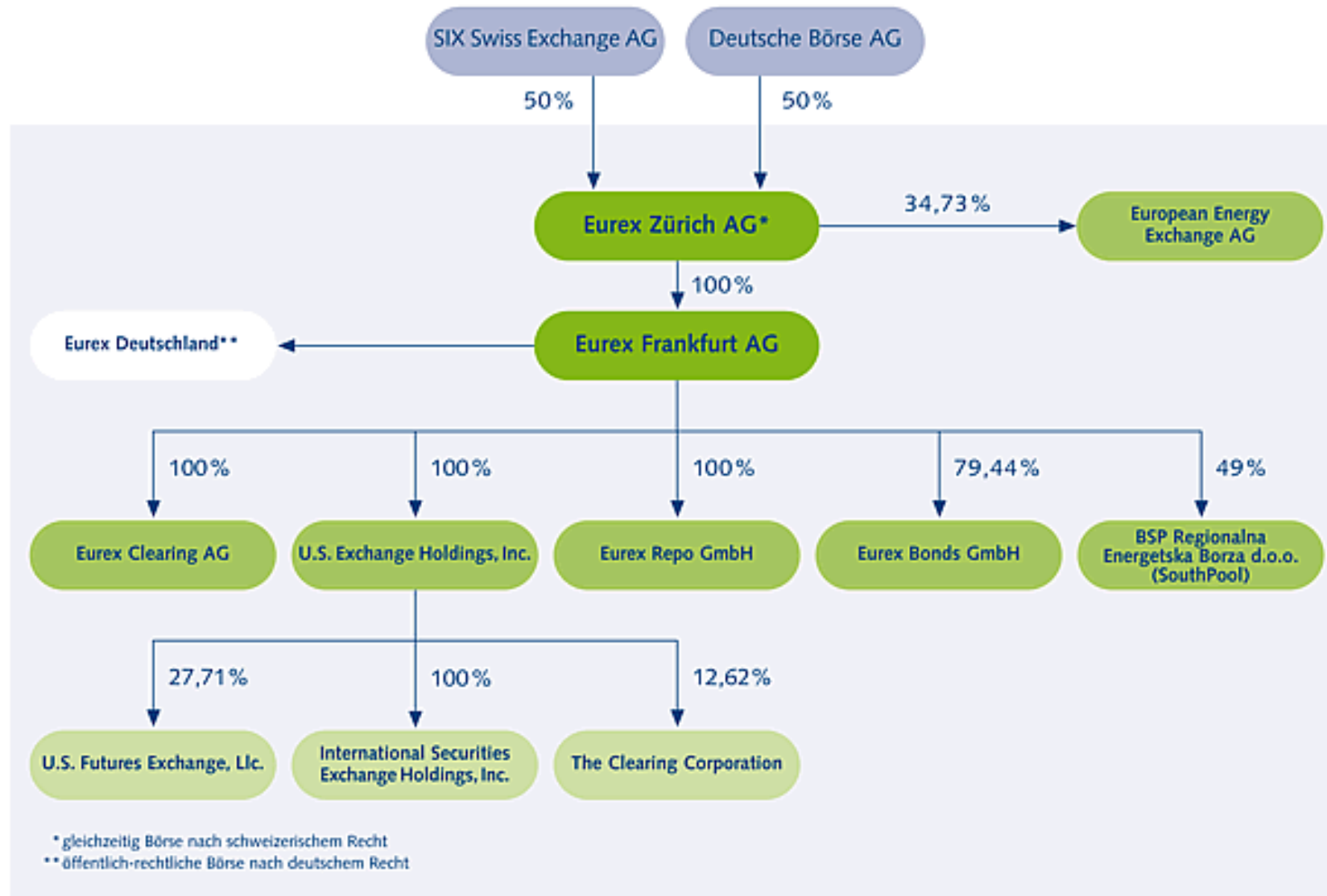


## Eurex Repo / SecLend

Local Support Center – Technical Presentation



# Organisation Structure



# Markets Served by the Eurex Repo / SecLend Trading System

This slideshow is applicable for:

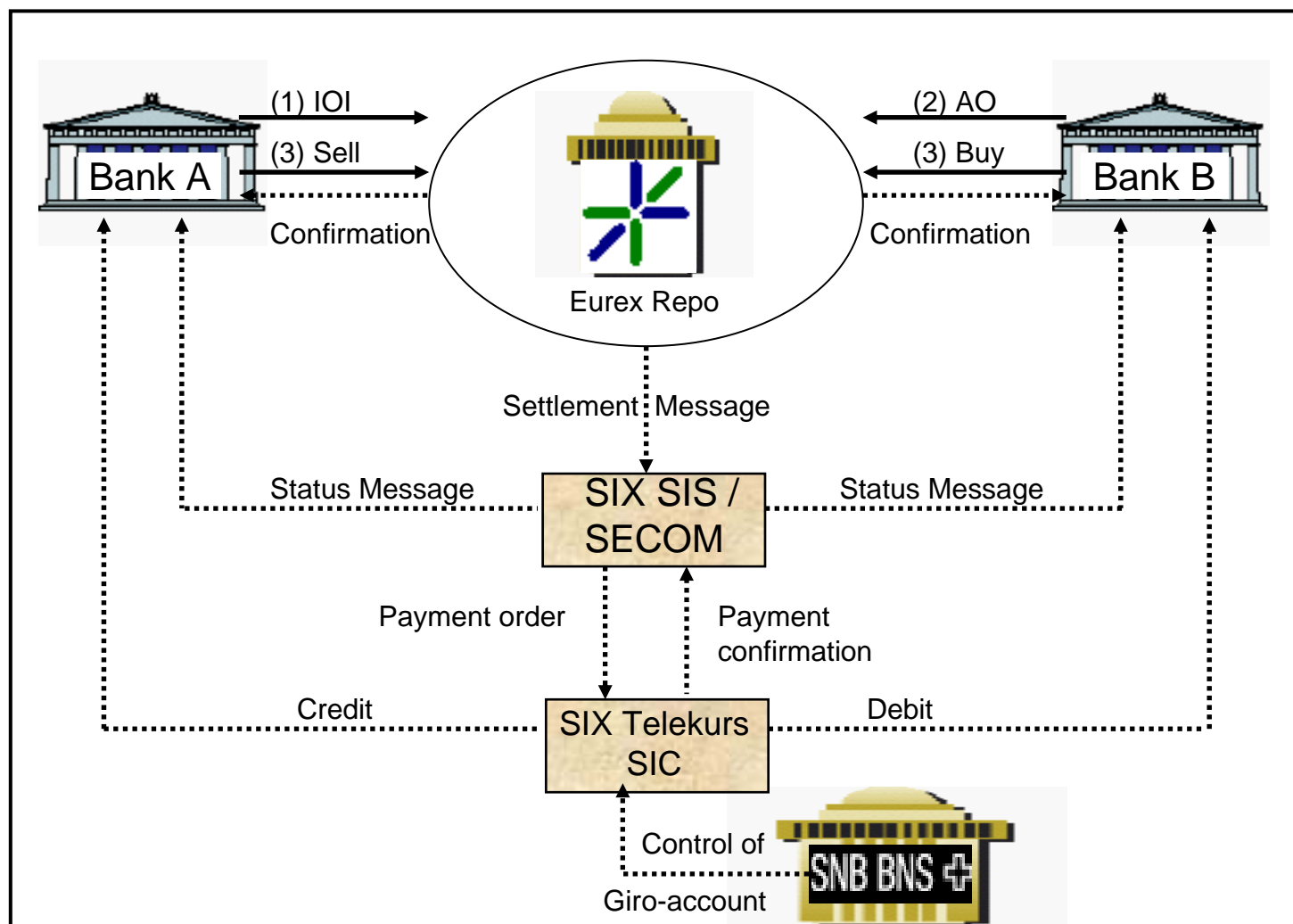
- Swiss Triparty Repo Market
  - Euro Repo Market
  - Eurex SecLend Market
  - Swiss Primary Bond Market
- 
- Since it is the same system for all markets, the term *Eurex Repo / SecLend* is used in this slideshow and covers all the markets listed above.

