② Cooperate with the Japanese government and industrial associations in other countries to respond to protectionism by various countries.

● **Standardization**

Promote strategic international standardization through ISO, IEC, and other organizations to apply industry opinions to international standards in view of global development of environment-related businesses such as Smart Communities.

● **Responding to legal affairs, intellectual property rights, and related matters**

① Promote activities to maintain a healthy business environment such as preventing the outflow of technologies due to overseas business development, protecting information, and ensuring fair competition.

② To prevent an increase in counterfeiting and piracy, promote international activities against forgery based on public–private cooperation through participation in cross-industry organizations that protect intellectual property such as the International Intellectual Property Protection Forum (IIPPF).

6. Research and statistics

① Accurately understand the global market (production forecasts for the global electronics and information technology industries), and compile statistics for the largest segments.

② Research the trends of upcoming products that will help create a low-carbon society (e.g., cloud computing, LED, etc.).

③ Carry out statistical projects corresponding to the businesses of member companies (power semiconductors, etc.).

7. Strengthening the infrastructure

● **Human resource development projects**

① Implement a model curriculum at a university to develop engineers in the fields of IT and electronics.

② Provide young students with classes held by engineers and researchers and develop easy-to-understand educational materials.

● **Promoting recycling to develop a recycling-oriented society**

Solve issues related to recycling household electrical and electronic appliances in order to form a recycling-oriented society.

● **Promoting product safety**

① Participate in the development and review of laws, regulations, and standards related to product safety both in and outside Japan.

② Collect and analyze information on accidents to prevent product accidents and spread information on prevention.

● **Ensuring resource supply**

Consider measures such as developing alternative materials to ensure a stable supply of resources, including rare metals and rare earth substances, and encourage the government's efforts.

8. Strengthening business management

● **Improving the responses to problems and promoting public services**

① Share information among the members and speed up the response to problems

② Continue to enhance CEATEC JAPAN.

Conducting energy saving survey project in Asia

■ Aiming to disseminate Japanese energy saving technology

Asian countries constitute a region where energy consumption is surging along with rapid economic growth.
Surging energy consumption in such regions is an important issue when it comes to advancing countermeasures to the problem of global warming, and it is believed that IT-based energy saving (Green IT) can make a significant contribution in this regard.
As a project delegated by the Ministry of Economy, Trade and Industry, the GIPC (Green IT Promotion Council) implemented "surveys for the realization of IT-based energy saving" for the industries in this region. The aim was to promote energy saving through the introduction and adoption of solutions via Japanese latest IT-based energy saving technologies and products.
Experts in energy saving were deployed to places like data centers, buildings and public facilities, and plants and factories where they performed surveys on various types of equipment, drafted optimization plans, and predicted the improvement results with a view toward realizing energy saving through the use of the latest IT of Japan.
Here we will introduce the following four main activities of the projects from FY2010.

1. Deploying energy saving survey missions
2. Training in Japan
3. The Best Practices Collection
4. Asia Green IT seminars

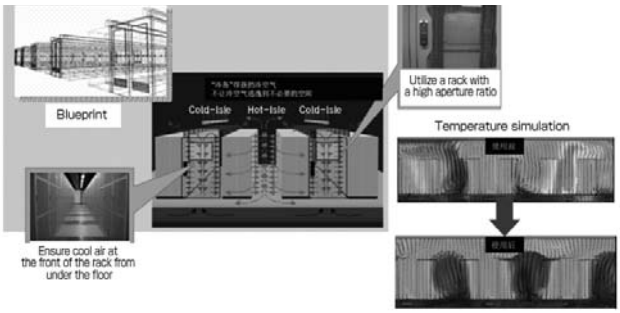
1. Deploying Energy Saving Survey Mission

GIPC implemented Green IT energy saving survey on industries in Asian countries with the goal of introducing them and having them adopt solutions by Japanese latest IT-based energy saving technologies and products.
After evaluating quantitatively the potential for reducing energy consumption through IT of the data centers, buildings and public facilities, and plants and factories where progress with energy saving measures has not necessarily been made in Asian countries, the missions diagnosed whether or not it would be possible to implement solutions that use energy saving technologies and products based on the latest IT from Japan.
The number of surveys doubled from four locations (surveyed by 4 companies in Japan) in two countries in FY2009 to focus on a total of eight locations (surveyed by 8 companies in Japan) in four countries in FY2010, including two data centers (Vietnam and Singapore), four buildings and public facilities (India, Singapore, and two in China), and two plants and factories (Vietnam and China) (see tables on pages 27 - 30).
The energy saving potentials obtained from the surveys have been compiled into a table (see the table on page 31).

■ Data Center

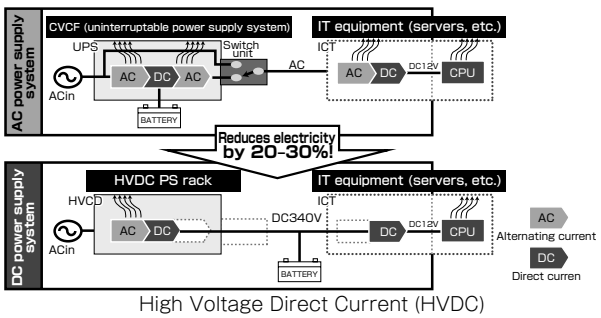
A)

Target facility	Data center business company that is an affiliate of Vietnamese largest IT service company
Company conduction the survey	IDC Frontier Inc.
Survey overview	・Conducted an energy-saving diagnosis on the air conditioning system at the data center - Examined the operation and temperature of the air conditioning machine within the server room - Examined electric power consumed in the rack on the load side - Thermal analysis simulation
Survey results (proposals)	・The server room tended to become too cold, compared to those in Japan ・Proper operation of the air conditioning machine and the installation of Cold Mall could enable better energy-saving



B)

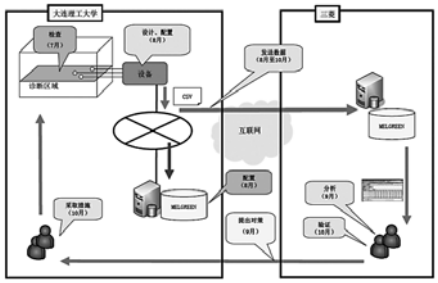
Target facility	Major data center company in Singapore
Company conducting the survey	NTT Data Intellilink Corporation, Takasago Thermal Engineering Co., Ltd.
Survey overview	・Energy-saving examination based on measuring PUE (and DPPE), examining air flows due to air-conditioning, and thermo-fluid analysis - PUE examination: examining the amount of electric power used by related facilities - Examining air flows due to air-conditioning: taking moving shots with a thermal infrared imaging camera around the rack - CFD (Computational Fluid Dynamics) measurement with an air flow meter and with a temperature logger
Survey results (proposals)	・To improve PUE, propose: - Changing the power supply system to HVDC to improve electric power loss - Adopting Cold Aisle Capping to adjust air flows due to air conditioning



High Voltage Direct Current (HVDC)

■ Buildings and Public Facilities

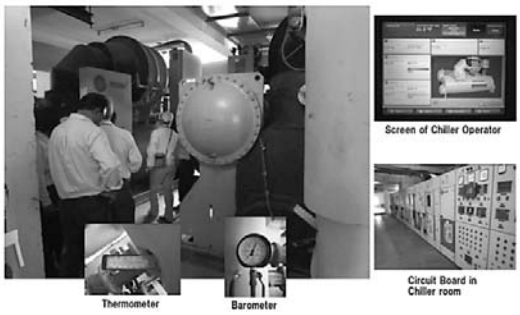
C)

Target facility	Dalian University of Technology (Preeminent science and technology university in Northeast China; involved in numerous national projects, and contributes to national and regional economic development)
Company conducting the survey	Mitsubishi Electric Corporation, Mitsubishi Electric Information Technology Corporation
Survey overview	・Energy-saving diagnosis with a central focus on visualizing the usage of and improving the operation of energy - Visualization: from analyzing drawings and installing measurement instruments to constructing a visualization system - Analysis, measure planning: analyzed measured data with MELGREEN and planned appropriate measures
Survey results (proposals)	・Reduction of consumed electric power: 5,143kWh (31%) - Illumination: ① decreasing the number of lights, and ② ensuring that all the lights are turned off at night - OA: ① setting the energy-saving mode for PCs, ② installing energy-saving outlets, and ③ ensuring that PCs are turned off at night  Joint verification and business promotion using MELGREEN

D)

Target facility	GONGXINGDA Information Technology (Shen Yang) (Beijing software house)
Company conducting the survey	NEC Corporation, NEC Fielding, Ltd.
Survey overview	・Energy-saving diagnosis of the office (PCs, lighting, and servers) - Preliminary diagnosis: examination on the usage status of the office (the number and types of PCs being used, lighting power, and electric system) - Main diagnosis: measuring power consumption (by PCs, lights, and IT equipment), installing power consumption reduction software (Enepal PC), and measuring illuminances in the office
Survey results (proposals)	・Calculated how much power consumption could be reduced after understanding the status of power consumption by the entire office ・Proposed the following energy-saving measures: - PC: installing Enepal PC, switching the existing to energy-saving types of PCs - Illumination: using natural sunlight, reducing fluorescent lights - Servers: turning off the power at night  Visualization through EnePal PC

E)

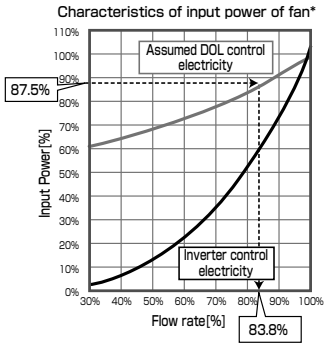
Target facility	Amity University (Indian most prominent private school with 3 campuses, more than 80,000 students, 3,500 teaching faculty, and 130 departments)
Company conducting the survey	Panasonic Corporation, Panasonic Environmental Systems & Engineering Co., Ltd.
Survey overview	· Conducted energy-saving diagnoses with a central focus on air conditioning facilities with a high power usage ratio - Examining the entire electric power consumption - Measuring the air conditioning facilities (water pressure, water temperature, valves, chillers, pumps, and a cleaning tower) - Measuring the operating status of the entire facility (illumination, AHU, fans, set room temperatures, wasteful operations)
Survey results (proposals)	· Calculated an energy-saving effect derived from installing new equipment, controlling and automating operations, etc. - Approximately 30% energy savings compared to the existing facilities by changing parts around the pumps to their inverter-type counterparts - Great energy savings by eliminating wasted operations with timers, sensor controls, and manual interventions - Great energy savings by automating the operations of the pumps, chillers, and cleaning tower  Air conditioner equipment survey

F)

Target facility	UOB Alexandra Building (commercial building located in Singapore that was completed in 1993)
Company conducting the survey	Yamatake Corporation
Survey overview	· Conducted diagnoses for the purpose of improving the operations of and updating the automatic control and monitoring equipment and the air conditioning system (chillers, AHU, and others) of the entire commercial building - Installing instruments such as a flowmeter, thermometer, etc. and wattmeter to the pieces of heat source equipment and measuring the latest energy consumption and operation efficiency of the equipment - Carrying out a comparison between the heat quantity generated and the electric power consumed by the pieces of heat source equipment - Measuring an energy saving effect brought forth by control valves with a built-in flowmeter function
Survey results (proposals)	· Proposed the following measures to respond to the diagnosis results: - Switching to high efficiency chillers - Switching the existing BMS to BEMS - Installing a system for controlling the number of chillers - Installing an energy-saving application in the chiller plants  Control valve with a flow rate control function

■ Plants and Factories

G)

Target facility	Cement plant in northern Vietnam (current production output of 500,000t × 2 lines, of which 1 line was surveyed)
Company conducting the survey	Hitachi, Ltd.,
Survey overview	・Diagnosed fans in terms of energy saving when installing an inverter in them - Conducting a diagnosis on three fans: Raw Mill Fan, Pre-Heater Fan, and Air Fan - Examining on site the characteristics, the latest operating status, etc. of the fans - Calculating the energy saving effect when installing an inverter in them from the examination data
Survey results (proposals)	・The inverter control over the Raw Mill Fan produced the greatest energy saving effect (approximately, 30%) among the three fans ・Regarding the Pre-Heater Fan and Air Fan, it was likely that the proper control over air volumes would produce an energy saving effect  Energy savings from installing inverters

H)

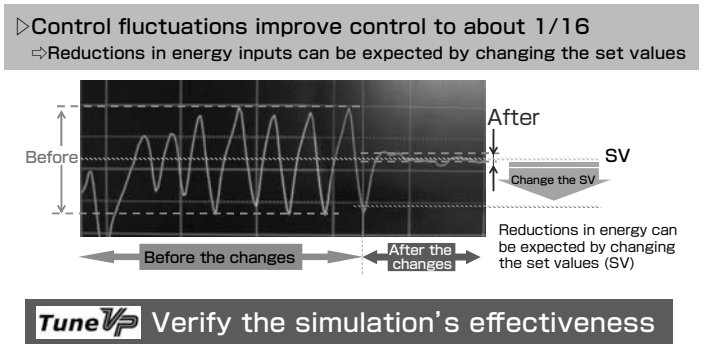
Target facility	Wuhan Iron and Steel (main factory of the world's fifth largest iron manufacturer located in Wuhan City, Hubei Province, China)
Company conducting the survey	Yokogawa Electric Corporation
Survey overview	・Conducted control loop diagnosis on the annealing line - Step 1: select processes that seem to promise energy-saving effects and for which an analyzable infrastructure has been developed - Step 2: collect data with an appropriate IT tool(s) automatically, and extract loops that require improvements in terms of energy saving - Step 3: analyze the dynamic characteristics of the loops with an appropriate IT tool(s) and conduct a control simulation with ideal parameters
Survey results (proposals)	・Energy-saving could be achieved by optimizing the control function - Controlling the fluctuation range by adjusting control constants - Shortening the control stability period by adjusting control constants - Necessity of maintaining the integrity of the equipment  Energy savings are possible through the optimization of control functions

Table: Summery of the Survey

	Targeted facilities	Main energy saving strategies	Targets	Reduction potential of CO_2 emissions per year
Data centers	A) Data center business company in Vietnam	· Blank panels · Install a ColdMall · Proper operation of the air conditioner (including stopping it)	One server room in the data center	· 53.8 [t-CO_2] · 99M [VND] / 5,075 [USD]
	B) Major data center company in Singapore	· Upgrade the power supply system to HVDC in order to improve power loss · Cold aisle capping to regulate the air conditioning and ventilation	The data center's server room, heat source room, and control room	· 650 [t-CO_2] · 1,297,284 [kWh] · 194,593 [SGD] / 149,686 [USD]
Buildings · public facilities	C) Dalian University of Technology	(Horizontal deployment) · Thin out the lighting, check against forgetting to turn lights off at night · Energy saving settings for PC, use of power saving taps, thorough checks against forgetting to turn off equipment at night (Additional measures) · Change the temperature on the air conditioner settings, switch to notebook computers, install high efficiency fluorescent lights	A part of the school buildings (About 1,000 m^2, roughly 20 rooms of varying sizes)	Horizontal deployment: · 31.0 [t-CO_2] · 46,293 [kWh], When the additional measures are implemented · 39.4 [t-CO_2] · 58,897 [kWh],
	D) GONGXINGDA Information Technology (Shen Yang)	· PC: Adopt EnePal PC, replace to energy saving typed PC · Lighting: Utilize solar light, reduce fluorescent lights · Servers: Turn the power off at night	400 m^2 office (Beijing City, Building 2F)	· 16.6 [t-CO_2] · 22,300 [kWh] · 22,300 [CNY]/ 3,378 [USD]
	E) Amity University Noida Campus	Proposed 15 improvement measures · Switching pump circulation to inverters (energy savings of approximately 30%) · Eliminating inefficient operation by using timers and sensor controls · Switching pumps, chillers, and cooling towers to automatic operation	Air conditioners, lighting equipment, and heat source equipment (chillers, cooling water pumps, cooling water towers, etc.) for school buildings (about 47,000 m^2)	· 1,438 [t-CO_2] · 1,648,843 [kWh] or more · 8,326,656 [INR] / 185,036 [USD]
	F) UOB Alexandra Building	· Switch to a high efficiency chiller · Switch the current BMS to BEMS · Introduce a multiple chiller control system · Introduce an energy saving application at the chiller plant	Automated surveillance equipment and air conditioners (chillers, AHU, etc.) for the entire commercial building	· 380 [t-CO_2] · 760,000 [kWh] · 167,000 [SGD] / 128,480 [USD]
Plants · factories	G) Cement plant in northern Vietnam	· Control the fans' rotating speeds	Line with a production output of 500,000 t	· 1,380 [t-CO_2] · 2,300,000 [kWh] · 2,518M [VND] / 126,500 [USD]
	H) Wuhan Iron and Steel	· Optimize control functions · Maintain equipment	Cold-rolling process and annealing equipment at the factory	· 14,519 [t-CO_2] (· Secondarily contribute to sales and reduce maintenance costs)

Note: For the CO_2 conversion coefficient, appropriate items were selected by the companies auditing the surveys for the target facilities

2. Training in Japan

The facility managers and technical persons of the local companies that undergo surveys were invited to Japan, and training was conducted with the goal of encouraging sustainable and autonomous energy saving efforts at local companies in order to ensure that the dispatch of experts from the energy saving survey missions are not just a temporary thing. A number of activities were carried out at the training, including introducing Japanese cutting-edge energy saving technologies, onsite visits to the factories and energy saving facilities of the member companies that audited the energy saving surveys, and exchanges of opinions with technical engineers.

An overview of the training is as follows.

【Participant】	Two people per local company targeted to undergo energy saving surveys
【Period】	December 7th – 9th, 2010 (excluding the arrival and departure dates)
【Training content】	· Visits to the demo rooms and factories of the companies participating in the energy saving surveys in Green IT project · Actual experience of the energy saving solutions and Japanese cutting edge initiatives · Exchange of the opinions and holding various lectures concerning saving energy, etc.
【Objectives】	· To deepen the understanding of local companies undergoing the surveys towards saving energy and provide support enabling them to undertake sustainable initiatives · To deepen mutual understanding of energy saving initiatives in Japan and the initiatives in Asian countries and contribute to strengthening cooperation between local companies and Japanese companies in the future

3. The Best Practices Collection

Companies that are regular members of GIPC collect together the latest Green IT devices and solutions recommended by each company and compile them into the Green IT Best Practices Collection (Japanese edition and English edition). This is then distributed to Asian countries and other countries overseas in order to widely introduce Japanese energy saving products and solutions to Asian countries.

In addition to the list of energy saving products and solutions presented by each company that was included in FY2009, we added case examples of actually introducing these in FY2010 with the aim of aiding the reader's understanding.

We received numerous opinions highly evaluating this in its capacity as a material for introducing people about Japanese latest technology at the local surveyed facilities to which it was distributed, as well as at workshops and seminars.

Furthermore, we also created and unveiled a Best Practices Collection website which allows people to search by information like the company name, category, and keywords.

4. Asia Green IT Seminar

Asia Green IT Seminars were held respectively in Singapore and Beijing on February 21 and 23, 2011 which focused mainly on the countries where the surveys were held. The seminars introduced the results of the energy saving surveys obtained through this project, as well as case examples related to Japanese Green IT, the initiatives of the GIPC, and more. Both seminars gathered together more than 130 attendants, who responded to the introduction of the initiatives by asking individual questions and making inquiries of the speakers after the seminars had ended.

	Singapore	China
Session	Monday, February 21th, 2011 13:00 – 17:30	Wednesday, February 23th, 2011 13:00 – 17:30
Location	M Hotel	Hotel New Otani Chang Fu Gong
	 Scene during the seminar	 Scene during the seminar
	 Business consultation corner	 Business consultation corner
Number of attendants	About 130 people	About 170 people

In FY2010 we newly established business consultation corners in order for the local attendants and the Japanese companies giving the lectures to exchange detailed information. The business consultation corners received responses that will lead into future business consultations, such as inquiries from local companies over the contents of the lectures.

Furthermore, in China members of the surveyed companies (Dalian University of Technology, GONGXINGDA Information Technology (Shen Yang), and Wuhan Iron and Steel Corp.) took to the stage and provided us with comments regarding their evaluations of the survey project. Having the local companies convey their direct opinions to us was an indication of the high level of interest by the local participating companies.

Please refer to GIPC's webpage (below) for details.

http://www.greenit-pc.jp/activity/energysaving/index.html

In addition, the FY2010 Project Report has been uploaded to the Ministry of Economy, Trade and Industry's webpage (below).

http://www.meti.go.jp/meti_lib/report/2011fy/0022353.pdf

Green IT
Best Practices

This chapter explains case examples of Green IT conducted by member companies of the Green IT Promotion Council.
It introduces what sorts of energy saving effects were obtained through the adoption of Green IT equipment and solutions, together with specific case examples.

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.

Server

FUJITSU LIMITED

Hokuriku Bank Ltd.
Creating an Environmentally Friendly System to Reduce CO_2 by about 40% Through Client Virtualization

The Hokuriku Bank Ltd., has built its In-bank Intranet System as the foundation of its e-mail and billboard functions. It was originally a system that gathered data stored in servers installed in its branches and integrated these data in storage at its headquarter's Administrative System Center, then built a 1,500 unit virtual PC environment using desk-top virtualization software.

Point 1 Achieving efficient system operation and maintenance by center integration

Data in servers installed at all branches were integrated in ETERNUS, a three unit storage system at the Administrative System Center. This eliminated past differences in the usage rates at different branches.

