SDC S.T.E.P
SAPPORO DATA CENTER

more reliable, more secure, more convenient.

SDC S.T.E.P SAPPORO DATA CENTER

IT system outages caused by large scale natural disasters

and other types of trouble result in lost opportunities.

In order to improve accessibility and protect our customer's IT resources

from these risks and threats, S.T.E.P SAPPORO DATA CENTER is based in Sapporo,

a city replete with urban functions and low impacts from natural disasters.

We offer best practices via total solutions focused on data center utilization,

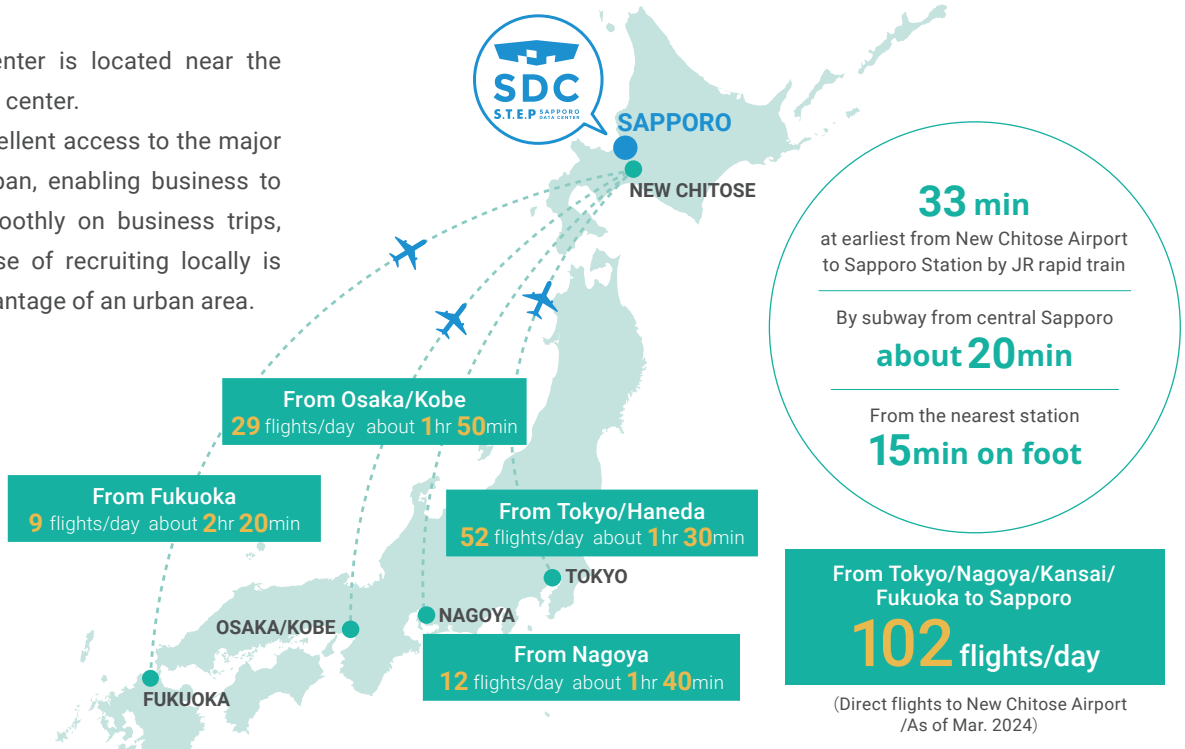
with a conveniently accessible location, state-of-the-art equipment,

and reliable technology refined by our company to provide stable operations.

Suitable Location

Sapporo: An Ideal Data Center Location

Our data center is located near the Sapporo city center.
There is excellent access to the major cities of Japan, enabling business to proceed smoothly on business trips, etc. The ease of recruiting locally is another advantage of an urban area.



