



Financial Information

# Customer information Connecting to SIX Financial Information systems

July 2013



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# 1 Introduction

SIX Financial Information offers customers a variety of ways to access the company's financial information and financial services. Connections to the SIX Financial Information systems are made over a Virtual Private Network (VPN), depending on the customer's requirements. This network connects the data traffic over a service provider's secure separate tunnel of the Multiprotocol Label Switching (MPLS) network or over the Internet using a secure connection. A direct PTP (point-to-point) connection is also possible.

SIX Financial Information works with various reliable carrier service providers all over the world (see Section 3, Summary). However, other carriers may also be considered, depending on customers' wishes.

Communications services are also provided over managed MPLS-VPN (Multiprotocol Label Switching – Virtual Private Network) connections, which guarantee high bandwidth and a high degree of data protection under an SLA (Service Level Agreement).

In addition, end customers have the possibility of establishing a point-to-point connection over any carrier. SIX Financial Information makes the requisite space available for the carrier in a computing center in Switzerland, the USA or Singapore for this purpose.

The connection can also be established over the Internet. However, neither the SLAs nor the bandwidth can be guaranteed using this method.

The various connection possibilities provide access to the following SIX Financial Information product categories:

- Display products for specialized searches and on-screen display of data in a user-friendly format.
- Products for subsequent processing of the data supplied to your database.

Your local sales support team can provide further details of the SIX Financial Information product range.

## 2 Connection methods

The end customer may adopt various methods to connect to the SIX Financial Information system: IP VPN (a secure, encrypted Internet connection), MPLS (a connection independent of the Internet), point-to-point or by means of an Internet connection. A detailed description of the various possibilities follows.

### 2.1 Summary

In Europe, the US and in Asia, end customers can have a connection to one of the SIX Financial Information computing centers. The precise kind of connection will depend on their geographical location and individual requirements.

In every case, SIX Financial Information checks both the individual availability of the systems on a national basis and the data center from which the customer can be served. SIX Financial Information supports and advises the customer on implementing the connection and can also take over the entire process if desired. The contractual relationship with the carrier is the responsibility of the customer.

For this reason, direct contact between the company and the applicant is an absolute necessity.

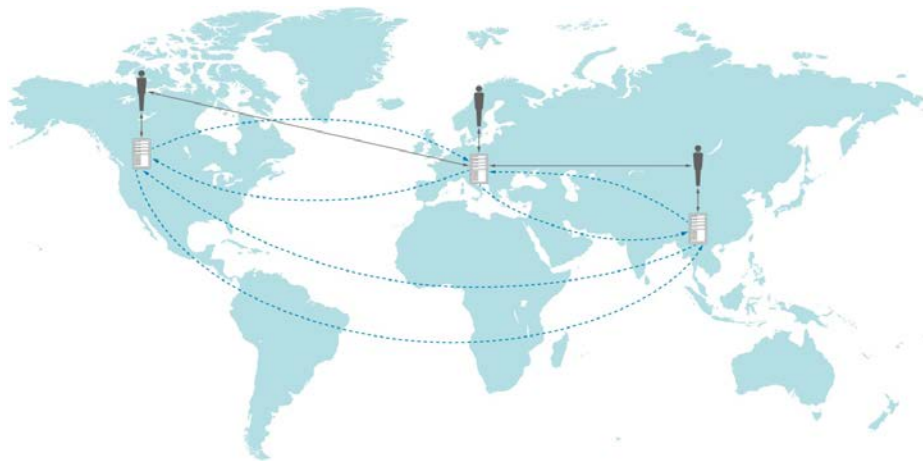


Fig. 1: SIX Financial Information computing centers all over the world

## 2 Connection methods

### 2.2 IP VPN over MPLS

#### 2.2.1 Connection in Switzerland

In Switzerland, SIX Financial Information works with its partners Sunrise and Swisscom. Both of these companies provide a standardized offer facilitating connection to the MPLS network.

#### 2.2.2 International connections

On an international level, SIX Financial Information works with Verizon, BT Radiantz and COLT. National agreements exist with local carriers to facilitate access to SIX Financial Information services.

