



# 1-Net North Data Center

Uptime Institute Certified Tier III  
Trusted Facility with TVRA Compliance



## About Us

1-Net is fast transforming itself into Asia's Data Center of Choice. As a pioneer in broadband development in Singapore, 1-Net has been managing telco-class carrier neutral data centers for close to 20 years. We also provide domestic and international connectivity, managed services, work area recovery suites, media delivery and cloud services.

With an excellent operational track record and agile team, 1-Net is among the very few data center service providers that provide a comprehensive range of integrated services as a one-stop shop. 1-Net is a Mediacorp enterprise, MediaCorp is Singapore's leading media company with the most complete range of platforms.



## Why 1-Net?

- ✓ **Proven Expertise in Data Center Management**  
Most of the data center failures are due to operational negligence, 1-Net's professional operation team will provide you with the peace of mind with our operation excellence.
- ✓ **Network Ecosystem with 1-Net's Data Center Corridor**  
1-Net connects your data center to key data centers in Singapore and in the region, with lower latency and connectivity cost.
- ✓ **Commitment to Excellence**  
Proven 99.95% reliability and 2N design provides uptime assurance.
- ✓ **Carrier Neutral Data Center**  
1-Net allows interconnection between multiple telco and co-location providers with no monthly cross-connectivity charges in our facility.
- ✓ **One-stop Outsourcing Partner**  
1-Net offers a comprehensive suite of services to meet your data center requirement. Let us take care of your data center while you focus on your core business!



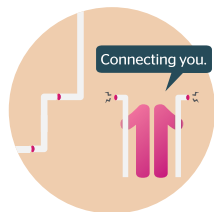
## Powered by people

## Our Services



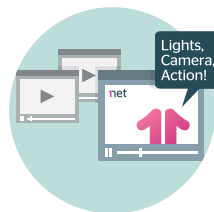
### Data Center

Power & Cooling  
Standard Cabinet  
Private Cage  
Private Suite  
Design & Build



### Connectivity

Interconnected Data Centers  
IP Transit Services  
Peering Network  
Cross-Connect Services



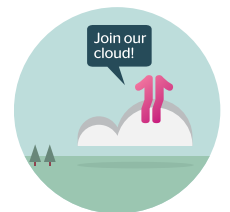
### Media Delivery

Content Delivery  
Network Services  
Webcast



### Engage

Managed Services  
Work Area Recovery  
Suite Services



### Cloud

IaaS Platform  
(Infrastructure as a Service)  
Multi-tenant & Exclusive  
Cloud Services

# 1-Net North

## Site Information

- Located at Riverside Road, northern part of Singapore
- Close proximity to the planned Northern Business Park
- Approximately 21 km away from 1-Net East Data Center which offers customers an option on alternate site away from existing location
- Highly accessible with the Thomson-East Coast Line (TEL), an upcoming MRT line that links up the Thomson Line with the Eastern Region Line

## Nearest Essential Services

- Police Post - Approximately 0.3 km
- Fire Station - Approximately 3.4 km
- Hospital - Approximately 6.9 km
- Marsiling MRT Station - Approximately 1.0 km

# Key Features

## Tier III Certifications by Uptime Institute

- Tier III Certification of Constructed Facility by Uptime Institute
- Tier III Certification of Design Documents by Uptime Institute

## Proximity to Key Network Infrastructure

- Close proximity to major west bound international cable systems

## Highly Secured Premise

- Bomb-blast proof reinforced concrete wall around facility
- Reinforced concrete anti-crash wall with anti-climb fencing on perimeter
- Multiple layers of security access control in facility

## Facilities are Fully Backed Up by 3 Independent UPS Systems

Each independent system supports the following respectively:

- Critical IT loads
- Air Conditioning and Mechanical Ventilation (ACMV) System
- Security and monitoring environment