33 min
at earliest from New Chitose Airport to Sapporo Station by JR rapid train

By subway from central Sapporo
about 20min

From the nearest station
15min on foot

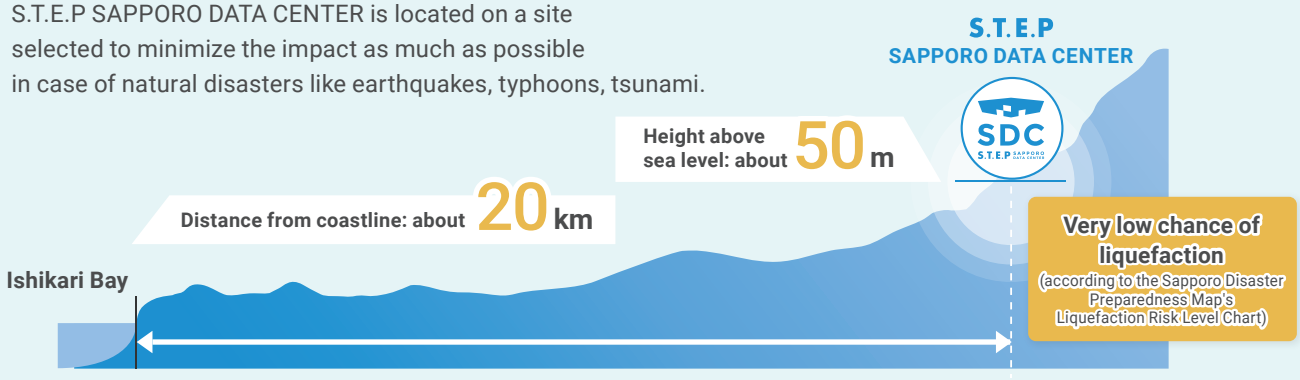
From Tokyo/Nagoya/Kansai/ Fukuoka to Sapporo
102 flights/day

(Direct flights to New Chitose Airport /As of Mar. 2024)

- Sapporo is located roughly 800km from the Tokyo metro area, so it is very effective as a backup hub for risk dispersion.
- There are many IT firms, and a wealth of IT-focused educational institutions. Recruiting talented local staff is easy.
- Many domestic manufacturers and system integrators have business offices and maintenance centers here. It is also reliably accessible even from distant locations.

Low Disaster Risk | Minimal impact from natural disasters on the area

S.T.E.P SAPPORO DATA CENTER is located on a site selected to minimize the impact as much as possible in case of natural disasters like earthquakes, typhoons, tsunami.



from nearest active volcano (Mt. Eniwa)
about 25 km

Average typhoons in Hokkaido per year*
1.8

*Average over 10 years from 2011-2020, according to JMA statistics

Housing Service

Housing Service

We do our best to fulfill our customers trust with durable,
state-of-the-art equipment and a stringent operational framework.

Reliable housing environment prepared for disaster risks

Resilience to earthquakes and other disasters is an essential criteria in choosing a data center.
Preparations in case of a power outage are also vital.
S.T.E.P SAPPORO DATA CENTER has established a system well-prepared to handle any threat.

6 Key Points of S.T.E.P SAPPORO DATA CENTER

With a total floor space of about 1,500m²,
the housing space
accommodates about 500 42U server racks.

Sturdy base isolation structure can withstand
seismic intensity 7 earthquakes.

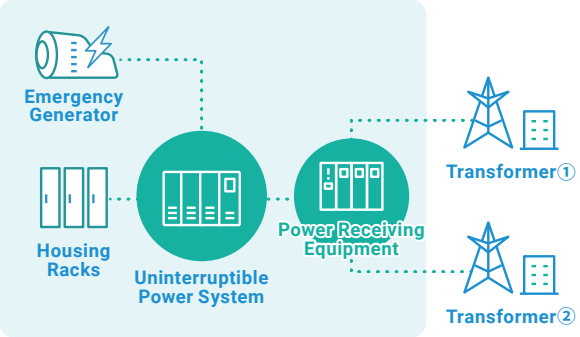
Up to 20kVA power supply for each rack.
Power is received via 2 special high voltage inputs
with a main and backup line
from different transformers.

