Internap Japan Tokyo Data center

April, 2015

Internap Japan

■ About Internap Japan

Internap Japan has been providing high performance, low latency IP transit solutions for enterprise since 2001.Driven by our patented routing technology MIRO, and supported by a team of world class bilingual engineers 24x7, our mission is to ensure that our customers achieve the highest performance possible when using us to support their online businesses.

Company Name	Internap Japan Co.,ltd.
Headquarters	7th Floor Kanda Kaji-cho Chitose Bldg., 3-3-12 Kanda Kaji-cho, Chiyoda-ku, Tokyo 101-0045 Japan
Capital	526,000,000Yen
Shareholders	Internap Network Services Corporation 51% NTT-ME Corporation 40% Nippon Telegraph and Telephone Corporation 9%
Foundation	April 10, 2001
Contacts	+81-3-5209-2222 (Telephone) +81-3-5209-2221 (Fax)
Location of Osaka office	COSMIC Bldg. No.30., 2-2-4 Uchihiranomachi, Chuo-ku, Osaka 540-0037 Japan
Official Homepage	http://www.internap.co.jp
CEO	Masaki Okuno

INTERNAP JAPAN™

Internap Japan Tokyo Data center
A key component of Internap's Information Delivery Platform

Building	
Location	Shiohama, Koto-ku, Tokyo
Total Floor Area	22,000 ㎡
Stories	8 stories above grade, ,1 story below grade （5 floors of server room space）
Structure	Aseismatic （RC ＆Reinforced structure） Various natural hazard preventions (foundation improvement, liquefaction countermeasures, quakeproof enhancements etc.)
Purpose	Exclusively for corporate Data Center
Facilities	
Power	66kV extra-high tension power source（2 loop circuits）,UPS（Redundant）,Generator （N+1,Preferred refueling contracts）
A/C	CRAC （N+1, Water cooling）, Cooling capacity of 750～850W/㎡
Fire Extinction	Ultra high-sensitive smoke detectors （VESDA）,Temperature sensors, Inergen gas fire extinction etc.
Security	Security & monitoring（24×7）, entrance administration (ID card, password, fingerprint authentication）,Security cameras etc.
Server Space	
Rack space	10,800 ㎡ approx.
Number of racks	3,700 racks approx.
Slab height	3,800～4,200 mm
Double under floor height	500 mm
Floor loading	Raised floor 500 kg/ ㎡ （when using cradle 1,500/㎡）
Power capacity	Average 750～850 W/㎡, Maximum 1.5～1.7 kW/㎡
Staging room	Available（Different area from server rooms, advanced reservation is required. ）

Appearance

FISC compliance
Tokyo Data center complies with FISC requirements. Many financial firms are our customers.

ISMS（ISO27001）standard compliance
Data center obtain ISMS certification for domestic and international services.

IS 87997/ISO（JIS Q)27001

SSAE16 Type-Ⅱ report recognition
Data center has recognition of internal control reports and reports on the maintenance and operation status of internal control for the physical security and facility environment administration of TDC1 and TDC2

Global Standard Reliability

- **Reliability and Safety of International Standards**
- Meeting the mission-critical needs of the financial industry

- **High Quality Services**
- Adopting state-of-the-art technology
- Experienced and skilled engineers
- 24 x 365 bilingual support

- **One-stop and Integrated Service Offering**
- Integration of communication and data center services
- Full suite of data center services
- Direct connection Internap's Internet backbone

- **Internal Control**
- "SSAE16 Type II report" recognition

- **Information Security**
- ISMS "ISO(JIS Q) 27001" standards compliance

SSAE16
Type II Audit Complete

IS 87997 / ISO (JIS Q) 27001

Internap Tokyo Data center Design Philosophy

Internap Tokyo Data center was specifically designed to meet the demanding needs of the financial services industry in terms of resilience and security