## Carrier-Neutral Data Center

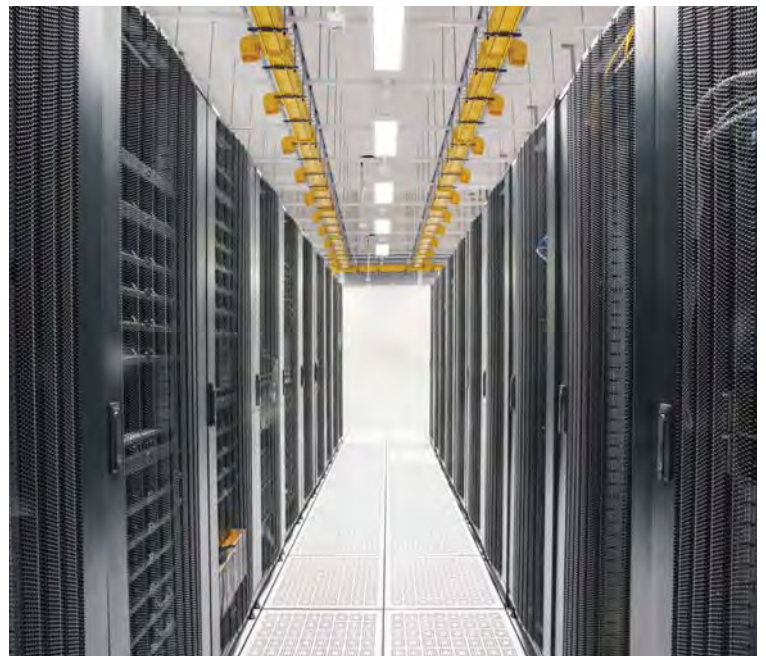
- As a carrier-neutral provider, customers can use multiple vendors for connectivity in our data center

# Design Features

1-Net North is designed to strike a balance between functionality and aesthetics while maintaining high quality and low ambient indoor temperature with the following factors:

## Data Center Levels

- Insulated with aluminium cladding system over 150mm thick reinforced concrete walls
- Louvre panels for mechanical ventilation
- Natural ventilation for all staircases to reduce energy consumption and adherence to green efforts



## Dissipation Array™ System

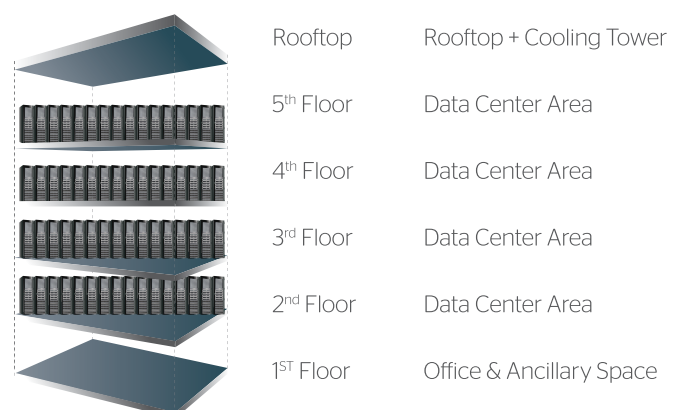
- Singapore has one of the highest rate of lightning activity in the world. Dissipation Array™ System is installed in our facility to prevent direct lightning strike termination to our facilities, providing customers with additional assurance.