We are equipped with an emergency generator
capable of 72 hours of continuous
operation without refueling,
and an uninterruptible power supply (UPS).

We have backbone networks
between Tokyo - Sapporo
and between Osaka - Sapporo.

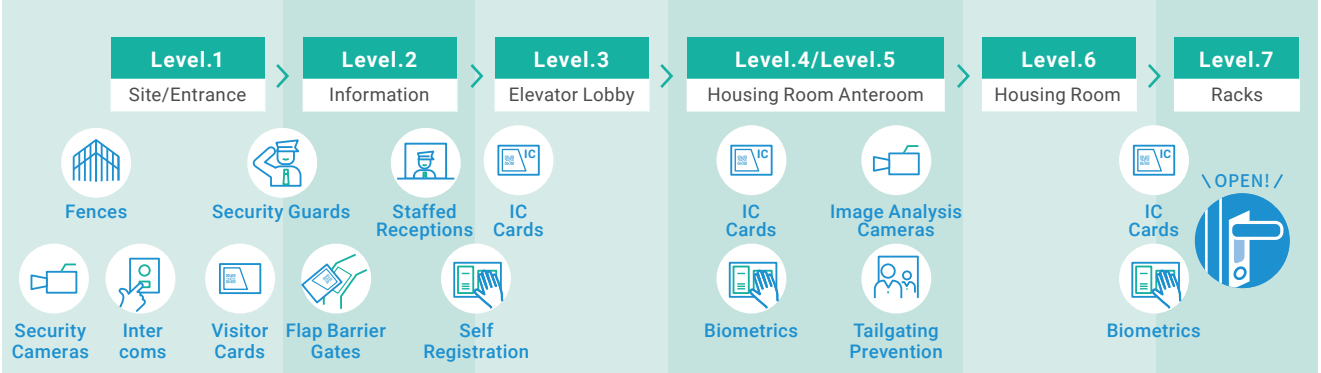
Our administrative services reduce
the workload of customers, and help implement
an efficient operational framework.

Stable Power Supply System



Tier 4*-Compliant Security Standards

In addition to a 24/365 human monitoring system,
there are 7 layers of security, including IC card verification and biometrics.



*This is the highest tier indicating the service level of data centers as defined in the Data Center Facility Standard established by the Japan Data Center Council (JDCC).

Data Center Overview

Overview of S.T.E.P SAPPORO DATA CENTER

Facilities Overview

Location	Sapporo (15min on foot from nearest station)	Fire Sensors and Fire Suppression Equipment	Ultra-high sensitivity smoke detection system (VESDA), nitrogen gas extinguishers
Earthquake Resistance Standards	Base isolated structure (equivalent to General Seismic-Resistant Design Standards Type I, seismic intensity 7)	Security	Intrusion monitoring via sensors and cameras, regular patrols, hand luggage restrictions
Power Receiving Equipment	Power received through special high voltage inputs with a main and backup line from different transformers	Monitoring/ Operations System	24/365 human monitoring
UPS Equipment	N+1 parallel redundancy system	Supplementary Facilities	Fully equipped with work spaces and lounge, loading dock capable of accommodating 4-ton trucks
In-House Generator Equipment	Emergency generator (N+1), capable of 72 hours of continuous operation without refueling		
Air Conditioning Equipment	Chilled water/water-cooled type (combined with free cooling)		

Housing Room Specifications

Total Floor Space	about 1,500m²	Communication Lines	Installed by multiple carriers via multiple routes
Airflow Method	Cold aisle containment Subfloor cold air vents	Housing Room Access	Multiple persons can enter at once, separate routes for people and transporting equipment
Rounds/Inspections	Visual inspection of the rack interior/ exterior and equipment/cables inside	Cable Isolation	Isolation of communication and power cables
Rack Power Source and Thermometer	Real-time monitoring via environmental monitoring system	Access Security	Contactless IC cards, biometrics (palm veins), tailgating prevention, security cameras