Convenience
- Close physical proximity to all major Japanese exchanges
- Located in city center
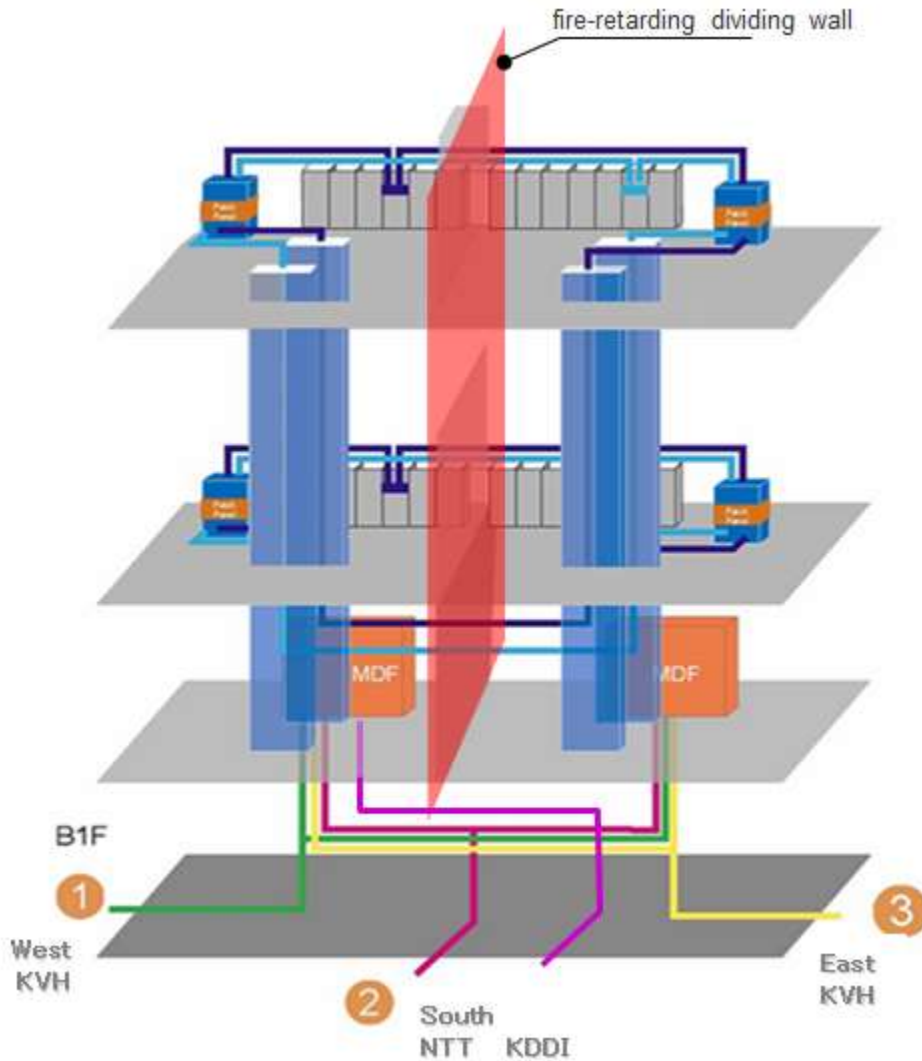- Flexibility to choose from a variety of carriers

Reliable and Secure
- Redundant 2(N+1) power
- High level of security

Regulations
- ISMS/ISO27001
- SSAE16 Type 2
- FISC

DC In-Building Cabling

- Carrier Neutral Facility – In addition to Internap, KVH, NTT East and KDDI deliver telecom services from this building

- Four risers are located in two separate fire protected zones on each floor. Primary and secondary cables are installed through different risers on each floor

- Two MDF rooms are located in two different fire separated zones

- Each Main Fiber is connected to MDF rooms and fiber is brought into the building through four access points

Purpose-Build DC with Redundancy

Power
- Closed loop for diverse power feeds (active-active)
- Variable power supply can be offered (N, N+1, 2N, 2(N+1), NN)
- UPS; double string batteries, 10 minutes at full load
- Gas turbine generators in an N+1 configuration

Cooling
- Server rooms are equipped with N+1 Computer Room Air Conditioning (CRAC) units, each with dual refrigeration compressors for accurate cooling capacity over the entire raised floor. The total cooling capacity may exceed 850W/m²
- Temperature setting is 22 ± 2°C, Humidity setting is 45 ± 5%
- The building is cooled with fully looped condenser water cooling systems. The cooling towers are mounted on the roof
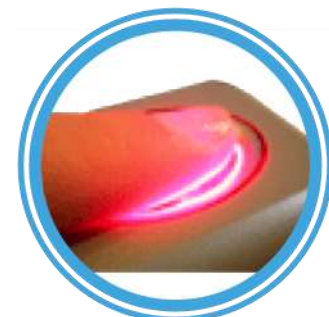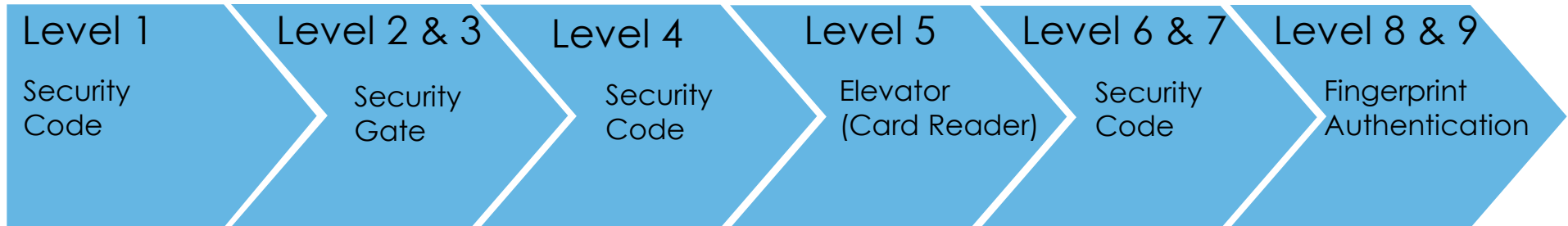- All facilities are designed with N+1 redundancy