## Physical Segregation

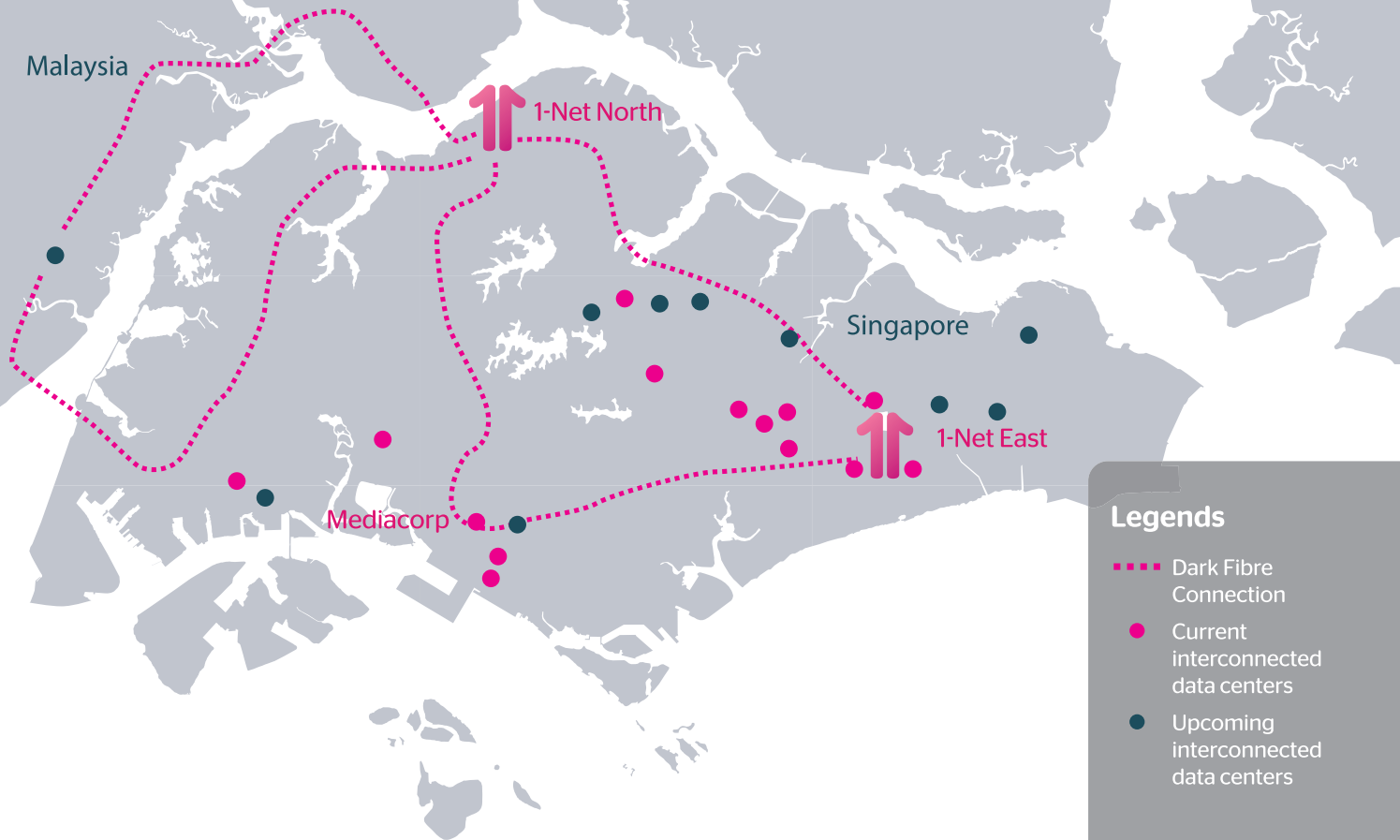
- The UPS and Battery Rooms are fully compartmentalised with 2 hours fire rating
- Each "N" system of the UPS and Battery rooms are located at the opposite sides of the data center
- Minimum 30m physical segregation between the high voltage mains power supply intake located on the ground floor and the backup power supply located on the roof

## Fault Tolerant System Design

- Designed with multiple active power and cooling distribution paths. The entire electrical and mechanical systems are capable of providing continual operations in the event of any component failure. The system is designed with the following criteria:
  - ✓ No single point of failure - The system will continue to operate without interruption during the repair process
  - ✓ Fault isolation to the failing component - The system is able to isolate the failure from the affected component when a failure occurs
  - ✓ Fault containment - This will prevent propagation of the failure component to the rest of the system



# Coverage of Data Center Corridor



## What is Data Center Corridor?

Data Center Corridor is an initiative to interconnect any data centers with diverse connectivity options for enterprises and service providers.

With the data center corridor, our customers will be able to leverage the connectivity to other data centers in Singapore and the rest of Asia as they look to expand their business operations in the region, offering them greater flexibility, resiliency and cost reduction.

