

NTT Communications Hong Kong Data Centre





Index

INTRODUCTION

NTT Communications	3
NTT Communications Hong Kong Data Centre	5

A NEW PERSPECTIVE OF SPACE

Redefining space through power density	7
Floor plans	8
Customer rack area	11

A NEW PERSPECTIVE OF POWER

We not only supply power, we manage power	13
Cooling systems	14
Tier III+ infrastructure	16

A NEW PERSPECTIVE OF SECURITY

Security is more than just hardware	19
Highly secure access control	20
Network Operation Centre	21

TOTAL DATA CENTRE SOLUTION

AN OPTIMUM HOUSE OF CLOUD

SPECIFICATIONS OF NTT COMMUNICATIONS HONG KONG DATA CENTRE	24
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SERVICE INDEX	25
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INTRODUCTION



NTT Communications

Headquartered in Tokyo, Japan, NTT Communications Corporation is a wholly owned subsidiary of Nippon Telegraph and Telephone Corporation, one of the world's largest telecommunication companies. NTT Communications delivers high-quality voice, data and IP services to customers around the world. The company is renowned for its diverse information and communication services, expertise in managed networks, hosting and IP networking services as well as industry leadership in IPv6 technology. NTT Communications' extensive global infrastructure includes Arcstar™ IP-VPN service that reaches more than 150 countries, a Tier 1 IP backbone connected with major ISPs worldwide, and secure data centres in Asia, North America and Europe.

As a key arm of NTT Communications' Asia operations, NTT Com Asia, established in Hong Kong in 1999, has devoted its best efforts to becoming the premiere ICT Solution Partner for enterprises in Greater China region.

NTT Communications Global Data Centre Service

NTT Communications has spanned its data centre services to 31 cities in 20 countries / regions. The data centre in Hong Kong, operated by the company's wholly owned subsidiary NTT Com Asia, is one of the finest data centres in the region.



* As of Jan 2011

* Service specifications vary by regions

NTT Communications Hong Kong Data Centre

A masterpiece of data centre design

Officially launched in 2009, NTT Communications Hong Kong Data Centre is a dedicated data centre located in a highly secure and robust environment in Tai Po, Hong Kong. The data centre features exceptional capacity for future expansion, optimal power and cooling systems, and is designed with Tier III+ fully redundant infrastructure - every aspect of the facility is equipped with at least N+1 redundancy, with multiple-sources and multiple-paths to consumption points to ensure business continuity.

NTT Communications Hong Kong Data Centre is operated by a dedicated team of IT specialists at NTT Com Asia, and was awarded ISO/IEC 27001:2005 Information Security Management System (ISMS) Certification, ISO 9001:2008 Quality Management Certification and the Best Green ICT Silver Award at the Hong Kong ICT Awards 2011, recognizing the high level security, quality management and green initiatives of the company's data centre services.

This masterpiece of data centre is the perfect example of infrastructure design, creating a new perspective of Space, Power and Security.



A NEW PERSPECTIVE OF SPACE



Redefining space through power density

NTT Communications Hong Kong Data Centre is built within a 7-storey structure and boasts a total gross area of 212,100 sq ft – an undeniable amount of ‘white space’ and a high capacity for future expansion to accommodate your business growth.

‘Space’ at our data centre, however, describes far more than just its square footage. It is also about power density and storage space.

Advancements in computing technology has led to a high demand for power and cooling capability. The heat generated by a powerful server is often so tremendous that traditionally, server equipment would need to be spread across a data centre to avoid power and cooling hotspots, resulting in under-utilized space and increased costs. Our state-of-the-art cooling systems at NTT Communications Hong Kong Data Centre support exceptionally high power density up to 12kVA per rack, which enables more powerful equipment to be located at the same physical area.

At our data centre, what matters most is not the physical area; it's how much we can utilize space in the most cost-effective way.