Point 2 Flexible system which ensures highly safe security based on the virtual PC method

Applying the desktop virtualization software, VMware View, to build an integrated virtual desktop environment which has integrated operating environments such as the OS, applications etc. for PCs inside servers

Point 3 Contributing to environmental operation

It will reduce CO_2 emissions by about 40% from the existing level by integrating servers and adopting Fujitsu's Super Green Product, the Blade Server called PRIMERGY BX620, etc.

■ Because it is a bank which represents Hokuriku, it wants to lead the region in kindness to the environment.

"Living in Harmony with the Region" – can be defined as the essence of a financial institution with close ties with its surrounding society. The Hokuriku Bank supports the regional economy and regional society by actively undertaking activities to benefit the environment and society, primarily through its contribution to the region made through its principal business. Introducing and upgrading banking business systems is not only intended to achieve greater efficiency, it is driven by a desire to improve customer services, develop the region, and preserve the environment.

■ It controls environment loads by efficiently apportioning the PC power needed by branches which require PC power.

When the in-bank intranet system was built 10 years ago, efforts were made to ensure an advanced security environment along with efficient operation by, for example, storing administrative data in file servers installed in each branch instead of in individual PC terminals (personal computers).

But differences in the frequency of use of file servers between branches became a particularly serious problem. Skillfully sharing distributed power can control the load on the environment, beginning the study of integration and virtualization.

■ To reduce environmental loads and achieve a system providing a high degree of satisfaction

An in-bank system which is used for general administrative work at head office and branches: information sharing and a variety tools such as Word, Excel, E-mail, Groupware, billboards, etc. This upgrading integrates a vast number of servers already installed at each branch at the Administrative System Center at the same time as it introduces Fujitsu's Green ICT technology. Virtual desktops (operating environment including the PC's OS and applications) are prepared on the server at the Administrative System Center, so bank employees can apportion them as necessary by accessing them from individual PCs. This offsets differences in the frequency of use, which was a problem, transforming it into a system which the entire bank can use efficiently.

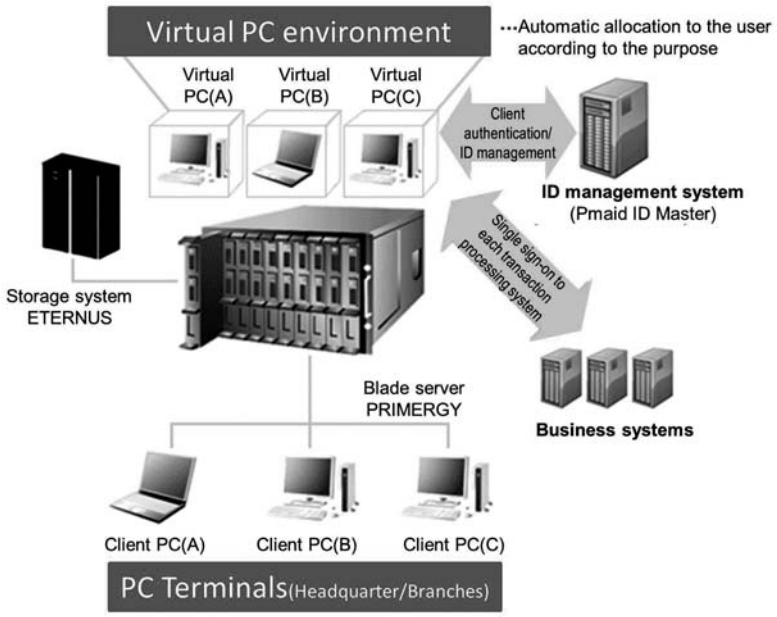
■ Using ICT achieves great effects; a 40% reduction of CO_2 emissions!

A characteristic of this case is that it reduces energy by integrating servers, but the point which must be understood is that in fact, in order to lower the quantity of heat generated through the use of ICT equipment, air conditioning installed along with this equipment uses electric power. Shortages of electric power have become a concern this summer. The public is counting increasingly on the electric power conservation effects of ICT as one of the social responsibilities of corporations.

And the Hokuriku Bank, has used "MO" as a backup for its data. The elimination of materials (dematerialization) achieved by ending the need for "MO" plus the reduction of CO_2 emitted during movement (transportation) of these materials and of the energy required by the space where they were stored are numerically evaluated.

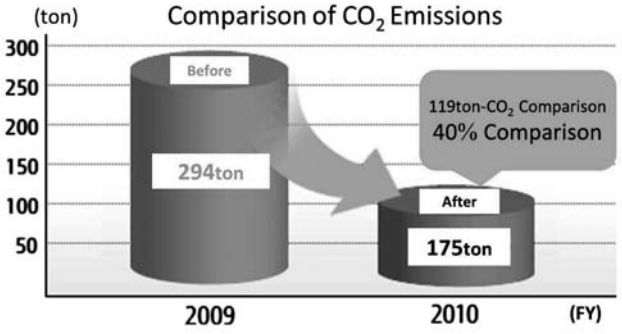
Taking small media as an example, its use is a cause of environmental impact in a variety of forms.

■ Details of the solution



Comparison of CO_2 Emissions Before and After Introduction

Category	Before	After	Effect
Work Space	23.9	1.0	-23.0
Space of ICT equipment	160.6	87.0	-73.6
Electrical Power of IT-NW equipment	107.1	87.0	-20.1



PRIMERGY BX Series

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
Fujitsu Contact line

1-5-2 Higashi-Shimbashi Minato-ku, Tokyo
Shiodome City Center
TEL: +81-120-933-200

Hitachi, Ltd.

Mori Building Co., Ltd.
"Energy WEB system" for Mori Building begins operating.

The EcoAssist-Enterprise collects environmental information from every worksite and converts it into environmental performance data, and then sums up and analyzes the data from various viewpoints.

Point 1

Disclosing of the energy consumption data to the tenant easily.

Mori Building started service called "Energy web system" that displayed the energy consumption result of BEMS and that of the automatic meter-reading system to each tenant's personal computer.

Point 2

Reduction in power consumption

The tenant's cooperation was necessary for the conservation of energy of the building.
The tenant can see the power-saving effect from the personal computer by using this system reflected from the knowhow that the Mori Building has.

Point 3

The energy conservation information service for the building starts widely.

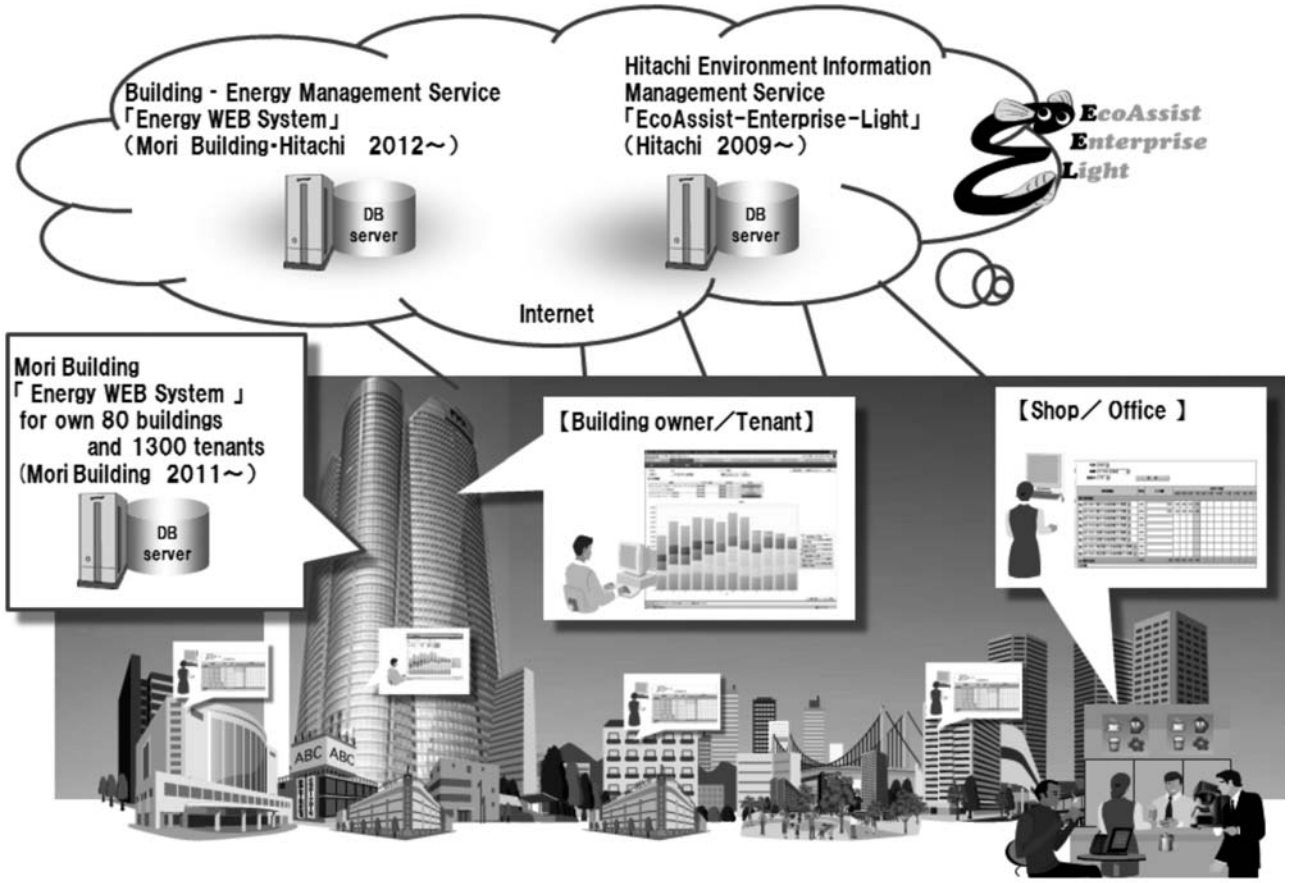
Mori Building Co., Ltd. and Hitachi, Ltd. offer this system by using Cloud Technology for not only Mori Building but also various buildings in other companies.

Hitachi, Ltd. developed and delivered a tenant energy management system called "Energy WEB system" for Mori Building Co., Ltd.

This system added the energy conservation knowhow of Mori Building Co., Ltd. on environmental information managing software "Hitachi EcoAssist-Enterprise". Because, generally speaking, 60% or more of the energy of the building is used in tenant space, not only the effort by the building administrator but also the cooperation of tenants is necessary to advance the energy conservation. Mori Building has the experience in which they reduced energy consumption of their building with the cooperation of the tenants. Introducing "Energy WEB system", they achieved displaying CO_2 discharge and tenant energy consumption easily, and making graphic representation under various conditions. This introducing enables the energy management of the whole building much more effectively than before. Every tenant can find out the energy consumption and draw a comparison between thier energy consumptions and standard ones. By introducing this system, companies can expect improvements in the energy conservation awareness and in the reduction of the energy consumptions.

Hitachi, Ltd. has been delivering the EcoAssist-Enterprise software to many companies from various industry sectors and to many local governments, and also has been assisting visualization of their environmental management. Leveraging our Cloud computing technology, Mori Building Co., Ltd. and Hitachi, Ltd. will offer energy WEB system to the buildings owned by other companies. This service brings huge merit to both building owner and tenants, because it can propel energy conservation by small system investments. Hitachi, Ltd. will support environmental management of companies and local governments through two SaaS, EcoAssist-Enterprise-Light now in-service and Energy WEB system launching soon.

■ Details of the solution



Environmental Information Collection System "EcoAssist-Enterprise" Environment Information Management Service "EcoAssist-Enterprise-Light"

product introduction

outline of the product

The EcoAssist-Enterprise collects environmental information from every worksite and converts it into environmental performance data, and then sums up and analyzes the data from various viewpoints. This generates the following continuous improvement cycle, for example: the worksite manages the goals and results in monthly units; the environmental control division compares them with company-wide goals and dynamically feeds back new goals; and then management always gets a hold of the situation. Service to sell "EcoAssist-Enterprise" by the SaaS type is called "EcoAssist-Enterprise-Light"..

patent award

Patent No. 3966109

2011 ASPIC Award (The best environmental contribution prize)

sales area

Japan

address

Hitachi, Ltd.
Information and control systems company

Hitachi Omori 2nd Bldg, 27-18, Minami Oi 6-chome,shinagawa-ku,Tokyo,Japan
TEL: 03-5471-3904 FAX: 03-5471-3735
http://www.hitachi.co.jp/ecoassist/

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.

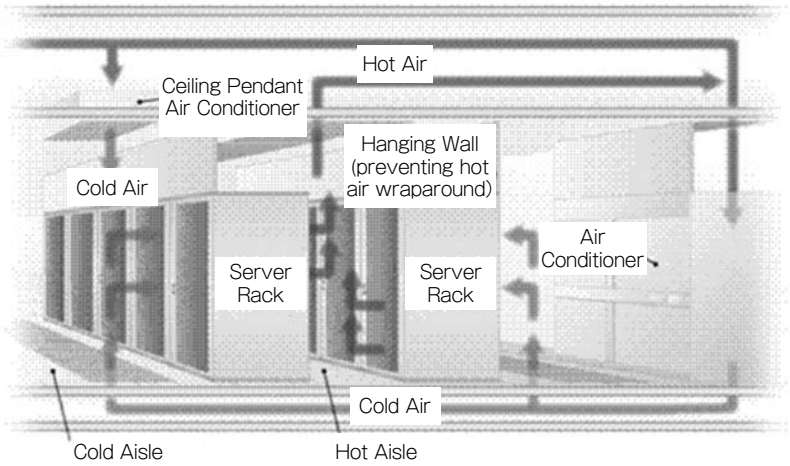
2. Use of Natural Energy

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.

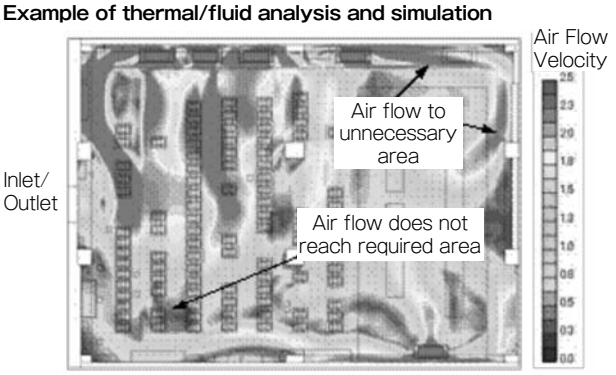
■ Details of the solution

Concept of High Efficiency Cooling System

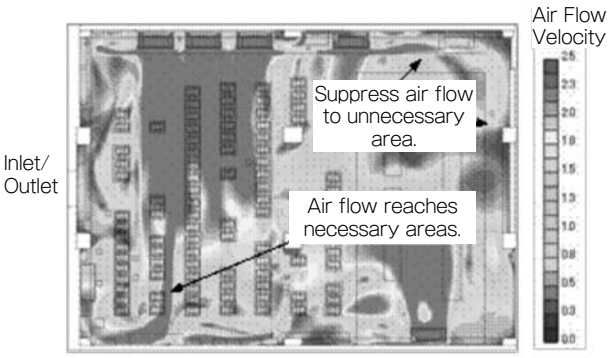
Application of this technology allows 4% improvement of the cooling system efficiency than before.



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.

patent award

Tokyo No.2 iDC : Won ASPIC Award 2009 "Large scale sector grand-prix in iDC category"

sales area

Tokyo, Osaka, and Nagoya

address

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Sales Planning Department

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Tokyo 102-8483, Japan
TEL: +81-3-5276-6821 FAX: +81-3-5276-6426
http://www.mind.co.jp/contact/service.html

NEC Corporation

Hiroshima University
Implementation of over 1,100 thin clients at Hiroshima University

At Hiroshima University, the existing educational terminal systems underwent a total renovation in order to reduce power consumption and operational costs. NEC built a NetBoot thin client system of 1,144 clients that reduces the environmental impact of the university system and supports the implementation of a system that can contribute to richer classroom and study experiences.

Point 1

An environmentally-friendly system that reduces CO_2 emissions by 67% compared with the previous system

A reduction in the annual power consumption of at least 30,000 kWh is estimated through the use of power-saving servers and thin client terminals, cutting the existing system by 67%.

Point 2

A thin client system that achieves a secure and convenient research-oriented educational environment

The system realizes advanced processing of video and images as well as more efficient system operations due to strengthened security and batch management of servers enabled by not saving data to terminals.

■ Background and issues

Hiroshima University used a scheduled upgrade as an opportunity to update the educational terminal systems in each of its academic departments. ICT devices with a low environmental impact were needed in order to achieve the university's goals in reducing energy consumption on campus.

One of the major problems that faced administrators was the reduction of the load on the server and in the updating and management of the terminal boot image on the server because of the large number of thin client terminals running and the large number of servers required to run them.

Compact housing is another important requirement for making effective use of limited classroom space. Computer performance that can comfortably manipulate interactive environments was also a requirement as many of the applications in use are image processing-intensive.

■ System summary

All existing NetBoot thin client PCs and stand alone PCs in the university's educational terminal environments for both students and teachers were upgraded. The largest-scale NetBoot system for a national university was built. The 1,144 thin client terminals employ Express5800/51Ma workstations which consume the least power in Japan (cutting energy used while waiting by 15% and that used during high loads by 30% when compared with an ordinary NEC PC) and save space.

The Express5800/i120Ra-e1 was used for the servers, and reduces the energy used while waiting by 40% and that during high loads by 20% compared to other low voltage products.

The problem of the boot image distributed to many servers was solved by implementing it to a storage server so that the image is managed centrally, providing a structure that enables easy updating and replication.

■ Result

An estimated 30,000 kWh reduction in power consumption per year is estimated. CO_2 emissions have been reduced by an estimated 67%, curbing the emissions by an estimated 40 tons over five years.

The system not only excels in energy efficiency, but also creates an environment where it is easy for students to concentrate on their classes because the Express5800/51Ma runs quietly and allows the effective use of desk space.

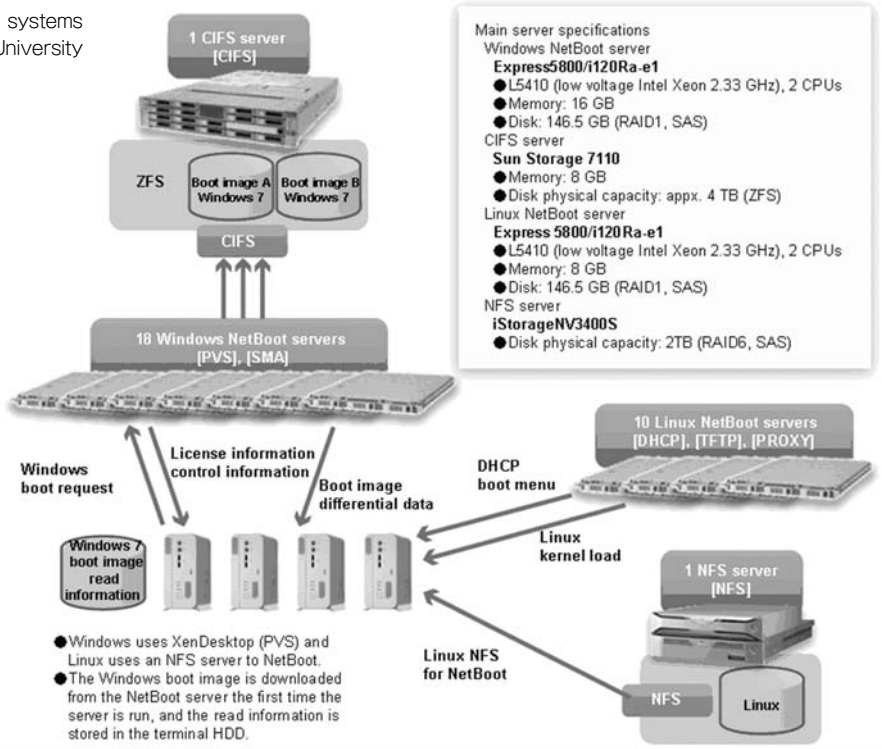
■ Vision for the future

Professor Reiji Aibara envisions following the basic environmental philosophy of Hiroshima University for a continued reduction on the university's environmental impact: "I would like the campus to use ICT for the real-time visualization of information about how individuals can contribute to reducing power consumption with just a little effort and action. Gaining such an awareness and habit at as young an age as possible is key."

■ Details of the solution

■ Open space in the Information Media Center (west) for using information education terminals
In this space alone, 180 NEC Express5800/51Ma workstations are installed.