Fuel
- Minimum of 48 hours without refueling. Another 24 hours is possible by guaranteed refueling within 48 hours. (continuously refueling)
- Preferred refueling contracts with suppliers

Security

Integrated security monitoring system with multi-layered authentication, verification and surveillance to limit access to authorized personnel

- Data retrieved from biometric and password systems is integrated with the video surveillance system
- Security personnel on-site 24x7x365, continuously monitoring security systems
- 9-level security system – additional security options possible (8 check points on 7th floor)

Level 1	Level 2 & 3	Level 4	Level 5	Level 6 & 7	Level 8 & 9
Security Code	Security Gate	Security Code	Elevator (Card Reader)	Security Code	Fingerprint Authentication

Certifications

Compliance with recognized international standards is a central part of our operational and security procedures.

Data centers conform to the following major regulations:

- **ISMS**
  Data center owner operates in accordance to the Information Security Management System (referred to as "ISMS"), with having attained ISO 27001 security standard compliance (ISO/IEC 27001:2005/JIS Q 27001:2006).
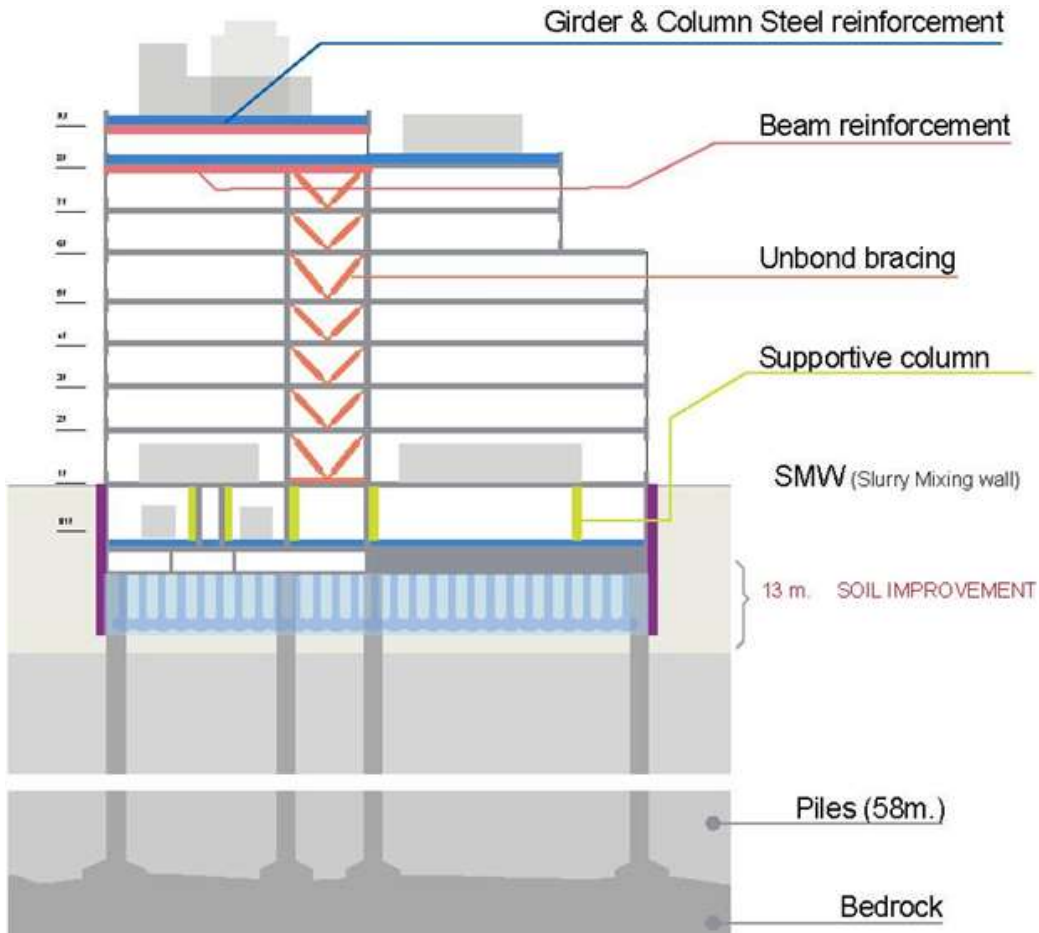
- **SSAE16**
  Data center has received the Statement on Standards for Attestation Engagements No.16 (SSAE16 Type II), developed by the American Institute of Certified Public Accountants (AICPA), for its physical security and environmental control of co-location and/or wholesale services delivered .