Dedicated Building for Data Centre

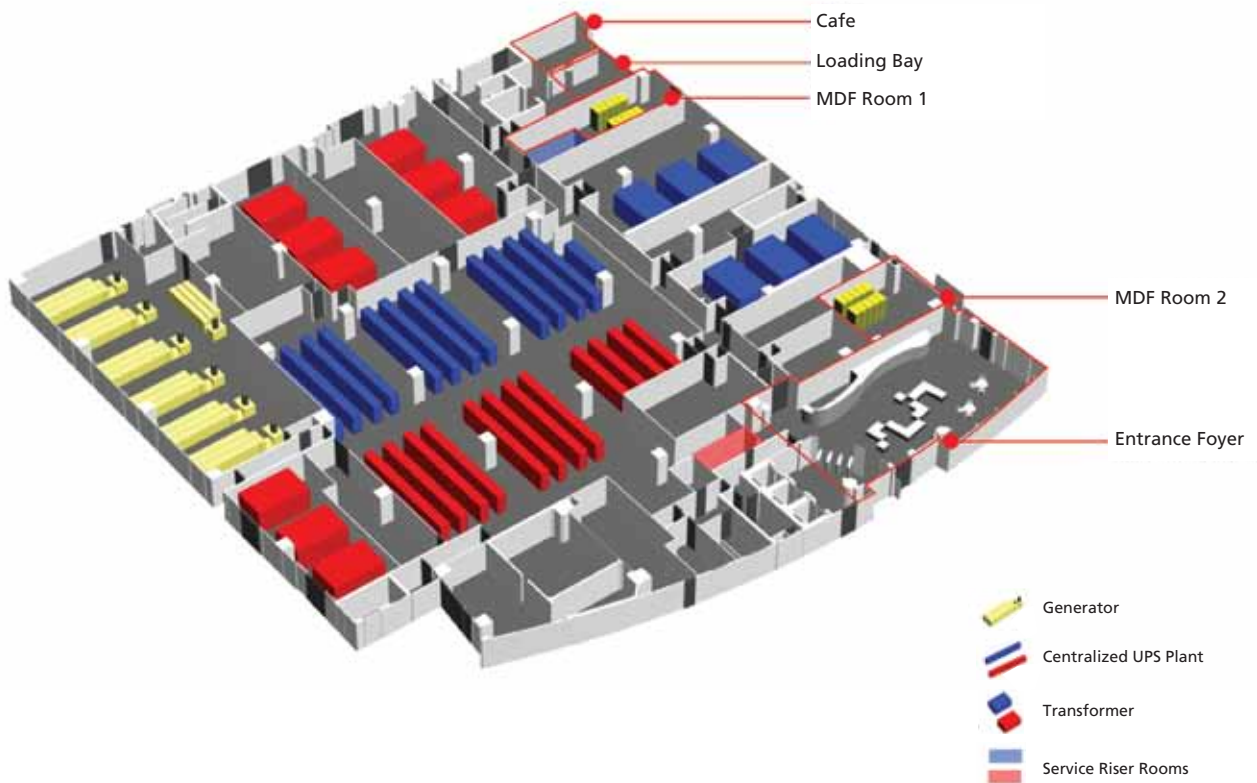
Total Gross Area : **212,100** sq ft 3,000+ Racks

G/F	37,700 sq ft	Power Centre
1/F	37,700 sq ft	713 Racks
2/F	30,100 sq ft	670 Racks
3/F	23,650 sq ft	550 Racks
4/F	23,650 sq ft	550 Racks
5/F	23,650 sq ft	550 Racks
R/F	23,650 sq ft	Cooling Centre
U/R	12,000 sq ft	Cooling Centre