It is not an extension of the Eurex trading platform.

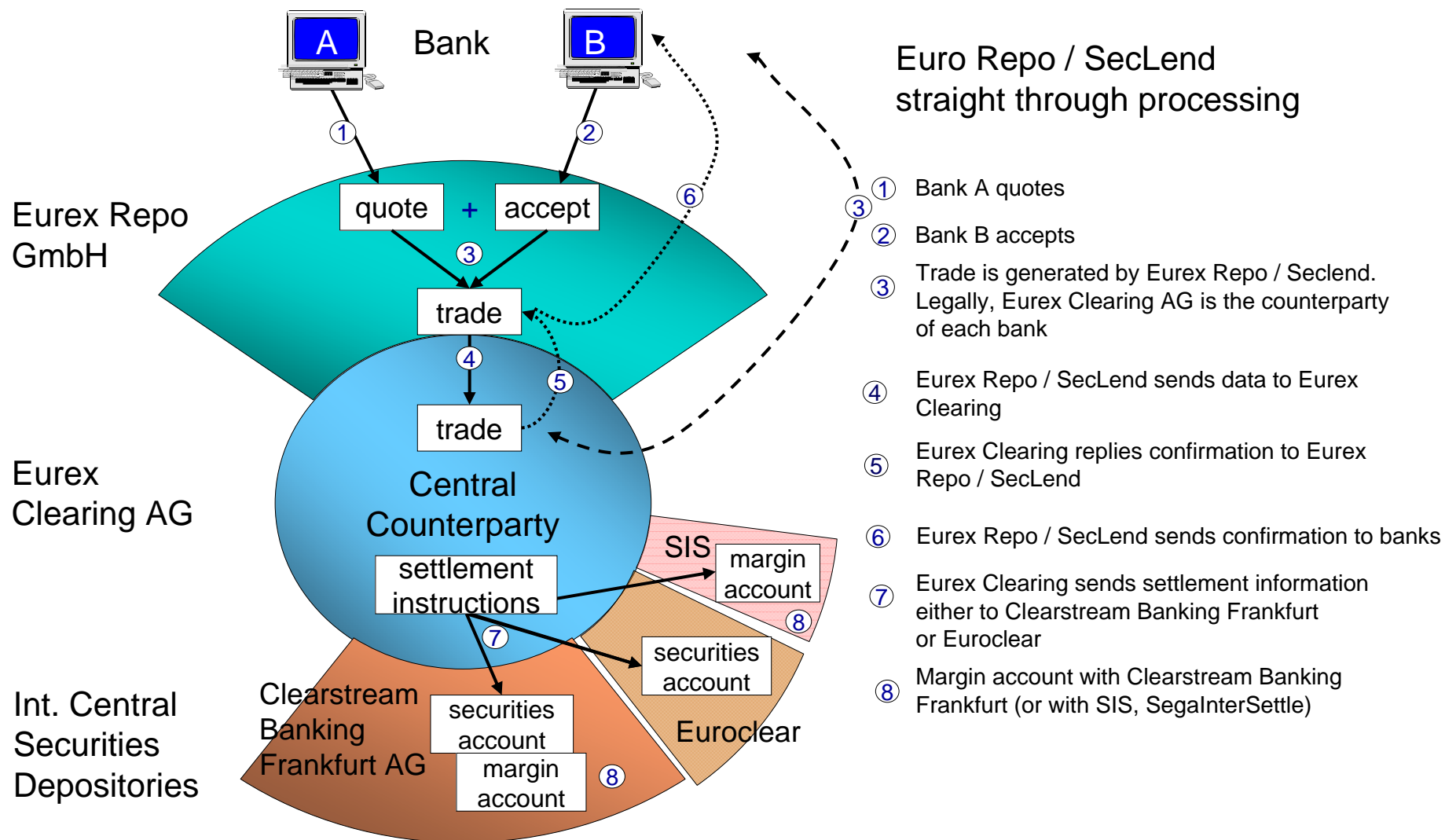
# Eurex Repo / SecLend and the SIX Swiss Exchange

- The SWX Repo platform was integrated with Eurex under the name Eurex Repo.
- Marketing is done by Eurex staff in Frankfurt, London, Paris and Zurich.
- Business support is provided by Eurex staff working at the SIX Swiss Exchange in Zurich.
- Technical support, operating and development are managed by the SIX Swiss Exchange in Zurich, London and Geneva
- Don't be confused by the mix of Eurex and the SIX Swiss Exchange!