- **FISC**
  Data centers is compliant with Japan FISC (Financial Industry Information Systems) guidelines.
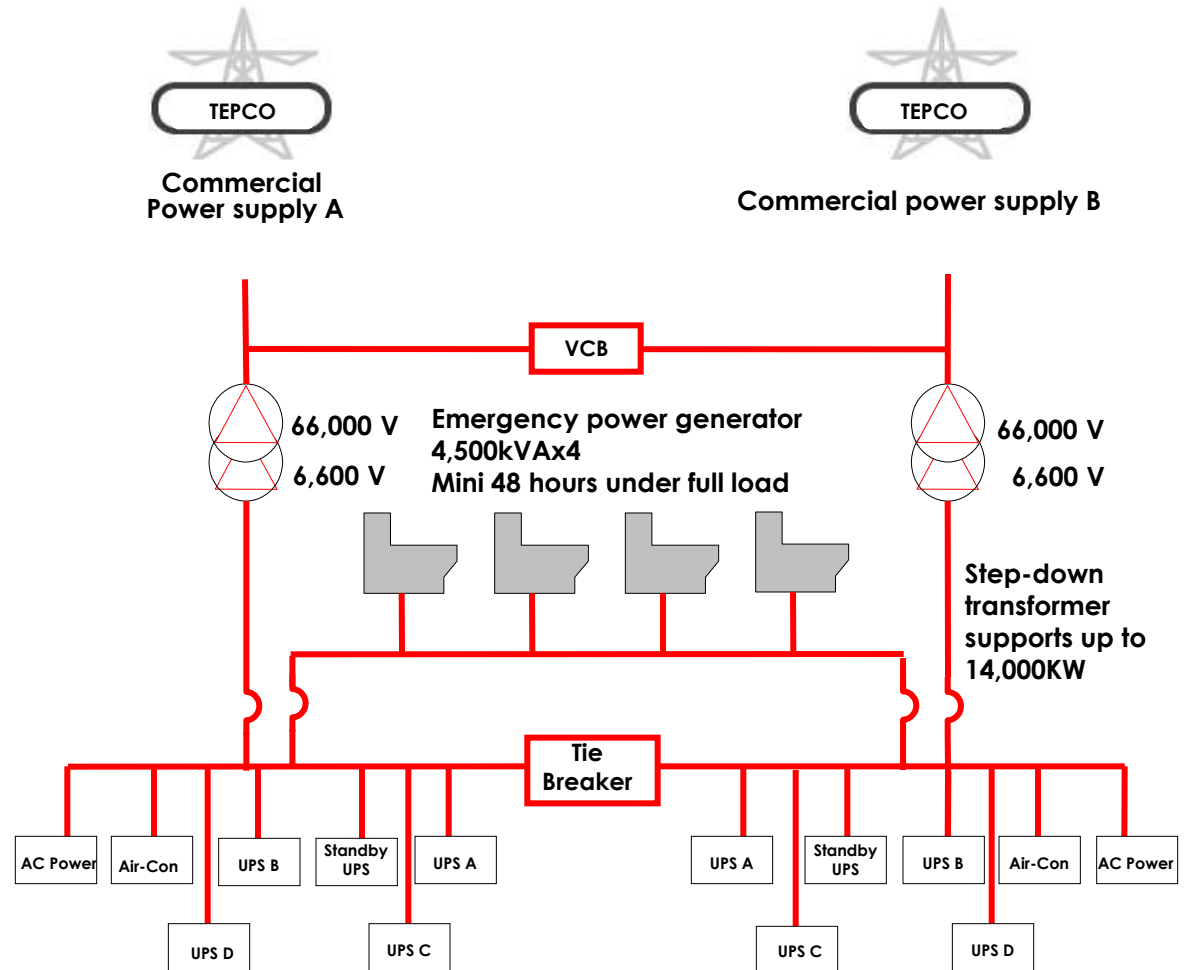
Appendix

Anti-Seismic Structure

Girder & Column Steel reinforcement

Beam reinforcement

Unbond bracing

Supportive column

SMW (Slurry Mixing wall)

13 m.   SOIL IMPROVEMENT

Piles (58m.)