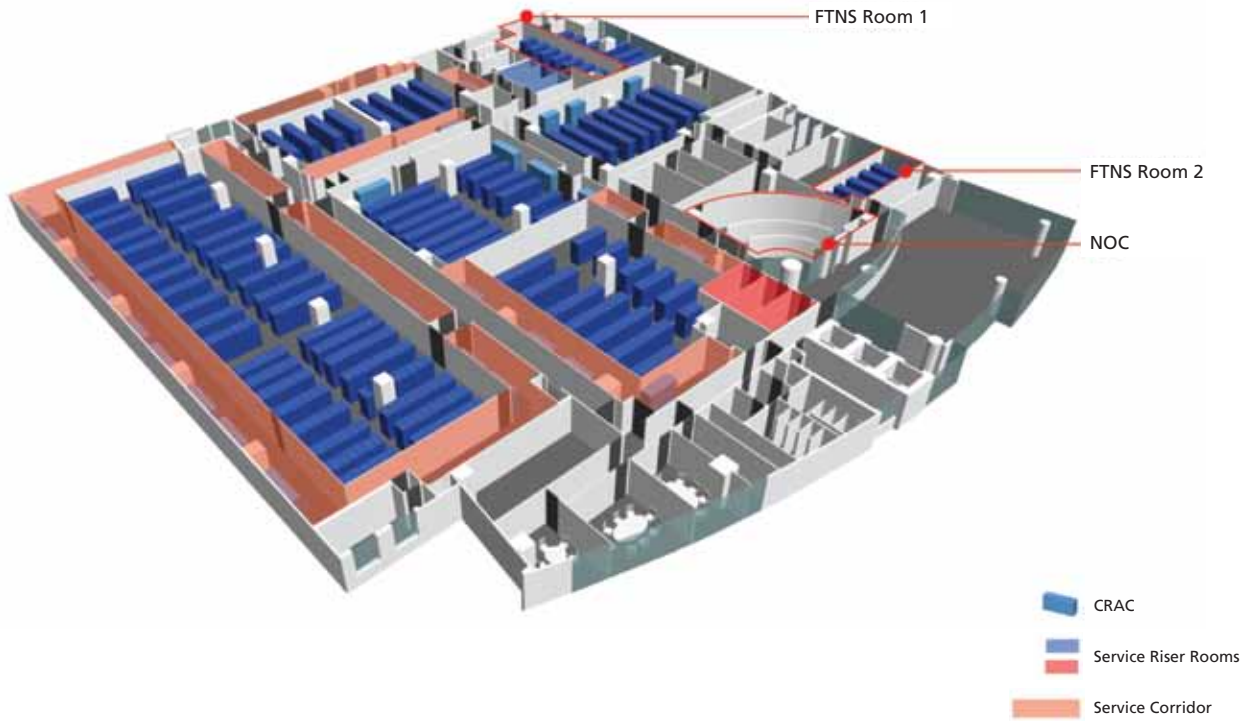
Floor plans

The design and construction of NTT Communications Hong Kong Data Centre commenced in 2007. The building can accommodate up to 3,000 high power density racks after fully equipped. Supporting facilities are intentionally isolated from the rack areas to provide better security control and management - placing power systems on the ground floor, and cooling systems on the roof top and the service corridors. The equipment staging area is separated from rack zones to prevent contamination from packing materials. The two sets of service risers and two Fixed Telecom Network Service (FTNS) rooms are also strategically located to provide the best diverse path for resilience purpose.

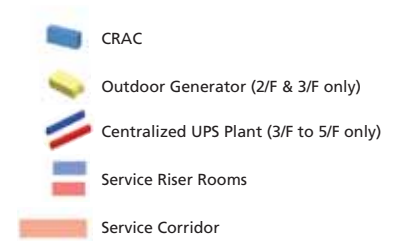
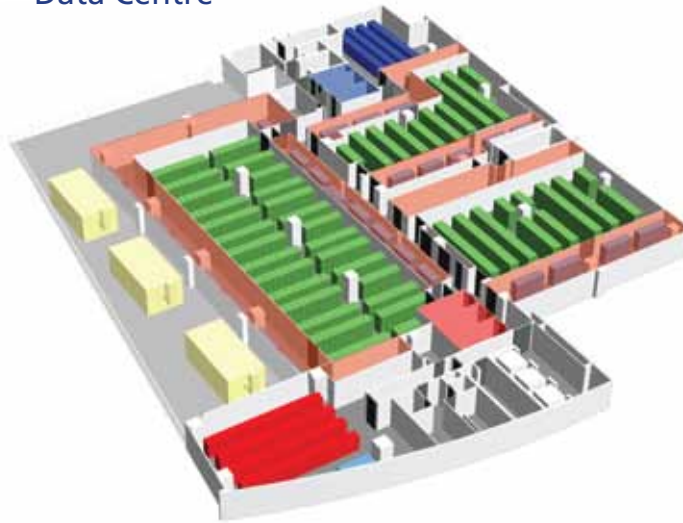
G/F - Power Centre