Rack Basic Specifications

Rack Standard	19in EIA-spec universal pitch	Rack Doors	Single doors (1 front, 1 rear), electronic locks (biometric control)
Power Supply	Standard dual input power supply (single phase 100V and 200V)	Patch Panel	Patch panel (1U) provided to connect communication cables to the outside. *Usable for connections between racks and for line installation.
Power Strips	2 standard power strips on the each side of the rear of the rack (dual power supply) (Full: 24 outlets x 2 strips, Half: 12 outlets x 2 strips, Quarter: 6 outlets x 2 strips)		

Housing Service Menu and Main Specifications

Service menu and specifications

Housing Service Menu

Item		Full Rack	Half Rack	Quarter Rack
Provided Racks	Rack Format	19in (EIA)		
	External Dimensions	W:700mm / D:1,200mm / H:2,200mm	W:700mm / D:1,200mm / H:1,100mm	W:700mm / D:1,200mm / H:550mm
	Number of Units Mountable	42U	19U	8U
	Lock	Biometrically controlled		
	Front Door/Rear Door	Single doors/mesh doors		
Equipment Weight Capacity (Consult us if the weight limit is exceeded)		Up to 500kg	Up to 200kg	Up to 100kg
Standard Power Supply		2kVA (Maximum power supply capacity:20kVA*1)	2kVA (Maximum power supply capacity:6kVA)	1kVA (Maximum power supply capacity:2kVA)

*1: Power supply capacity exceeding 10kVA can be accommodated with advance consultation.

Network Diversity

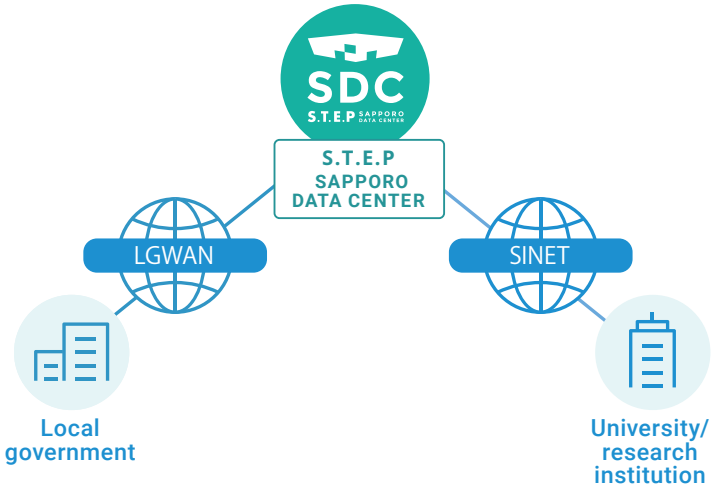
Diverse Network Environments

We offer a variety of different network connection environments to suit your needs.

Connections to LGWAN/SINET*

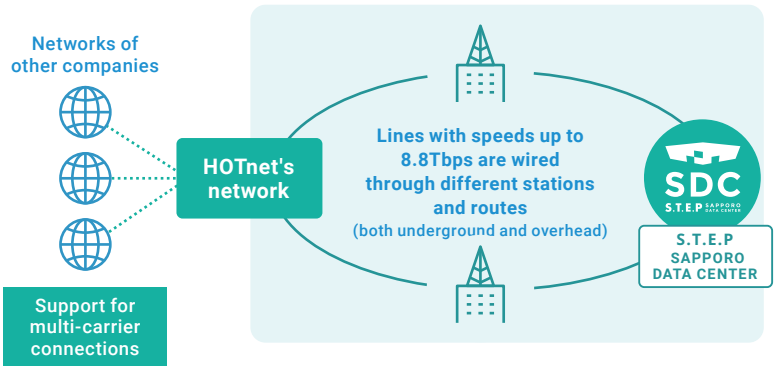
Connections to LGWAN and SINET facilitate the creation of an IT environment that suits the needs of customers, including local governments as well as universities and other educational/research institutions that make use of our data center.