■ System configuration: Information terminal systems for education and research at Hiroshima University



NetBoot thin clients

product introduction

outline of the product

A system that loads operating systems and applications from a server and runs them on terminals. This system benefits from having few limitations concerning applications and peripheral devices, and is appropriate for educational institutions such as universities and for design work.

sales area

Japan

address

NEC Corporation
Education and Science Solutions Division

5-7-1 Shiba Minato-ku, Tokyo
NEC Headquarters
TEL: +81-3-3798-2123
E-mail:webmaster@elsd.jp.nec.com

NEC Empowered by Innovation

BEMS

NTT DATA CORPORATION

Itochu Fresh Corporation
Introduction of Energy Monitoring Solution "Remote One"

The Shizuoka Center of Itochu Fresh Corporation uses ultra-low temperature refrigeration facilities maintained at -60℃ 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

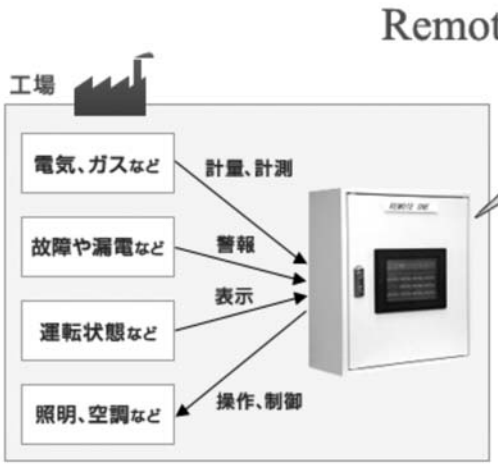
Visualization has enabled the Center to map out and implement aggressive measures aimed at reaping results. In fact, at the recommendation of NTT DATA CUSTOMER SERVICE CORPORATION, the Center refurbished its lighting equipment and achieved energy saving in excess of 20%. Itochu Fresh Corporation is planning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

■ Details of the solution

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

BEMS

Yamatake Corporation

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

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

Point 1 — 20% energy consumption can be reduced by advanced VAV

The conventional VAV is the constant static pressure control of supply air and it creates the energy loss depending on the load status.
Yamatake advanced VAV, however, is the control which provides the necessary static pressure only so that more energy saving can be achieved.

Point 2 — Comfort at all rooms.

Since the conventional central AHU supplies air with constant temperature, the condition of some rooms is uncomfortable depending on the space load.
Yamatake VAV : Load Reset Control adjusts the supply air temperature automatically so that all rooms' condition is always comfortable.

Point 3 — Quick response time for the stable condition.

Due to the communication between AHU controller and each VAV controllers, static pressure control, supply temperature control and air volume control work in cooperation so that the response time for the stable condition is very quick.

At the renewal of a certain building, the existing monitoring system has been changed to Azbil's BEMS (Building Energy Management System), and several energy saving programs have been provided by Azbil. "Azbil's VAV energy saving application program" is one of them and will be introduced hereafter.

- Control in existing system -

Existing VAV of each branch provides the supply air volume variably corresponding to each room temperature. The change of the total supply air volume caused by these VAVs makes the fluctuation of supply air pressure. In AHU side, supply air static control makes the fluctuation constant by the inverter. The control contributes some energy saving. However, still energy loss cannot be eliminated because control for VAVs and control for AHU are executed independently

-Issues of existing control -

1. Pressure loss in duct is occurred by the excessive supply air due to the constant static pressure control even if the load is small.
2. The room temperature of some branches doesn't correspond to the temperature set point.

-Azbil's VAV energy saving application program-

Energy(kW)=Flow(m^3/sec)× Pressure(Pa)

From above formula, there are 2 ways to reduce energy.

a. Reduction of Air Volume

b. Reduction of Air Pressure

As mentioned above, existing VAV cannot eliminate energy loss completely due to the constant static pressure control.
"Azbil's VAV energy saving application program" does not accept this control but provides the inverter control in accordance with the following control logic.

1. The VAV controller calculates the air flow volume set point by the room temperature and its set point.
   The VAV controller modulates the dumper by the comparison of air flow volume set point and air flow velocity. (Refer to Fig.-1.)
2. By the communication between AHU controller and each VAV controller, AHU controller totalizes air flow volume of each VAV unit and determines the optimal air flow volume of AHU.
   Besides, AHU controller determines the standard value of rotation rate of fun in accordance with the required air flow volume and controls the inverter by the value. The standard value is obtained from the preset table "air flow volume vs. rotation rate of fan" . (Refer to Fig.-2)

In summer, there are some occasions that the room temperature is lower than the set point due to the low heat load. Furthermore, existing VAV sometimes cools the room more due to the low limit supply air volume.
Load reset control in "Azbil's VAV energy saving application program" enables the outlet temperature of AHU variable. The conditions of all rooms are now comfortable

■ Details of the solution

Fig-1 VAV controller and VAV unit signal wiring

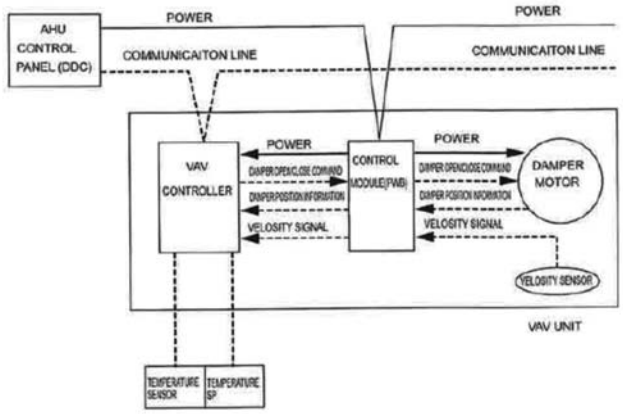
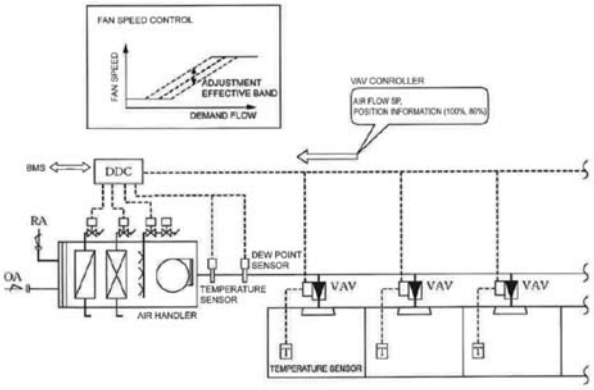
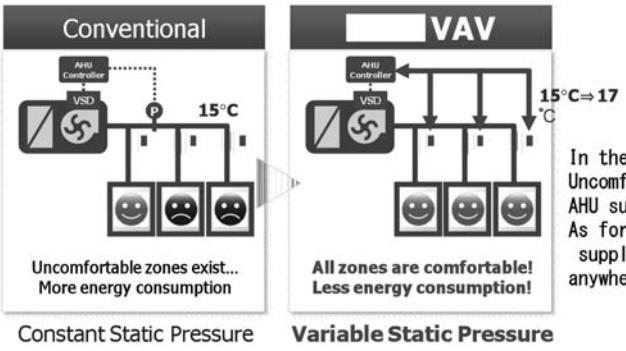
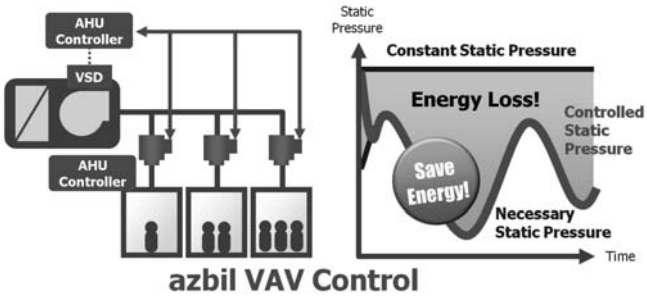


Fig-2 Fan speed control system





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.



azbil VAV Control

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

Global Sales Group, Global Sales Department
Global Sales Headquarters
Yamatake Corporation
Building Systems Company

4-12-1,Higashishinagawa, Shinagawa-ku Tokyo 140-0002, Japan
TEL: +81-3-6810-1107
http://www.azbil.com

azbil

Improving efficiency of a production process

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
- 1,700 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

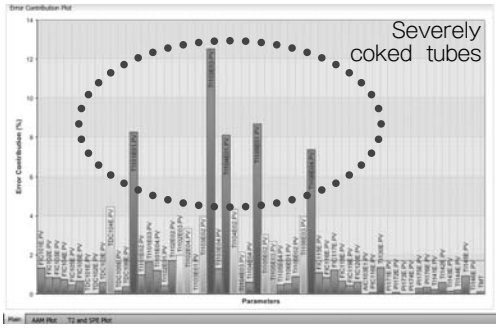
— Measurement of coking severity of 24 tubes.
— Constant steam feed is not sufficient for complete decoking as coking severity differs tube to tube.

Cracking furnaces

Coils & tubes

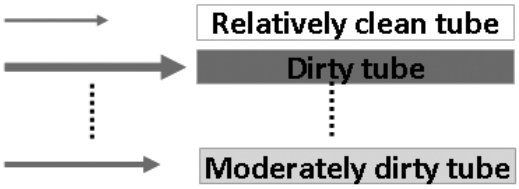
→ Solutions

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



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

patent award

Some are granted and some are under examination.

sales area

Japan and all foreign countries (except export ban countries)

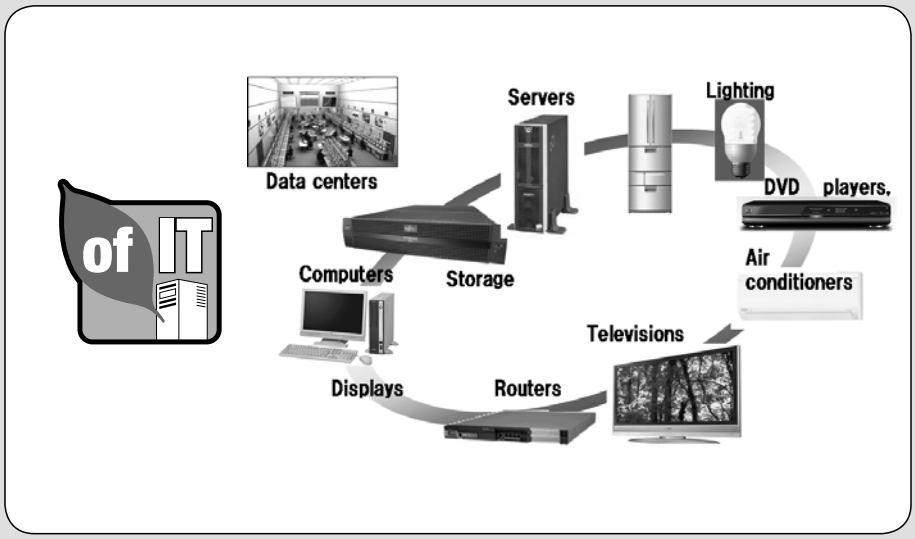
address

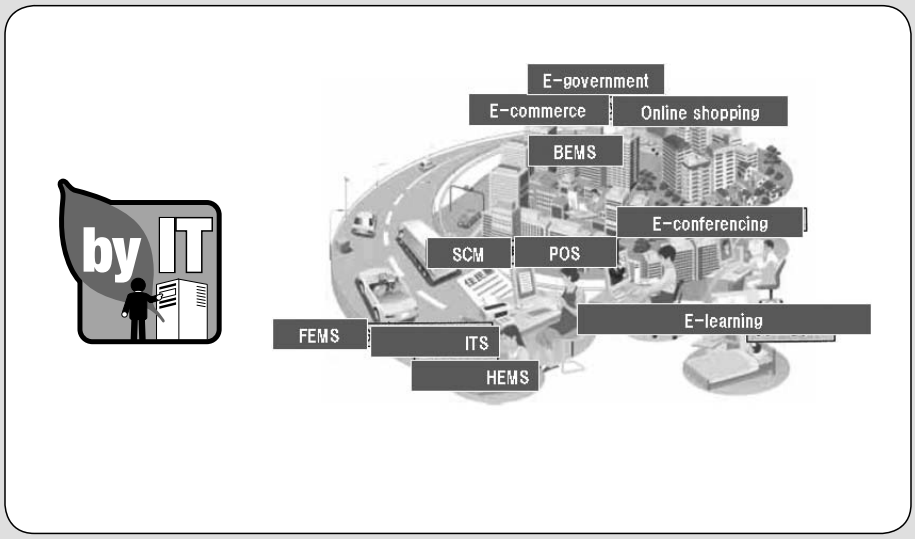
VP Services Business HQ
Yokogawa Electric Corporation

2-9-32 Nakacho,
Musashino-shi, Tokyo 180-8750 Japan
TEL: 0422-52-5134 FAX: 0422-52-7048
E-mail:michinao.takamuku@jp.yokogawa.com

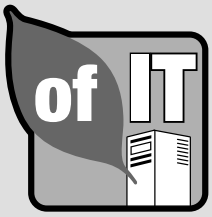
YOKOGAWA

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 -

Those who are considering the following
- Newly purchasing energy saving IT devices
- Replacing existing devices with energy saving products
- Adopting energy saving parts on products by their own company (making them energy saving)

■ IT equipment

■ Electronics

■ Data center

■ Parts

PC

Power saving office PC

LIFEBOOK/ESPRIMO
FUJITSU LIMITED

The business-targeted note PC, LIFEBOOK, and desktop PC, ESPRIMO, are equipped with power-saving functions to give strong support to saving electricity in offices.

■ Usage/field

Office PC

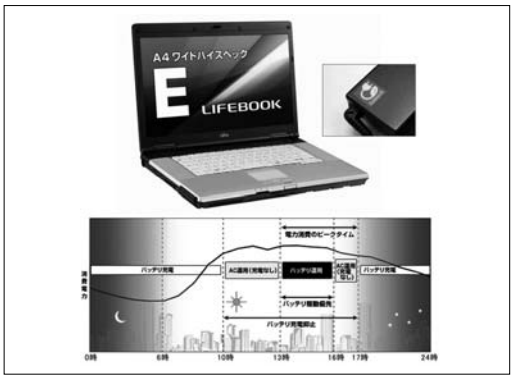
■ Use conditions

Power source/frequency: AC100V ± 10%, 50/60Hz
Temperature/humidity conditions: temperature 5 to 35°C/humidity20 to 80%RH (running), temperature –10 to 60°C/humidity 20 to 80%RH (not running), but no condensation.

■ Features

■ Strong points of the note PC, LIFEBOOK
- It is equipped with the Zero-watt AC Adapter compatible with Fujitsu's proprietary energy saving function, ECO Sleep, which lowers stand-by power to almost zero. This adapter shuts off the supply of unnecessary electric power then the power is turned off or the PC is not operating.
- Its Peak Shift function can lower electric power consumption during hours of peak electric power demand by switching from AC adapter operation to battery operation according to time period.
- Its Power-saving Utility allows users to simply turn off the liquid crystal display brightness function and other functions not in use, reducing the quantity of power consumed by the PC.

■ Strong points of the Desktop PC, ESPRIMO D570/B
- It achieves low power consumption of about 14W, which is the industry's highest standard. Fujitsu has lowered electric power consumption by about 85% from its conventional models manufactured in 2006.
- A main switch which lowers stand-by power consumption to zero is installed as a standard item on every PC.
- They also include the established product, the meticulously designed function, Power Source Linked Service Plug, and the Motion-sensor equipped Eco Plus Display.
- The liquid crystal display, VL Series, includes the Brightness Sensor, which senses the ambient brightness to automatically adjusts the brightness of the screen.



Energy-saving effect

(1) Energy saving function of note PC "LIFEBOOK"
- 0-watt AC adaptor
  Conservation of energy function to bring standby power requirement close to 0 unlimitedly
  "ECO Sleep" AC adaptor power-off of 0 watts corresponding to and dormant power supplies are stopped.
- Peak shift function
  When the AC adaptor is connected, the battery supplies the power supply at the time zone set according to the dedicated software (free offer at the late-May of 2011).

(2) Energy saving function of desk-top PC "ESPRIMO"
- Power supply synchronization type service outlet
  The power supply to the display stops, too, when the main body power supply is turned off.
- Main switch
  Equipped with main switch that adjusts power consumption when standing by besides power supply button to 0
- Power consumption is reduced by about 60%.
  Power consumption is reduced by about 60% compared with our conventional model kind in fiscal year 2006.

Contact

FUJITSU LIMITED
Fujitsu Contact line
Shiodome City Center 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo
TEL +81-120-933-200
URL http://store.shopfujitsu.com/fpc/Ecommerce/tabletpcs-and-notebooks.jsp

PC

PC with various energy-saving functions as standard installations

Mate Type ME
NEC Personal Computer, Ltd.

Desktop PC which balanced of performance and power conservation

■ Usage/field

Desktop PC for Business Use

■ Use conditions

Power: AC100 ± 10%, 50/60Hz
Temperature: 10-35C°
Humidity: 20-80% (no condensation)

■ Features

Mate Type ME 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 Type ME 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 JPY22/kWh.)
Reference URL:http://www.nec.co.jp/products/bizpc/promotion/eco/eco_simulator/index.html

Contact

NEC Personal Computer, 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

High energy efficiency mobile PC

dynabook R Series
Toshiba Corporation

R Series has high energy efficiency(40~50% better than ENERGY STAR criteria). It has many unique features: "Peak Shift" to help mains power,"Quick Start" to encourage the use of low power mode, "eco Utility" to help low power setting.

■ Usage/field
Business use mobile notebook PC

■ Use conditions
AC 100 - 240V (50/60Hz)

■ Features
R Series incorporates "Peak Shift". It switches power source from mains power to the internal battery during peak power demand time, and thus mains power consumption is reduced.
It also has attractive energy saving features considering each PC condition such as in use or not, in operation or not. The features encouraging best use of installed energy saving functions are also incorporated.

<Major features>
Toshiba eco Utility, ODD Auto Power Off, Quick Start/Panel Open power on, SSD models, Airflow Cooling Technology(R731 only)

Energy-saving effect

(1) Energy saving
More than 50 % energy saving for R731, and more than 40 % energy saving for R741/R751 compared with latest energy criteria of ENERGY STAR V5.2 (TEC value)

(2) Off power
More than 50 % power saving compared with EU ErP Off/Standby power criteria (1.0W)

(3) Power reduction during peak demand time
Power can be less than 1W using a peak shift function.

Contact

Toshiba Corporation
Toshiba PC support center
1-1, Shibaura 1-Chome, Minato-ku, Tokyo
URL http://dynabook.com/pc/index_j.htm

Server

FUJITSU BLADE SERVER for small and medium-sized scale systems

PRIMERGY BX400
FUJITSU LIMITED

The PRIMERGY BX400 is the perfect blade server for integrating servers on medium and small systems and for PC clusters.
It uses less space, is lighter, consumes less electric power, and is quieter than rack servers and tower servers providing similar performance.

■ Usage/field
The PROMERGY BX400 is the best platform for server consolidating of small and medium-sized scale system.

■ Use conditions
Input voltages: AC200V, AC100V
Power consumption: AC200V: max. 5,885W, AC100V: max. 4,800W

■ Features
The BX400 can accommodate 8 blade units, which are both server and storage units, in a compact space with height of 6U (about 27cm). This permits the application of blade servers, which are equipped with the latest technologies just like those in blade servers for large-scale use, to the design of medium and small-scale systems.
And they can be installed without using specialized racks by applying the floor stand kit.

Energy-saving effect

By replacing your existing tower servers with BX400 servers, you can count on not only reducing your electric power consumption, but also on saving installation space.
The following is a sample of a trial calculation of the effects of replacing 8 tower servers installed five years ago with BX400 servers.
■ Reduction of electric power consumption: reduction of about 48% → an electric power cost saving of about 56,000 yen/year

■ Elements achieving energy conservation
・ Setting low power use mode allows you to set the server in a mode which consumes little electric power
・ You can set the entire system in low power use mode in advance.
・ Depending on the time of day, you can set three alternating modes: optimum performance, low power use, and electric power upper limit control.

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/

Server

Power Saving by Server Virtualization

Hitachi Server Virtualization Technology
Hitachi, Ltd.,

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

■ Usage/field

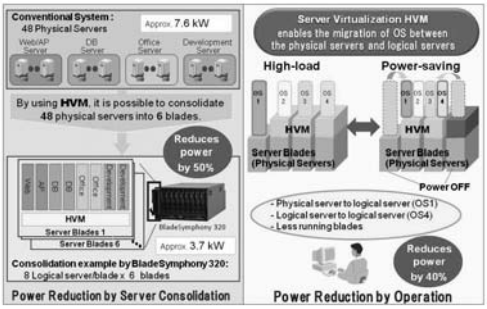
Field: Server Virtualization
By applying virtualization technology on blade servers, it is possible to consolidate IT systems, reducing the total energy consumption. This system is applicable to data centers.

■ Use conditions

Operates on BladeSymphony® 2000 /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.
HVM was rewarded the Green IT Award 2009.
*1: As of June 2010, investigated by Hitachi, Ltd.



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

High Density Server

HA8000-bd/BD10
Hitachi, Ltd.,

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

Energy Efficient Microprocessor

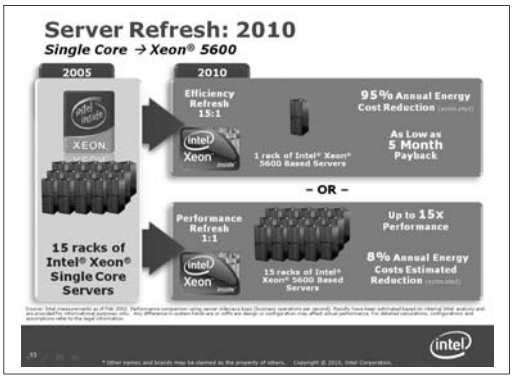
IntelR XeonR Processor 5600 Series
Intel K.K.

