TOKYO No.5 DATA CENTER

An advanced, large-scale Data Center in the heart of the business district

Global ICT Partner
Innovative. Reliable. Seamless.

NTT Communications

Disaster Prevention

Disaster-resistant Data Center

NTT Communications offers Data Centers that support social infrastructures.

Multifaceted design takes into consideration a wide range of disaster risks.

■ Flooding risks
Securely located about 5 km from Tokyo Bay and about 2 km from Sumida River, far removed from the effects of tsunamis or river overflow. Even in the unlikely event of flooding in the area around the building, the customers' devices, power facilities, and communication facilities are located on the third floor or higher, safe from any potential water damage.

■ Earthquake risks
No active faults have been discovered in the vicinity of the building, which rests on a firm foundation with no risk of liquefaction.

■ Aircraft risks
There are no regular airline routes in the vicinity of the building, so there is minimal risk from airline accidents.

Secure, earthquake-proof buildings ("Seismic isolation" structure) that can withstand earthquakes even on the scale of the Great East Japan Earthquake (2011) and the Kobe Earthquake (1995)
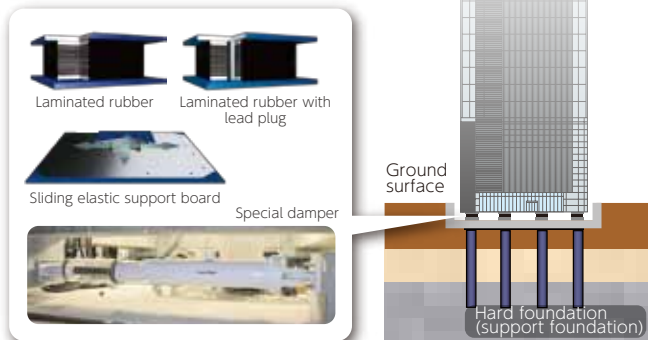
■ Positioned on a Firm Foundation
Piles are driven more than 20m into a firm foundation with about twice the strength* of foundations normally required for high-rise buildings.
*Foundation strength: N value 60 or more, based on standard penetration tests.

■ Seismic isolation structure
Four types of seismic isolation devices reduce seismic impact on the building by up to 2/3, to prevent malfunctions in ICT devices.

Laminated rubber
Laminated rubber with lead plug
Sliding elastic support board
Special damper
Ground surface
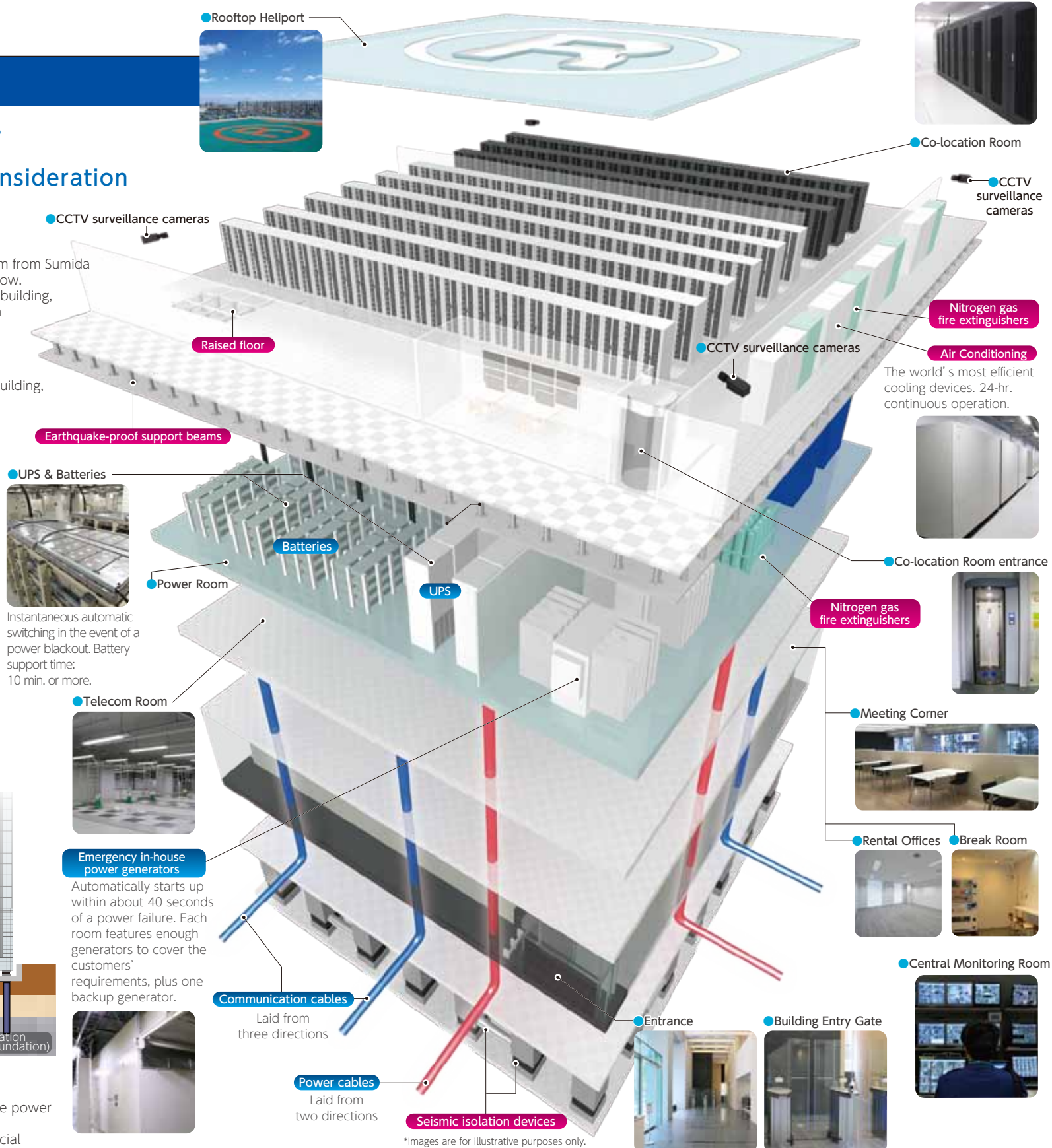Hard foundation (support foundation)