*LGWAN is an abbreviation for Local Government Wide Area Network, a dedicated administrative network that offers LAN interconnections within a local government. SINET is an abbreviation for the Science Information Network, an information communication network built and operated by the National Institute of Informatics (NII) as part of the academic information infrastructure for universities and research institutions across Japan.



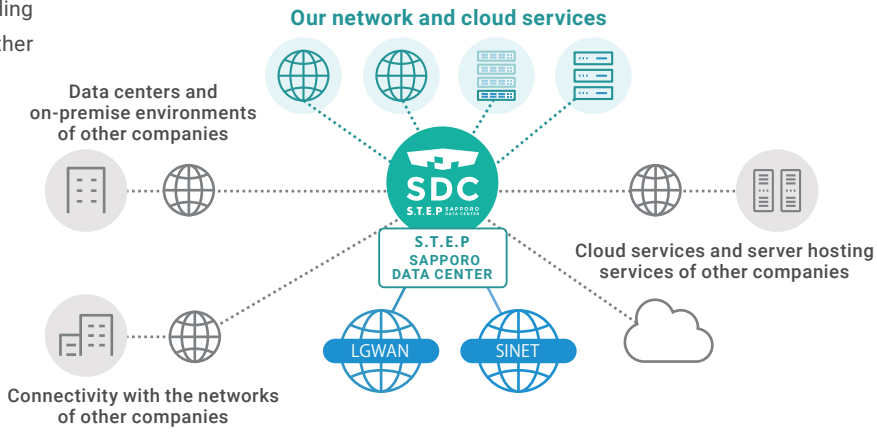
Establishment of redundant communication environments and carrier diversity

Highly reliable and redundant communication environments and carrier diversity are made possible by wiring our communication lines across multiple carriers and along multiple routes.



Flexible integration with cloud services, etc.

A hybrid environment can be created through the integration of various services, including the cloud services of our company and other companies.



Network Service

Network Services

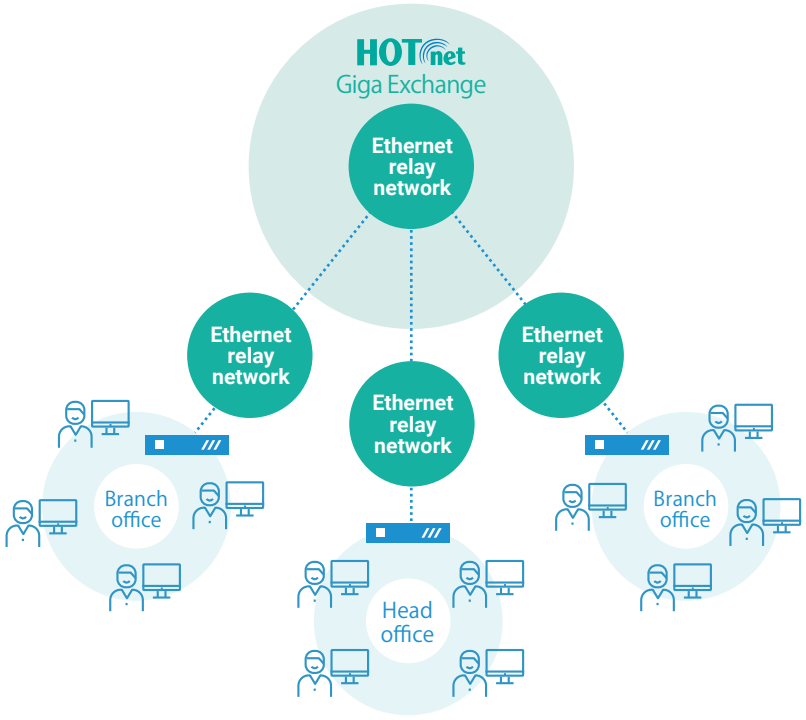
We offer a wide variety of network services
that can be used in conjunction with our data center.

We provide a variety of solutions with flexible operational styles.

