# T7 Disaster Recovery Concept

## Interface Configuration Details

Version 3.1.1

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## 1    Disaster recovery scenario

The following description is relevant for installations connecting via redundant line WAN connection (Ethernet, E1/T1) outside of the Equinix data centre[1]. Customer installations inside Equinix are considered defunct in a disaster recovery (DR) scenario which results in a complete outage of the Equinix data centre.

A total of three types of customer installations have to be considered for the T7 DR scenario:

- Customer installations inside the Equinix data centre (CoLocation / Proximity)
- Customer installations connecting to the Frankfurt Access Point (customers in Germany)
- Customer installations connecting to remote Access Points (London, Paris, Amsterdam, Zurich, Chicago, etc.)
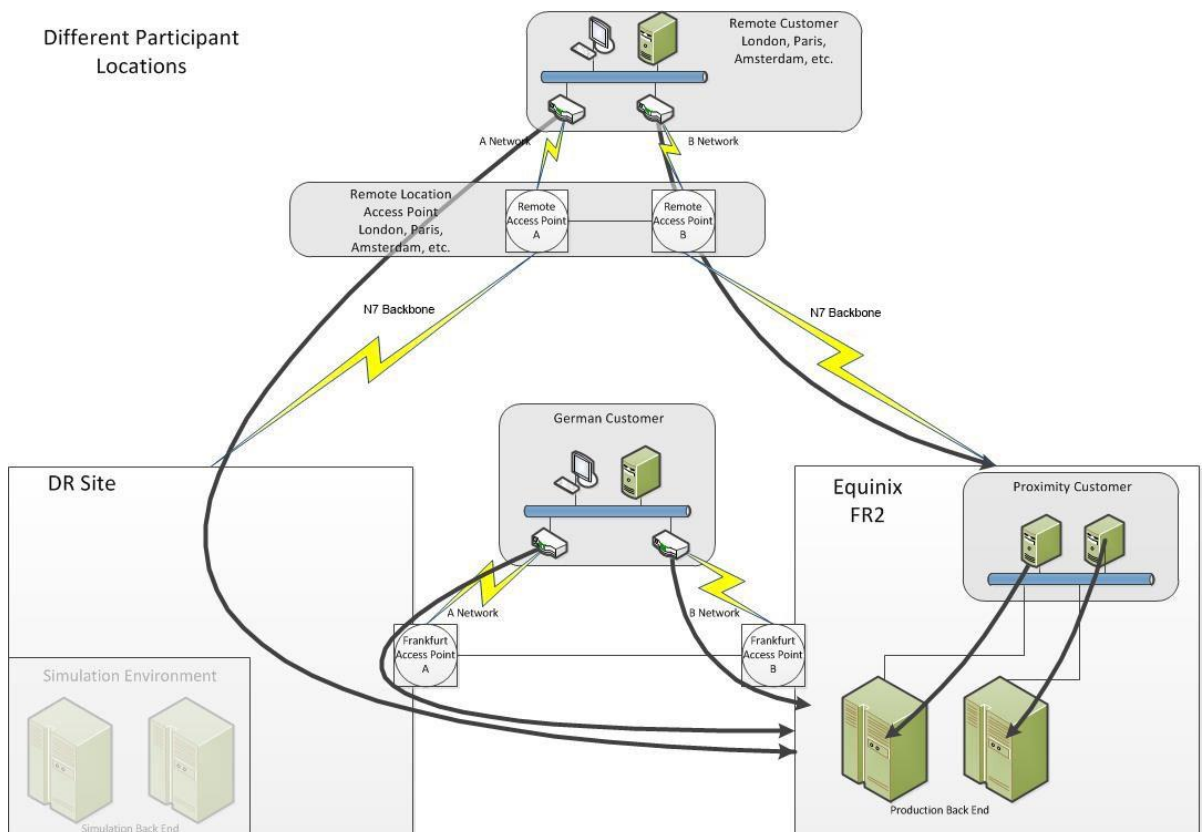


Figure 1, three location options for T7 connectivity

Figure 1 depicts all three types of customer installations and their redundant connectivity to the T7 production back ends.