# Swiss Triparty Repo Market - Clearing and Settlement



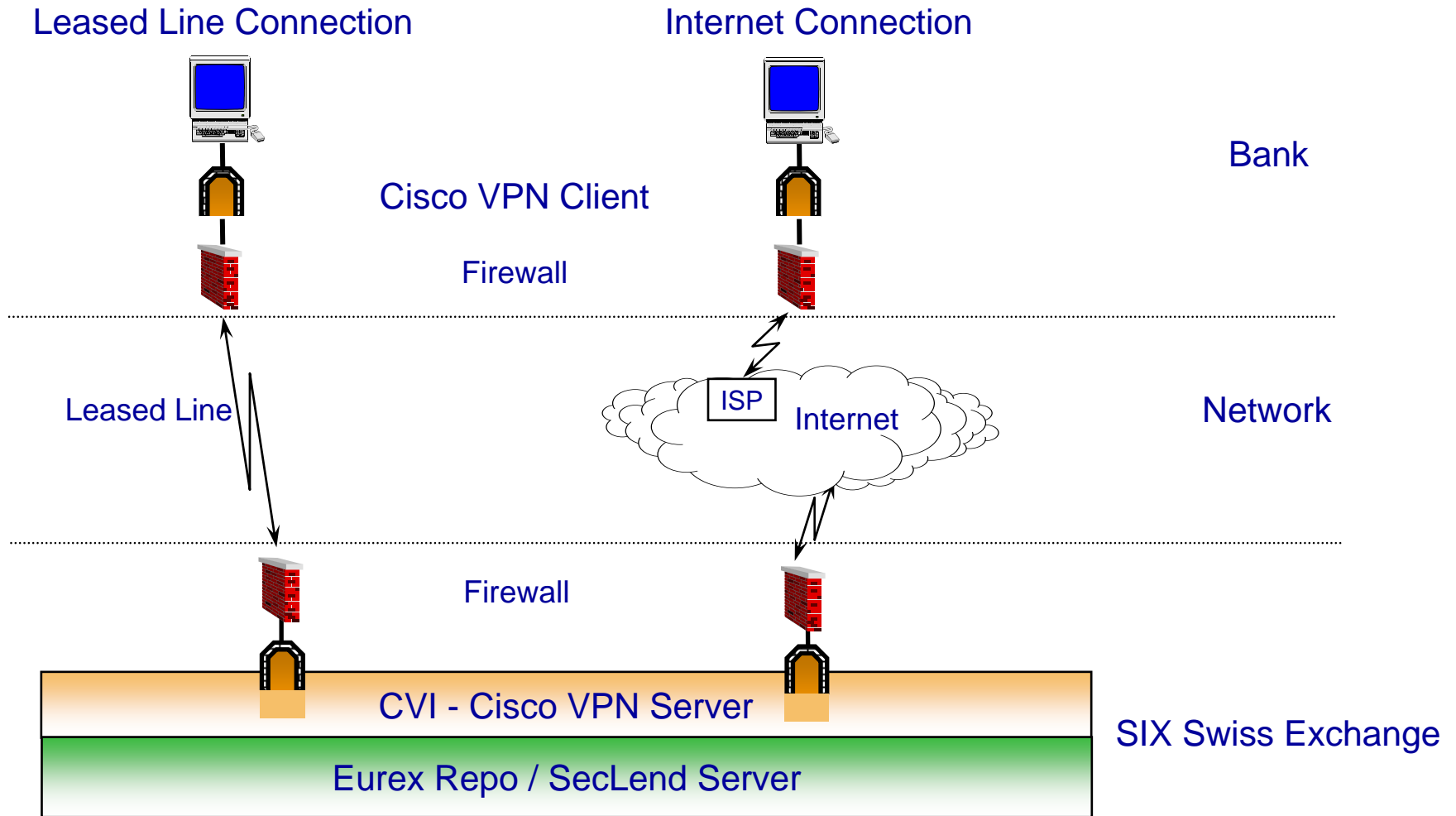
# Euro Repo / SecLend Market - Clearing and Settlement