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

Tth server corresponding to the trybrid power system

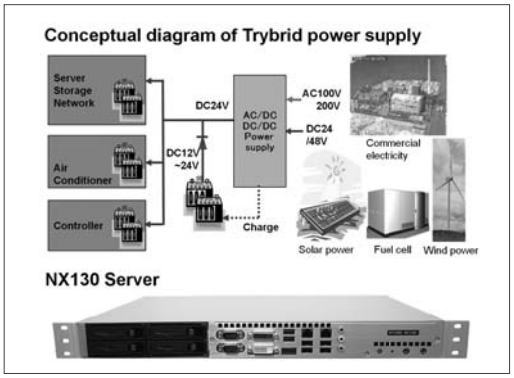
NX130
IP CORE Lab Inc.

All each parts of the IT equipment inside work by direct current. Then, a new system that assumes "Storage of electricity" to be a base can be constructed by changing the supplied electricity from alternating current into direct current. It is to use a natural energy and the late-night electricity in a good balance to secure stable electricity with low cost.

■ Usage/field
It is substitution of network equipment (router, DNS, etc.). A main server (an email, a search etc.) of the Internet and construction of the dispersion system of the scale outs type such as Hadoop.

■ Use conditions
Power supply:AC100/200V or DC9-29V, Power consumption:Average 50W(Max. 70W), Spport OS:Linux,Windows

■ Features
As for trybrid power supply, IT equipment and facilities work by direct current. And "storage of electricity" is a base. The supply electric power is a new idea that effectively uses three kinds of different power supplies. 1). Natural energy (solar battery and fuel cell, etc.). 2). Commercial power source. 3). Battery. A server corresponding to this new power supply specifications is NX130. The feature is as follows. 1). Main body operates by 50W on the average in the size of 1U half depth. It low electric power of 1/2-1/4 of general server. 2). It can treat a server like a note PC by connecting battery to a server. 3). It is manufactured with development in an industry product standard. Therefore even a high temperature of 50 degrees Celsius can work consecutively, and the operation that does not use air conditioning is possible.



Energy-saving effect

The trybrid power supply makes "Storage of electricity" a base. Natural energy becomes possible to operate by combining with accumulation of electricity because the change of power generation is large it. Next, the battery operation becomes possible because it reduces the electric power of the IT equipment and equipment to 1/2-1/4 of the general servers because the battery is not infinite capacity. Reduction of this electricity pushes forward energy saving more. Operation at 50 50 degrees Celsius becomes possible because the IT equipment is developed by the industrial goods computer specification and manufactured by it. And, the electric power consumed by air-conditioning can be adjusted to almost 0.

Contact

IP CORE Lab Inc.
Sales Promotion Dept.

1002,Grandvan-Ogikubo2,5-15-16,Ogikubo,Suginami-ku,Tokyo,Japan

TEL +81-3-6768-8405 FAX +81-3-6768-8401

E-mail contact@ip-core.jp

URL http://www.ip-core.jp

Server

Energy Saving IT Platforms

NEC Express5800 series
NEC Corporation

As an effect of NEC's approach for energy saving platform "REAL IT COOL PROJECT", NEC developed the ECO CENTER Series and brought them to the market. E120b-M could reduce by 42% compared to the conventional products in power consumption. and E110b-M by 70%, both of which contribute to the reduction of the environmental impact.

■ Usage/field

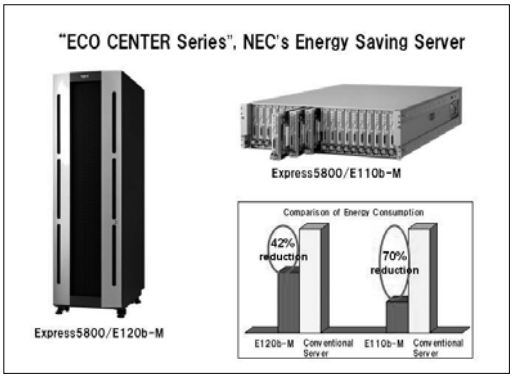
Cloud computing platform at Data Centers by government or large enterprise, and dedicated server such as hosting services for information service businesses

■ Use conditions

Power consumption:
Server: Max. 325W per server (E120b-M), 27W (E110b-M)

■ Features

- E120b-M and E110b-M both adopt the high efficient power sources, 80 PLUS Gold power supply with a power conversion rate of 92%.. E120b-M could reduce by 42% compared to the conventional products in power consumption and E110b-M by 70%.
- E120b-M corresponds to the virtualization platform such as VMware and Microsoft Hyper-V. Further power reduction could be feasible with NEC's "WebSAM", an integrated management software which can allocate virtual machines optimally.
- E110b-M supports the operational temperature up to 40 degrees Celsius and also contributes to the reduction of air conditioning cost which accounts for the big portion of the facility operations.



Energy-saving effect

E120b-M could reduce by 42% compared to the conventional products in power consumption and E110b-M by 70%.

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

Disk storage systems with high reliability, high performance and power-saving function.

ETERNUS DX400 S2 series
FUJITSU LIMITED

ETERNUS DX400 S2 series, based on environment-conscious packaging design, achieves 50%* reduction in size and approx. max. 50%* reduction in power consumption. The reliable disk storage systems with high reliability and high performance, as well as with power-saving function.
*Compared with that of conventional company products

■ Usage/field

Disk storage systems for enterprise information systems, optimized for maintaining and utilizing increasing data asset. Also with flexible operability for virtualization or cloud infrastructure.

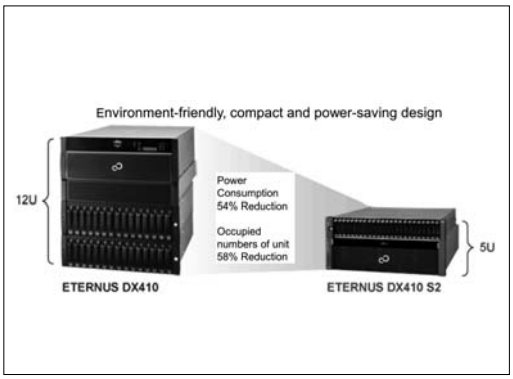
■ Use conditions

Connection to a host computer over FC, iSCSI or FCoE.

■ Features

1)Environment-conscious
- Made the device smaller and lighter by 50%, using high-density, packaging design and by large reduction of the number of installed components
- Abolition of Fujitsu-specified poisonous substance including RoHS controlled substance.
- The overall adoption of lead-free solder (Made the assembly solder of the printed circuit board unleaded).

2)Power-saving Operation
- Able to use compact, power-saving SSDs and 2.5" HDDs.
- Able to save power using eco-mode that stops disk rotation of those not in use.
- Enables "Small Start" using virtualized thin-provisioning function of capacity.
- Optimizes maintenance cost using storage hierarchy control that automatically relocate the data according to access frequency of the data.



Energy-saving effect

- With the equivalent configuration as that of the company's conventional products, for example, if 24 450GB disks are used in 24 hours for 365 days, yearly power consumption can be reduced by approx. 6,700kWh and CO_2 emission can be reduced by approx. 3,000kg.
- In Eco-mode operation, for example, if 36 backup target disks are stopped for 20 hours a day, yearly power consumption can be reduced by 1,533kWh and CO_2 emission can be reduced by 681kg, comparing with that of the non-stop operation.
- Some data says only 20 to 30% of assigned volume of storage is used. Operation using thin-provisioning function that virtually assigns the volume can eliminate the waste of space and power of actually-unused physical disks.

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://solutions.us.fujitsu.com/www/content/products/storage/ETERNUS/index.php

Midrange Disk Array System

Hitachi Adaptable Modular Storage 2000
Hitachi, Ltd.,

Hitachi Adaptable Modular Storage 2000 Family is disk array systems for midrange market. The thin provisioning function and MAID(Massive Array of Idle Disks)technology which are standard features enable 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.(Standard feature)
- 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.(Standard feature)
- High density storage expansion tray actualizes small-footprint which is more than doubling the capacity of the standard tray.(Excluding Hitachi Adaptable Modular Storage 2010)
- Adoption of 2.5" HDD and 2U* height expansion enclosure enables to realize electric power saving and small-footprint. *2U:88.9mm

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.
It is possible to reduce 40% of electric power and 48% of footprints with 2.5" SAS HDDs instead of 3.5" SAS HDDs at the configuration of 40TB usable capacity.

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-
URL http://www.hds.com

The storage system which does not need backup

LX100 System
IP CORE Lab Inc.

In storage systems more than 100TB, it is very difficult to perform complete backup processing and recovery processing. Therefore it dispensed with backup processing and recovery processing and developed a safer storage system.

■ Usage/field

Digital content data (for example, documents, photograph, music, animation) and the preservation of data (for example, contract documents, design drawing, medical data) which the safekeeping of the long term needs by a law.

■ Use conditions

Power supply:ac100/200v,Power consumption:30-60w(HDD:8TB),Support OS:Linux,Windows

■ Features

As for LX100System which it developed, there is the next characteristic. 1). The data to save do the division (data division + parity) like structure of RAID5 and perform data safekeeping and recovery in asynchronous. 2). It changes the data management method of the storage system into a file unit from a block and removes the expansion limit of the storage system. 3). In a storage system, it take in structure of the Internet. And it disperses on IP network and, for performance and quality, save data. That is why systems construction and system operation of the storage system which does not need backup and disaster restoration are possible. And there is the merit that can choose the cheap recording medium of the bit unit price that a supply is possible at that point.

Energy-saving effect

LX100System implements capacity of 8TB - 12TB in a housing (size of 1U half depth size), and the biggest consumption electricity is equal to or less than 40W. On the both sides of 19 inches rack (40U), the deployment of 80 systems (640TB - 960TB) is possible. And the consumption electricity is held down to 3.2kW. This consumption electricity becomes fewer than about 1/10 consumption electricity of the storage product which implemented the same capacity. In addition, when there is no access because it can control the electric power of storage not used, it becomes dormancy, and data can be maintained by the electric power of the most small. The storage medium can use not only the HDD but also the USB memory. In that case, as for the safekeeping energy, approximately 0 operations are possible, too.

Contact

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Sales Promotion Dept.

1002,Grandvin-Ogikubo-2,5-15-16,Ogikubo,Suginami-ku,Tokyo,Japan

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E-mail contact@ip-core.jp
URL http://www.ip-core.jp

Storage

Disk Array Unit

NEC iStorage D8-30
NEC Corporation

The D8-30 adopts MAID (Massive Array of Inactive Disks) 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 product's similar capacity)
- Power consumption of minimum configuration / storage 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/

Router/Switch

Dynamic Energy Saving Network System

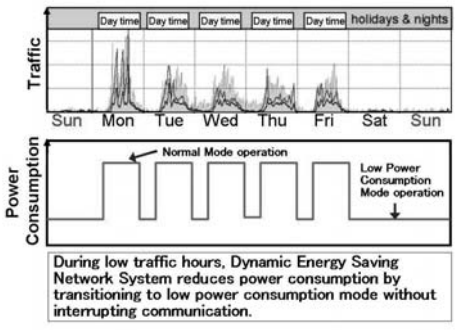
AX6700S/6600S/3800S/3650S/2530S/1240S series
ALAXALA Networks Corporation

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(Cold stand-by).
- 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, 890Kashimada, Saiwai-ku, Kawasaki, Kanagawa,212-0058, Japan
URL http://www.alaxala.com/en/

Mitsubishi LCD display

RDT233WLM Series
Mitsubishi Electric Corporation

Mitsubishi LCD display contributes to energy-saving by "ECO Professional" function.

■ Usage/field

By "ECO Professional" function, Mitsubishi LCD display supports energy-saving in the office.

■ Use conditions

Temperature : 5 - 35 deg C
Humidity : 30 - 80% (without condensation)

■ Features

"ECO Professional" function for energy-saving.
(1) "ECO SELECT": approximately 11W reduction at maximum.
*The average screen brightness is more than 75% and "3" of ECO SELECT is selected. (compare to "OFF") (Based on ours results)
(2) "ECO METER" : Energy-Saving value shown in real time.
(3) "AUTO POWER OFF" / "OFF TIMER"
(4) "DISPLAY OFF"
(5) "Energy-Saving Management on OSD (on screen display)" : ECO TOTAL (kWh) / ECO RATE (%) / ECO CO_2 (kg)

Energy-saving effect

By "ECO Professional" function, maximum 11W reduction per 1set. Annual CO_2 reduction is approximately 13kg per 1set.
* Conversion factor from the power consumption to CO_2 emissions is 0.4kg/kWh(12 hours/day, 20 days/month).

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/

ECO-conscious LCD Monitor

LCD-EX231Wp, MultiSync
NEC Display Solutions, Ltd.

Main ECO Productivity of this product is;
- Less power consumption
- LED backlight technology: no mercury in the white LED back light
- Human sensor: the display is to be automatically switched off and entered to the power saving mode when user leaving the desk
- Ambient light sensor: automatically controls the brightness of the display corresponding to the ambient brightness

■ Usage/field

LCD Monitor to Enterprises and Personal Users

■ Use conditions

Input Voltage AC 100-240V, 50Hz/60Hz, Maximum Powe Consumption 27W

■ Features

1. Advanced points
1) Less power consumption by human sensor and ambient light sensor
2) No mercury contained and less power consumption by adopting white LED backlights
3) Proactive adoption of recycled plastic (Use white recycled 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
- 73% power reduction comparing with 2007 Product Model when using ECO MODE2 and Human Sensor

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

Display

Information display

PN-V602
SHARP CORPORATION

High brightness and energy saving multi display system.

■ Usage/field
Digital Signage by Large format display.
Digital Message Board for Emergency information.

■ Use conditions
AC100-240V 50/60Hz

■ Features
Both "High brightness 1500cd/m^{2}" which realizes brilliant picture quality even at bright places and "Low power consumption" which is brought by automatic LED backlight control system are achieved at the same time.

- Depending on screen image, "LED backlight automatic control system (Local Dimming)" controls the backlight brightness automatically, makes better contrast ratio, and keeps lower power consumption.
- SHARP's original high aperture LCD panel and highly-efficient LED backlight system are used.
- PN-V602 has several functions which bring advantage for energy saving.
  a)It can be setup turning off automatically for night time or out of service time.
  b)It can change the backlight brightness automatically responding to ambient brightness(*1).
  c)It can bring the display mode into signal standby mode automatically if there is no signal, and into power standby mode if there is no operation for 4 hours.

(*1) Control kit PN-ZR01 is required.

Energy-saving effect

In comparison to the previous model PN-V601, with same brightness condition (700cd/m^{2});
- Power consumption is 325W (approx. 68%) less. (*1)
- Power consumption is 3.9kWh less for using 12 hours per day. Electricity bill is approx. 32,500JPY less for a year (*2)
- CO_2 emission is approx. 461Kg less for a year. (*2)

(*1) PN-V602, when "LOCAL DIMMING setting" is "HIGH", measured by SHARP, with IEC62087Ed2.0 broadcast contents(11.6), AC100V input. Power consumption depends on contents.
(*2) Calculated with Tokyo Electric Power Company's price chart for 120kWh-300kWh; 22.86JPY/kWh, CO_2 emission coefficient in YR2009 result; 0.324Kg*CO_2/kWh

Contact

SHARP CORPORATION
Display Systems Marketing Support Center
8 Ichigaya-Hachiman-cho, Shinjuku-ku, Tokyo, Japan
URL http://sharp-world.com/support/agreement.html

Others(IT equipment)

Color Digital Multifunction Printer

imageRUNNER ADVANCE C5000 Series
CANON INC.

Color digital multifunction printers pursuing usability for all persons such as users and system administrators and corresponding to people and the environment in all situation

■ Usage/field
Color Digital Multifunction Printer for offices

■ Use conditions
AC100V,15A,50Hz/60Hz

■ Features
The imageRUNNER ADVANCE C5051 (launched in 2009) has the following superior features:
- Using Canon's unique toner fixing system, called "Color on Demand Fixing System", it achieves the following:
  - Power consumption in sleep mode is less than 1W. (for the 100 V model)
  - Warmup time is less than 30s.

  It is also more convenient for the user, as it can return from sleep mode so quickly.
- Biomass plastic and recycled plastic are used to make this product.
- Continuous output speeds: 51 ppm color, 51ppm monochrome
- Weight approx. 170kg

In addition to the use of energy-saving technology to reduce environmental impact when this product is operating, the extensive use of biomass and recycled plastics also cuts environmental load at the manufacturing stage.

Energy-saving effect

The standard power consumption (TEC value) of this product, as set by the International Energy Star Program, is 2.95kWh (for the 100 V model), a reduction of 77% from our previous model (if using a 100V
power source). Calculating the environmental load imposed by this product, from the materials manufacturing stage to the usage stage, as an CO_2 emission volume, it achieves a reduction of approximately 1,200kg per unit, compared to the previous model.

Contact

CANON INC.
Environment Communications Dept.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan
TEL +81-3-3757-8184 FAX +81-3-3758-8225
URL http://www.canon.com/environment/

Others(IT equipment)

The K computer

FUJITSU LIMITED

Fujitsu is working in collaboration with RIKEN to develop the "K computer". (Completion target: Autumn 2012)

■ Usage/field

Supercomputer which makes contributions such as the following;
・Development of green products and green materials
・Research and countermeasures development against environmental problems (climate change, disasters, etc.)
・Achievement of a people friendly society (medical field etc.)

■ Features

Fujitsu is bringing together all the advanced technologies to achieve this project— including the high-performance, highly-reliable and energy-efficient CPU; an interconnect capable of linking more than 80,000 CPUs; and software to maximize application performance.

System; Target performance: 10 petaflops
#of CPUs: more than 80,000
Total memory: more than 1petabyte
CPU; SPARC VIIIfx (8 cores, 128 gigaflops)
Interconnect: 6-dimensional mesh/torus topology

Energy-saving effect

・Certified as one of the world's highest electric power efficiency (Sixth on green supercomputer ranking (Green500) at 825Mflops/W).
・The K computer contributes to green R&D while the K itself is a green supercomputer.

Contact

FUJITSU LIMITED
Fujitsu Contact line
Shiodome City Center 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo
TEL +81-120-933-200

Others(IT equipment)

Sealing up cooling type server rack that greatly reduces air-conditioning cost of server equipment.

Facility Cube (S/M Series)
FUJITSU NETWORK SOLUTIONS LIMITED

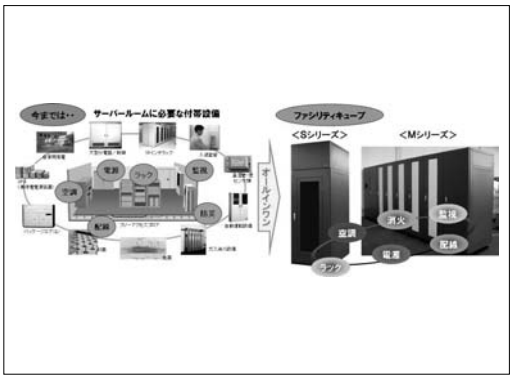
Facility Cube achieves the best equipment environment to store the server rack with the air-conditioning equipment, the firefighting equipment, the environmental monitor, and the power supply in the rack.
The lineups have two kinds ; M series that can connect up to five server racks with air-conditioning equipment rack lined both sides of the server racks, and S Series that equipped with the small capacity air-conditioning equipment as a package in the single rack.

■ Usage/field

-For the server environment construction against the office area where the construction of the server room is difficult and for the earthquake disaster measures, the power saving measures.
-Accommodation of server and networking equipment in bad environment such as warehouses and management, etc.

■ Features

(1) Equipped with the miscellaneous equipment (air-conditioning, power supply, firefighting equipment, and environmental monitor) in the rack.
(2) High energy-saving effect (cost reduction).
(3) Cooling system by air flow (cold air flow) (Patent registered).
(4) Installing equipment is safe and secured.
(5) The high generation of heat equipment can be installed at ease, because the sealing up space is intensively cooled (A fever measures: complete separation of the HOT/COLD area).
(6) The infrastructure maintenance corresponds easily at equipment expansion.
(7) A high soundproofing and a dustproof effect, because sealing up is high, to set it up anywhere (Restructuring is easy at the earthquake).



Energy-saving effect

Effect comparison results by the certain user (M series)
*M series 4 racks x 2sets, delivered in December, 2010
Comparison between when server room is constructed in the office and when Facility cube is installed in the office.
⇒ Reduced 50.6% of CO_2 Emissions (Reduced 48.1% of power consumption, Reduced 3.1% of office space)

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

Others(IT equipment)

Color Printer

DocuPrint C5000 d
Fuji Xerox Co., Ltd.

A new flagship A3 color LED printer with high productivity and top energy saving performance

■ Usage/field
A3 Color LED Printer for offices

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

■ Features
1.Print Speed(A4):55 ppm monochrome and 50 ppm color
2.First Warm-up Time:less than 17 sec.(Note1)
3.Print Resolution:1,200 x 2,400 dpi
4.TEC(Typical Electricity Consumption):2.77 kWh
5.Security Features:IC card authentication (Note2), embedded printing of hidden text, copy restriction code and digital code using the paper security functions(Note3)

Note1:Temperature 20 degrees C
Note2:Requires either the IC Card Reader, IC Card Gate 2.0 or IC Card Gate 2.0 for FeliCa
Note3:Requires the optional security expansion kit, an additional internal hard disk and additional memory of 512MB or more

Energy-saving effect

The new product incorporate environmental technologies to lower TEC(Typical Electricity Consumption)(Note1) by 67 percent compared to a previous model(Note2), achieving industry leading (Note3) energy saving performance.