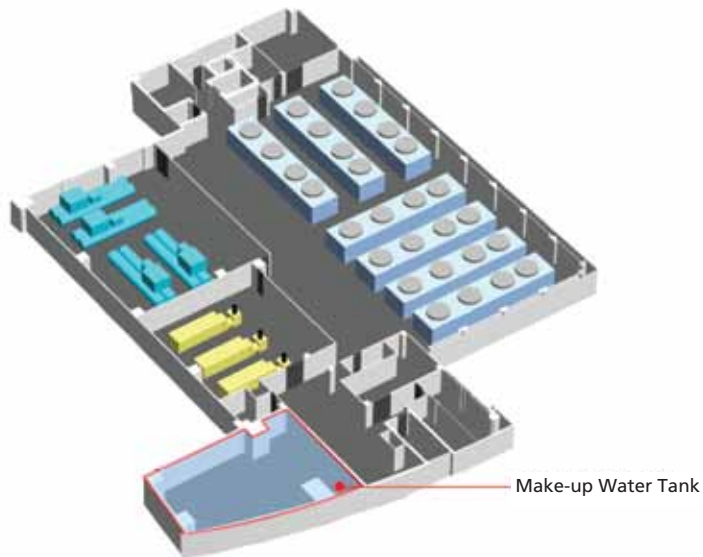
1/F - Network Operation Centre & Data Centre



2/F to 5/F - Data Centre



Roof Floor - Cooling Centre



Customer rack area

NTT Communications Hong Kong Data Centre offers a wide array of customized services to meet different business needs. Our service ranges from a single-rack and custom-built caged areas to dedicated private rack zones.

High Power Zone (3kVA – 12kVA)



Standard Power Zone (1.5kVA – 3kVA)



Modular Cage

A NEW PERSPECTIVE OF POWER



We not only supply power, we manage power

Each rack at NTT Communications Hong Kong Data Centre is well-equipped with dual power feeds, and dual UPS systems. Furthermore, backup generators and underground fuel tanks can be relied upon to support the entire facility in the event of power outage.

Yet our perspective of power does not conclude with the power supply; it extends to power management and the capabilities of our fully redundant infrastructure to ensure business continuity.

Modern IT equipment's greater level of power consumption, energy costs, and environmental impact has inevitably called for the need for power management. The data centre's cooling systems support power density up to 12kVA per rack and are designed not only to minimize the risk of overheating and damage, but also for effective power management. Together with our advanced virtualization solutions, we strive to help our customers lower costs by maximizing energy efficiency, space, and server utilization.

At NTT Communications, 'true power' also represents our ability to protect customers' IT equipment and ensure business continuity under all circumstances. Our Tier III+ infrastructure is unquestionably among 'the best-in-class' in the region. Every aspect of the facility is fully redundant --- 2N UPS systems, N+1 generators, N+1 chiller plants --- all critical facilities from power and air conditioning to telecommunications are equipped with N+1 to 2N redundancy to ensure no single point of failure.

Cooling systems

NTT Communications Hong Kong Data Centre incorporates optimum-efficiency air conditioning, from chiller plant, CRAC, air plenum designed ceilings, cold / hot aisle to temperature / humidity control systems - our multi-faceted cooling systems offer round-the-clock cooling, ensuring every individual server and the entire facility is maintained at highly stable conditions.

Chiller plant

Water Cooled Chillers (Duty)



Dual Chilled Water Distribution Rings



Air-Cooled Chillers (Standby)

Cold Aisle with Air Curtain



N+1 CRAC

Tier III+ infrastructure

Fully redundant power system

Every piece of power provisioning facility is well designed with N+1 to 2N redundancy infrastructure, including diesel generators, UPS system (2N) and dual power feeds to every single rack.