Bedrock

- **Soil improvement, anti-liquefaction**
  As an anti-liquefaction measure, 130 piles with a diameter of 2.5 meters were drilled 13 meters deep into soil layers. According to this anti-liquefaction treatment, the seismic resistant performance of the building has been significantly upgraded to withstand the most powerful earthquakes.

- **Structural reinforcement**
  Unbonded bracing was installed to further improve the seismic performance of the moment resisting frame structure and to increase the seismic load capacity.
  To support the mission-critical facility's heavy infrastructure, supportive columns, beams, and slab reinforcement were carried out on the roof, terraces and lower parts of the building.

Power Facilities

- **Receiving systems**
  Two 66kV Closed Loop Receiving Systems from TEPCO.

- **Average power capacity**
  2F, 3F and 7F
  Average power capacity: 750w/m²
  Max power: 1,500w/m²
  4F and 5F
  Average power capacity: 850w/m²
  Max power: 1,700w/m²

- **Scalability**
  By expanding PDU and RPP board, it is possible to increase power capacity by 25%.

- **UPS**
  10 minutes under full load

- **Power generator**
  Power supplied under full load for minimum 72 hours.
  For minimum 48 hours without refueling.
  Another 24 hours is possible by guaranteed refueling within 48 hours.
  (continuously more refueling)

TEPCO

Commercial Power supply A

TEPCO

Commercial power supply B

VCB

66,000 V

6,600 V

Emergency power generator 4,500kVAx4 Mini 48 hours under full load

66,000 V

6,600 V

Step-down transformer supports up to 14,000KW

Tie Breaker

AC Power | Air-Con | UPS B | Standby UPS | UPS A | UPS A | Standby UPS | UPS B | Air-Con | AC Power

UPS D | UPS C | UPS C | UPS D

Air Conditioning System

- **Air cooling system**
  The building is cooled with fully looped condenser water cooling systems. The cooling towers are mounted on the roof.

- **Water leak measure**
  Water leak sensors are installed on pipes and CRACs, and each CRAC has watertight edges and drains installed at the front.

- **Redundancy**
  All facilities are designed with N+1 redundancy. The fully looped condenser water piping system on the roof provides dual path water feeds to the computer room air-conditioners.

- **Scalability**
  Vertical condenser water distribution allows for fast and easy installation of additional CRAC units for additional cooling needs and rapid build-out of raised floor areas.
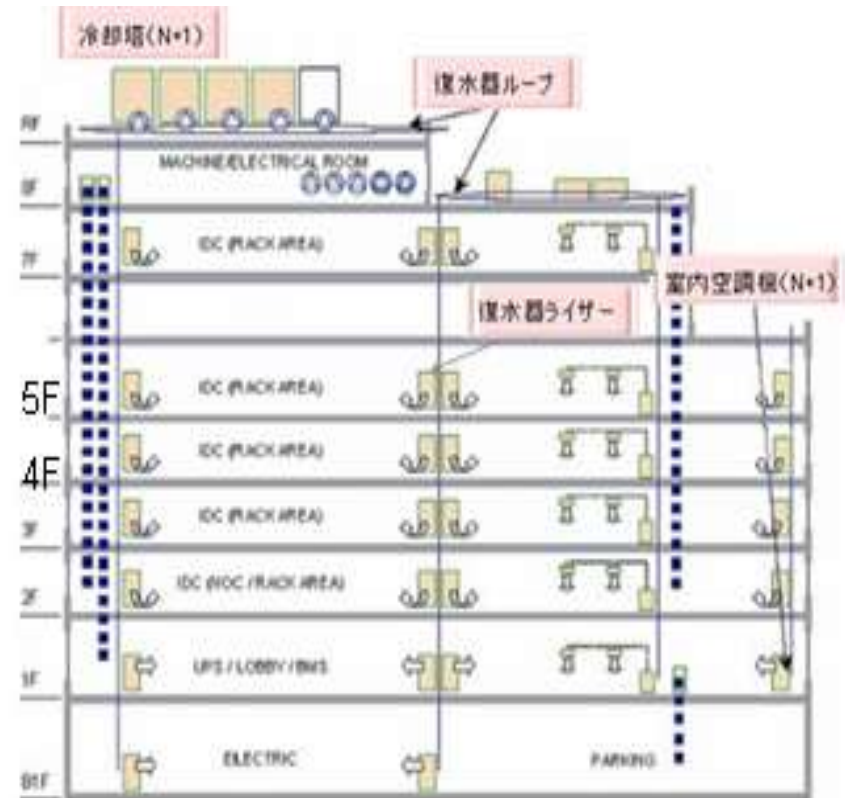
Generator Fuel System
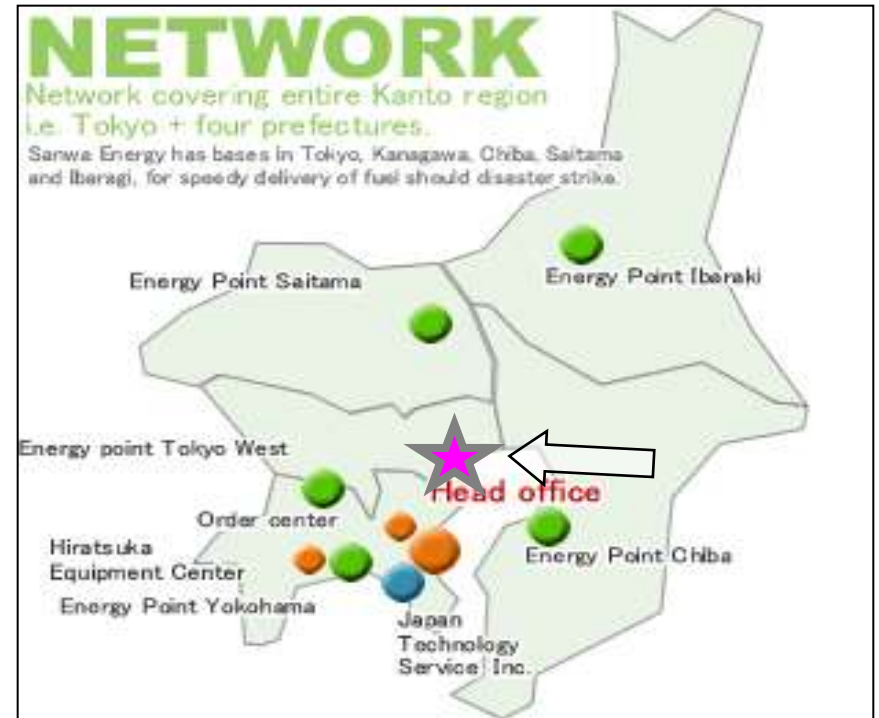
Fuel type
- Special Grade A Oil