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[1] Combined/iAccess is available in Hausen1 and Equinix, so it depends where the participant's tunnel is terminated as to whether he will still have connection. Tunnels in Equinix do not automatically move to Hau1.

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Figure 2 displays the result of a DR scenario that renders the whole facility of Equinix data centre (FR2) inaccessible.
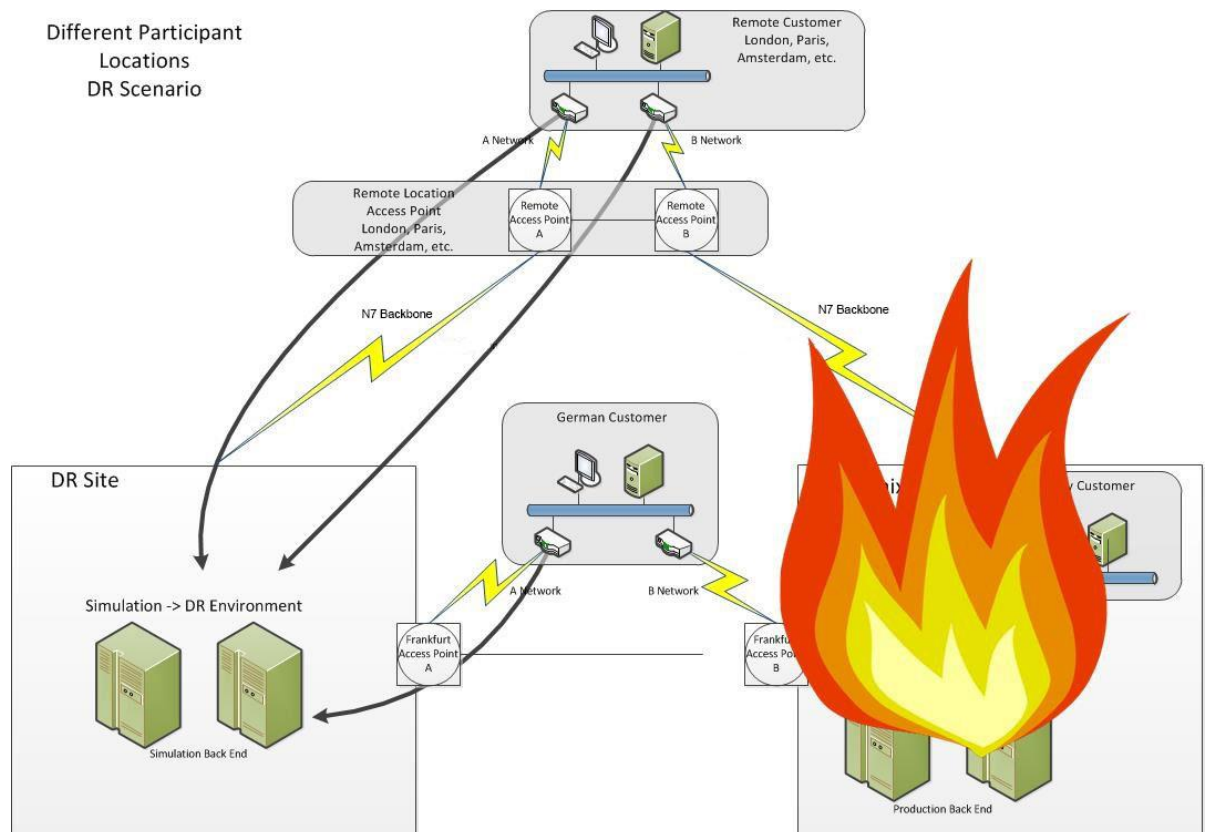


Figure 2, Disaster recovery scenario

In such a scenario customer installations, connecting to remote access points (i.e. London, Paris, Amsterdam, Chicago, etc.) will continue to use both leased lines connecting them to the local access point. The local access point continues to use backbone lines to Frankfurt, which are terminating in the DR data centre.