# Eurex Repo / SecLend and the SIX Swiss Exchange

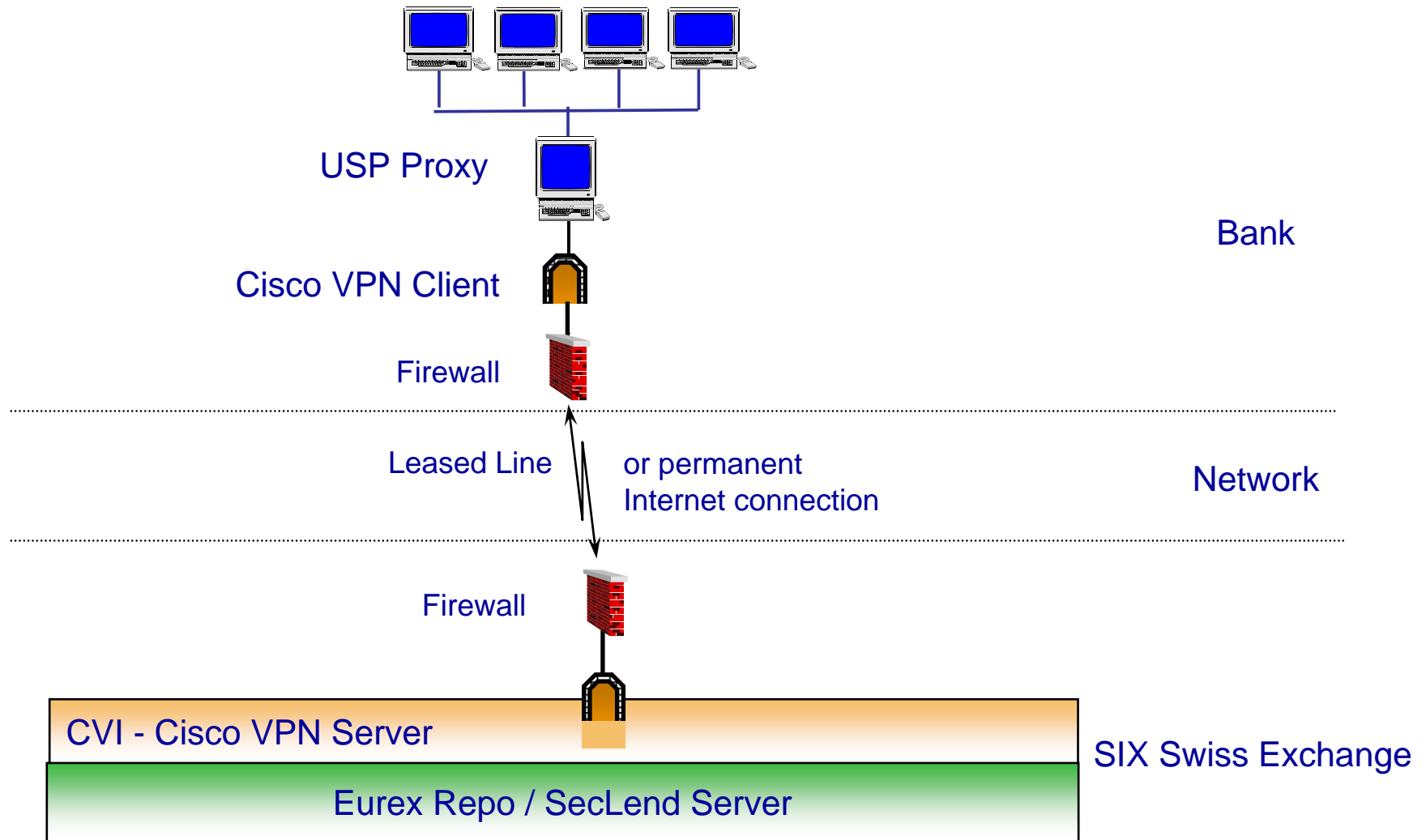
- To connect to the Eurex Repo / SecLend system one of the following solutions is needed:
- Internet connection with a throughput of minimal 128 kbit/s, recommended 256 kbit/s and throttled maximum 512 kbit/s
- Leased Line connection
  - **Verizon Business** (at least 128 kbit/s)
  - **Radianz** (at least 128 kbit/s)  
(For details on these connection possibilities see separate documentation on the Eurex Repo / SecLend Website:  
[www.eurexrepo.com](http://www.eurexrepo.com) – publications)
- For Eurex SecLend we recommend connections at least 256 kbit/s  
(Throttled maximum via Leased Line)

# Single User





## Multi User with USP Proxy



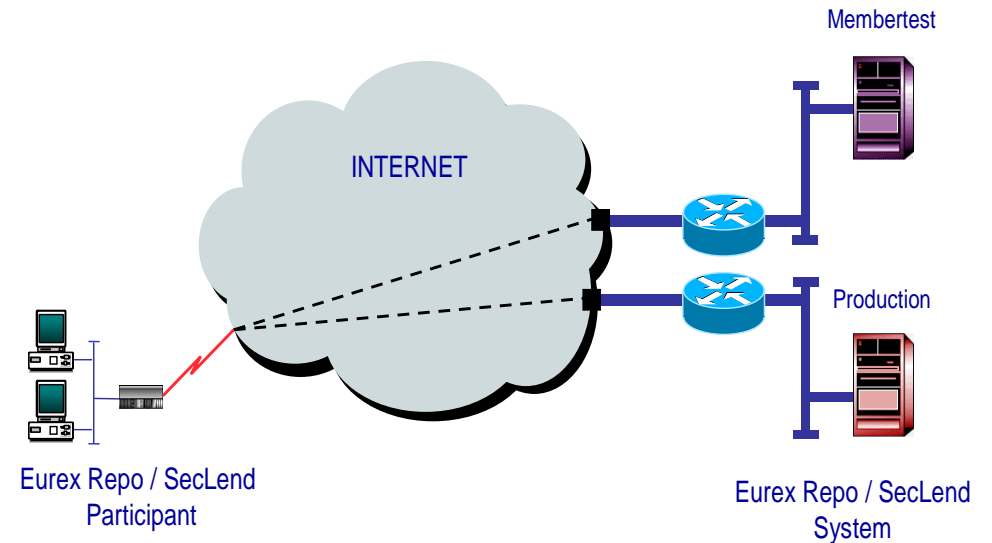
# Internet Connection

## ■ Pros:

- Low Cost Solution
- Many banks have an existing broadband Internet connection

## ■ Cons:

- No speed/availability guaranteed
- Firewall is essential if PC is not standalone



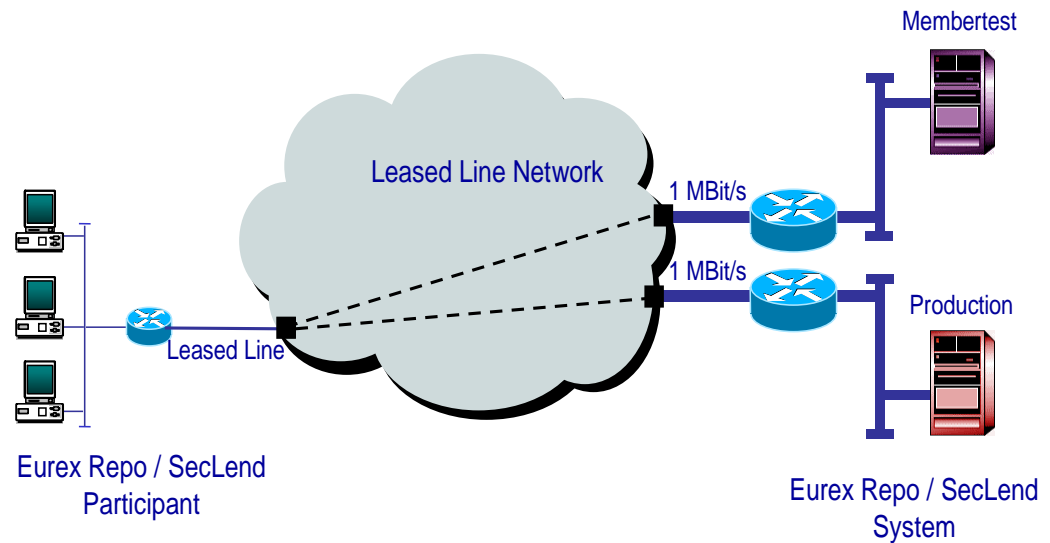
# Leased Line Connection

## ■ Pros:

- High availability over 24hrs monitored network
- Provider guarantees a defined throughput