■ Electric power supply
· UPS (uninterrupted power supply) with emergency in-house power generator.
· Electric power remains uninterrupted even when commercial power supply from electric power companies fails.
· With ample fuel stores and priory contracts with fuel supply companies, power supply can be ensured over a long period of time.

■ Stable Communications
Communication cables are laid from three directions via underground conduits with telecommunications carrier specs that minimize disaster risk.
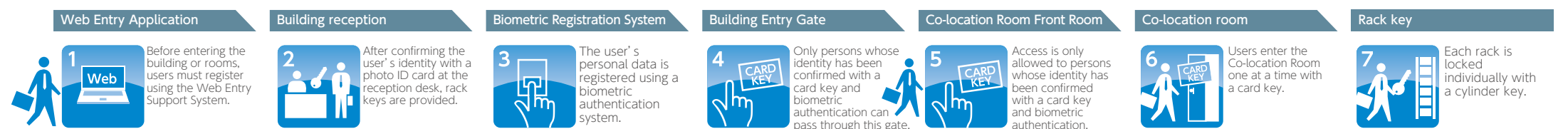
■ Emergency response
A heliport located on the building's roof can be used for rescue operations or to transport supplies in an emergency.

Center diagram labels

Rooftop Heliport
Co-location Room
CCTV surveillance cameras
CCTV surveillance cameras
CCTV surveillance cameras
Raised floor
Nitrogen gas fire extinguishers
Air Conditioning
The world's most efficient cooling devices. 24-hr. continuous operation.
Earthquake-proof support beams
UPS & Batteries
Batteries
UPS
Power Room
Co-location Room entrance
Nitrogen gas fire extinguishers
Instantaneous automatic switching in the event of a power blackout. Battery support time: 10 min. or more.
Telecom Room
Meeting Corner
Emergency in-house power generators
Automatically starts up within about 40 seconds of a power failure. Each room features enough generators to cover the customers' requirements, plus one backup generator.
Rental Offices
Break Room
Communication cables
Laid from three directions
Central Monitoring Room
Power cables
Laid from two directions
Entrance
Building Entry Gate
Seismic isolation devices
*Images are for illustrative purposes only.

Location

Ideal Location

About 10 minutes by car from Tokyo Station. Ideal location within walking distance of several train stations.

Can be accessed in less than 1 hour from both Narita and Haneda Airports.