Note1:The amount of power by a printer, copier, or other office equipment over a conceptual week
Note2:Compared to DocuPrint C3540
Note3:Among A3 color page printers eith print speed of 50ppm in color (A4 long edge feed), as of June 2011

Contact

Fuji Xerox Co., Ltd.
Corporate Social Responsibility Department
9-7-3, Akasaka Minato-ku, Tokyo, Japan
TEL +81-3-6271-4157 FAX +81-3-6271-5167
E-mail ryuji.matsumoto@fujixerox.co.jp
URL http://www.fujixerox.co.jp/eng

Others(IT equipment)

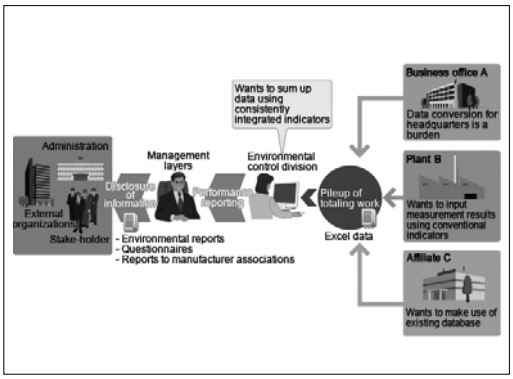
Environmental Information System

EcoAssist-Enterprise
Hitachi, Ltd.,

The EcoAssist-Enterprise collects environmental information from every worksite and converts it into environmental performance data, and then sums up and analyzes the data from various viewpoints.

■ Usage/field
It is necessary to tackle "advanced environmental management", actively improve environmental load, and promote environmental performance to the outside.

■ Features
1.A wide variety of data entry functions can minimize load on the input side.
For the data entry method, you can use an existing user ledger as an entry sheet, in addition to the direct input of numbers and characters into Web screens.
2.A wide variety of data entry functions can minimize load on the input side.
Customers can easily change the logics for indicators by themselves. Additionally, a formula of logics can be registered as a template, which is reusable.
3.Multilateral analysis available with "organization totaling tree set functions".
Not only existing organization trees but virtual trees, such as "product group" and "area group", can be set, and multilateral totaling is possible.



Energy-saving effect

This generates the following continuous improvement cycle, for example: the worksite manages the goals and results in monthly units; the environmental control division compares them with company-wide goals and dynamically feeds back new goals; and then management always gets a hold of the situation. Furthermore, each worksite can also apply environmental data to ISO activities.

Contact

Hitachi, Ltd., Information & Control Systems Company
Hitachi Omori 2nd Bldg, 27-18, Minami Oi 6-chome,shinagawa-ku,Tokyo,Japan

Others(IT equipment)

Eco-conscious LCD Projector

NP-M300X, ViewLight Series
NEC Display Solutions, Ltd.

Main ECO Productivity of this product is;
- ECO modes : ECO2 mode with light up with 50% of the lamp wattage, standby mode with its 25% and Auto ECO mode with brightness of the lamp automatically adjusted depending on the projected content.
- Remotely-operable energy saving stand-by mode
- No painting Cabinet
- Lamp life increased up to 5000 hrs

■ Usage/field

Standard Projectors in the fields of Educations and Enterprises.

■ Use conditions

Power: AC 100-240V, 50Hz/60Hz
Maximum Power Consupmtion: 248W

■ Features

1. Advanced points:
 1) ECO2 mode, to reduce the lamp wattage by 50% as well as to reduce the glare from the screen
 2) Standby mode, to reduce the lamp wattage by 75% during the break between the meetings and the classes, etc.
 3) Recyclability improvement, with colorless coating for cabinet and silk printing by laser marker

2. NEC's unique technologies:
 1) Standby Mode for lower power, by corresponding to the system control
 2) Auto ECO Mode, allowing optimum brightness and maximum energy efficiency
 3) CARBON METER, keeping a cumulative savings total visible via the OSD of carbon savings made since the projector was installed.

Energy-saving effect

- Reduce the annual energy consumption by 50% compared to the 2009 product model
Condition during the usage at schools;
 1) Operating 2hr/day, Standby 22hr/day
 2) Use in 200 days per year
 3) Usage periods 5years

Contact

NEC Display Solutions, Ltd.
NEC Projector Customer Support Center
13-23 Shibaura 4-chome, Minato-ku Tokyo, Japan
TEL +81-3-5446-5300
URL http://www.nec-display.com/global/index.html

Others(IT equipment)

The ScanSnap series color image scanners

ScanSnap S1100/S1300/S1500/N1800
PFU LIMITED

Class-leading color image scanners that deliver one-push easy paper digitization

■ Usage/field

ScanSnap scanners can capture and digitize various paper documents - like office documents, stacks of business cards and news clippings
- in full color.

■ Use conditions

S1100 5V (USB bus powered)
S1300 S1500 N1800 AC100V ± 10%

■ Features

One-push speedy document digitization has been driving concept behind the popular ScanSnap series line of sheet feed type scanners. Compact and energy efficient, they satisfy a variety of uses ranging from home to office; and with the introduction of the S1100 mobile scanner and N1800 network scanner to the series lineup in FY2010, users can take advantage of enhanced cloud linking features which offer new levels of scanning possibilities.

Energy-saving effect

- ScanSnap S1100 -
Resource-saving:
Less than one-fourth the size and weight of the S1300, the S1100 is the world's smallest among scanners in its class. Because it is small and lightweight, it requires less raw materials to build; and this reduces the impact on the environment.
Power-saving:
Whether during use or when idle, the S1100 consumes very little power. Its measured power consumption is less than one-fourth (in sleep/standby modes) the standard set by the international Energy Star program.

- ScanSnap N1800 -
Resource-saving:
The N1800 is the world's smallest A4 ADF network scanner in its class, measuring a third the size and half the weight of the fi-6010N. Like the S1100, it is constructed using fewer materials to reduce environmental load.
Power-saving:
Also, like the S1100, the N1800 is very energy-efficient during operation. Its power consumption is less than a third (in sleep mode) of international Energy Star standard.

Contact

PFU LMITED
URL http://scansnap.fujitsu.com/

Others(IT equipment)

Digital Full-Color Multifunctional System

MX-3110FN
SHARP CORPORATION

Multifunctional System Delivering Advanced Environmental Performance, Achieving Excellent TEC Values and Equipped with Diverse Eco-friendly Features

■ Usage/field
Digital Full-Color Multifunctional System for Offices

■ Use conditions
Power requirements: AC 100 V, 15 A (50/60 Hz)

■ Features
Significantly reduced TEC values (see the note below) resulting from delivering diverse energy-saving features including shorter warm-up time, power consumption of less than 1 W on fax and network standby and an energy-save button.

Equipped with Power ON/OFF Schedule, a smart power supply feature.

Jobs that do not require printing such as Image Send and Scan to E-mail/ Desktop etc. are executed with the fusing unit being off (disabling the heating to fuse toner onto paper).

Equipped with Eco-learning, a feature that helps energy-saving running by constantly adjusting power supply in line with the usage based on analysis conducted by the machine of the past usage history.

Note: The TEC (Typical Electricity Consumption) value is the amount of energy consumed in one week.

Energy-saving effect

The standard power consumption (TEC value) has been reduced by approximately 69% compared to predecessor models (see note 1), which will help reduce an amount of CO_2 equivalent to what absorbed by about eight cedar trees (see note 2) during a year.

Note 1: Comparison with the MX-3100FN (introduced in 2008).
Note 2: Calculated assuming that one 80-year old cedar tree absorbs approximately 14 kg of CO_2 during a year.

By adopting LEDs, the amount of power consumed by light sources has been reduced by approximately 75% compared to conventional xenon lamps.

Contact

SHARP CORPORATION
Document Solutions Group Document Solutions Sales Department
22-22 Nagaike-cho, Abeno-ku,Osaka, Japan
URL http://sharp-world.com/support/agreement.html

TV

LCD TV

LC-52L5
SHARP CORPORATION

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
- Four-primary-color technology faithfully renders colors to provide vivid, high quality images.
- LC-52L5 connects with AQUOS PHONE and AQUOS Blu-ray by a wireless system.
- LC-52L5 provides the service of lifestyle as well as VOD via internet service.
- Acquired authorization of the THX 3D display standard.

Energy-saving effect

High Energy Conservation in Industry Measures
- Yearly Power Comsumption 132kWh/yr
- Energy Conservation Achievement 184%

Contact

SHARP CORPORATION
Customer Response Center
22-22 Nagaike-cho, Abeno-ku, Osaka-city
URL http://sharp-world.com/support/agreement.html

TV

LCD TV embedded with Intelligent Presence Sensor

BRAVIA™ LX900 Series
Sony Corporation

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

BD-H50
SHARP CORPORATION

"Simple Remote" for BD-H50, focused on "Record and Play" operation, is easy-to-use.
In addition, BD-H50 offers various environment-friendly function such as "Eco-mode", which provides minimization of power consumption during stand-by mode.

■ Usage/field
BD-H50 is a Blu-ray(TM) recorder with which users can easily enjoy recording and playback of digital broadcast, as if it were a familiar VCR.

■ Use conditions
AC 100V, 50/60Hz

■ Features
- VCR-feeling easy operation: "Simple remote" and "Large sized operation button on chassis"
- "AQUOS Pure mode" optimizes color base output to AQUOS LCD TVs.
- "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
URL http://sharp-world.com/support/agreement.html

Air conditioner

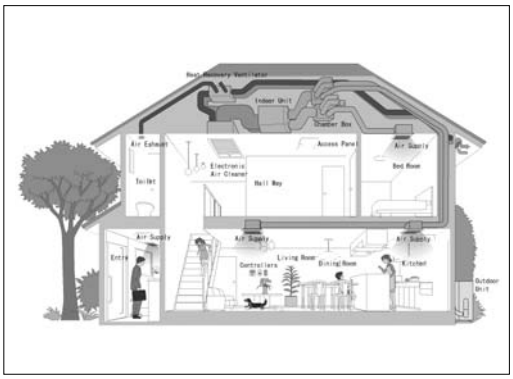
Comfortable and Energy-saving central air-conditioning system

'Kikubari'
Yamatake Corporation

'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.azbil.com/products/bi/kikubari-e/

Data center

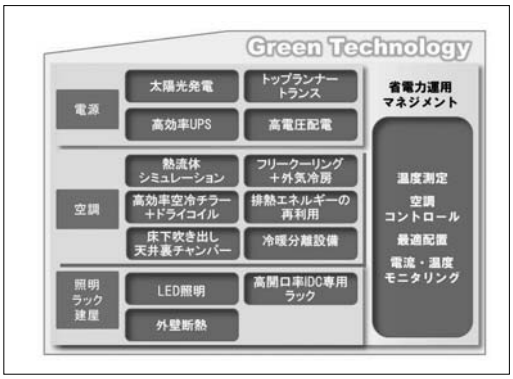
An environmentally friendly data center adopting the most advanced power-saving equipment and most efficient operation.

Fujitsu FIP Yokohama Data Center
FUJITSU FIP CORPORATION

The Yokohama Data Center, is the most-advanced data center in the Cloud Era, which supports our customers' business by ensuring "Solid Security", "Reducing Environmental Load by Adopting the Leading Edge Power-saving Technology," and "Consistently Efficient and Automated Operation", guided by the concepts Safety, Green, and Automation.

■ Usage/field
This Data Center can provide One-stop Solutions to give integrated support to our customers' servers and systems from the system planning stage through its construction and operating management stages.

■ Features
- Achieves a sweeping reduction of energy consumption by applying optimized control: introducing the latest energy-saving facility equipment, designing high cooling efficient layouts based on thermofluid simulations, and continuous energy saving operation management achieved by temperature and current monitoring of each server rack.
- Complies with S-rank, which is the top rank set by CASBEE, a building environmental performance evaluation system.
- The site of the center features a green environment through its links with reforestation support activities of Kanagawa Prefecture.
- Has obtained AAA, an information security rating of I.S. Rating Co., Ltd.



Energy-saving effect

- It can reduce energy consumption by facilities by about 40% from the consumption when identical computer capacity was operated in the 2007 environment of the data center facility. (CO_2 emission reduction: about 9,000t/year).
- This is a quantity equivalent to planting about 43,000 trees.

Contact

FUJITSU FIP CORPORATION
Cloud Bussiness DEPT.
1-1 Sakuranamiki tuduki-ku, Yokohama
TEL +81-045-949-5425

Data center

Modular Datacenter

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

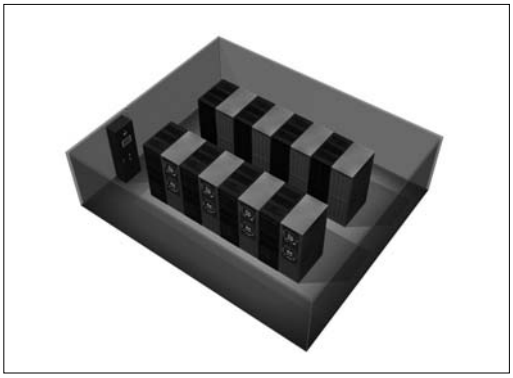
"Modular Datacenter" could optimize layout of server racks and air conditioners in small "Module". This "Modular Datacenter" could reduce air conditioner power consumption by 72% and floor space by 80% over traditional datacenter.

■ 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 22 square meters(*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 22 square meters).



Energy-saving effect

Reducing Air-Conditioner power consumption by 72% 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 2010.

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

Environment conscious data center
Hitachi, Ltd.,

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
Outsourcing Data Center, IT Management Services Division

Hitachi Systemplaza Shinkawasaki, 890Kashimada, Saiwai, Kawasaki, Kanagawa,212-8567 Japan

TEL +81-44-549-1322 FAX +81-44-549-1191

Data center

Container Datacenter is No.1 of The world of energy saving

ISO Container Datacenter
IP CORE Lab Inc.

It put eight 19 inches racks, 100kW grade air conditioner, 100kW grade power supply facilities, monitors facilities and control facilities and, in the limited space of the container of the 20 feet standard, offers it. We perform basic design and logic design, and NIPPON FRUEHAUF COMPANY, LTD. performs production and sale.

■ Usage/field

It make use of the mobility of the ISO container, and it is rebuilt the system infrastructure which disappeared by natural disaster. And Cloud computing system and data central infrastructure, etc.

■ Use conditions

Power supply:Main Three-phase circuit power supply 200v or 420v,80kW,Sub AC 200v,80kW,Installation environment:-20 degrees Celsius to 40 degrees Celsius(Room where outdoor or natural ventilation is possible)

■ Features

The container data center of the ISO standard that became the first domestically was newly developed. The feature is as follows. 1). It is possible to move easily by the container trailer because of the ISO standard. The removal is also easy though carrying is easy. This easiness is important at the time of the disaster. 2). It fixed strongly to the top and bottom of 19-inch rack in addition to strong skeleton structure of the ISO container had, strong earthquake-proof performance was achieved. 3). Outdoor setting under wide environment from -20 degrees Celsius to 40 degrees Celsius is possible. And, if there are a power supply and an optical cable, the place is not chosen and the data center can be constructed in a short term (about three months). 4). Data center can be constructed even in the place without the commercial power source's supply for the trybrid power supply.

Energy-saving effect

With energy saving top priority, the ISO container was developed. Key factor is "cooling by the indirect open air" of the new development. This is a new method that discharges the heat of the IT equipment into air with a special heat exchange panel, and returns only the cold internally. It is a cooling method to use open air for, but, as for the open air, an IT equipment does not have the influence without passing the IT equipment inside. The area of one piece of special heat exchange panel has a heat exchange area of 2,300 square meters at 80cm × 50cm. The cooling capacity of maximum about 80kW is obtained by using this 32. Furthermore, I realize PUE=1.1 through one year by putting the NX130 server which I developed for these containers together.

Contact

IP CORE Lab Inc.
Sales Promotion Dept.
1002,Grandvan-Ogikubo2,5-15-16,Ogikubo,Suginami-ku,Tokyo,Japan
TEL +81-3-6768-8405 FAX +81-3-6768-8401
E-mail contact@ip-core.jp
URL http://www.ip-core.jp

Data center

High Voltage Direct Current (HVDC)

SED-2000 Series
(JRC)Japan radio co,ltd.

The 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.

■ Usage/field

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

■ Use conditions

Operational temperature range 0° C-40° C

■ 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 electric power conversion efficiency of 95% or more is achieved with the entire system. (without sever rack)
* 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

(JRC)Japan Radio Co.,Ltd.
HVDC PROJECT TEAM SOLUTION BUSINESS DIVISION
1-1, Shimorenjaku 5 Chome, Mitaka-shi, Tokyo
TEL +81-422-45-9336 FAX +81-422-45-9396
E-mail hvdc-contact@jrc.co.jp
URL http://www.jrc.co.jp/

Data center

Urban-type Data Center with totally support

Kanden System Solutions Co.,Inc.

At the end of 2011, KS Solutions' data center with the most up-to-date facilities will be completed in the center part of Osaka city. The data center achieves top-level PUE (an indicator of energy efficiency at data centers) in Japan by its advanced green IT equipments.

■ Usage/field

To place your IT equipment in our data center achieves more energy-saving effect than to place in existing data centers.

■ Features

Concentrates all technologies of the KEPCO's(Kansai Electric Power Company) group companies on KS Solutions' data center. It installed green IT equipments, moreover it provide reliable and safe facilities by means of robust power supply and seismic isolation. We also provide the advanced technologies such as cloud computing, and we provide enhanced operation support by more than a hundred operation staff. Based on this data center, we totally support our customers' processes, such as system planning, development, infrastructure construction, operation maintenance, and system replacement.

Energy-saving effect

In air conditioning system, we use the power of natural energy. For example, drained warm water from air conditioner is refrigerated by using the outside air, so called "Free Cooling", and we adopt outside air cooling system. And we serve an effective air conditioned environment through Capping-system, that separates the passage between the rack rows for the suction (low temperature) and for the exhaust (high temperature). In addition, by installing solar panel over the rooftop of the building and adopting low loss electric transformers and so on, we achieve PUE 1.4, top-level in Japan.
PUE:Power Usage Effectiveness.

Contact

Kanden System Solutions Co.,Inc.
IT Service & Solution Planning Group
1-25-7 Edobori, Nishi-ku,Osaka,Japan
TEL +81-6-6449-4262 FAX +81-6-6449-1522
E-mail info@ks-sol.jp
URL http://ks-sol.jp/datacenter/index.html

Data center

U-Cloud® IaaS

Nihon Unisys, Ltd.

U-Cloud® IaaS is an enterprise cloud service provided by the Nihon Unisys Group that provides servers, storage, network resources and desktops which form the enterprise information system infrastructure when they are needed and only as much as they are needed.

■ Usage/field

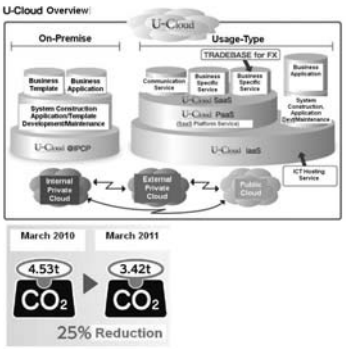
U-Cloud® IaaS (ICT Hosting Service) is an enterprise-oriented cloud service and is provided with migration from on-premise environment in mind.
Cloud type hosted service that operates with high energy efficiency by using an energy-efficient data center and highly energy-efficient ICT equipment resources.

■ Use conditions

N/A

■ Features

There are four main features as follows:
- Can be used like a private cloud despite being a public cloud
- The Nihon Unisys Group provides cloud related services as a one-stop provider, leveraging the rich experience gained through our long history as a systems integrator
- High quality hybrid cloud can be achieved by linking with our on-premise private cloud package "U-CloudR IPCP"
- Our "ICT Virtual Desktop Service" achieves an ICT environment that includes the clients



Energy-saving effect

In March 2010, Nihon Unisys received certification to use the Carbon Footprint Mark (CFP Mark) from the Ministry of Economy, Trade and Industry under their Carbon Footprint of Products Pilot Project, the first and only such certification in the service and IT areas. In March 2011, further improvements in efficiency were implemented to reduce the carbon footprint value per contracted unit from 4.53t to 3.42t, achieving an improvement in energy efficiency of 25% compared to 2010. As an example, if a system at the customer's data center (PUE2.0) is moved to U-CloudR IaaS (ICT Hosting Service), estimates using the PCR for this ICT hosting service show that a maximum of a little over 60% per year of CO_2 emissions can be reduced.

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/green-ict.html

Data center

Green Data Center

Green Data Center®
NTT DATA CORPORATION

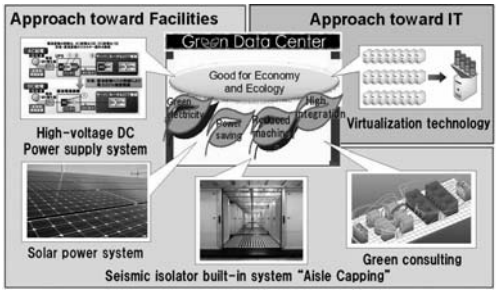
Data centers of the next generation type that attempts the service improvement to the customer while considering the environment by promoting high efficiency and power saving.

■ 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/

Data center

Air flow management system

AdaptivCOOL
Yamatake Corporation

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

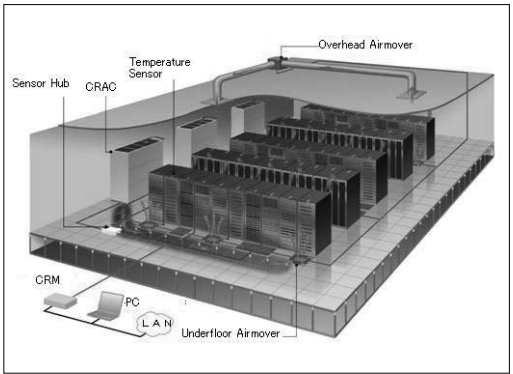
An integral solution that covers assessment to system introduction, providing optimized air conditioning by solving problems such as heat accumulation or overcooling.