Maintenance schedule
- Monthly start-up test (no load)
- Annual load test
- Weekly visual inspection
- Annual maintenance

### Continuous fuel supply monitoring system
- When the generators start-up at an unscheduled time, a signal is automatically sent to the fuel supplier to replenish the fuel tanks

Fuel Supply Network

Fire Prevention

To detect a fire at a very early stage, ultra high-sensitive smoke detectors (VESDA), smoke detectors and temperature sensors are used to activate the fire extinguishing facilities in 3 phases.
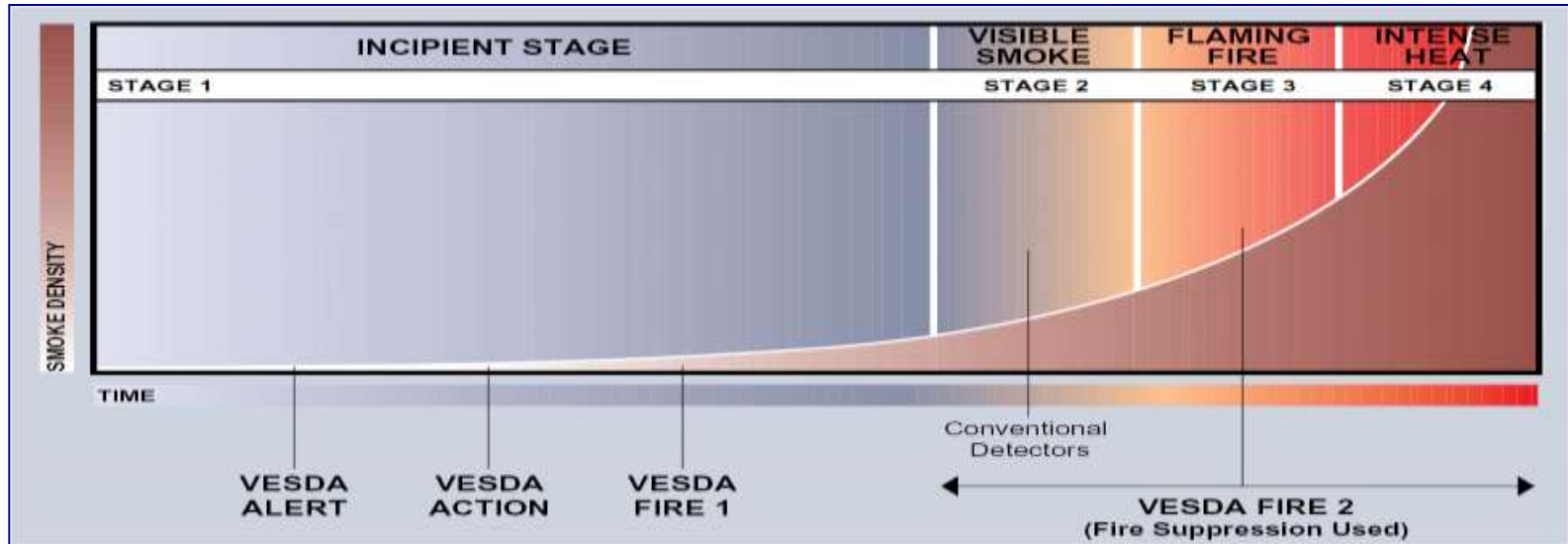
|	Phase 1	Phase 2	Phase 3
Sensor	VESDA (Very Early Smoke Detection Apparatus)	Smoke detectors	Temperature sensor
Suppression method	Portable CO_2 based fire extinguisher	INERGEN 541 (N_2, Ar, CO_2)	Pre-action sprinkler