Customer installations connecting to the Frankfurt access point will be able to continue to use a single leased line connecting to the access point half located in the DR data centre.

Customer installations within the Equinix data centre (FR2) are considered to be non-functional in this DR scenario.

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## 2     General considerations

In a disaster recovery scenario the T7 infrastructure regularly used for T7 simulation will be re-used to serve as disaster recovery production infrastructure.

The switch of the back ends and the transfer of reference data will not be instantaneous, but is expected to take up to four hours.

While most T7 interfaces will be available in the disaster recovery scenario a number of conceptual differences to regular production exist and have to be accounted for.

### 2.1  Functional

- Order books will be empty after switch to the DR environment.
- All keys and sequence numbers are reset and starting from "1" again.
- Trades of the current business day will not be transferred to T7 DR System but can still be inquired from the Clearing systems (Eurex: C7, Xetra: CCP).
- Limited number of partitions are running in the DR scenario
- A new RDF will be produced during DR start up and will be published by the DR back end (as well as further intraday updates) onto the Common Report Engine  into the directory for environment 90 (prod).

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## 2.2 Network

### 2.2.1 Same as Production

- User IDs, ETI and FIX sessions will be used from production.
- All TCP and UDP Ports will be the same as for normal production.
- FIX Gateway A Side Subnet will be the same as for normal production.
- All A-Stream multicast groups will be the same as for normal production for the T7 broadcast interfaces:
  - Market Data Interface (MDI)
  - Enhanced Market Data Interface (EMDI)
  - Extended Market Data Service (EMDS)
  - Market Signals (MS) - derivatives market only
  - Reference Data Interface (RDI)
- EMDI A-Stream Rendezvous Point (RP) will be the same as for normal production.
- CRE A-Side Subnet will be the same as for normal production.

### 2.2.2 Differ from Production

- ETI Trading Gateway and Connection Gateway Subnets will differ from regular production!
- GUI Landing Pages will differ from regular production!
- Source IP addresses will differ from regular production for the T7 broadcast interfaces!
  - Market Data Interface (MDI)
  - Enhanced Market Data Interface (EMDI)
  - Extended Market Data Service (EMDS)
  - Market Signals (MS) - derivatives market only
  - Reference Data Interface (RDI)

See chapter 3 for full network details.

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# 3 Disaster recovery network details

Due to the nature of the distributed T7 architecture, different interfaces will be configured in varying ways.

T7 interfaces whose production infrastructure is solely located in the Equinix data centre FR2 will switch to the simulation infrastructure and need to be accessed via simulation network addresses.

Other T7 interfaces whose production infrastructure is distributed across both data centres will be able to continue to use the existing production infrastructure in the DR data centre.

In some cases further changes need to be done by Deutsche Börse Group for example, to re-balance the number of ETI HF gateways with the number of ETI LF gateways, according to different requirements by a DR scenario compared to regular simulation.

## 3.1 T7 network details derivatives markets

### 3.1.1 Eurex T7

The following tables summarize all available interface connection details in a disaster recovery scenario for the T7 derivatives market Eurex (XEUR).

| Interface | Connection option | URL / IP addresses | | Ports | Protocol |
|---|---|---|---|---|---|
| GUI Landingpage | Internet | http://webgui.eurexchange.com/emergency/index.html | | 80 | TCP/IP |
| GUI Landingpage | Leased line | http://193.29.93.173/emergency/index.html<br>http://webgui.vpn.eurexchange.com/emergency/fqdn.html | | 80 / 8089 | TCP/IP |
| Java WebStart | Internet | 193.29.90.190 | - | 80 / (443) | TCP/IP |
| Java WebStart | Leased line | 193.29.93.173 | 193.29.93.160/28 | 80 / (443) | TCP/IP |
| GUI (Crypto)Proxies | Internet | 193.29.90.235<br>192.29.90.236 | 193.29.90.224/27 | 80 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side A | 193.29.89.225 | 193.29.89.224/28 | 80 / 8089 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side B | 193.29.95.225 | 193.29.95.224/28 | 80 / 8089 | TCP/IP |