## ■ Cons:

- Higher cost solution
- max. 3 Client PCs \*



**\* If more than 3 traders are working at the same time then a connection via an USP Proxy is strongly recommended. -> See next slide**

# Leased Line Connection with USP Proxy

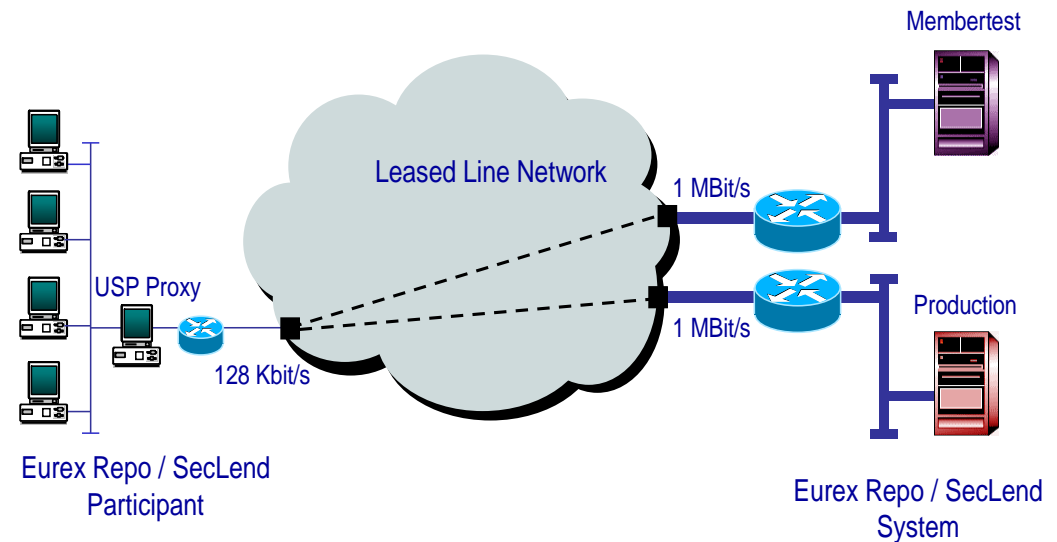
## ■ Pros:

Same as Leased Line, plus

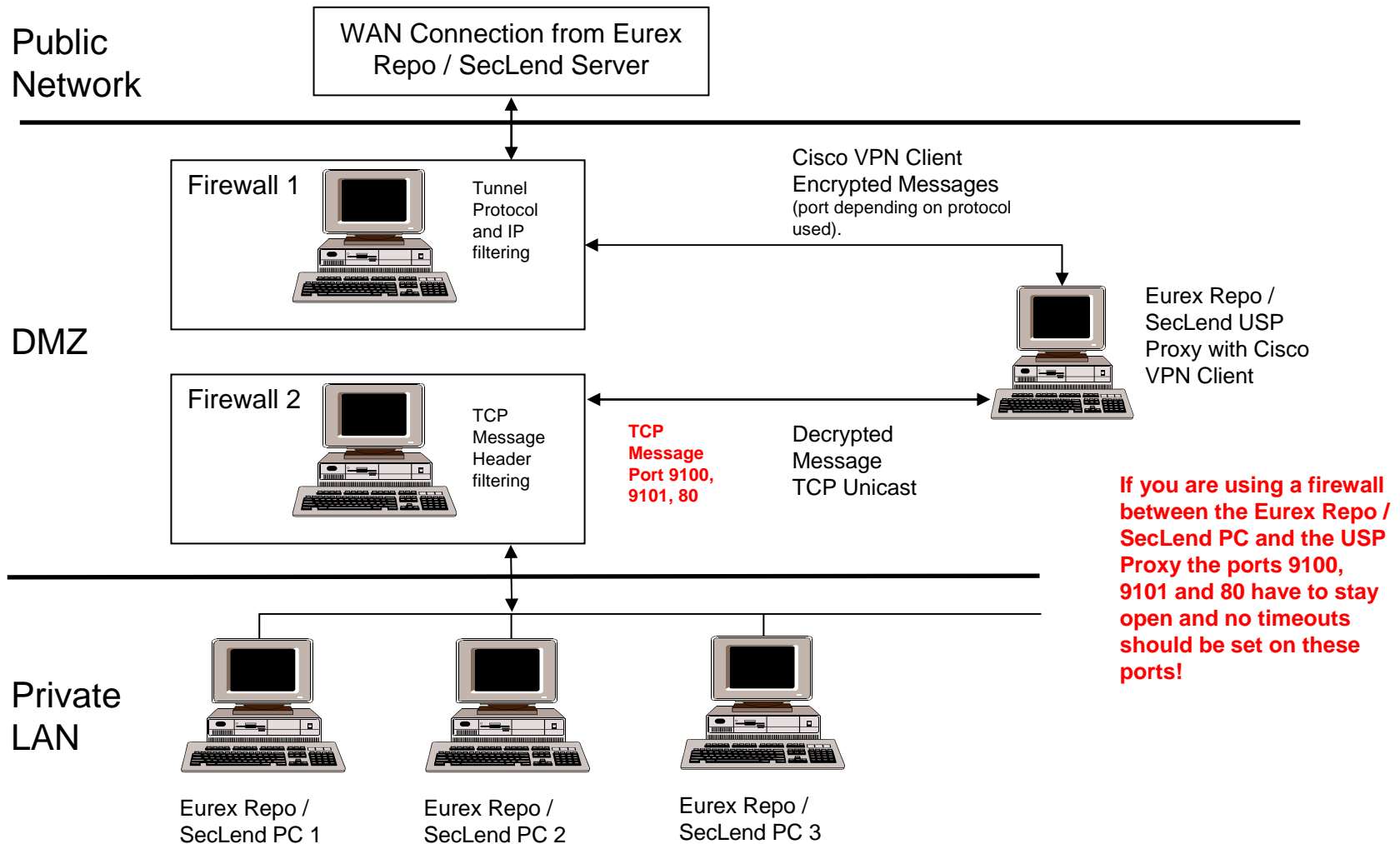
- Supports many client PCs by optimising network traffic
- Do not need to install the Cisco VPN Client software on client PCs