Server Room

Server Room

Internap Tokyo Data Center 1 offers various colocation menus from 1 rack unit to the entire server room space. Customers can operate their system within the same space without needing to divide it.

Staging Room
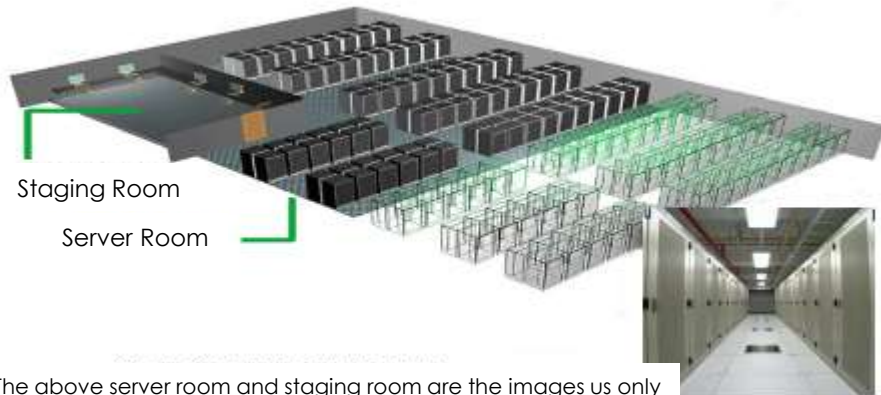
Server Room

※The above server room and staging room are the images us only

Multipurpose Staging Room

Multipurpose staging rooms are available for Data Center Users . The staging rooms where customers unpack and set up their devices are provided with security measurements. The staging rooms always have tables, chairs, internet connectivity and telephones.
* Advanced reservations are required to use the staging rooms

Staging Room	Floor	Area
Room 504	5F	22 m²
Room 503	5F	18 m²
Room 502	5F	14 m²
Room 501	5F	11 m²
Room 3F	3F	32 m²

Floor Design

- **Floor**

  Room height   3,300mm (2F/3F/4F/7F)

  3,700mm (5F)

  The room on 5F is 400mm higher than that of the other floors. Therefore, the height and cooling efficiency is superior and more equipment can be housed on 5F than on other floors.

  Floor height 500mm

- **Free Access (double floor)**

  Anti-seismic double floor with 4 points fixed to prevent panels from falling out during an earthquake.

  Withstand load design   500kg/m²
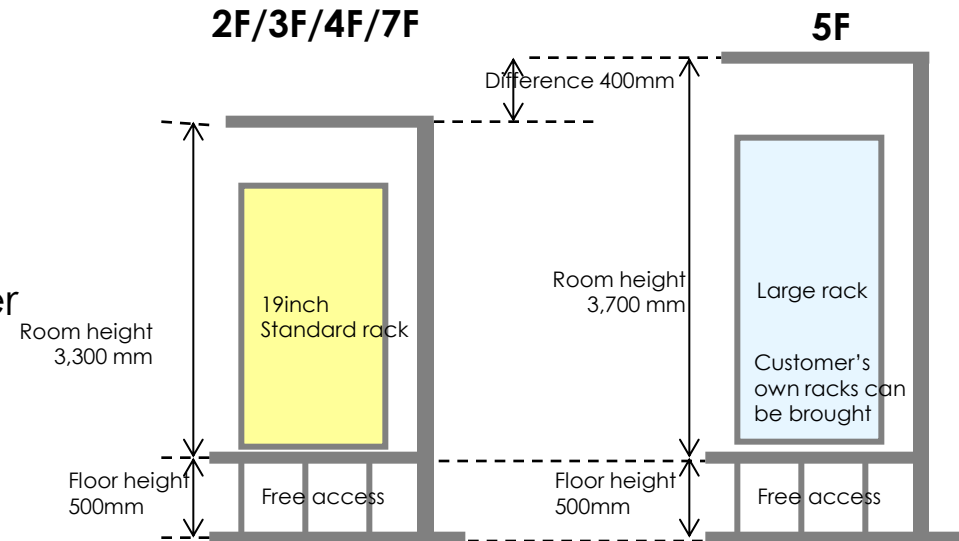
  Horizontal load bearing   1.0G (jointed)