We offer high-speed, high-quality network services that can be smoothly integrated with the cloud services of our company and other companies. Moreover, you can connect to not only our network services but also those of other companies depending on your needs.

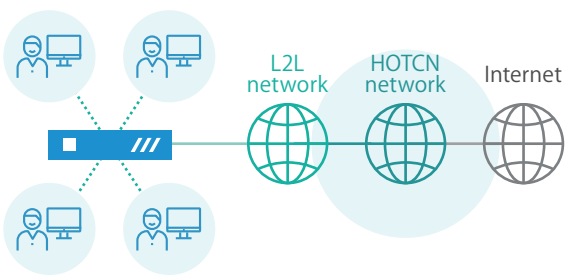
Our Ethernet communication network service, L2L

L2L is a network service that utilizes HOTnet's proprietary Ethernet communi cation network.
It is affordable, easy to manage, and supports a wide variety of protocols as it uses an Ethernet interface.
Moreover, it offers superior security by serving as a completely closed network for each customer. This allows for seamless and high-speed connections between LANs in different cities and bases, thus improving the efficiency of high-capacity communications.



Our Internet connection service, HOTCN

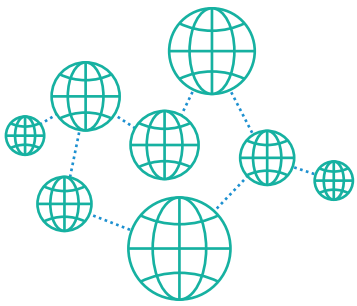
HOTCN is an Internet connection service that provides high-speed broadband Internet access using HOTnet's high-quality fiber optic cable network as the backbone network. HOTCN uses Ethernet as its access line and offers shared-bandwidth plans as well as plans for sharing between multiple customers according to individual needs and budgets.



Backbone connections

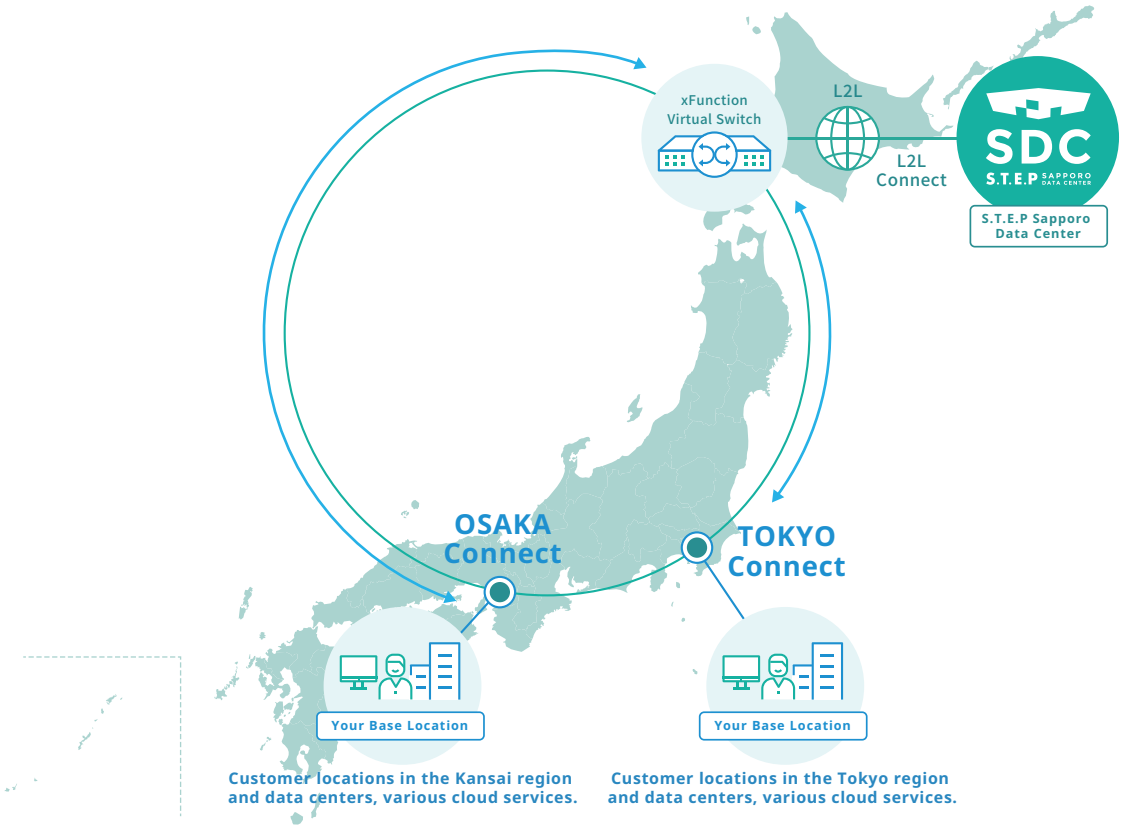
HOTnet allows for interconnections with the following service provider networks and IXs (Internet exchanges). The total communication bandwidth for each interconnection target is 20Gbps, the highest among ISPs in Hokkaido, which creates a smooth Internet communication environment for many customers.