## ■ Cons:

- Higher cost solution
- Increased administration effort



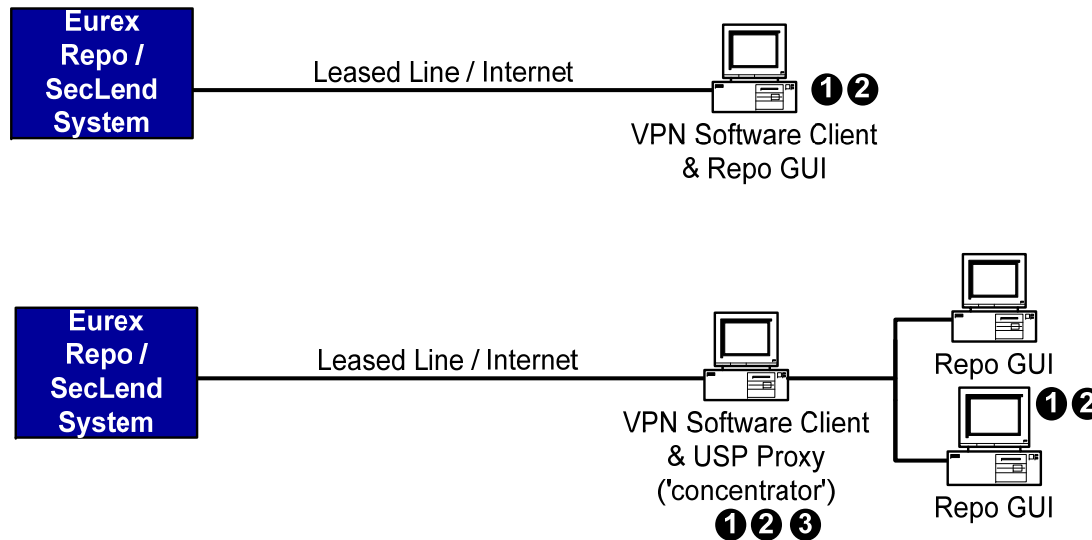
# Firewall Configuration with DMZ



## Security Concept

- The Cisco VPN product is used to secure the communication between the participants and Eurex Repo over a public network including Internet.
- Cisco VPN Client can be used with any of the leading brands of firewall software.
- The Cisco VPN Client works with the Cisco VPN server to create a secure connection, called a tunnel, between your computer and the Eurex Repo / SecLend network. It uses Internet Key Exchange (IKE) and Internet Protocol Security (IPSec) tunneling protocols to make and manage the secure connection.
- The VPN connection is IP address independent due to use of a pseudo IP address.

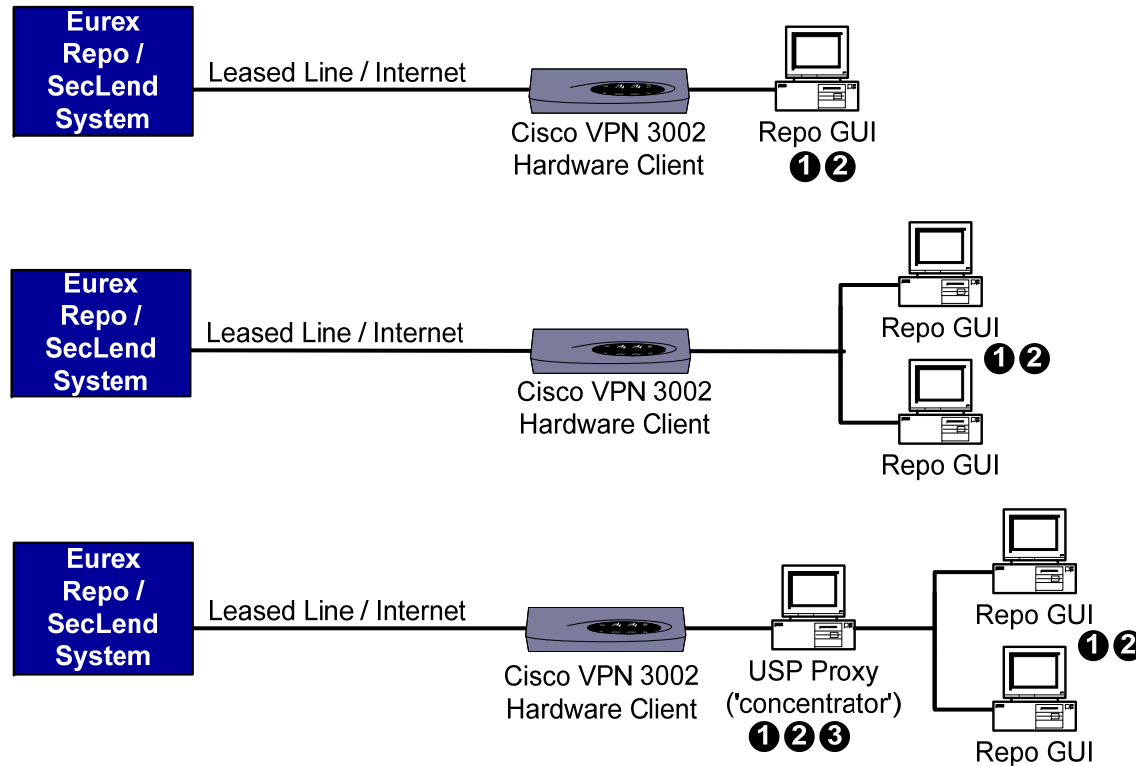
# Cisco VPN **Software** Client Configuration