■ Use conditions

A raised floor datacenter mainly consisting of open server rack.

■ Features

By utilizing a simulation software employing computational fluid dynamics,invisible air fl ow 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/

Semiconductor

Intelligent Power Module(IPM)

High-output IPM V1 Series
Mitsubishi Electric Corporation

Variable-frequency inverters are being increasingly used in a wide range of motor control systems for enhanced energy efficiency. In the output stage of these inverters, IPMs are commonly used to switch electric current at high speed. Through reducing the loss in IPMs, Mitsubishi Electric is contributing to further energy savings.

■ Usage/field
-Inverter systems
-Servo systems

■ Use conditions
Level of general industry

■ Features
1.IPMs are single packages of multiple chips, including power chips using insulated-gate bipolar transistors (IGBTs) and their driving circuits, as well as a variety of protection circuits.
2.Inverter power loss can be reduced through use of low-loss CSTBT chips.
3.Enhanced heat protection based on monitoring the temperature of each IGBT chip.
4.Increased output volume for inverter and servo systems through a larger IPM product line-up.
5.Compatibility with the V Series (previous product) enables easy replacement and improves user convenience. In addition, the size of inverter and servo systems can be reduced while increasing output volume.

*CSTBT™: carrier-stored trench gate bipolar transistors developed by Mitsubishi Electric. CSTBT is a trademark of Mitsubishi Electric.

Energy-saving effect

Inverters are used to drive and control industrial machinery. Highly efficient energy consumption is realized in these products through tuning the power frequency in inverters according to the electricity load. To achieve this high efficiency IPMs are required and there is thus a growing demand for IPMs. Our new 600V/800A IPMs realize approximately 15% less inverter power loss compared to conventional products, contributing to further energy savings.

Contact

Mitsubishi Electric Corporation
Semiconducter & Device Group
Tokyo Building, 2-7-3, Marunouchi, Chiyoda-ku,
Tokyo 100-8310, Japan
TEL +81-3-3218-3210 FAX +81-3-3218-4862
E-mail hanjij.document@bk.MitsubishiElectric.co.jp
URL http://www.MitsubishiElectric.com/semiconductors/

Others(Parts)

Power Inductor Liqualloy™

GMLC Series
ALPS ELECTRIC CO., LTD.

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
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

Capacitive Type Small Humidity Sensor

HSHCAA Series
ALPS ELECTRIC CO., LTD.

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

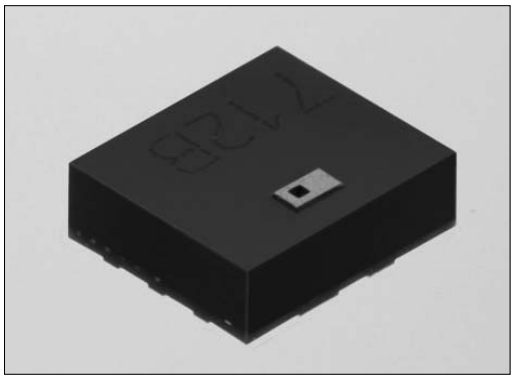
IT device-related equipment, IT devices, general consumer devices, air conditioning, Air cleaner, photocopiers

■ Use conditions

Operating Voltage: 2.2V to 3.6V / Operating temperature range: +20 to +85degrees 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
TEL +81-3-5499-8154
URL http://www.alps.com/products/e/

Others(Parts)

Low-Power Consumption All-in One W-LAN Module

UGFZ1 Series
ALPS ELECTRIC CO., LTD.

The UGFZ1 Series Low-power Consumption All-in One W-LAN 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, Wi-Fi drivers and Wi-fi protocol
- 10 years of operation on a single battery is possible
- Autonomous operation without a host CPU
- Japan certification acquired

Energy-saving effect

Since March 11, 2011, attention has been focused on the need for power consumption monitoring to aid energy savings within BEMS and HEMS. As the environment is increasingly ready for Wi-Fi 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 Wi-Fi 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
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URL http://www.alps.com/products/e/

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

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

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. Fulfi lling the less standby power of 0.5W.

Contact

Nipron Co., Ltd.
Overseas sales group

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660-0805 Japan

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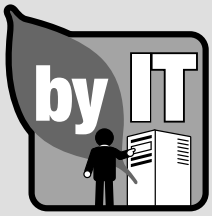
E-mail support1@nipron.com
URL http://www.nipron.com/



by IT

- Energy-saving by IT -

Those who would like to achieve the following effects through the use of IT solutions

- Improving the efficiency of operation and maintenance for devices and facilities
- Improving the efficiency of various business processes

■ Industry

■ Transportation

■ Business

■ Home

■ Others

FEMS

Energy management & analysis package

EneSCOPE
Yamatake Corporation

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

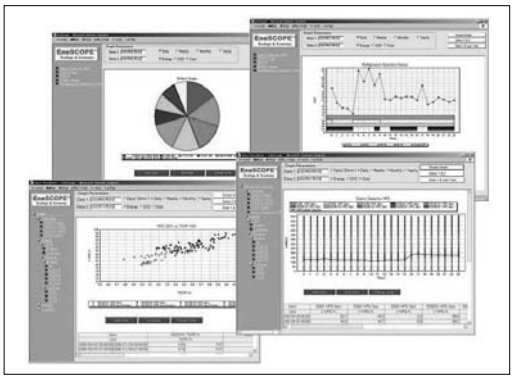
Package for energy management & analyzing to collect, store, calculate, analyze and publish the energy consumption data of single/multiple office/factory.

■ Use conditions

Max number of data collection pts: 38,400 pts
Max number of data management pts: 6,000 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 intensity 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

Total operational optimization package for utility facilities

U-OPT
Yamatake Corporation

U-OPT optimizes the operation of utility facilities so that the efficiency of the entire facility improves, reducing energy costs and CO_2 emissions. It does not require expensive new equipment, and can be expected to provide a good return on investment due to its control and optimization technology.

■ Usage/field

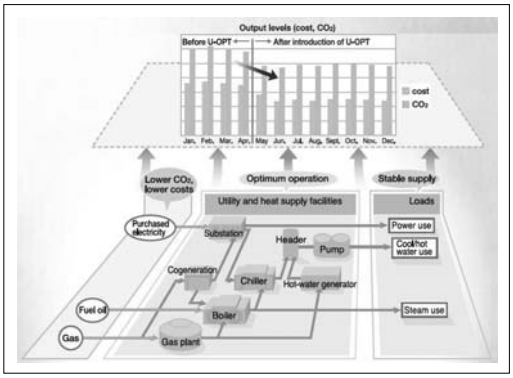
Utility systems for the following
1) Automobile and semiconductor manufacturing and other assembly plants 2) Refineries, petrochemical plants, and other process industries 3) Pulp and paper plants 4) Food processing plants 5) District heating and cooling facilities 6) Large buildings

■ Use conditions

Plants use a large amount of energy and there is a large difference in energy demand.

■ Features

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



Energy-saving effect

For an automobile plant with a high air-conditioning load, U-OPT predicted the utility demands from the weather data, and calculated the optimum use of boilers, cogeneration, chillers, and thermal storage tanks to satisfy the demand. Using online control of the chillers, and boiler control by operators prompted by the guidance system, energy costs and CO_2 emissions were cut by about 5%.

Contact

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URL http://www.azbil.com/

FEMS

Optimization System for Facilities Energy

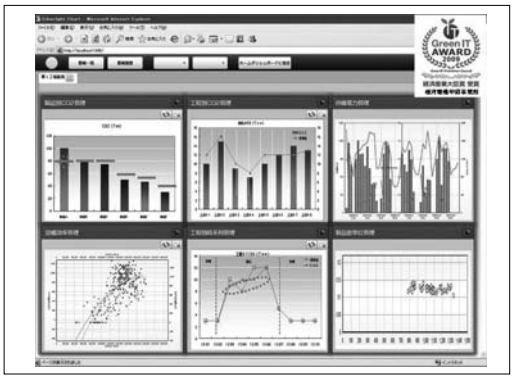
Enerize E3
Yokogawa Electric Corporation

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 fl ow model, control model and production model
- The calculation system is fl exible 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
Industrial Solution Business HQ VPS Innovation Div. Energy Consulting Dept.
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-6396 FAX 0422-52-5738
URL http://www.yokogawa.co.jp/eco/

Improving efficiency of equipment and facilities

Compressor control system for energy saving

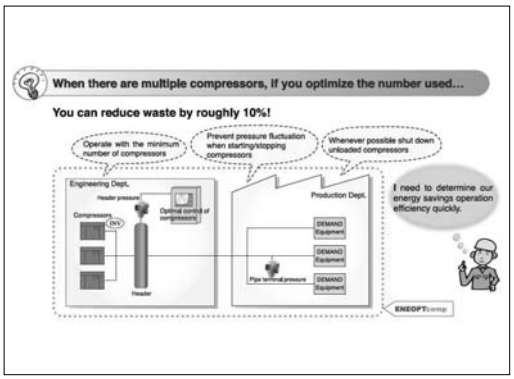
ENEOPTcomp
Yamatake Corporation

ENEOPTcomp savings electric for compressors by PID control, matching the actual load to the number of load compressors and 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 operational 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 consumption data 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 Corporation
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

Energy-saving by optimizing BTG operation

Energy-saving solution by optimizing BTG operation
Yokogawa Electric Corporation

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.

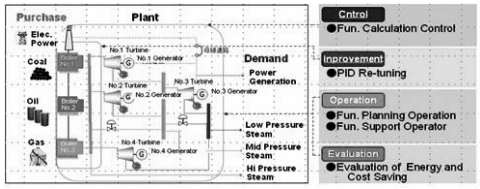
■ Use conditions

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
Industrial Automation Marketing HQ Green Factory Promotion Dept.
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5541 FAX 0422-52-8054
URL http://www.yokogawa.co.jp/eco/

Improving efficiency of equipment and facilities

Air Compressor Energy-saving System

Econo-Pilot-Comp
Yokogawa Electric Corporation

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

■ Usage/field

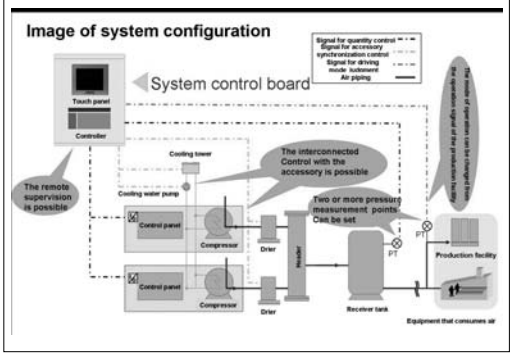
Energy-saving system to control plural air compressors

■ 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

Yokogawa Electric Corporation
Industrial Solution Business HQ VPS Innovation Div. Energy Consulting Dept.
2-9-32 Nakacho,Musashino-shi,Tokyo, Japan
TEL 0422-52-6396 FAX 0422-52-5738
URL http://www.yokogawa.co.jp/eco/

Improving efficiency of a production process

Core Application for MES

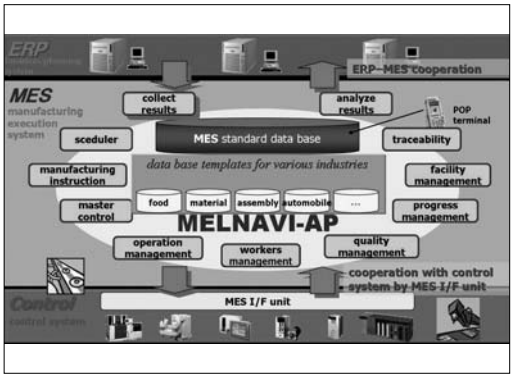
MELNAVI-AP
Mitsubishi Electric Information Systems Corporation

- 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

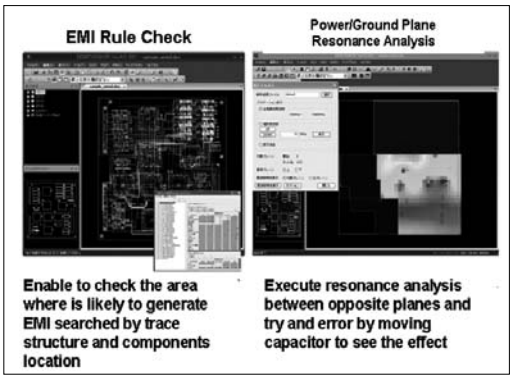
EMIStream
NEC Corporation

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, Windows 7
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

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Embedded System Solutions Division

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URL http://www.nec-nis.co.jp/emistream/

Improving efficiency of a production process

Instrumentation network modules

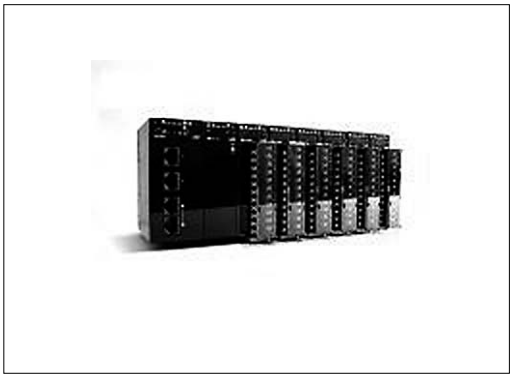
NX series
Yamatake Corporation

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 start-up 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 startup power between machines when they start at the same time. (patented control)

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/

Improving efficiency of a production process

Advanced process control solution

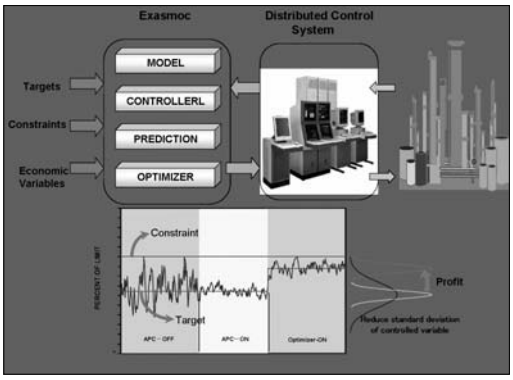
Exasmoc
Yokogawa Electric Corporation

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
VP Services Business HQ

2-9-32 Nakacho, Musashino-shi, Tokyo, Japan

TEL 0422-52-2141 FAX 0422-52-7048

URL http://www.yokogawa.com/

Improving efficiency of a production process

Laser gas analyzer measurement control solution

TDLS200
Yokogawa Electric Corporation

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

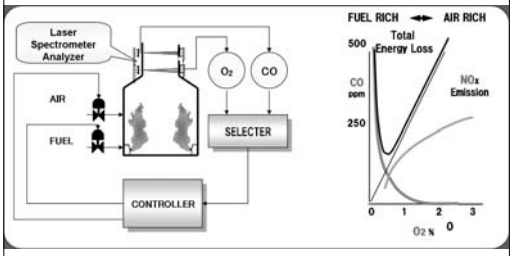
It is a solution to optimize the operation of furnaces by controlling combustion with measurement signals of the laser gas analyzer directly attached to the furnace.

■ Use conditions

Process pressure up to 1 Mpa Process temperature up to 1,500° Celsius

■ Features

1) The laser gas analyzer attached to the furnace directly measures concentration of Ox, CO, moisture, and NH_3 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 O_2 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 Products Business HQ
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 422-52-5617 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

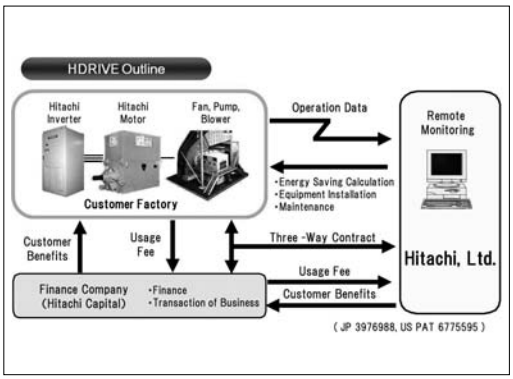
Installing energy saving equipment for utility facilities such as boiler fans, circulation pumps, etc. and we monitor the energy saving amounts.

■ 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., Industrial & Social Infrastructure Systems Company
Industrial Infrastructure Systems Div.
Electrical & Drive Systems Engineering Department
1-18-13 Sotokanda, Chiyoda-ku, Tokyo,101-8606
TEL +81-3- 4 5 6 4-1111
URL http://www.hitachi.com/

Fuel consumption improvement of a car

Precision Power Analyzer

WT3000
Yokogawa Meters & Instruments Corporation

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

Energy-Saving Operation of Elevator Group Control System

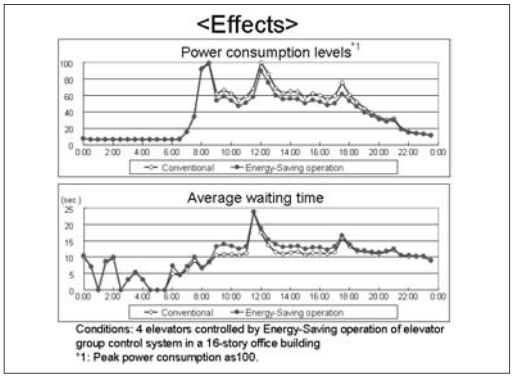
Sigma AI-2200C
Mitsubishi Electric Corporation

Energy-Saving Operation of Elevator Group Control System that can reduce elevator energy consumption and maintain passenger convenience

■ Usage/field
Elevator group control system for multiple elevators

■ Use conditions
Office building, Apartment

■ Features
This system selects the elevator in a group that best balances operational efficiency and energy consumption. Priority is given to operational efficiency during peak hours and energy efficiency during non-peak hours.
Car allocation that maximizes operational efficiency does not necessarily translate to energy efficiency. A car uses energy efficiently when it travels down with a heavy load, or up with a light load. Accordingly, if multiple cars have the same traveling distance, this system chooses the car that requires the least energy.



Conditions: 4 elevators controlled by Energy-Saving operation of elevator group control system in a 16-story office building
*1: Peak power consumption as100.

Energy-saving effect

Through a maximum 10% reduction in energy consumption compared to our conventional system for 4 elevators in a 16 story office building, this system allows building owners to cut energy costs without sacrificing passenger convenience.

Contact

Mitsubishi Electric Corporation
Building Systems Group
2-7-3, Marunouchi Chiyoda-ku Tokyo 100-8310, Japan
TEL ＋81-3-3218-3583 FAX +81-3-3218-2990
URL http://www.mitsubishi-elevator.com/

ITS

Traffic Information ASP Delivery Solution

ViewRoad
NTT DATA CORPORATION

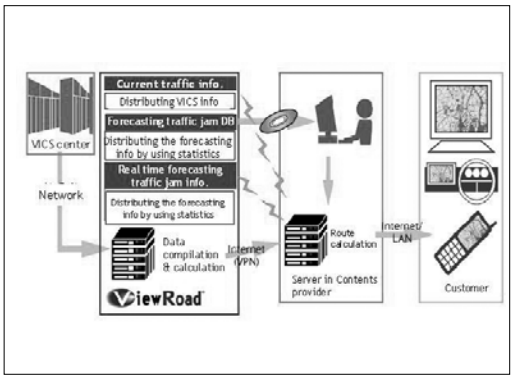
View Road" provides forecast traffic jam information by original methodology base on the current traffic information which VICS center delivers.

■ 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
Platform & Service Business Unit, Business Solutions Sector
Toyosu Center Bldg. Annex, 3-9 Toyosu 3-choume, Koto-ku, Tokyo 135-8677
TEL +81-50-5546-9940 FAX +81-3-5251-1031
E-mail viewroad@gis.bds.nttdata.co.jp
URL http://madore.glbs.jp/viewroad/index.html

Others(Transportation)

EV charging infrastructure solution

Hitachi, Ltd.,

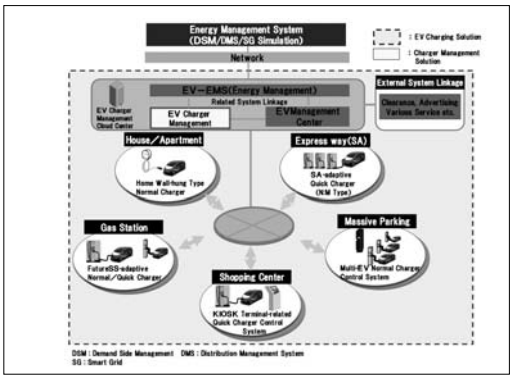
This solution support charge of EV toward next-generation smart cities.
Hitachi group can offer a range of chargers from home use chargers to hi-speed chargers which can charge several cars at a time and cloud type charging management system based on IT.

■ Usage/field

-Installation of charging infrastructure for EV (supply of various charger)
-Development of charging system for business such as attracting guests, accounting (supply of charging management system)

■ Features

-Hitachi offers a range of chargers such as home use chargers, hi-speed chargers which can charge several cars at a time. Hitachi also offers cloud type EV charging management service which retrofits IT service for business (authentication user function, accounting function, remote monitoring etc.)
-Hitachi accept formulation of extensive charging infrastructure from individual use such as standard home, cluster housing to business use such as commercial establishment, equipment on road. Hitachi can take important element of next-generation smart cities in cooperation with external system.