- KDDI
- NTTcom
- Softbank
- JPIX
- JPNAP
- BBIX



S.T.E.P xFunction | TOKYO Connect / OSAKA Connect

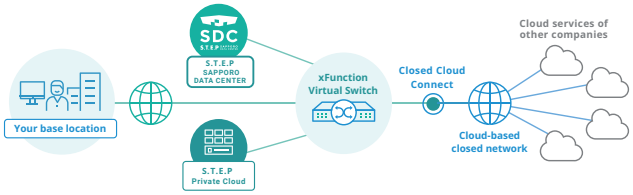
This service provides a 1Gbps (best effort) connection between the customer's line and our S.T.E.P xFunction Virtual Switch at access points designated by us in Tokyo and Osaka.
This service provides interconnectivity between customer locations in the Tokyo metropolitan area and services such as the S.T.E.P Sapporo Data Center.
This service can be used for remote backup and distributed deployment to mitigate disaster risks.



Note: Customers must provide their own communication line between their location and our access point.

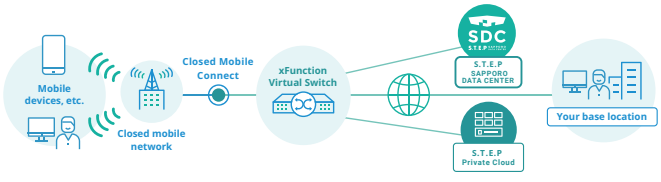
S.T.E.P xFunction | Closed Cloud Connect

This is an optional service for S.T.E.P xFunction Virtual Switch that creates a closed connection to cloud services offered by cloud service providers without going through the Internet. This service allows for the hybrid use of major cloud services with our various services, such as the S.T.E.P SAPPORO DATA CENTER and the S.T.E.P Private Cloud service.
The cloud services that you can connect to with this service are Amazon Web Services (AWS), IBM Cloud, Oracle Cloud Infrastructure (OCI), Microsoft Azure, and Google Cloud.



S.T.E.P xFunction | Closed Mobile Connect

This is an optional service for S.T.E.P xFunction Virtual Switch that provides a closed mobile network accessible from mobile devices, etc., without going through the Internet.
This service allows employees to access their company's internal systems via a closed network when they are telecommuting from home or using their mobile devices when commuting or on business trips. It can also be used as a backup in case of failure of the optical access line.



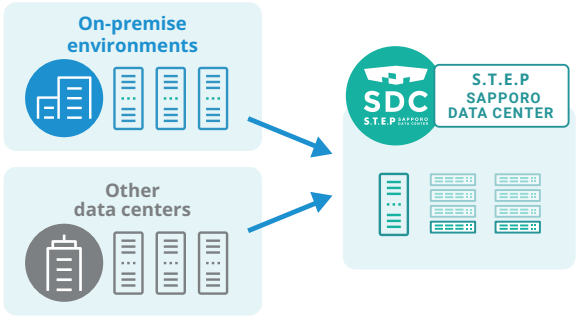
Data Center Cace Studies

Case Studies of Applications of the Data Center

We seek to propose optimal solutions
that meet the various needs of our customers.