Ikebukuro Sta.
Ueno Sta.
Shinjuku Sta.
Tokyo Sta.
Shibuya Sta.
Shinagawa Sta.
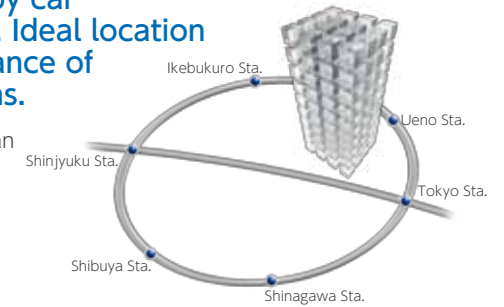
Green ICT

The most advanced environmental performance

Achieves "Green ICT," with the most advanced environmental functions in Japan

High energy efficiency electric power facilities and increased A/C efficiency reduce overall power consumption. "Green ICT" actively incorporates natural energy.

*Power consumption volume for entire Data Center / Power consumption volume for ICT equipment (calculations based on assumed values)

Power Usage Effectiveness (PUE): 1.45 or less
The Most Advanced Data Center in Japan

Pre-cast Concrete
A/C power reduced by thick building materials that minimize external heat load

Greenery Walls & Exterior Planting
Reduces outer wall temperature and prevents "heat island" effects

Outdoor Unit Water Spray
Rain water is gathered and sprayed on outdoor A/C devices to increase A/C efficiency

Solar Power Generator
Renewable energy is used for indoor lighting

High Voltage Direct Current Feed
Minimizes supply power conversion losses to reduce power consumption

Cutting-edge A/C equipment for ICT devices
The latest high-efficiency air conditioners increase energy conservation effects

Energy-efficient lighting
Energy-efficient LED and HF inverter lighting

Reduces energy consumption by up to 35%.

Air flow management
With advanced air flow management, cool air is blown through the floor to the front of the racks, and exhaust heat from devices is sent back to the A/C via a ceiling slit. This prevents heat from circulating around the room, and reduces energy consumption by up to 35%.

Air conditioner
Raised floor panel
ICT device storage racks

Security (WESS=Web Entry Support System)

Before entering the Data Center, users are required to submit an application using an original Web Entry Support System (WESS).
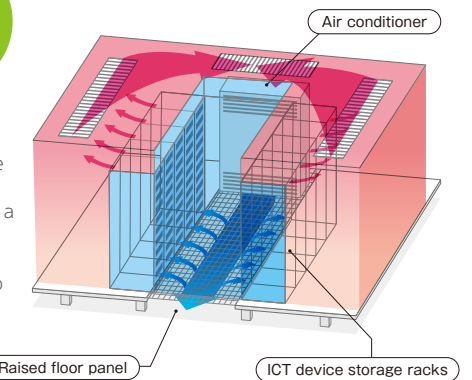
1 Web Entry Application	2 Building reception	3 Biometric Registration System	4 Building Entry Gate	5 Co-location Room Front Room	6 Co-location room	7 Rack key
Before entering the building or rooms, users must register using the Web Entry Support System.	After confirming the user's identity with a photo ID card at the reception desk, rack keys are provided.	The user's personal data is registered using a biometric authentication system.	Only persons whose identity has been confirmed with a card key and biometric authentication can pass through this gate.	Access is only allowed to persons whose identity has been confirmed with a card key and biometric authentication.	Users enter the Co-location Room one at a time with a card key.	Each rack is locked individually with a cylinder key.

High performance specs (Tier Ⅲ or higher)

Building

Construction completed:	March 2011
Ground Area:	2,203.86 m² (23,722 ft²)
Building area:	975.56m²
Floor space:	13,227.09m² (142,375 ft²)
Main building:	16 stories; Penthouse: 2 stories
Structure:	Reinforced Concrete (precast concrete), Seismic isolation structure
Floor Load	1,000 kg/m² (205 lb/ft²)
Raised Floor;	600 mm (2.0 ft)
Elevators:	(W) 1,800 mm × (D) 2,300 mm × (H) 2,900 mm; Capacity: up to 4,000 kg
Ground level:	T.P. + approx. 6.3 m
Building/room access:	Facilities can be accessed 24 hrs./day Prior registration required via Web Entry Support System After confirmation of user's identity, card key and rack keys are provided

