



EQUINIX



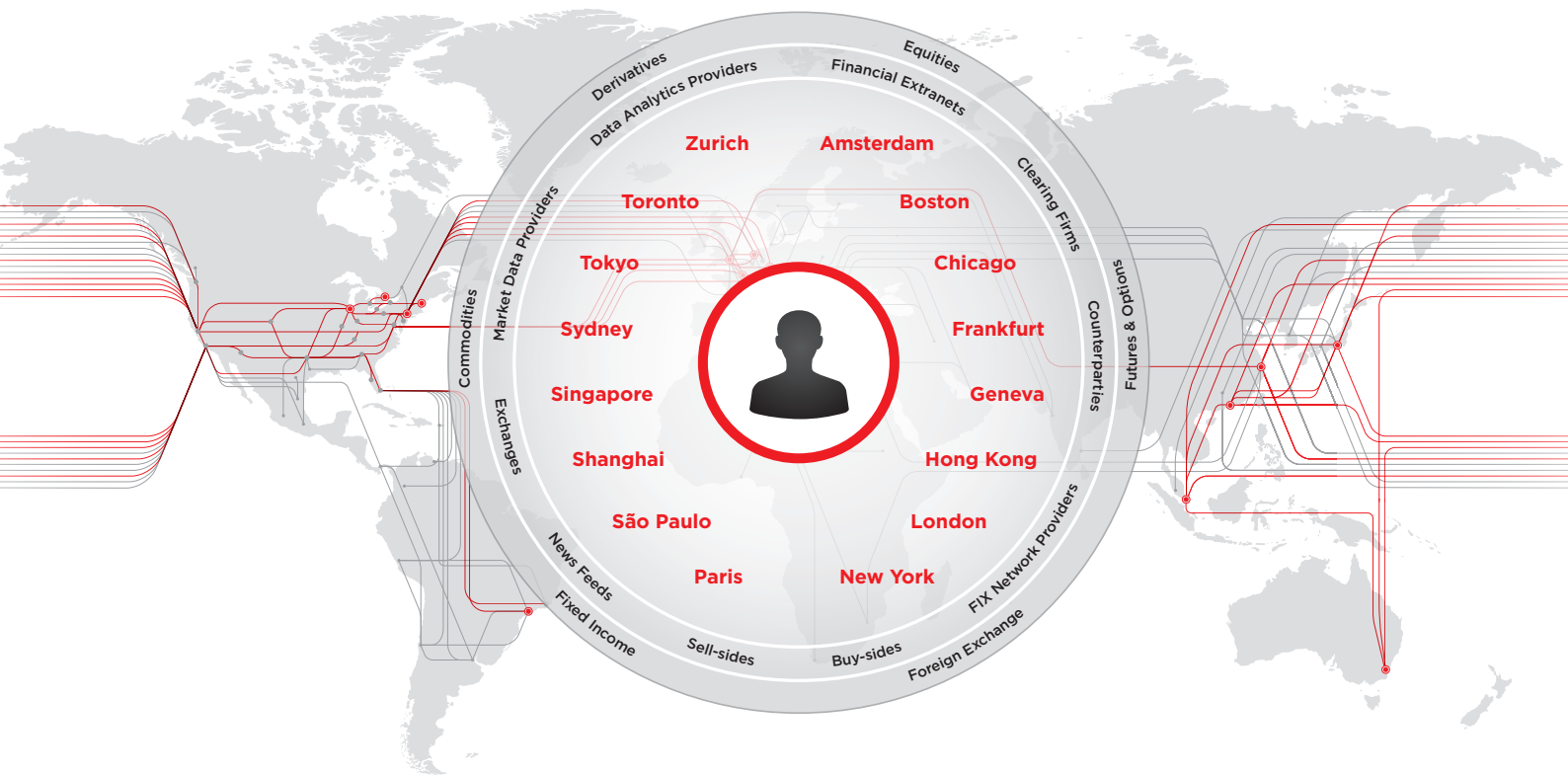
# LONDON-SLOUGH

THE WORLD'S NEW FINANCIAL CENTRE

# INTERCONNECTING THE WORLD'S FINANCIAL MARKETS

Equinix's global IBX data centres interconnect the capital markets in all of the world's leading financial centres, facilitating electronic trading and providing a neutral foundation for competition and collaboration as the world's leading multi-asset financial ecosystem.