Energy-saving effect

EV which attracts attention as clean zero emission vehicles has short range of less than 200km under existing conditions. So installation of charging infrastructure is large proposition for spread. This solution forcefully supports efficient uses of clean energy in introduction of renewable energy (Photovoltaic power, Wind power) coordinating smart community and offer of charging availability information delivery service coordinating external service.
*EV : Electric Vehicle

Contact

Hitachi, Ltd., Information & Control Systems Company
Public & Industrial Information Systems Center
1-18-13 Sotokanda, Chiyoda-ku, Tokyo, 101-8608
TEL +81-3-4564-3135

BEMS

Energy Saving Solution for Business Offices

Canon IT Solutions Inc.

One-Stop Solution that provides energy saving functions with measurement, visualization and control electricity consumption of separate offices.

■ Usage/field

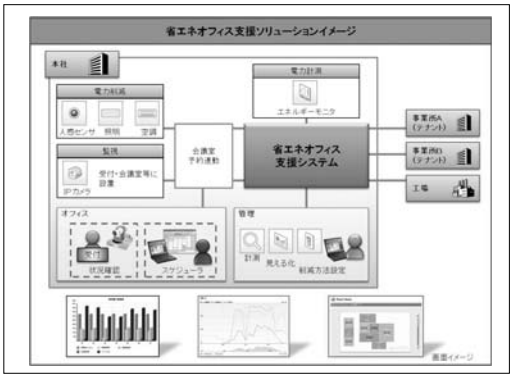
Offices and stores in need of energy saving system.
Companies that desire to manage electricity consumption of multiple offices.

■ Features

[STEP1]
Measure electricity consumption of offices at category-bases like lighting and air conditioner.

[STEP2]
Show the electricity consumption in graphic chart.
Indicate the waste of electricity consumption - time, place and item.

[STEP3]
Automatically control system, in conjunction with motion sensor and scheduler, for lighting and air conditioner provides effective and continual energy saving without human effort.



Energy-saving effect

Visualization of electricity consumption is effective for employees to awake the necessity Energy Saving.
Enable to establish "Energy Saving without active operation" with IT system like motion sensor and scheduler.

Contact

Canon IT Solutions Inc.
IT Infrastructure Solution Business Headquarters

3-11-28, Mita, Minato-ku, Tokyo, Japan
TEL +81-3-5730-7070 FAX +81-3-5730-7136
URL http://www.canon-its.co.jp/environment/enecon/

BEMS

Total Environmental Management Solution

DIALCS
Mitsubishi Electric Information Systems Corporation

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

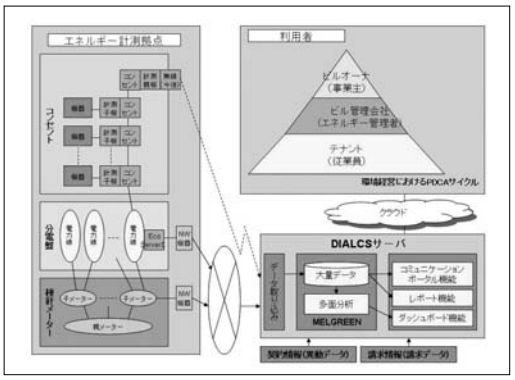
Energy-saving for building owners, for multi-branch/factory companies, and for companies required to report in accordance with the Energy Conservation Law.

■ 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 Marketing Department

MS Shibaura Bldg., 4-13-23, Shibaura, Minatoku, Tokyo, Japan

TEL 03-5445-5136 FAX 03-5445-7791

BEMS

Integrated print equipment management solution

WebSAM PrintCenter V
NEC Corporation

Support continuous improvement in your printing operation, such as the visualization of printing operation status, present status analysis, operation optimization, by automatically collecting and consolidating printing operation information of all office automation equipment(printer, multi function printer, etc.) in the network environment.

■ Usage/field

Improve your printing operation aimed at cost reduction and environmental measures, by integrated monitoring and visualizing operational status, and usage situation of all printing equipment in your company.

■ Use conditions

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

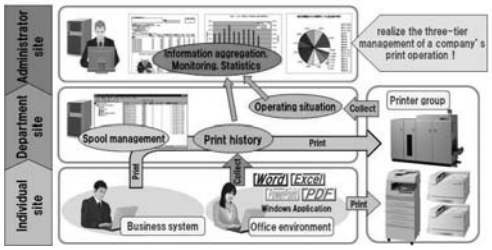
■ Features

[Visualize printer usage status]

- Automatically collect printing operation information, such as power consumption of printing equipment, consumables usage status to produce statistical report easily. Support information analysis for cost reduction, such as equipment relocation (remove redundant equipment, consolidate into multi function printer) and printing operation review, by monitoring in-company printer usage status.

[Distributed spool printing function]

- In case of high-volume office forms printing, WebSAM PrintCenter V can afford to print with less power the same amount as the existing high-speed printer, by distributing printing jobs to multiple office printers.
- Cut the delivery of forms by directly printing at remote offices.
- Reduce unnecessary printing by checking form images on the screen before printing.



Energy-saving effect

According to the calculation of annual CO_2 emissions from six environmental load factors (equipment use, paper use, logistics, goods use, goods storing, network use) related to printing operation, WebSAM PrintCenter V emits 11.6 tons of CO_2, while the existing printing system emits 23.3 tons of CO_2. Introducing PrintCenter reduces annual CO_2 emissions by 11.7 tons of CO_2, 50% reduction rate. PrintCenter is highly effective in reducing CO_2 emissions from paper use (4.4 tons of CO_2reduction) and logistics (12.4 tons of CO_2 reduction.)

Contact

NEC Corporation
Platform Sales Division
33-1, Shiba 5-chome, Minato-ku, Tokyo
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/PrintCenter_V/

BEMS

BEMS

Energy consolidating management solution

REMOTE ONE
NTT DATA Customer Service CORPORATION

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

■ Usage/field

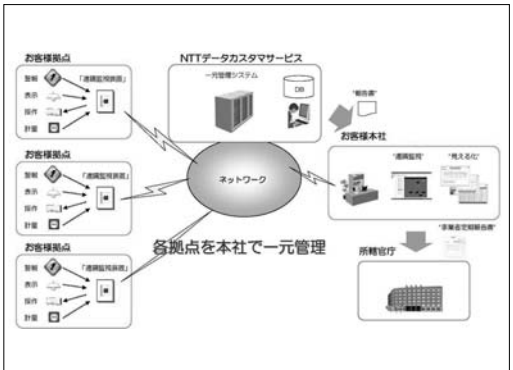
REMOTE ONE measures the amount of the energy use of facilities and equipment, and support making regular reports.

■ 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/

Energy Saving Management System

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

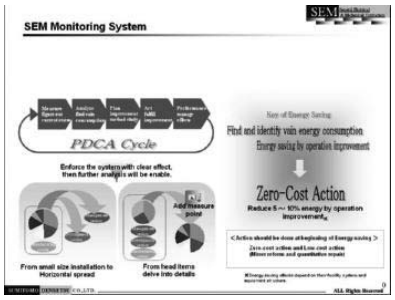
To quantify requirement, find tendency and indentify vain energy consumption, we will support to improve operation through energy saving IT technology.

■ 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.
Environmental Solutions Department
3-12-15 Mita, Minato-ku, Tokyo 108-8303
TEL +81-3-3454-7313
URL http://www.sem.co.jp/english/

Energy saving by BEMS (visualization of environment)

savic-net FX and FXBMS
Yamatake Corporation

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

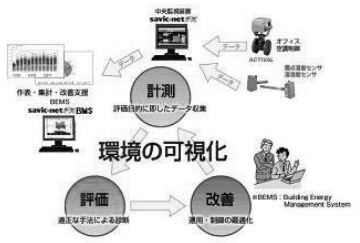
It helps to optimize working and living environment, and save energy consumption of whole building, in every types of building including offices,hospitals, shops, factories, and laboratories.

■ 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 techcenter, 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 fi scal 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, 4-12-1Higashi-Shinagawa, Shinagawa-ku, TOKYO
TEL 81-3-6810-1107
URL http://www.azbil.com

BEMS

Energy-saving System for Circulation Pumps

Econo-Pilot series
Yokogawa Electric Corporation

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

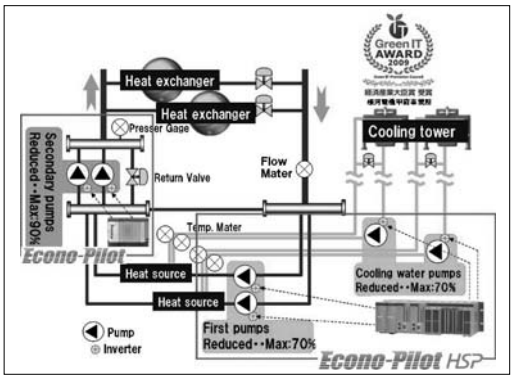
It is energy-saving system to control circulation pump and cooling water pump of air-conditioner and production facility.

■ 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 fl ow 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
Industrial Solution Business HQ VPS Innovation Div. Energy Consulting Dept.
2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 81-422-52-6396 FAX 81-422-52-5738
URL http://www.yokogawa.co.jp/eco/

Paperless office

Dematerialization of business transactions.

Reduction of paper across supply chain & associated transport.
Intel Corporation(by collaboration from DESC)

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

GOCE® - Global Mail Hosting Service

Nihon Unisys, Ltd.

Global mail hosting service GOCE® is a service in which we prepare and operate all resources required for an e-mail environment, including the e-mail system, equipment such as servers, network lines, facilities and contact point for inquiries. GOCE uses the Nihon Unisys cloud environment as the system infrastructure and provides a mail system that has high quality, high reliability and high availability. * GOCE:Global Office-work Communication Evolver

■ Usage/field

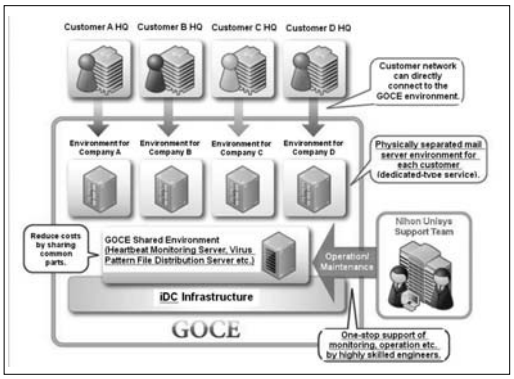
Integrated mail service for the enterprise.

■ 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

1. Direct Connection with the Corporate Intranet
   The customer's corporate intranet and mail hosting environment are directly connected without requiring network address translation. The service provides better network stability and security than other services provided over 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, who may use the service from Japan and from overseas, is clearly indicated. We can also cooperate on various audits. Compared with services from other providers who use offshore iDCs, customers will feel safe that the iDC is located in Japan.
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. Customers do not need to have the operation and maintenance resources they would need if providing the system by themselves, allowing resources to be allocated to more strategic areas.



Energy-saving effect

1.This service makes use of U-Cloud R IaaS which enables an estimated about 60% up reduction compared to a common iDC.
2.CO_2 emissions can be reduced by reducing the use of transportation.

Contact

Nihon Unisys,Ltd
ICT Serveces
1-1-1 Toyosu,Koto-ku Tokyo 135-8560 Japan
TEL +81-3-5546-4111
E-mail communication-box@ml.unisys.co.jp
URL http://www.unisys.co.jp/services/ict/goce.html

Report Superintendence System

Pandora-AX
NTT DATA BUSINESS BRAINS CORPORATION

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

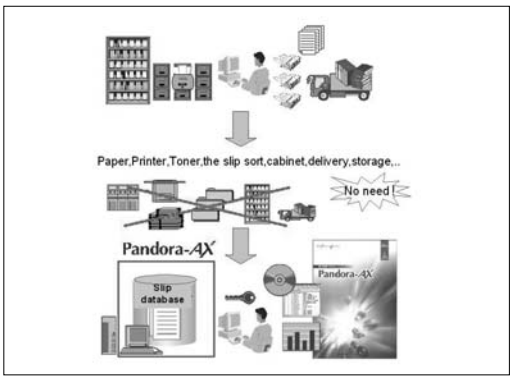
System that digitalizes slips output by computer without printing, and refers and retrieves on personal computers.

■ 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 Software Division, Business Solutions Sectorn
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E-mail package@nttd-bb.com
URL http://www.nttd-bb.com/product/pandora/index.html

Improving efficiency with IT

Reduction of energy use in the office through Awareness and Management
Intel Corporation(by collaboration from DESC)

Office Energy Use

It is possible to save energy in the offi ce 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 profi le 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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TEL -408- 765-8080 -US

URL http://www.intel.com

Improving efficiency with IT

Reduce paper consumption through sustainability printing technology
Intel Corporation(by collaboration from DESC)

Sustainable printing solutions

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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URL http://www.intel.com

Improving efficiency with IT

Microsoft Unified Communications

Microsoft Unified Communications
Microsoft Co.,Ltd.(by collaboration from DESC)

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

Microsoft Co.,Ltd.
(by collaboration from DESC)
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E-mail mtakeha@microsoft.com
URL http://www.microsoft.com/en/us/default.aspx

Improving efficiency with IT

Data Collection, Operation and Analysis Support Software

SLIMOFFICE/SLIMOFFICE EX
FUJITSU LIMITED

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 2008 (SP2) + IIS7.5
Client: Microsoft Windows XP,Vista,7

■ 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 fi tted 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
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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

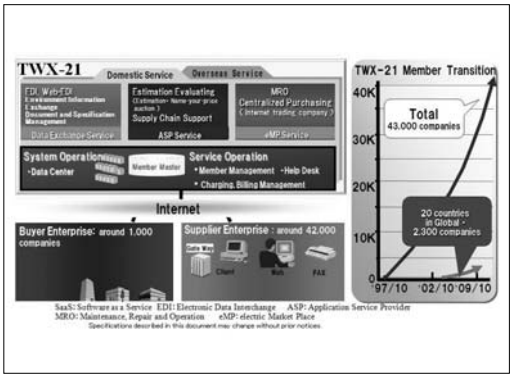
SaaS Multi-Enterprise EC
Hitachi, Ltd.,

TWX-21 is a SaaS type Business Media Services for the Enterprises and Trading Partners. Its services of Web-EDI, Environment, and Central Purchasing Management for MRO are used by 43,000 companies over 20 countries.
SaaS:Software as a Service MRO:Maintenance,Repair and Operations

■ 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

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.

Contact

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

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URL http://www.twx-21.hitachi.ne.jp/

Improving efficiency with IT

Green Management Solution

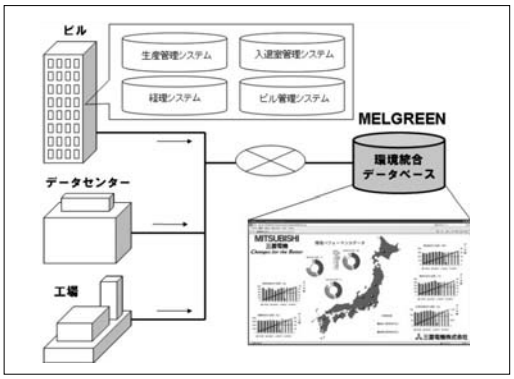
MELGREEN
Mitsubishi Electric Information Technology Corporation

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 environmentrelated 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

Demand Monitoring System

The Denryokuban for Web
Mitsubishi Electric Business Systems CO., LTD.

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

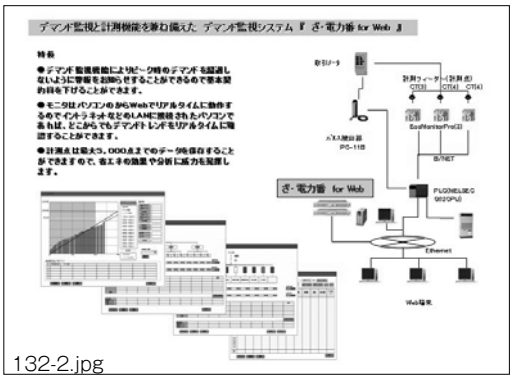
A Web system that enables real-time monitoring of the electricity demand of the customer who signs the electricity contract for a high receiving voltage (6.6kV), and allows setting of target demand, demand estimate, and analysis for each transformer and department.

■ Use conditions

Client (Web terminal): Microsoft Windows 2000 Pro, XP, Vista or 7
Server: Microsoft Windows Server 2008
Line: 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.



132-2.jpg

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

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Improving efficiency with IT

Energy Saving Office Service

EnePal PC Pack
NEC Corporation

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
IT Platform Solution Division
5-7-1 Shiba, Minato-ku, Tokyo, Japan
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URL http://www.nec.co.jp/ad/enepal/

Authentication Printing System

Authentication Printing System with [u:ma]-G card reader
NTT DATA CORPORATION

"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

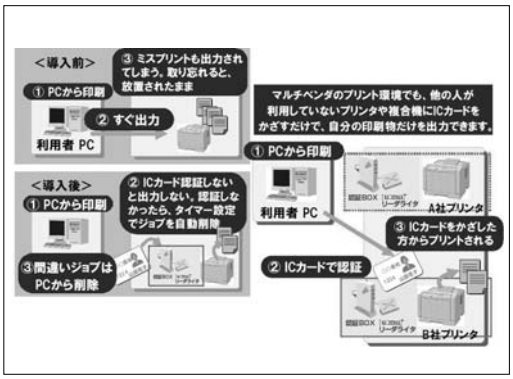
Reduction of unnecessary printing by compulsory authentication through IC cards.

■ 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

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URL http://www.nttdata.co.jp/release/2009/051300.html

Improving efficiency with IT

The front solution of personnel business

WiMS
Solution & Technology Ltd.

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

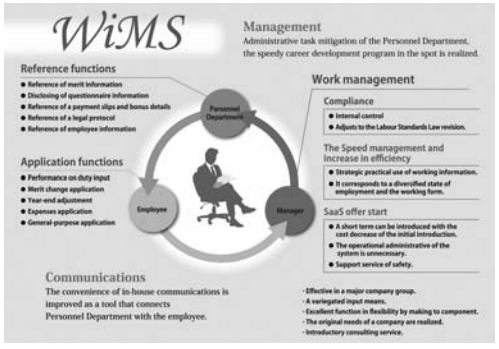
Front desk service personnel system, work management, filing applications, employee evaluation, and management skills

■ 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 15,760kgCO2/year was obtained by workforce optimization during 1,966kgCO2/year for A company introduction case (12,000 peoples including fi ve 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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URL http://www.solty.com

Improving efficiency with IT

Carbon Management System

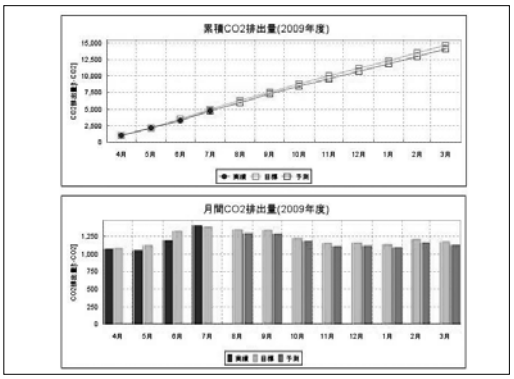
CO_2 Management System
Yamatake Corporation

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

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Building Systems Company

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TEL 81-3-6810-1107
URL http://www.azbil.com/

Improving efficiency with IT

Distributed Control System (DCS) solution

CENTUM VP
Yokogawa Electric Corporation

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 install this DCS.

■ 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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IA System Business HQ Process Automation PMK Dept.

2-9-32 Nakacho, Musashino-shi, Tokyo, Japan
TEL 0422-52-5586 FAX 0422-52-9802
URL http://www.yokogawa.com/

Telework / TV / web meeting

Cisco Virtual Office (CVO)

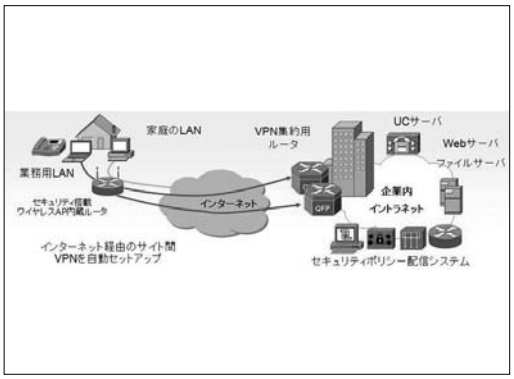
ISR G2, CCE, CS-Manager
Cisco Systems G.K. (by collaboration from DESC)

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

Midtown Tower 9-7-1, Akasaka, Minato-ku,Tokyo 107-6227

TEL 0120-092-255

URL http://www.cisco.com

Telework / TV / web meeting

Telepresence

Cisco TelePresence
Cisco Systems G.K. (by collaboration from DESC)

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

Cisco Systems G.K.
(by collaboration from DESC)
Cisco Contact Center

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URL http://www.cisco.com

Telework / TV / web meeting

Video Conferencing

Room based high defi nition - Tier based
Intel Corporation(by collaboration from DESC)

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

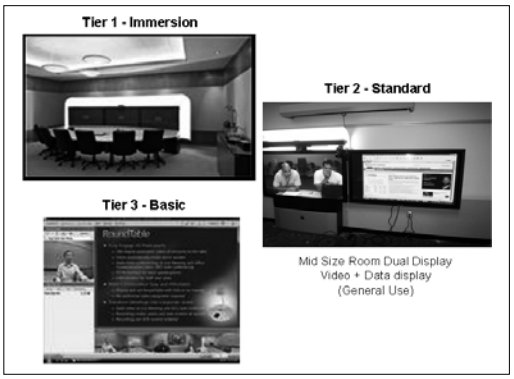
By using a multi-tiered video strategy of immersed, standard and basic, we are able to offer a virtual meeting system with integrated audio, video team collaboration and presentation that supports positive meeting behavior changes, quicker decision making and productivity that all supports a reduction 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

Hitachi Visual Communication

Wooolive
Hitachi, Ltd.,

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-shi244-8567, Japan

TEL +81-45-881-1221 FAX +81-45-865-7130

Telework / TV / web meeting

Video Conference System

MIND Video Conference Solution
Mitsubishi Electric Information Network Corporation

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

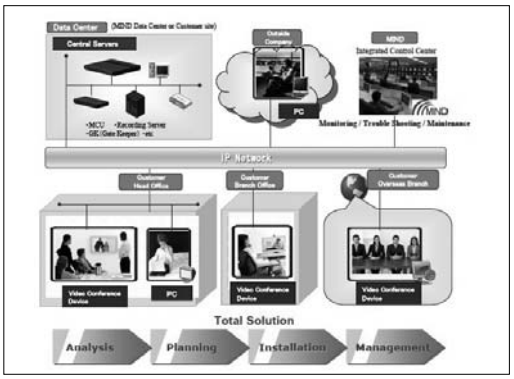
To deploy video conference system, we provide a total solutionincluding planning, installation, management and maintenance.