Supported Operating Systems:

- ❶ Windows XP Professional SP2
- ❷ Windows Vista Business SP1
- ❸ Windows 2003 Server

# Cisco VPN Hardware Client



Supported Operating Systems:

- ❶ Windows XP Professional SP2
- ❷ Windows Vista Business SP1
- ❸ Windows 2003 Server



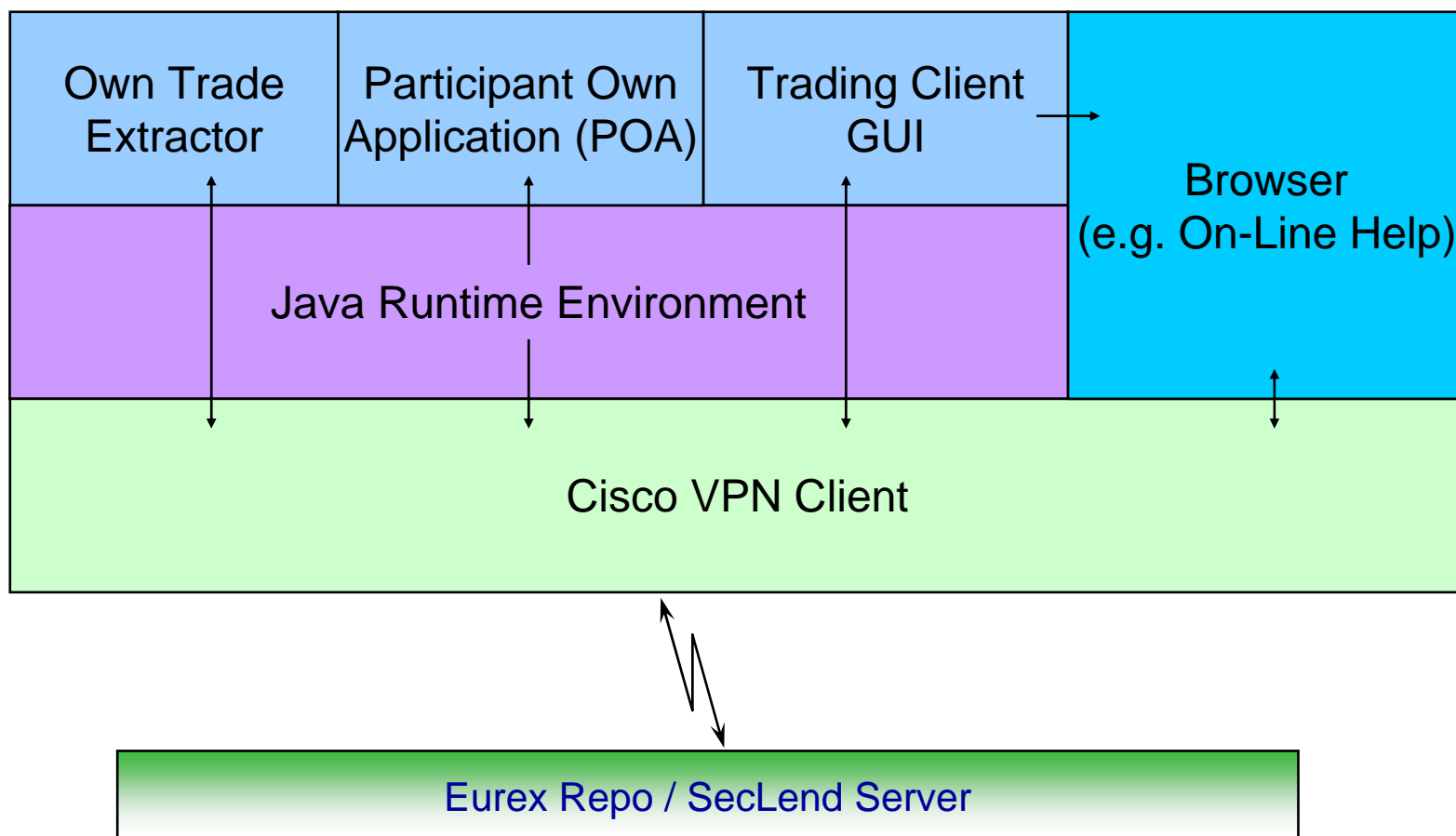
# Internet Access

- Internet Browser for downloading Software, Online Help, Newsboard, etc.
  - Microsoft Internet Explorer
- Internet or Leased Line connection

# Minimum Hardware Requirements

Eurex Repo / SecLend Client PC and USP Proxy (Windows)		
	Client PC	USP Proxy
Processor	Pentium IV, 1.5 GHz (recommended Intel Core 2 Duo 2.33 GHz)	Pentium IV, 1.5 GHz (recommended Intel Celeron 430 1.8 GHz)
Memory	512 MB (recommended 1 GB)	256 MB (recommended 512 MB)
Disk Space	200 MB	1 GB
Display	1280 x 1024 resolution 17" Monitor	No Display
Connection	Internet connection or Leased Line to the Eurex Repo System <ul style="list-style-type: none"><li>■ 128 kbit/s (Minimal)</li><li>■ 256 kbit/s (Recommended)</li><li>■ 512 kbit/s (Throttled maximum)</li></ul>	

## Client PCs Software Layers



## Eurex Repo / SecLend Software

- All software provided by the SIX Swiss Exchange is located on the Eurex Repo / SecLend websites.
- Web Browser software is not provided by the SIX Swiss Exchange.
- Internet access is required to download the Cisco VPN Client software & certificate.

Note: Internet is not reachable via Leased Line.

- Sealed envelope containing your Eurex Repo / SecLend system logon details sent by Eurex Repo / SecLend.

# Software to Download

Via Internet:

- Cisco VPN Client Software (if using software client)

Via Cisco VPN connection (Internet or Leased Line):

- Cisco VPN Client Certificate
- Java Runtime Environment
- Trading Client GUI

*Optional:*

- *USP Proxy*
- *Own Trade Extractor (OTX)*
- *PAPI*

## PAPI (Participant API)

- The PAPI (Participant Application Programming Interface) allows to the complete Eurex Repo / SecLend API.
- It is the same API upon which the Trading Client GUI is developed.
- The PAPI layer and the communication layer are sufficient to connect to the server. Except for the secure Cisco VPN connection no additional intermediate software is needed.
- The client should be able to run from anywhere in the Internet as a Java application.