#### 2.2.3 Advantages for the customer

IP VPN over MPLS not only offers customers access to financial services but also has the following advantages:

- Access to all SIX Financial Information services and products
- All services available over a single connection
- Service Level Agreements (SLAs)
- Guaranteed availability
- High system stability
- Bandwidth selectable in stages, depending on customer needs 64 kbit/s – 100 mbit/s
- Single and redundant communications connections
- Carrier Diversification Dual Access

Further information may be found at:

<http://www.six-interbank-clearing.com/en/shared/offerings/interbank-security-system/finance-ipnet/transaction-support.html#>

#### 2.2.4 Connection profiles

End customers have various options for connecting to the MPLS network (see Fig. 2), depending on their requirements. In order to protect the customer's privacy, communication is only possible between the end customer and SIX Financial Information, not between individual customers (Hub and Spoke).

## 2 Connection methods

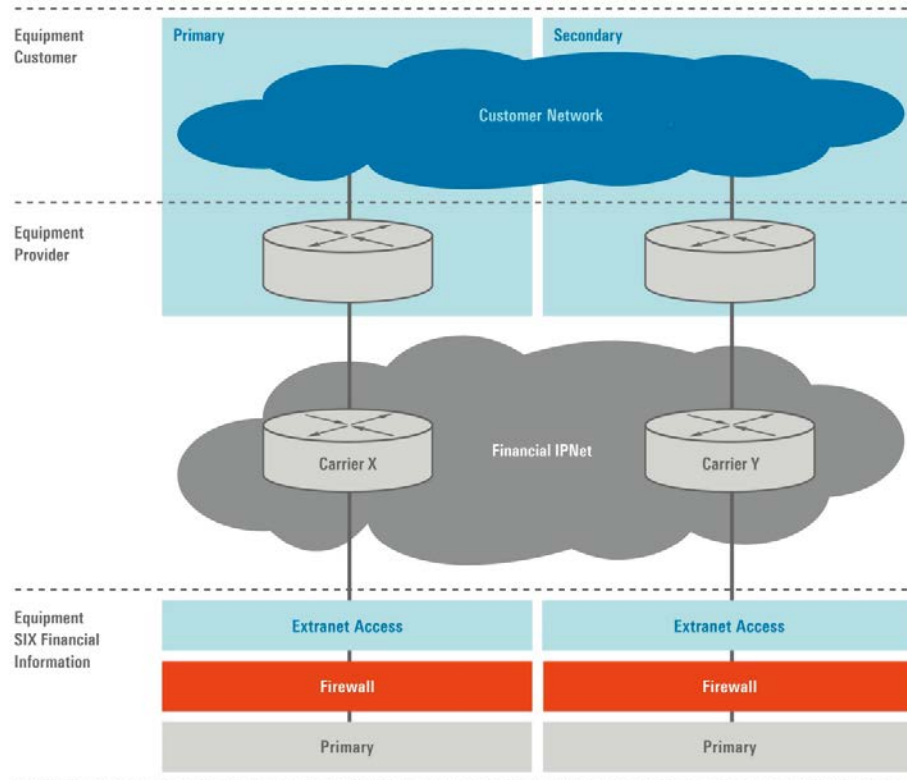


Fig. 2: IP VPN over Multiprotocol Label Switching (MPLS)

### Single Access

The customer has a single access connection to SIX Financial Information, usually provided over the carrier's local entry point. This connection is not redundant at the customer end.

### Dual Access

Dual access connects the customer to SIX Financial Information on a redundant basis. Preferably, two different carriers are used, depending on availability. Customer access is guaranteed via two different sites.

For example, line A is active, but line B is passive. Should line A experience a connection problem, line B becomes active (see Fig. 2).

## 2 Connection methods

### 2.2.5 Options

Depending on the carrier and the connection profile, the following options are available for connection to Finance IPNet:

#### *Bandwidths*

The customer may select a bandwidth of up to 100 Mbit/s, depending on its needs and individual requirements. The Quality of Service (QoS) functions enable the services to be prioritized to match requirements, so all the products can be provided over the same connection.

#### *Use of existing Radianz routers (Multi-VPN)*

If the customer already has a BT Radianz connection, the router can continue to be used to provide access, so no further hardware would need to be installed.

#### *Encryption*

Encryption protects data using tried and tested encryption and authentication algorithms. These key configurations are provided by carriers, which now mainly offer shared key encryption for this purpose.