Facilities

Power reception	Active and stand-by system
	Power reception voltage: 66,000 V
	Regular annual inspections (No need to interrupt system operations)
Emergency in-house generators: Gas turbine engines	24-hr. operation without refueling
	Startup tests conducted each month
UPS:	N+1 Parallel redundant configuration
Battery support time:	10 minutes
By power supply type	Single phase 100 V / Single phase 200 V / Three phase 200 V
	Compatible with High Voltage Direct Current (HVDC) Feed
Cooling	Air-cooled 24 hrs./day
Room temperature / humidity (target values):	Standard: 22°C ± 5°C / 40% ±2 0%
Fire-prevention facilities	Nitrogen gas fire extinguishers
	Ultra high-sensitivity smoke detectors
Security	IC card + Biometric Authentication
	CCTV surveillance
	Racks locked individually with cylinder key
Networks	Multi-carriers complied Connections to the Metropolitan District Multi Data Center

Customer Portal

NTT Communications offers a dedicated customer portal site that allows users to monitor and check a variety of information via the Internet 24 hrs./day.

Main functions

- View information on facilities currentry in use
- View electrical current values
- View building access logs
- View remote hand operation records
- Download information files

Roll out Business Continuity Plans (BCP) through the Metropolitan District Multi Data Center

Implement Business Continuity Plans (BCP)

- Connect to Metropolitan District Multi Data Centers via a high speed, high capacity network, creating a "network mesh"
- Distributing ICT assets by connecting to regional Data Centers and overseas Data Centers
- Implement BCP measures in case of disaster by distributing servers and other equipment
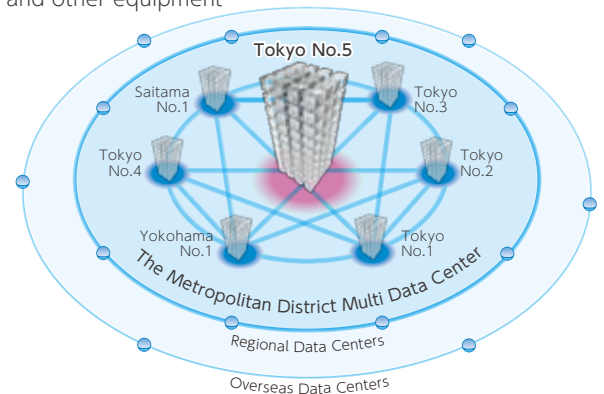
Extensive Service Menu

Service Categories
In addition to basic services, we offer a variety of optional services and customized services.

Co-location Services	Basic Services	19 inch cabinet racks, in conformance with EIA standards
		Power supply: 100 V 20 A breaker supply
		Security: Rack keys, CCTV surveillance cameras
		Room access management: biometric authentication or IC card key required for room access
		Air Conditioning
		Primary maintenance: device lamp confirmation, Power off/on, reset button operation
	Optional Services	Enhanced power supply: Choose from AC single phase 100 V 10 A, 20 A, or 30 A / AC single phase 200 V 15 A, 20 A, or 30 A
		Redundant power configuration: Choose redundant breaker, redundant power distribution unit, or redundant UPS
		Stand-by power supply: Choose from AC single phase 100 V 20 A or 30 A / AC single phase 200 V 15 A, 20 A, or 30 A
		Other power options: earth; additional power outlets in racks; changes to power outlets, etc.
		Rack options: Additional shelves and blank panels; change of rack keys; racks supplied by customer, etc.
		Connectivity: Optic fiber cable; UTP cable; Metal cable
		Remote hands: Reboot operations; cable replacement; regular checks of device lamp; backup tape replacement; command input, etc.
		Witnessed operations
	Customized Services	Cage enclosure
		Other features as requested, including power supply, connectivity, and operations
Managed Services	Server Operation Services	We offer high-quality server management for customer systems installed at the Data Center We set quality targets, and provide optimum operation and maintenance in conformance with ITIL standards.
	Security Operation Services	Specialized security engineers provide advanced operation monitoring for security devices. We also offer anti-virus measures and vulnerability diagnosis services.

NTT Communications Corporation
http://www.ntt.com

○ The information contained herein is current as of May 2011
○ Details of services described are subject to change without notice. Please check at the time of application.
○ Names of companies and products are trademarks or registered trademarks of the respective companies.

(2011.5)