  Vertical load bearing   1.0G

  Whisker countermeasure implemented (galvanized) (7F)

2F/3F/4F/7F

5F

Difference 400mm

Room height 3,300 mm

19inch Standard rack

Room height 3,700 mm

Large rack

Customer's own racks can be brought

Floor height 500mm

Free access

Floor height 500mm

Free access

Whisker countermeasure

Standard Rack for 4F, 5F, 7F

Standard 19 inch rack of EIA standards is available to use as 1 full rack or half rack unit. In order to meet customer's requests for 24 x 365 nonstop use, power supply systems to the racks and UPS provided for each power supply are available. Standard racks on 7F are part of 6 shot fan models that have a high rate of exhaust heat, depending on the location.

Specifications		19 inch full rack		19inch half rack
Size		19 inch rack		
External size W×D×H（unit：mm）		4F: 600×1000×2000	4F/7F: 700×1000×2000	700x1000x1000
		5F: 600×1000×2200	5F: 700×1000×2200	
Mount frame standard		EIA standard		
Effective mount unit number		4F/7F: 42U / 5F: 46U		20U
Seismetic Adeqnacy		Paas the test for Kobe earthquake wave 800gal （3Axis Simultaneous Vibration　300kg load capacity）		
Power System		1 or 2 systems		
Outlet bar				
	100V20A	20 ports（outlet bar）		4 port OA tap (standard) Up to 6 ports (outlet bar)
	100V30A	18 ports (outlet bar)		6 ports (standard) (outlet bar)
	200V20A,30A,50A	Under floor box transfer		
Power cable		Introduced from the open/close to the free access floor		
Plug form		NEMA L6-20、L6-30　others		
Front/back panel		Punching metal		
Key		Handle key (4 digits pass code) + key rock		
Fan		Fanless ceiling		
Others		Remote hands　（5 times/month）		Remote hands（3 times/month）
Rack mount load		Static load 500kg	Static load 500kg	Static load 250kg
Demarcation		Communication port/OA tap	Communication port/OA tap	Communication port/OA tap

- Remote hands is the primary maintenance work and includes lump visual check, power on/off etc. based on the customer's operation manual.
- Contact with our sales representatives regarding the delivery of customer's racks.
- Cage service to surround customer's space with a cage for security is available.

Standard Rack for 2F, 3F, 7F

Standard 19 inch rack of EIA standards is available to use as 1 full rack or half rack unit. In order to meet customer's requests for 24 x 365 nonstop use, power supply system to the racks and UPS provided for each power supply are available.
※Standard racks on 7F are part of 6 shot fan models that have a high rate of exhaust heat, depending on the location.

Specifications		19 inch full rack		19 inch half rack
Size		19 inch rack		
Outer size W×D×H （unit：mm）		700×1000×2000	600×900×2000	600×900×1000
Mount frame standard		EIA standard		
Effective mount unit number		41U		20U
Seismetic adequacy		1.0 G ＠maximum capacity		
Power system		1 or 2 system　　（UPS power ）		
Outelet bar				
	100V 20A,30A,30A common	17 ports（OA tap）		4 ports（standard）、Up to 10 ports
	200V20A,30A,50A	Under floor box transfer		
Power cable		Introduced from the open/close to the free access floor		
Plug form		NEMA L6-20、L6-30　and others		
Frony back panel		Punching metal		
Key		Handle key (4 digits pass code) + key rock		
Fan		4 shot fan on tte ceiling		
Others		Remote hands（5 times/month）		Remote hands（3 times/month）
Rack mount load capacity		380kg	400kg	190kg
Demarcation		Communication port/OA tap	Communication port/OA tap	Communication port/OA tap

- Remote hands is the primary maintenance work and includes lump visual check, power on/off etc. based on the customer's operation manual.
- Contact with our sales representative about bringing customer's racks.
- Cage service to surround customer's space with the cage for security is available.