Discover the power of financial ecosystems inside Equinix.



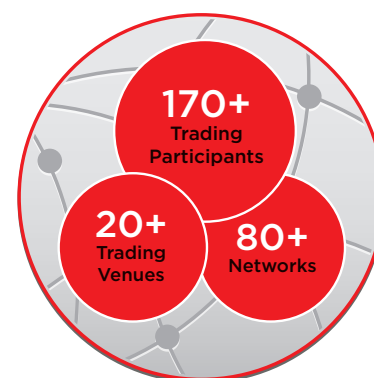
# LONDON CAPITAL MARKETS METRO OVERVIEW

## Liquidity Hubs

Renowned as one of the world's top financial centres, London is home to the world's leading trading venues and benefits from an extensive array of low-latency connectivity options to mainland Europe, the U.S. and Asia. Participants in these markets gain significant competitive advantage when they place their trading systems in close proximity to one another inside liquidity hubs like the Equinix data centre campus in London-Slough.

## Rich Financial Ecosystem

Since the early 2000s, Equinix has focused on building robust financial ecosystems in key financial centres around the world. Operating within Equinix's London-Slough International Business Exchange® (IBX®) campus puts your infrastructure in the middle of a robust community, interconnecting trading counterparties, execution venues, market data providers, order routing networks and other financial technology services, to create the world's largest multi-asset financial ecosystem.



“As a recognised leader in financial IT infrastructure, Equinix provides the type of high-quality hosting foundation that we require as we continue to grow our market share and operate in the top global financial markets.”

— Paul O'Donnell, chief operating officer, BATS Chi-X Europe

## London-Slough Capital Markets Ecosystem Participants

Asset managers, investment advisors, wealth managers and private equity firms

Exchanges, MTFs, ECNs, dark pools (matching engines and/or access nodes)

Brokers, investment banks and inter-dealer brokers

Liquidity providers, hedge funds and proprietary trading firms

Market data providers and aggregators including low-latency direct and aggregated feeds, news feeds, fundamental data, pricing, corporate actions and reference data

Market access gateways, order routing, FIX gateways and extranets

Managed services and hosting providers offering hosted trading systems, risk management and trading infrastructure

Trading workstations and platforms including trading terminals, market data distribution platforms and trading systems for all asset classes

Risk management specialists providing risk and compliance solutions across asset classes

# LONDON CAPITAL MARKETS ECOSYSTEM

20+  
Trading Venues

170+  
Trading Participants

80+  
Unique Networks

20+  
Tier 1 / 2 Banks

50+  
NETWORKS

## LD4/5 London-Slough Data Centre Campus

LD4 – 145,059 ft<sup>2</sup> (13,476 m<sup>2</sup>) • LD5 – 226,044 ft<sup>2</sup> (21,000 m<sup>2</sup>)

Our LD4 and LD5 IBX centres form a campus environment, connected by more than 1,000 diverse dark fibers. Connectivity between both sites are implemented as cross-connects.