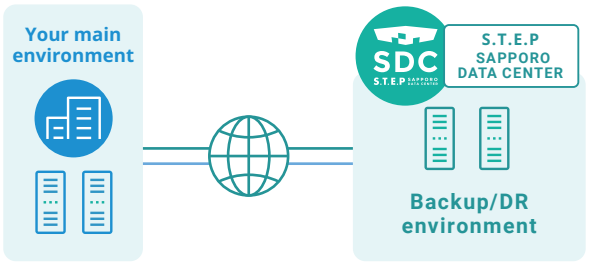
Case Study 01 | Migration to our data center

Systems that are currently being operated on-premise or at another data center can be migrated to the S.T.E.P SAPPORO DATA CENTER. We will propose a secure migration plan that fulfills your require ments, including your operational schedule.



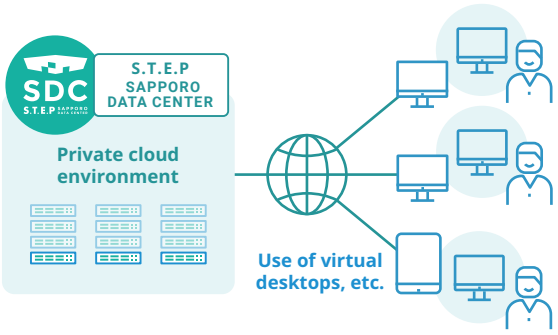
Case Study 02 | Utilization of our data center for backup/DR

Our data center can be used as a backup or disaster recovery (DR) environment for essential systems and data in order to enhance your business continuity. We can assist with the design, environment construction, and by providing the necessary operational support.



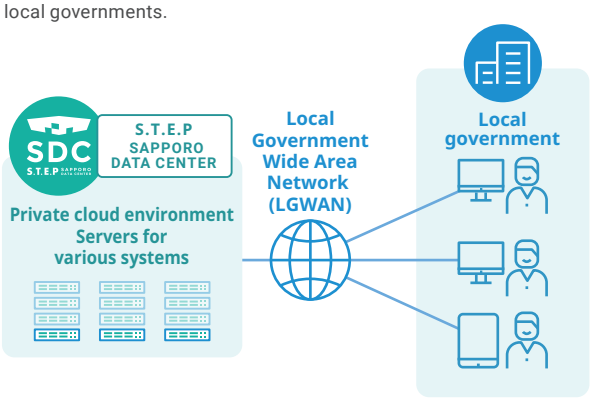
Case Study 03 | Construction and operation of virtual desktop infrastructure (VDI) using a private cloud

You can set up a private cloud within our data center and operate it as a virtual desktop infrastructure (VDI). We can assist with its overall design and construction, including the resource allocation, licensing, and networking of various servers.



Case Study 04 | Construction and operation of core systems for local governments using a private cloud

By combining our network services for local governments with our data center, we can assist with the construction of core infrastructure for system operation that complies with the security specifications of local governments.



Visit our data center to learn more

S.T.E.P SAPPORO DATA CENTERconducts regular on-site tours to allow visitors to experience the convenience and accessibility we can bring them.
If you are located far away or are unable to visit our data center, you can also make use of our Virtual SDC, through which you can virtually experience our data center using VR technology. This content allows you to virtually view the inside of our data center using VR goggles or tablet devices through the use of 360-degree high-resolution images.
Please feel free to get in touch with us if you are interested in making use of our data center.

HOTnet

Hokkaido Telecommunication Network Co., Inc.

Tsukamoto Bldg. North-1, 2-5-3 Kita-1-jo Higashi, Chuo-ku, Sapporo-shi, Hokkaido 060-0031
TEL.011-590-6640 https://www.hotnet.co.jp/

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