N+1 Generators



Centralized 2N UPS



Fully redundant telecommunications system

Our data centre is carrier neutral, enabling you to have your own choice of connectivity service.

Dual FTNS Rooms



Core Switch Room



A NEW PERSPECTIVE OF SECURITY



Security is more than just hardware

To protect your mission-critical assets and sensitive information from unauthorized access, our data centre utilizes a comprehensive range of stringent security measures. At NTT Communications, security is more than just hardware; it's about management, operations and expertise, and our professionalism is endorsed by ISO/IEC 27001:2005 Information Security Management System (ISMS) and ISO 9001:2008 Quality Management System certifications.



Highly secure access control

Access management is based on multi-level security control from security registration to three factors access control (fingerprint, access card and PIN). The building is fully equipped with comprehensive monitoring systems including CCTV in every row of racks and access.

Entrance Mantrap



Lobby Turnstile



3-Factor Authentication Control



CCTV

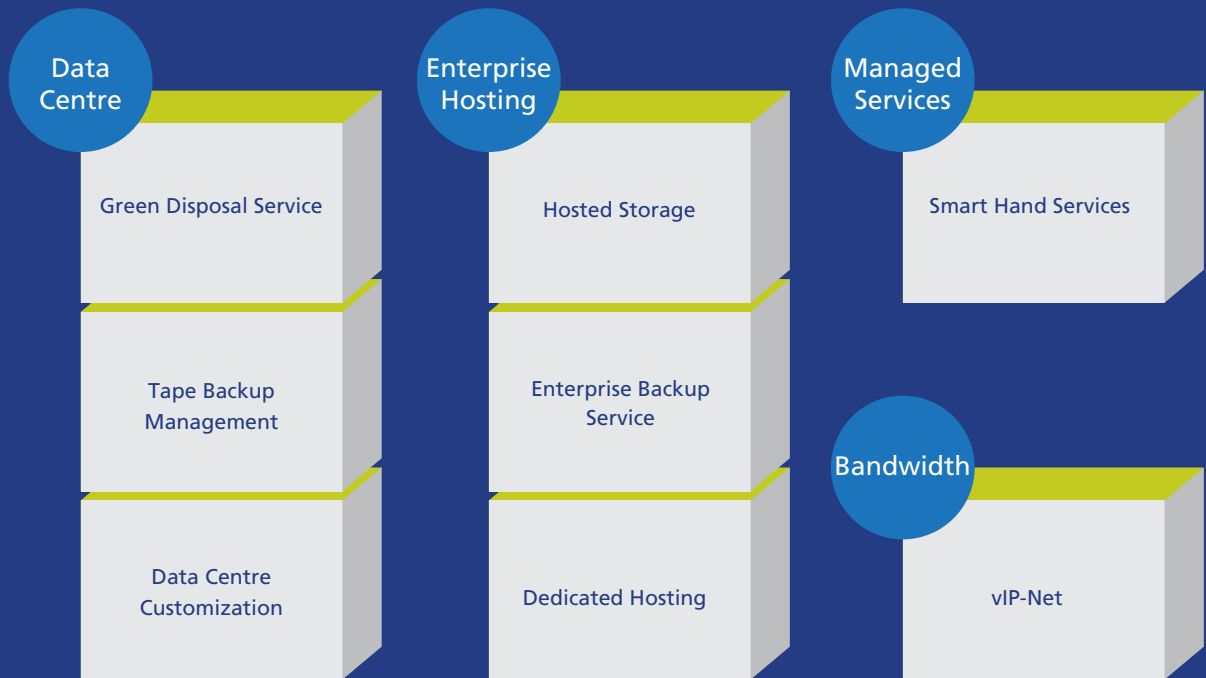
Network Operation Centre

Our team of experienced data centre specialists provides you with 24 x 7 x 365 close monitoring of your assets.