### London Metro Data Centre Standards and Accreditations

ISO 9001: 2008 – Quality Management

ISO 14001: 2004 – Environmental Management System

OHSAS 18001: 2007 – Health & Safety Management

ISO/IEC 27001: 2005 – Information Security Management

ISO 50001: 2011 – Energy Management System

PCI-DSS v2.0

### Data Centre Reliability

99.999+% Power availability

99.99+% Temperature and humidity availability

99.99+% Cross connect availability



### Execution Venues

**Aquis Exchange**  
Matching Engine

**BATS Chi-X Europe**  
Matching Engine

**CBOE**  
Access Node

**CME**  
Access Node

**Currenex**  
Access Node

**ICAP EBS**  
Matching Engine

**ICAP Brokertec**  
Matching Engine

**ICAP ISDX**  
Matching Engine

**FastMatch**  
Matching Engine

**JSE (Via Fixnetix)**  
Access Node

**Liquidnet**  
Matching Engine

**LMAX**  
Matching Engine

**Hotspot FX**  
Access Node

**Integral**  
Access Node

**London Metal Exchange**  
Access Node

**Moscow Exchange**  
Access Node

**NASDAQ NLX**  
Matching Engine

**NASDAQ OMX**  
Access Node

**NYSE Technology SFTI**  
Access Node

**The Order Machine**  
Matching Engine

**ParFX**  
Matching Engine

**TradX**  
Matching Engine

**Volbroker**  
Matching Engine



### Market Data, Technology and Services Providers

**Activ Financial**

**AlgoSpan**

**Bloomberg**

**CFN Services**

**Cinnober**

**Dow Jones**

**FCM360**

**Fixnetix**

**FlexTrade**

**FX Spot Stream**

**FXEcosystems**

**Guavatech**

**Integral**

**Intelligent Financial Systems**

**Interactive Data**

**IPC**

**MarketPrizm**

**Options IT**

**Quod Financial**

**S&P Capital IQ Real Time**

**SmartTrade**

**TMX Atrium**

### LD5 London



Continuity Trading Rooms

**LD1 London**  
8,708 ft<sup>2</sup> (809 m<sup>2</sup>)

25+  
NETWORKS



Connectivity Hub

**LD2 London**  
69,806 ft<sup>2</sup> (6,485 m<sup>2</sup>)

15+  
NETWORKS



Back Office Support

**LD3 London**  
41,981ft<sup>2</sup> (3,900 m<sup>2</sup>)

15+  
NETWORKS



Business Continuity

# LONDON NETWORKS AND CONNECTIVITY

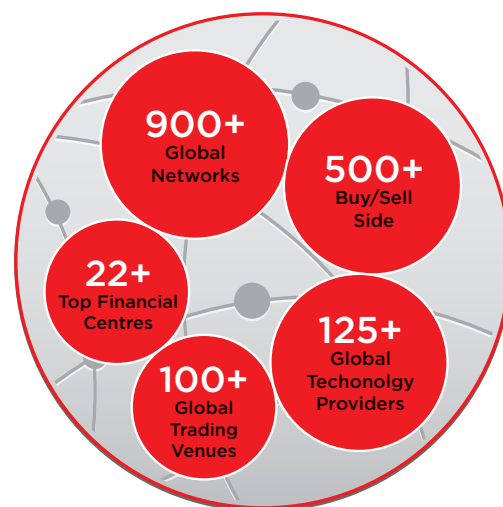
Connectivity is a key driver for selecting a data centre. Most financial services clients select a data centre location based on proximity to execution venues and market data sources.

Our London-Slough data centre campus boasts multiple different networks, dark fiber providers and extranets. This diversity creates opportunity for Equinix clients to design networks and select carriers based on their specific business drivers such as high bandwidth, low latency, global connectivity, cost control or a mix of these priorities.

All of the London-Slough campus trading participants are just a cross connection away for anyone with servers located in the Equinix's London-Slough IBX Campus. Cross connections can be brought live in 24-48 hours, giving you fast access to scalable bandwidth connectivity at a fixed monthly cost, enabling firms to quickly connect to clients, capture order flow and deliver a faster time to revenue.

While internal connectivity is a key driver, more than 80% of the connections established by Equinix financial customers terminate off-premise. Broad network diversity ensures Equinix clients have the widest choice of options when connecting to customers and counterparties located outside the data centre.

Network providers in Equinix's London metro data centres connect to all the major financial centres in Europe, North America, Asia-Pacific and Latin America.