### 2.3 Internet connection

SIX Financial Information offers the possibility of two VPN terminals, and thus a secure Internet connection between the end customer and the company. The end customer may configure one or two VPN site-to-site connections, depending on the specifications of SIX Financial Information. Please note that, due to technical limitations, availability and bandwidth cannot be guaranteed for the VPN connection.

#### 2.3.1 Connection profile

The end customer has the following options for connecting over the Internet.

##### **Single Access**

SIX Financial Information offers the end customer Internet access via a site through a single interface.

2 Connection methods

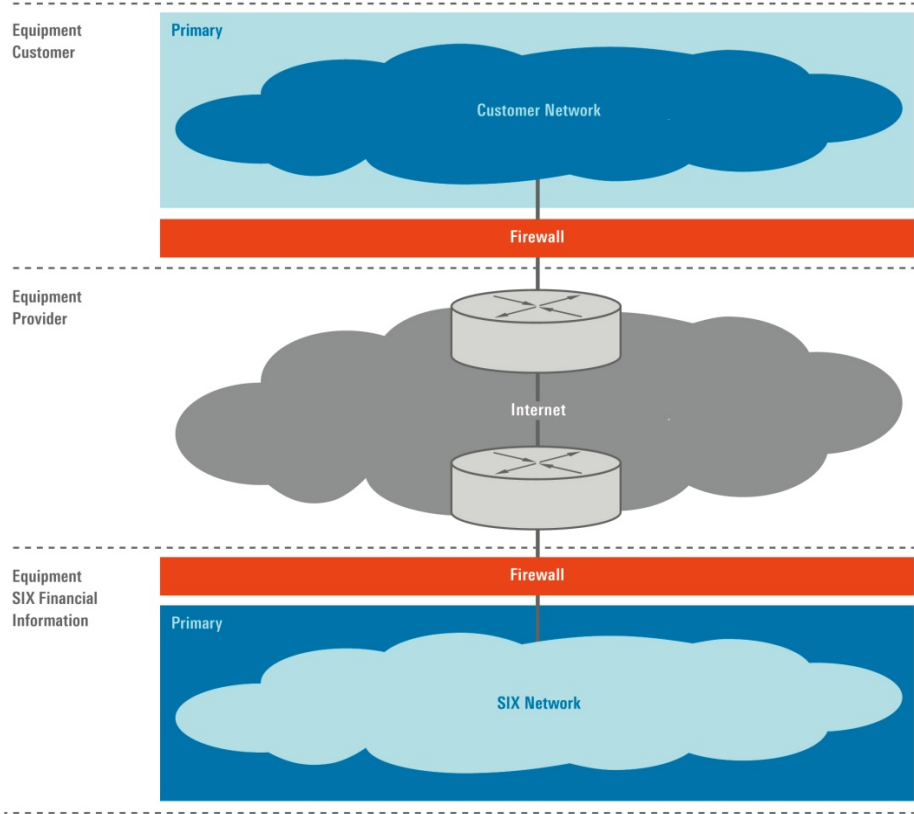


Fig. 3: Internet connections and central access with VPNs



## 2 Connection methods

### Dual Access

SIX Financial Information also offers end customers dual access as an alternative to single access. In this case, two different Internet Service Providers (ISPs), each provide access to the Internet. Access is established in each case at a physically separate location. It should be noted that automatic failover is not possible due to technical limitations in the communication between two ISPs.