Total data centre solution

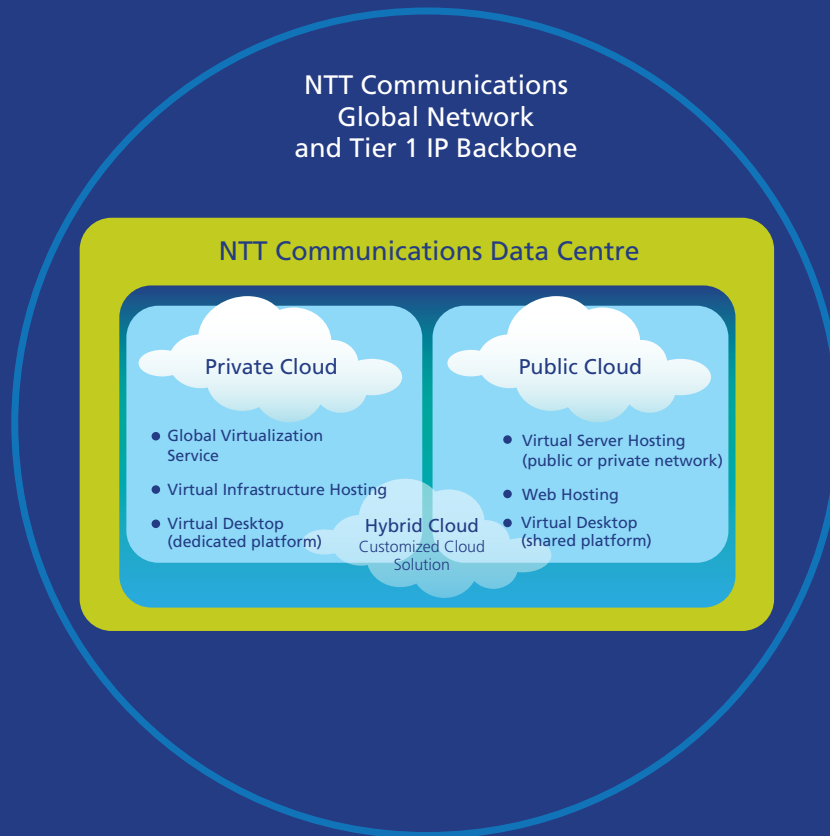
One key advantage of NTT Communications Hong Kong Data Centre lies in the company's full spectrum of ICT services from connectivity, hosting, managed services and integrated solutions including business continuity and disaster recovery. Our synergistic solutions benefit you by centralizing control and saving coordination time so that you can enjoy a 'one-stop' hassle free service.



Data Centre Value-added Services

An optimum house of cloud

No matter you are enterprises or cloud services developers, NTT Communications' top notch data centre and Tier 1 Global IP Network provide an optimum environment to house your IT infrastructure. We also offer a comprehensive portfolio of cloud services that help you to custom-make your cloud platform and achieve the highest level of agility and efficiency for your business.



SPECIFICATIONS OF NTT COMMUNICATIONS HONG KONG DATA CENTRE

Purpose-built Facilities

Building	<ul style="list-style-type: none"> Dedicated data centre building with dual risers Total Gross Area: 212,100 sq. ft.
Floor Height	<ul style="list-style-type: none"> 600mm (raised-floor) and 4,420mm (slab to slab)
Load Limit	750kg per sq.m. (7.5 KPA)

Rack and Cage

Capacity	<ul style="list-style-type: none"> Up to 3,000 racks in common areas or in private cages
Rack Size	<ul style="list-style-type: none"> 600mm (w) x 1000mm (d) x 42U (h) with perforated doors
Cage Size	<ul style="list-style-type: none"> 5-rack modular cage expanding up to 250 racks