## London Network Providers Sample

Abovenet Communications
Atrium Networks London (Finexo)
Belgacom / Bics
BT
Cable & Wireless
Cogent Communications
Colt
EU Networks
Exponential-E
Fibrespan
Geo UK Limited
Global Crossing
Hibernia Atlantic
Interoute
Level 3
Neos Networks Sse)
NTT
Orange Business
Reliance Globalcom Services
Savvis
T-Systems
Telefonica
Tinet
Verizon
VTLWaveNet [Viatel Viaphone]

## London Extranet Provider Sample

AlgoSpan
BTRadianz
TNS
CFN
Fixnetix
TMX Atrium
FXEcosystem
IPC
MarketPrizm
Options IT
Verizon Financial Network
QuantHouse
IDC 7Ticks
Savvis
Guavatech

**Full directory listings** of all available network, technology and service providers located inside Equinix global data centres can be found on the Equinix Marketplace.

» [marketplace.equinix.com](https://marketplace.equinix.com)

# LONDON DATA CENTRE FACILITIES



## Colocation Space

Platform Equinix™ connects businesses with partners and customers around the world through a global platform of high-performance data centres, totaling 7+ million square feet of colocation space and strategically located in 31 markets across the Americas, EMEA and Asia-Pacific.



## Interconnection

Equinix offers high-performance reach to the greatest number of end-users, the widest array of lit buildings, and the most vibrant ecosystem of customers within our data centres. With over 4,000 businesses, including 950+ network providers, our ecosystems and exchanges provide the dense interconnection required by today's digital solutions.



## Power

Equinix data centres provide a minimum N+1 redundancy for every IBX power system, to maximize uptime availability. Our infrastructure includes Uninterruptible Power Supply (UPS) systems to prevent power spikes, surges and brownouts, and redundant backup diesel generators provide additional runtime. Using proprietary automated telemetric systems, our IBX Engineering Team monitor all power system components on-site or remotely.



## Cooling

Each Equinix IBX data centre includes a robust HVAC system to provide stable airflow, temperature and humidity, with minimum N+1 redundancy for all major equipment. IBX+ facilities are equipped with N+2 redundancy for chillers and Thermal Energy Storage, providing enhanced temperature stability.



## Physical Security

Each IBX centre utilises an array of security equipment, techniques and procedures to control, monitor and record access to the facility, including customer cage areas. All areas of the facilities are monitored and recorded using CCTV, and all access points are controlled. Every IBX centre is staffed with 24-hour security officers. Visitors are screened upon entry to verify identity, and escorted to appropriate locations. Access history is recorded for audit by customers.



## Standards and Compliance

Equinix is committed to operating facilities that meet the rigorous standards and compliance needs of global businesses. Equinix works with several regulatory and standards organisations to ensure compliance—from operation of the data centre to sustainability and environmental regulations.



## Energy Efficiency

Our global International Business Exchange™ (IBX®) Operations and Engineering teams have implemented comprehensive conservation and efficiency programs that include energy and water conservation, solid waste reduction, pollution prevention and recycling.



## Business Continuity

Equinix's Business Continuity Solutions are designed to bring an added layer of protection to critical operations that include technology and space, as well as trading room operations. By locating our continuity solutions in the same secure, reliable and network-rich facilities as our industry-leading colocation services and global financial ecosystems, we enable today's financial services organisations to effectively identify company risks and evolve their tools to handle or mitigate them. Shared or dedicated facilities provide customers with dedicated, fully operational trading positions and trading support positions, with access to market data services and mission critical systems, coupled with office space for back office administrative support.



## Customer Support

Our IBX staff of engineers, technicians, and customer care specialists offers on-site and online technical and logistical support for customers 24 hours a day, 7 days a week. Each IBX centre features customer kiosks with phones, PCs and data ports. Customers can also provision additional services, including Smart Hands, Response Centre and our online Customer Care Portal, which allow customers to access remote management, custom installation and equipment troubleshooting services, as well as submit routine requests, open work tickets, place and check orders, access policies or schedule visits.