| | Gateway type | IP subnets Side A | IP subnets Side B | Ports | Protocol |
|---|---|---|---|---|---|
| Eurex ETI | HF trading gateways | 193.29.89.129<br>192.29.89.130 | 193.29.89.161<br>193.29.89.162 | 19006 | TCP/IP |
| Eurex ETI | LF trading gateways | 193.29.89.65<br>193.29.89.66<br>193.29.89.67<br>193.29.89.68 | 193.29.89.97<br>193.29.89.98<br>193.29.89.99<br>193.29.89.100 | 19006 | TCP/IP |
| Eurex ETI | Connection gateways | 193.29.89.65 | 193.29.89.97 | 19008 | TCP/IP |

Table 1, Eurex T7  market network details in DR scenario, part 1/3

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| Eurex FIX Gateway | Connection option | IP addresses | IP subnets | Ports | Protocol |
|---|---|---|---|---|---|
| | Leased line - side A | 90.150.253.31 | 90.150.253.0 / 24 | Individually assigned | TCP/IP |

| Eurex MDI | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| | | | US-allowed products | US-restricted products |
| | Multicast groups | 224.0.50.64 - 74 | 59000 | 59032 |
| | Source networks | 193.29.89.192/28 | - | - |
| | Rendezvous point Service A only | 193.29.91.252/32 | - | - |
| | Technical heartbeat Service A only | - | 59086 | - |

| Eurex EMDI | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| | | | US-allowed products | US-restricted products |
| | Multicast groups | 224.0.50.0 - 63 224.0.29.0 - 55 | Snapshot: 59000 Incremental: 59001 | Snapshot: 59032 Incremental: 59033 |
| | Source networks | 193.29.89.0/27 | - | |

| Eurex Market Signals | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| | | | US-allowed products | US-restricted products |
| | Reference Data | 224.0.114.1 | 59000 | - |
| | Eurex IOC liquidity Indicator for Options | 224.0.114.128 | 59001 | 59033 |
| | Intraday Volatility Forecast | 224.0.114.132 | 59001 | 59033 |
| | Risk Alerts | 224.0.114.134 | 59001 | 59033 |
| | Source networks | 193.29.89.0/27 | - | |

| Eurex Extended Markat Data Service (EMDS) | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| | | | US-allowed products | US-restricted products |
| | Multicast group: Ticker Feed | 224.0.50.75 | 59000 Replay: 59001 | 59032 Replay: 59033 |
| | Multicast group: Settlement prices | 224.0.50.77 | | |
| | Multicast group: Intraday open interest data | 224.0.50.78 | | |
| | Multicast group: Eurex T7 trades | 224.0.50.79 | Replay only: 59001 | Replay only: 59033 |
| | Source networks | 193.29.89.192/28 | - | |

| Eurex RDI | Description | Mutlicast groups service A | Ports |
|---|---|---|---|
| | Multicast groups Snapshot data | 224.0.50.0 | 59098 |
| | Multicast groups Incremental data | 224.0.50.1 | 59099 |
| | Source networks | 193.29.89.192/28 | - |

Table 2, Eurex T7 market network details in DR scenario, part 2/3

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| | Connection option | Gateway IP address | IP subnets | Ports | |
|---|---|---|---|---|---|
| | | | | Public | Particip. |
| Common Report Engine | Internet | 193.29.90.129 | - | 2221 | 2222 |
| | Leased line - side A | 193.29.90.65 | 193.29.90.64/27 | | |

| | Description | | | | |
|---|---|---|---|---|---|
| Eurex EOBI | currently not available | - | | - | |

Table 3, Eurex T7 market network details in DR scenario, part 3/3

### 3.1.2 EEX T7

The European Energy Exchange, EEX, market running on T7 shares infrastructure with Eurex T7. Therefore IP addresses for GUI servers, ETI and FIX gateways will be the same as for Eurex T7.