■ Use conditions

Depending on the system specifi cations.

■ 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 effi ciency by reducing travel time.

Contact

Mitsubishi Electric Information Network Corporation
Sales Planning Division
ZENITAKA ANNEX 1-4-4 Kojimachi, Chiyodaku, 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

PowerWorkPlace® Online UC Service

Nihon Unisys, Ltd.

PowerWorkPlace® Online UC Service is a service provided by Nihon Unisys which provides Microsoft Lync™ Server* functionality, previously implemented and used as internal systems, as software-as-a-service (SaaS).
* Main Features of Microsoft® Lync™ Server:
Presence/Instant Messaging/One-to-one Voice and Video/File Transmission/Audio and Video Conferencing/Web Conferencing

■ Usage/field

Customers can rapidly provide a quick and sure communication environment to their employees. This results in better work efficiency which can lead to quicker decision making, strengthening the company's competitiveness.
If employees can not go to the office due to unexpected disaster or pandemic, they can use the service at home to enable business communication similar to the office.

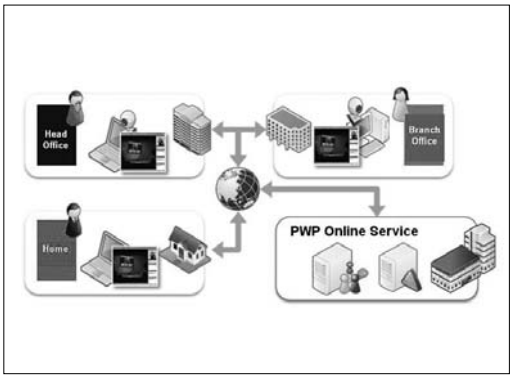
■ Use conditions

Client
Lync 2010
Client System Requirements
Microsoft® Windows® XP(SP3)/ Windows Vista® (SP2)/ Windows® 7 installed PCs

■ Features

The features of PowerWorkPlace® Online UC Service are as follows:
All users can immediately start using PowerWorkPlace® Online UC Service which has superior usability and Office integration. Completely centralized communication helps reduce costs while interconnectivity and expandability enable quick deployment and migration.
The service supports the following customer issues:
1.Reduce Telephone Related Costs
- Want to do something about having users with low phone usage
- Feel insecure about future of internal PHS (Personal Handy-phone System) and want to replace with another system
- Want to consider the form of use of a fixed phone and mobile phones.

2. Achieve a Highly Productive Communication Environment
- Want to improve ease of use when outside the office by using mobile phones
- Want to achieve a system that is not stand-alone but rather integrates with the PC environment
- Want to reduce travel costs by using remote conferencing
- Want to promote new ways of working such as working from home and free address



Energy-saving effect

1.This service makes use of U-Cloud R IaaS which enables an estimated 60% up 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 +81 3 5546-4111
E-mail communication-box@ml.unisys.co.jp
URL http://pwp.unisys.co.jp/

Remote medical care / Electronic karte

Outpatient guide dissolution

FUJITSU LIMITED

We have used electronic paper that can maintain its display without electric power and our unique star-shaped radio network technology to create the world's first electronic card holder, NAVIT. This solution gives detailed information to individual out-patients at check-in, calls them when the doctor can see them, and gives payment information.

■ Usage/field

Solution which provides guidance to hospital outpatients at every stage of their visit: beginning at check-in, and at the examination, medication, and payment stages.

■ Features

- It is equipped with colored electronic paper which can maintain a display without electric power.
- Newly developed star type radio network technology FBStar™ permits simultaneous transmission to many terminals.
  (Can transmit to 840 units/minute; more than twice as many as our competitors' systems.)
- Zero electric power is used to maintain its display (electric power is used only during rewriting (4 to 5 minutes each time)).
  (Consumes approximately 1/10 as much power as systems from other companies, by using wireless LAN or PHS and charging once a week.)
- Links electronic chart system and patent guidance system.
  (Reception is completed just by inserting a patient's registration card in NAVIT®. As the examination continues, all guidance information required by each patient can be transmitted without delay.)

Energy-saving effect

Trial calculations of energy reduction effectiveness
[Case 1] Example of proposal to general hospital (average number of outpatients of 1,800/day, examination hours/year of 2,000 hours)
- Conventional system: 105 display devices (LCD), 10 return reception machines, 1 server: annual electric power consumption of 31,140kWh
- Newly proposed system: 1,800 NAVIT units, 17 NAVI Ports, 2 servers: annual electric power consumption of 2,346kWh (down 29,000kWh, or 96%)

[Case 2] Average model hospital (average number of outpatients: 180/day, annual hours of examinations: 2,300 hours)
- Conventional system: 35 display devices (LCD), 3 return reception machines, 1 server: annual electric power consumption of 12,397kWh
- Newly proposed system: 180 NAVIT units, 17 NAVI Ports, 2 servers: annual electric power consumption of 1,665kWh (down 10,700kWh, or 87%)

Contact

FUJITSU LIMITED
Shiodome City Center 1-5-2 Higashi-Shimbashi
Minato-ku, Tokyo

Remote medical care / Electronic karte

Receipt examination support system

Dr.Receipt & Dr.Kaikei
NTT DATA CORPORATION

Dr.Receipt automates the process of checking the medical bill called "Receipt" and improves efficiency and accuracy of billing process.

■ Usage/field

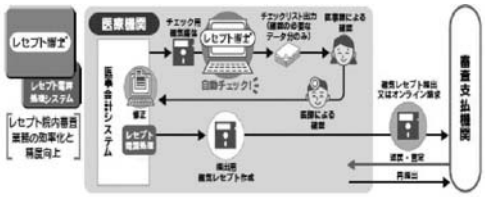
Dr.Receipt automates the process of checking the medical bill called "Receipt" and improve efficiency and accuracy of billing process.

■ Use conditions

WindowsVista/XP, Office2003/2007

■ 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.

When estimating around during one month in 926 hospitals, There is an effect of 374.3t-carbon/month(about 73%) reduction.

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

Koufuri-Kun
NTT DATA BILLING SERVICE CORPORATION

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

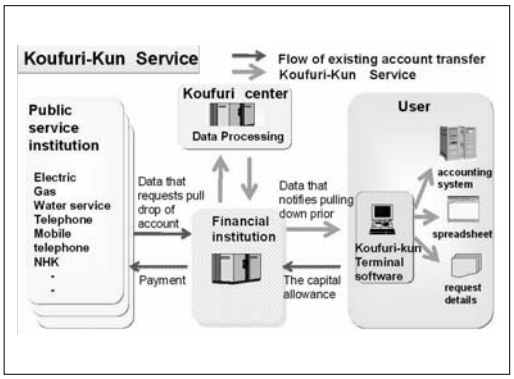
Supporting service to achieve great reduction, and rationalization of the payment work of the utility charges from business partners and public authorities every month.

■ 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/

e-learning

e-Learning Service

Cultiiva Global
NEC Corporation

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

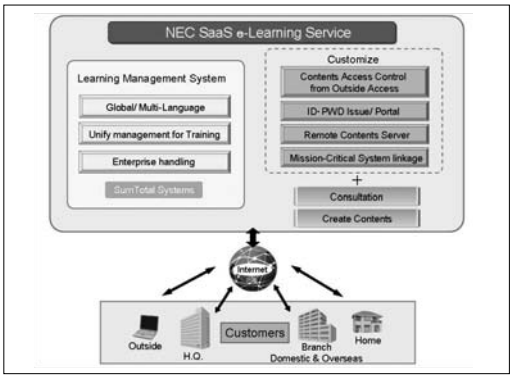
This solution can be used for Total Human Resource Management such as internal training (e-Learning and ILT(Instructor Led Training)) management, certification and skill management.
This also can be used for compliance thoroughness and products promotion as well.

■ 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 certifi caiton 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.
*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, Kawasakicity, 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

Remote control

Middleware that Reduces Power Consumption of PC's

Systemwalker Desktop Patrol V14g
FUJITSU LIMITED

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.
- It allows administrators (management servers) to set collectively "peak shift" setting of each PC.
- Reports are created for administrators with the amounts of powerconsumption and reduction, and "peak sift" setting status.

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 FAX
URL http://www.fujitsu.com/global/services/software/systemwalker/

Remote control

Database search system via Web-browsers

SimpWright
NEC Software Hokkaido, Ltd.

It provides a user-friendly tool to operators with flexibility of database searching and updating through Web browsers.

■ Usage/field

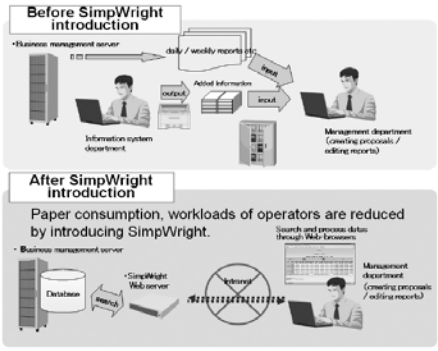
Database search system via Web-browsers

■ Use conditions

Server Operating System: Microsoft Windows Server® 2003, Microsoft Windows Server 2008, Red Hat® Linux, Turbolinux®, MIRACLE LINUX®, HP-UXR®, 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 System

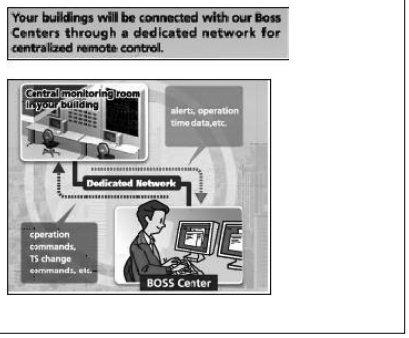
BOSS-24
Yamatake Corporation

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, realtime 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.humidity



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 CO2 per building.

Contact

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

Others(Business)

Next generation manufacturing environment, Engineering Cloud.

FUJITSU LIMITED

We offer the Engineering Cloud, a next-generation manufacturing environment which offers a software group including CAD and PDM to support manufacturing, as cloud services.

■ Usage/field
Support for manufacturing by our customers in the manufacturing industries

■ Use conditions
planned to begin service in the second half of FY2011

■ Features
・Engineering Cloud/SaaS
Fujitsu now offers applications such as CAD, PDM (Product Data Management), which it has offered in the past, as Saas. Fujitsu also offers new value services such as new cooperation styles or work styles, including design reviews at remote locations and home office work.
・Engineering Cloud/PaaS
As PaaS, we offer a high-speed thin client environment to support next generation manufacturing. This allows a customer to execute its own applications optimized for its own work either on the Fujitsu cloud infrastructure or on its own premises.

Energy-saving effect

Example of in-house practice using similar systems (for your reference)
The effectiveness of the following were measured based on evaluations of their operation by 200 people.
a. Power-saving by IT equipment
・Before introduction: 6,647kWh/month (200 engineering work stations)
・After introduction: 4,875kWh/month (Thin client PCs + cloud side server)
・Reduction effectiveness: 1,772kWh/month
b. Reducing data communication volume
・Before introduction: 1,280GB/month (Transmitting/receiving design data)
・After introduction: 740GB /month (Screen transmission)
・Reduction effectiveness: 540GB/month → 3,478kWh/month
(Converted to reduction of 6.44kWh/month by reducing communications volume by network equipment by 1GB month)

Contact

FUJITSU LIMITED
GREEN FRONTIER DEPT
Shiodome City Center 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo
TEL +81-120-933-200

Others(Business)

Outlet with Power measurement function

Xechno TAP
NTT DATA INTELLILINK CORPORATION

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, Solution 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

Others(Business)

Auto CO_2 Management

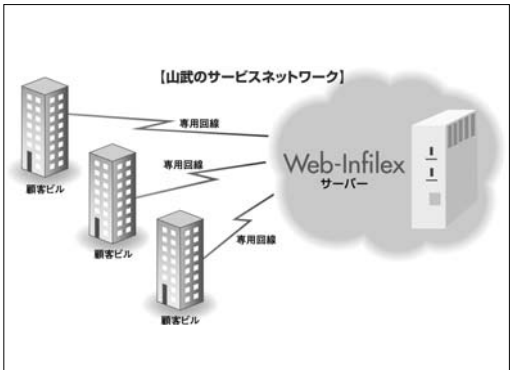
Web-Infilex
Yamatake Corporation

This is a remote control system/service via Internet for energy/CO_2 saving in building operations. Once setting goals of annual energy consumption (Crude oil or CO_2 conversion), the system automatically manages the consumption by changing indoor temperature setting or turning off equipment periodically.

■ Usage/field
Remote control service via Internet to reduce CO_2 consumption.

■ Use conditions
Applied to any building where Yamatake's Building Management Systems (savic-netEV or FX series) is installed.

■ Features
It is easy to start the service by connecting existing Building Management Systems to Yamatake's dedicated network.
This service is ASP/SaaS type of service, therefore client can enjoys the service by annual fee basis without initial investment.
The service keep to achieve energy saving by the latest algorithm since it is ASP/SaaS type of service.



Energy-saving effect

In a research center, temperature fluctuation control achieved 20% CO_2 reduction, and the combination with rotation control delivered 50% CO_2 reduction at the maximum.
In a complex building, which has office space, swimming pool, and hall, the CO_2 saving target is 10% reduction.

Contact

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

Others(Business)

Mitsubishi High Efficient ice storage unit

MKHV-P-AE seriese
Mitsubishi Electric Corporation

Highly effective ice thermal storage unit that achieves "Leveling the electricity consumption", "Cutting down runnning cost", and "Reducing CO_2 emission".
It's easy 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.

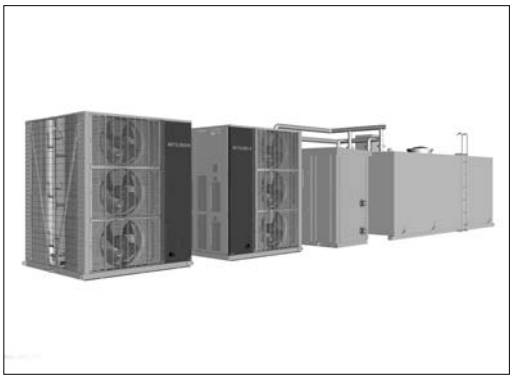
■ Use conditions

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: total12,000m2
(2) Usage: offi ce
(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, Nishisonogigun, 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/

HEMS

Store Energy Control Solution

DIAMIECS
Mitsubishi Electric Information Systems Corporation

For such as retail chains or business groups,
this solution enables the supervisor section in the headquarters to control the illumination or the air-conditioning of branches automatically based on the power supply schedules.

■ Usage/field

Effective for energy saving for the retail chains, business groups, etc.

■ Use conditions

Windows2003 Server, Windows2008 Server, Windows XP, Windows7

■ Features

- Automated power control based on daily schedules
- Centralized operation for configuring and monitoring the distributed stores. Troubles of equipments will be reported automatically and quickly via email.
- Cooperation with other store systems such as table reservation system or OES.
- Cooperation with environmental sensors such as temperature, humidity, light and motion.

Energy-saving effect

(1) Power-saving by strict observance of the code via automated schedules and rules:
This solution enforces closing time, prevents from leaving the signboard on in vain, and shutdowns kitchen instruments at specified time to achieve planned power-saving.
(2) Balancing of Power-saving and Human comfort:
For example, you can coordinate air-conditioner by cooperating other store systems to make temperature comfortable several minutes before the guests who made the reservation come.

Contact

Mitsubishi Electric Information Systems Corporation
Distribution & Network Systems Marketing Department
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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.

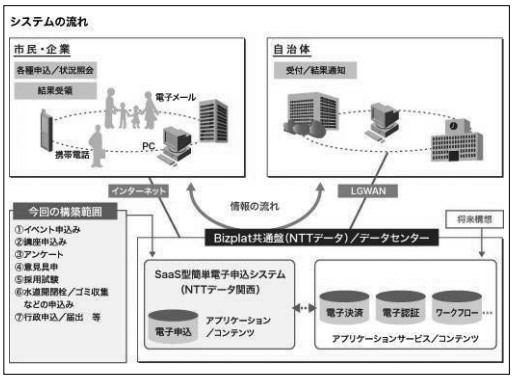
■ Use conditions

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

- When this system is introduced in a municipality, reduction of CO_2 is expected about 553kg-CO_2/year (40.6%).
- When this system is introduced in a prefecture, reduction of CO_2 is expected about 7.2t-CO_2/year (49.9%).
- Reduction of about 442t-CO_2/year compared to the system of non-SaaS type.(At the time of 2011/1)

Contact

NTT DATA KANSAI CORPORATION
PLANNING AND GENERAL AFFAIR DEPARTMENT(PUBLIC RELATIONS)
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URL http://www.nttdata-kansai.co.jp/service/apply/

Others(Home)

'Kikubari'
Yamatake Corporation

Central air-conditioning system in renovetion

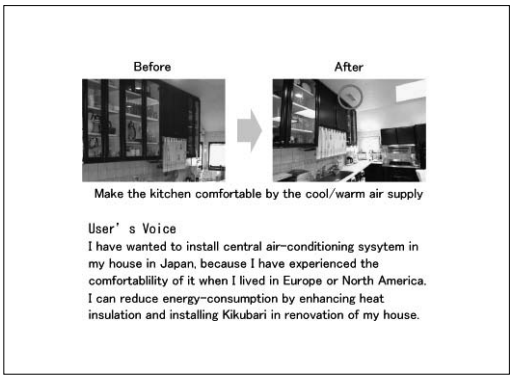
We can install central air-conditioning sysytem 'Kikubari' in renovating your house, although it is mainly installed in new construction because of some difficulties in installing systems. Our over 3500 experience of Kikubari installing makes us overcome the difficiulies in installing 'Kikubari' in renovating 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 confi dent 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.azbil.com/products/bi/kikubari-e/

FlowDesigner

General-Purpose Heat and Fluid Analysis Package

Mitsubishi Electric Information Network Corporation

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

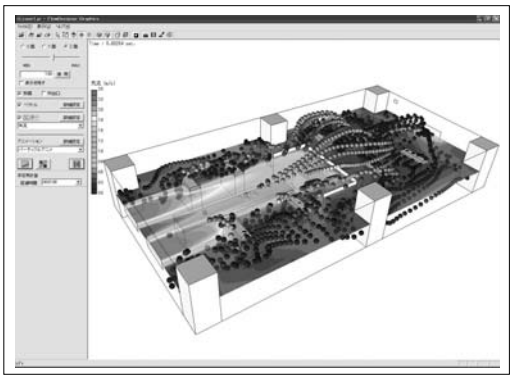
Used with a PC running on Windows XP, Windows VISTA, Windows 7(CPU: 2GHz or more and RAM: 2GB or more recommended)

■ 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 fl uids 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 2010, it will be evolved into the more advanced FlowDesigner 8 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

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URL http://www.mind.co.jp/service/application/package/fluid.html

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Activities Scheduled For 2011

October 4th~8th

Green IT Awards 2011

Awards will be presented to highlight products, technologies and initiatives making an outstanding contribution in the areas of energy-saving in IT and energy-saving through IT.

Chiba, Makuhari Messe

October 4th~8th

Green IT Pavilion 2011

We introduce the latest green IT-related information about the award-winning companies and green-IT promotion council activities.

Chiba, Makuhari Messe

October 6th~7th

Green IT Symposium 2011

At this symposium, presentations will be given by government representatives and relevant domestic and foreign associations and companies, etc., on a range of green IT initiatives and activities in Japan and offshore.

Chiba, Makuhari Messe

April.2011~March.2012(Plan)

Energy-Saving survey in Asia

Energy-saving survey and proposals, etc., will be made in a number of Asian countries, followed by seminars reporting on results, helping to introduce Japan's leading-edge technologies into Asia and promoting energy-saving there.

Asian countries

October 27th~28th

Asia Green IT Forum 2011 in Korea

This is an international conference which will gather government and industrial association representatives from Asia to further promote and disseminate green IT.Participants will exchange views, building a common understanding on the importance of IT in combating global warming.

Korea

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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