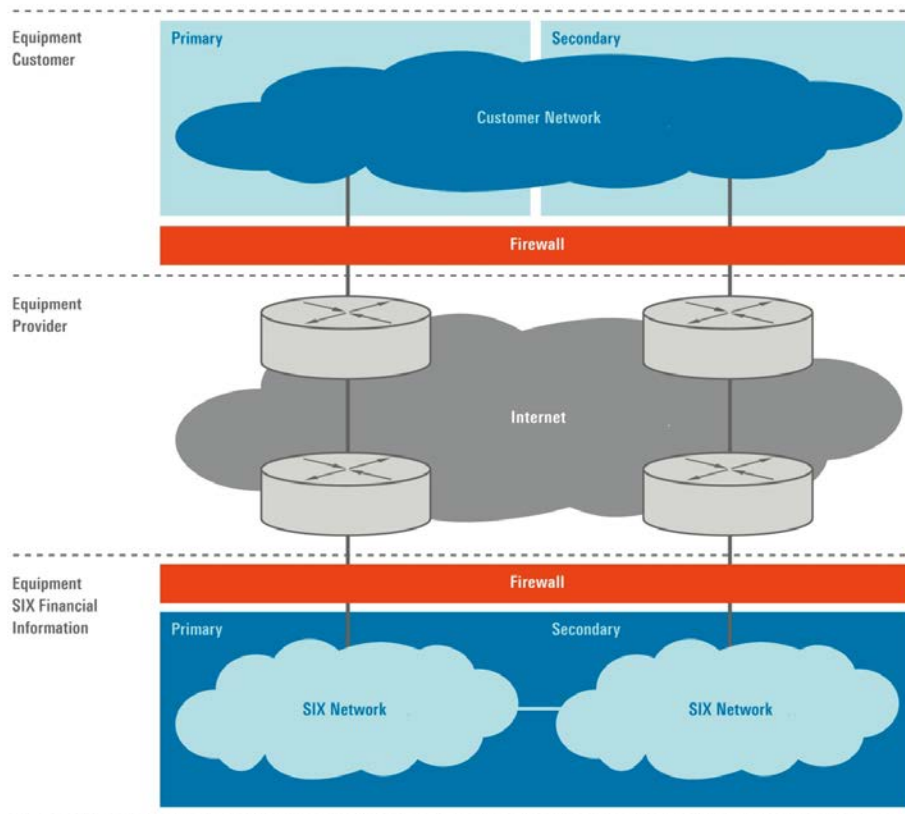


Fig. 4: Dual access with VPN

### 2.3.2 Options

The following possibilities exist for Internet access, depending on the carrier and the connection profile:

#### *Bandwidth*

The customer may select a bandwidth of up to 100 Mbit/s, depending on their requirements. Note, however, that the bandwidth also like the availability is not guaranteed and the data flow cannot be monitored. Transfers are made on a best effort basis.

#### *Encryption*

The data stream over the Internet can be encrypted using VPN. This simple measure provides an advantageous type of communication for obtaining financial services.

## 2 Connection methods

### 2.4 Point-to-point connections

Every end customer has the possibility of establishing a connection to the SIX Financial Information system over a point-to-point connection with one of the company's computing centers.

These connections should be arranged by the customer directly with the carrier and may be sourced from any carrier. SIX Financial Information offers a connection to the computing center at one of its locations in Europe, the US or in Asia. The customer has technical responsibility for the connection.

SIX Financial Information offers a point-to-point solution over an individual connection, or on a redundant basis over two connections by different carriers. However, customers can also order such a connection directly from SIX Financial Information. If more than one service is used over the same end-customer MPLS connection, the QoS function enables them to be transmitted in a specified, guaranteed and verifiable quality.

#### 2.4.1 Options

Depending on the carrier and the connection profile, the following options are available for access over a point-to-point connection:

##### *Bandwidths*

The customer may select a bandwidth of up to 100 Mbit/s, depending on their needs. The QoS functions can prioritize the services to match requirements.

##### *Encryption*

Encryption is an option for SIX Financial Information services. Encryption protects data using tried and tested encryption and authentication algorithms. The encryption key configurations are managed by the carriers and are currently offered predominantly on a shared key encryption basis.

## 3 Summary

### 3.1 Carriers

The following table summarizes the carriers with which SIX Financial Information generally works and which offer direct access to its services.

	CH	Europe*	USA	Asia
Swisscom	■			
Sunrise	■			
Verizon**	■	■		
BT Radianz	■	■	■	■
TNS				■
COLT	■	■		
France Telecom / OBS		■		
SFTI			■	

\* Point-to-point connections are not available in France.

\*\* Verizon does not operate in France.

This list is not exhaustive. Other carriers may be considered, depending on customer requirements.

MPLS solutions can be sourced quickly, all over the world, so a connection to SIX Financial Information financial services can be provided in a short time.

### 3.2 Features

	MPLS	Punkt zu Punkt- Verbindung	Internet oder VPN
Single access	Yes	Yes	Yes
Dual access	Yes	Yes	Yes but without failover
Selectable bandwidth	Yes	Yes	Yes, best effort
QoS	Yes	Yes	No
Encryption	Yes	Yes	Yes