For more information on Equinix's global IBX data centre operations and engineering visit [www.equinix.com](http://www.equinix.com)

# IT INFRASTRUCTURE DEPLOYMENT GUIDE

There are a range of considerations that affect your ability to scale and adapt to continuing market evolution efficiently, both now and in the future. The following 5-step process will help you make more informed decisions regarding the total cost and benefit of your critical trading infrastructure deployment.

## 1 Determine Trading Targets

- Transaction/execution venues: Include all asset classes
- Actionable data sources

## 2 Establish Providers of the “Spokes”

- List all metro or regional providers for each feed or service
- Highlight providers that can link multiple end points (to reduce the number of vendors)
- Research messaging bandwidth and associated peaks for each feed (The SIIA’s FISD Internationally or FIF is a good source for U.S. capacity projections)

## 3 Identify Backbone Providers Between Cities

- Establish candidate providers between regions or markets
- Check route diversity between redundant providers of long-haul services (remember recent submarine cable cuts)
- Look for offerings that match technical and budgetary requirements
- Be sure to check latency (measured versus SLA) for each vendor and offering

## 4 Determine Adjacency Requirements

- Critical vendor list is often determined by:
  - Most sensitive to latency
  - Execution speed of the venue
  - Outbound bandwidth and protocol
- Remember vendors that are on your critical path:
  - Inbound aggregate feed providers
  - Outbound real-time or pre-trade risk analytics
- There will be multiple critical vendors in each city (at multiple locations)

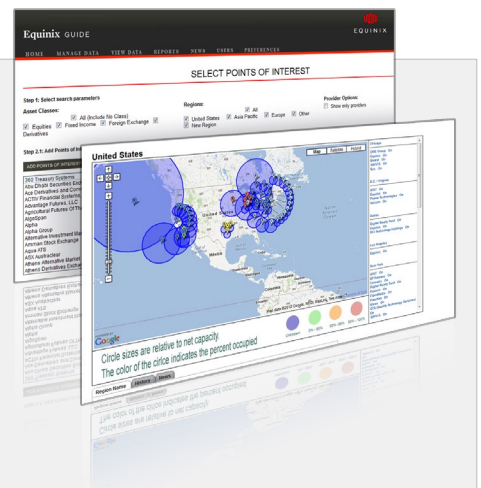
## 5 Liquidity Hubs or Data Centres

- Tally the spoke and backbone connectivity providers and look for the greatest overlap within the data centre (not just the building)
  - Look to consolidate vendors to achieve economies of scale and scope
- Liquidity hubs will act as pivot points for present and future connectivity requirements
- Remember the 80/20 rule: 80% of cross connects will link to networks providing off-premise connectivity
- Your data centre selection will determine your network expense trajectory or cost to scale

### GUIDE Tool IT deployment planning tool for financial services firms

Equinix GUIDE greatly shortens and simplifies the process of assessing complex electronic trading deployments. Powered by a global database containing hundreds of data centres (not just Equinix data centers), thousands of financial points of interest and the networks centres connect them all, GUIDE makes it easy to identify the optimal deployment solution for your firm. Map connections to global trading venues, data sources and services providers, optimise network latencies and identify the most cost-effective footprint that meets all of your requirements. GUIDE is a free service available to Equinix customers and prospective customers. Contact your Equinix representative for more information on this powerful deployment planning tool.

» [www.equinix.com/guide](http://www.equinix.com/guide)



Contact Equinix for a demonstration and to request a login.

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## About Equinix

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Equinix, Inc. (Nasdaq: EQIX), connects more than 4,000 companies directly to their customers and partners inside the world's most networked data centers. Today, enterprise, cloud, networking, digital media and financial services companies leverage the Equinix interconnection platform in 31 strategic markets across the Americas, EMEA and Asia-Pacific.

By connecting directly to their strategic partners and end-users, customers are forming dynamic ecosystems inside Equinix. These interconnected ecosystems enable companies to optimize the performance of their content and applications and protect their vital digital assets.