## Coverage of 1-Net's Data Center Corridor

- 1-Net has a planned Fibre Optic Backbone connecting 1-Net North Data Center, 1-Net East Data Center and Mediacorp
- 26 data centers will be connected via Data Center Corridor in Singapore by end 2016
- Data Center Corridor will continue its reach to include more data centers in key ASEAN cities in the near future

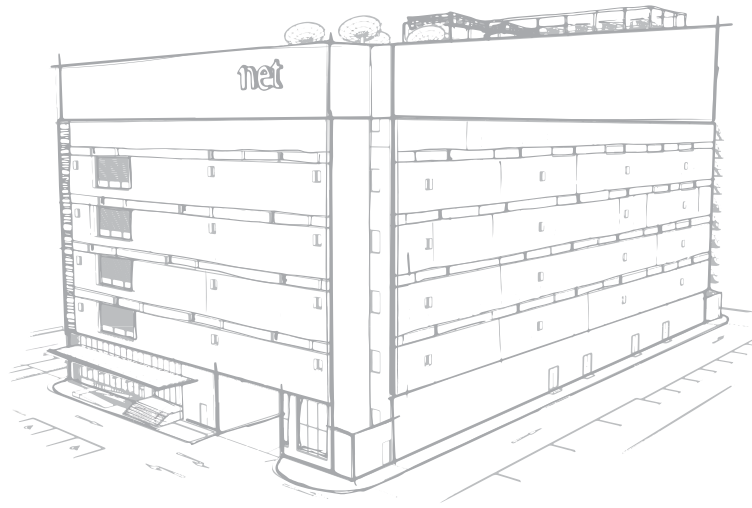
## Your Benefits

- Enjoy high speed connectivity between data centers at a lower cost
- Lower network latency
- Connectivity options with diversify routes between data centers
- Promote business interactions through seamless connectivity between data centers
- Facilitate businesses for quick deployment and access international markets more rapidly
- An alternative choice to local telco providers for Cloud, Application Providers, Content Distributors etc

Leverage on our Data Centers' Ecosystem through 1-Net's Data Center Corridor

What makes us different?





# Overview of 1-Net North Data Center

## Building Information

- 5-Storeys purpose-built data center
- Located at northern Singapore

## Total Build Up Area

- Approx. 20,000 m<sup>2</sup>

## Floor Specifications

- 12.5 kN / m<sup>2</sup> Structure Loading
- 5.1 m floor height
- Sunken floor design with 1.0 m raised floor height

## Ancillary Facilities

- Meeting rooms
- Dedicated customer office space
- 2.6 m cargo lift height

## Power Information

- 30 MVA with 2 HT Substations
- 3,000 kW UPS power capacity per data center floor

## Critical Power System

- 2N System redundancy implementation to all IT loads
- Multiple power transformers dedicated for UPS system per floor
- All ACMV loads are supported by Diesel Rotary UPS (DRUPS) System
- Dedicated generator system per floor
- Block redundant generator system configuration
- Availability of diverse fuel pump rooms and dual fuel distribution path

## Cooling

- Chilled water cooling system
- 16 MW cooling capacity
- N+2 Redundancy for CRACs in each data center hall
- CRACs are supported by dual UPS power

## Telecommunication Infrastructure

- Carrier neutral
- Two diverse telecom Incomers/ Point of Entry
- Two diverse MDF rooms
- TIA-942A standard compliant structured cabling system
- Enabled fibre connectivity to other data centers regionally
- Two Meet Me Room (MMR) on each floor

## Cross Connectivity

- One-time charge of UTP/Fibre Connection
- No monthly recurring cross-connect charge

## Lighting Prevention Enhancement

- Dissipation Array System™ prevents termination of direct lighting strike over the facility to reduce risk of equipment downtime.

## Security and Surveillance

- Anti-crashing barrier system at vehicle ingress / egress gate
- Full height stainless steel turnstiles at facility perimeter
- Swing gate turnstiles at lift lobby
- Multi-Factor Access Control and CCTV system provided for all data center floors and essential equipment areas.
- Trapped doors at data center
- Lifts controlled by Access Control System
- Dedicated 24/7/365 security personnel and M&E engineers

## Customer Support

- 24/7/365 customer support center
- Online customer portal for service request and tracking

## Certifications and Assessment

- Tier III Certification of Design Documents by Uptime Institute
- Tier III Certification of Constructed Facility by Uptime Institute
- Threat and Vulnerability Risk Assessment (TVRA)
- BCA-IDA Green Mark Gold<sup>Plus</sup>
- ISO 27001 - Information Security Management System (ISMS)
- ISO 22301- Business Continuity Management System (BCMS)



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