Power

Total Power Available	<ul style="list-style-type: none"> 22.5 MVA from two independent power substations and delivery routes
Power Connection	<ul style="list-style-type: none"> Dual power feeds / UPS sources to each rack 20x2 13A BS1363 Sockets (Other power connection requirements are available as option)
Voltage	<ul style="list-style-type: none"> 220V / single-phase, 50Hz
Power Provision (kVA)	<ul style="list-style-type: none"> Standard Power Zone: 1.5kVA up to 3kVA High Power Zone: 3kVA up to 12kVA
UPS	<ul style="list-style-type: none"> 2N design with 15 minutes up time under full load condition
Generator	<ul style="list-style-type: none"> N+1 design
Back-up Diesel	<ul style="list-style-type: none"> Dual underground fuel tanks with total capacity of 55,000 litres
Power Auto-switching DC and Other Power Requirement	<ul style="list-style-type: none"> Dual Static-Transfer-Switch (STS) per zone Available as option

Air Conditioning System

Chiller Plant	<ul style="list-style-type: none"> N+n (Water cooled + air-cooled) Dual distribution path through two independent dedicated vertical risers
CRAC	<ul style="list-style-type: none"> N+1 / N+2 CRAC design in each zone CRAC units with two chilled water supplies from different distribution rings
Temperature	<ul style="list-style-type: none"> Down flow systems with hot and cold aisles design 22 +/- 2°C
Humidity	<ul style="list-style-type: none"> 50 +/- 10%

Fire Protection and Water Leakage Detection

Fire Protection	<ul style="list-style-type: none"> Very Early Smoke Detection Apparatus (VESDA) Double-interlock pre-action sprinkler in each zone FM200
Water Leakage Detection	<ul style="list-style-type: none"> Distance-type water detection system

Security

Building Security	<ul style="list-style-type: none"> Private fenced lot with 24 X 7 security control Entrance security with 24 X 7 security guards and man trap access
Surveillance Monitoring	<ul style="list-style-type: none"> 24 X 7 CCTV surveillance cameras with digital recording
Three-factor Authentication	<ul style="list-style-type: none"> Access card, Fingerprint and PIN

Telecommunications

Building Lead-in	<ul style="list-style-type: none"> Carrier neutral Dual lead-in for telecom cable access Dual Main Distribution Frame (MDF) rooms Dual Fixed Telecom Network Service (FTNS) rooms - "Meet Me Rooms", for telecom carrier interconnection
Inside DC Data Cable Access	<ul style="list-style-type: none"> Cat 6 copper, MM fiber, SM fiber, Coaxial cable interconnection with diversified path within building

Other Facilities

- Loading bay
- Full rack-height cargo lift and corridors
- Staging rooms
- Meeting rooms
- Wi-Fi access
- TV broadcast
- Full equipped cafeteria
- Quiet rooms
- Shower room
- Print / copy / fax / scan service
- Notebook chargers / mobile phone chargers on-loan service
- Handy tools / power cables / network cables on-loan service
- Umbrellas / stationery on-loan service

Remarks: All the above are standard equipment specifications; specification other than the above is available as optional service.

SERVICE INDEX



Global Connectivity

- Arcstar™ Global IP-VPN
- Arcstar™ Global e-VLAN
- Arcstar™ Global Leased Line
- Global Internet VPN
- IPv6 and IPv4 Transit
- Content Delivery Network
- Global Teleconference Service

Data Centre

- NTT Communications Hong Kong Data Centre
- Business Resumption Centre

Enterprise Hosting

- Cloud Hosting
 - Global Virtualization Service
 - Virtual Desktop
 - Virtual Infrastructure Hosting
 - Virtual Server Hosting
- Infrastructure as a Service
 - Dedicated Hosting
 - Hosted Storage
 - Enterprise Backup
 - SSL-VPN Gateway

Managed Services

Integrated Solutions

- Disaster Recovery & Business Continuity Plan



IP Connectivity

- SecureNet IP-VPN
- vIP-Net Premium Internet Service
- Internet Leased Line
- Commercial Broadband

Data Centre

- HKNet Kwai Chung Data Centre

Cloud Hosting

- Virtual Server Hosting
- Web Hosting

Cloud Applications

- TeamWorks Web Collaboration Service
- SecureFence Email Filtering Service
- SecureVault Online Backup

Managed Services

Integrated Solutions

- VIPHosting
- IPSecHK Gateway



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