# Membertest Environments M01 & M02

- All Participants have the possibility to connect to a separate environment only used for testing and education.
- The same client software and hardware is required (if Membertest and Production should run at the same time, separate hardware is needed).
- We advise customers to use this possibility to test new releases, to educate traders and to participate in performance and functional tests.
- The SIX Swiss Exchange provides the same support for the Membertest environments as for the productive environment (except on-call support which is for Production problems only).
- When the Eurex Repo / SecLend Membertest (M01) environment is upgraded to the next mandatory release, sometimes an additional Eurex Repo / SecLend Membertest (M02) environment will be set up. The M02 environment will allow participants and third parties to perform tests with the current production release.

## New Releases

- Currently three to four releases are scheduled throughout a year.
- New Eurex Repo / SecLend Trading Application releases are mostly mandatory.
- New releases need to be downloaded and installed manually.
- New versions of the Eurex Repo / SecLend Trading Application usually are released one month before “Production Live Date” in Membertest to give Participants the possibility to get used to new features.



# Eurex Repo Trading Applications

- SIX Swiss Exchange provides all the information on installation of the Eurex Repo / SecLend trading applications in the following documents:
- Eurex Repo / SecLend Installation Guide
- CVI – Common VPN Infrastructure Setup

## SIX Swiss Exchange supports

- Cisco VPN Client software
- USP Proxy software
- Java Runtime Environment
- Eurex Repo / SecLend GUI, Own Trade Extractor and Participant API
- Leased Line access
- Functional problems

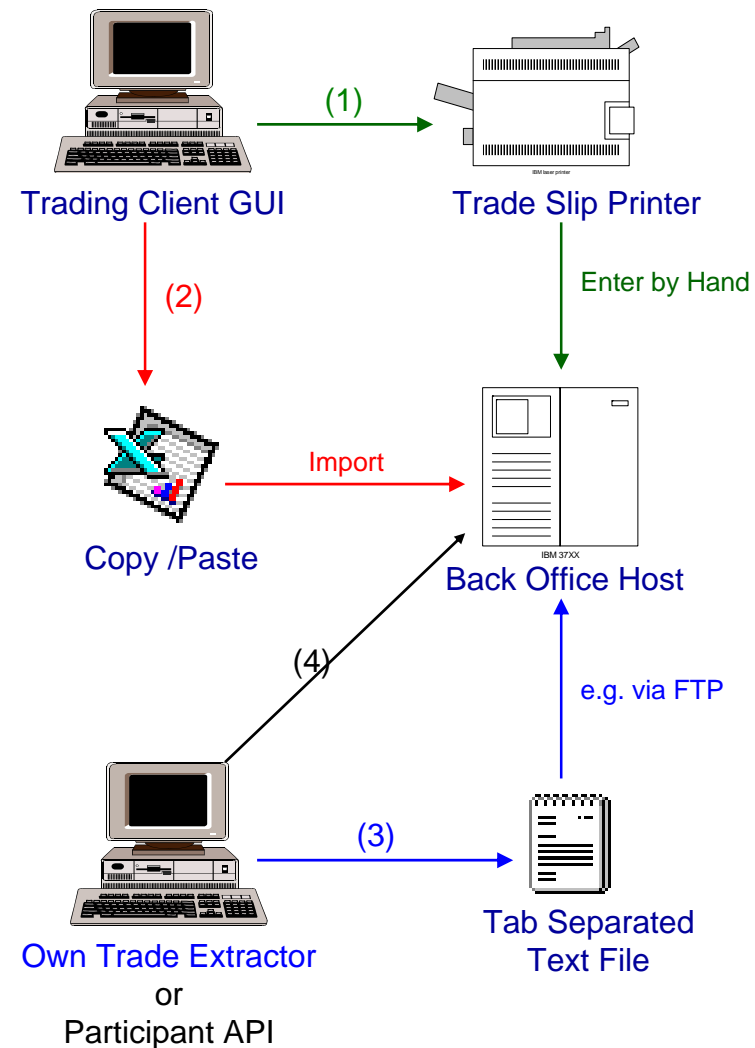
*SIX Swiss Exchange does **not** support:*

- *Operating system*
- *Browser software*
- *Internal and Internet communication problems*

# Back Office Integration

## ■ Possibilities:

1. Enter details from printed trade slip
2. Copy/paste to another application  
e.g. Excel
3. Own Trade Extractor (OTX)  
application writes all trade details to a  
file in realtime or historical mode
4. Write an Own Application with the  
PAPI that extracts your trades



## IT Advantages of Eurex Repo / SecLend

- Easy to install
- Low TCO (Total Cost of Ownership)
- Membertest environments
- Technical support from 6am to 10 pm on weekdays,  
10am to 4pm on weekends.

# Helpdesks

- **Technical Help Desk Zurich:** Tel +41 (0)58 854 2488
- **Technical Help Desk Geneva:** Tel +41 (0)58 854 2028
- Zurich and Geneva: Fax +41 (0)58 854 2898
  
- **Technical Help Desk London:** Tel +44 (0)20 7864 4334
- London: Fax +44 (0)20 7864 4333
  
- Email: [techhelp@eurexrepo.com](mailto:techhelp@eurexrepo.com) / [techhelp@eurexseclend.com](mailto:techhelp@eurexseclend.com)
  
- **Business Help Desk Zurich:** Tel +41 (0)58 854 2424
- Zurich: Fax +41 (0)58 854 2455
  
- Email: [funchelp@eurexrepo.com](mailto:funchelp@eurexrepo.com) / [funchelp@eurexseclend.com](mailto:funchelp@eurexseclend.com)

# Eurex Repo Websites

- [www.eurexrepo.com](http://www.eurexrepo.com)
- [www.eurexseclend.com](http://www.eurexseclend.com)

## Question & Answers



# Many thanks!

Eurex Repo Technical Help Desk  
Local Support Center