EEX multicast addresses from Eurex T7, but follow the same logic (only A-side, source network from simulation)

| Interface | Connection option | URL / IP addresses | | Ports | Protocol |
|---|---|---|---|---|---|
| GUI Landingpage | Internet | http://webgui.eurexchange.com/emergency/eex/index.html | | 80 | TCP/IP |
| | Leased line | http://193.29.93.173/emergency/eex/index.html | | 80 / 8089 | TCP/IP |
| | | http://webgui.vpn.eurexchange.com/emergency/eex/fqdn.html | | | |
| Java WebStart | Internet | 193.29.90.190 | - | 80 / (443) | TCP/IP |
| | Leased line | 193.29.93.173 | 193.29.93.160/28 | 80 / (443) | TCP/IP |
| GUI (Crypto)Proxies | Internet | 193.29.90.235 | 193.29.90.224/27 | 80 | TCP/IP |
| | | 192.29.90.236 | | | |
| | Leased line - side A | 193.29.89.225 | 193.29.89.224/28 | 80 / 8089 | TCP/IP |
| | Leased line - side B | 193.29.95.225 | 193.29.95.224/28 | | |

| | Gateway type | IP subnets Side A | IP subnets Side B | Ports | Protocol |
|---|---|---|---|---|---|
| EEX ETI | HF trading gateways | 193.29.89.129<br>192.29.89.130 | 193.29.89.161<br>193.29.89.162 | 19006 | TCP/IP |
| | LF trading gateways | 193.29.89.65<br>193.29.89.66<br>193.29.89.67<br>193.29.89.68 | 193.29.89.97<br>193.29.89.98<br>193.29.89.99<br>193.29.89.100 | | |
| | Connection gateways | 193.29.89.65 | 193.29.89.97 | 19008 | TCP/IP |

| | Connection option | IP addresses | IP subnets | Ports | Protocol |
|---|---|---|---|---|---|
| EEX FIX Gateway | Leased line - side A | 90.150.253.31 | 90.150.253.0 / 24 | Individually assigned | TCP/IP |

Table 4, EEX T7 market network details in DR scenario, part 1/2

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### EEX MDI

| Description | Multicast groups Service A | Ports | |
| --- | --- | --- | --- |
| | | US-allowed products | US-restricted products |
| Multicast groups | 224.0.50.66 | 59000 | 59032 |
| Source networks | 193.29.89.192/28 | - | - |
| Rendezvous point Service A only | 193.29.91.252/32 | - | - |
| Technical heartbeat Service A only | - | 59086 | - |

### EEX EMDI

| Description | Multicast groups Service A | Ports | |
| --- | --- | --- | --- |
| | | US-allowed products | US-restricted products |
| Multicast groups | 224.0.50.10 224.0.29.11 | Snapshot: 59000 Incremental: 59001 | Snapshot: 59032 Incremental: 59033 |
| Source networks | 193.29.89.0/27 | - | |

### EEX RDI

| Description | Mutlicast groups service A | Ports |
| --- | --- | --- |
| Multicast groups Snapshot data | 224.0.29.0 | 59098 |
| Multicast groups Incremental data | 224.0.29.1 | 59099 |
| Source networks | 193.29.89.192/28 | - |

### Common Report Engine

| Connection option | Gateway IP address | IP subnets | Ports | |
| --- | --- | --- | --- | --- |
| | | | Public | Particip. |
| Internet | 193.29.90.129 | - | 2221 | 2222 |
| Leased line - side A | 193.29.90.65 | 193.29.90.64/27 | | |

### EEX EOBI

| Description | | |
| --- | --- | --- |
| currently not available | - | - |

Table 5, EEX T7 market network details in DR scenario, part 2/2

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## 3.2 T7 network details cash market

### 3.2.1 Xetra T7

The following tables summarize all available interface connection details in a disaster recovery scenario for Xetra T7.

| Interface | Connection option | URL / IP addresses | | Ports | Protocol |
|---|---|---|---|---|---|
| GUI Landingpage | Internet | http://webgui.xetra.com/emergency/index.html | | 80 | TCP/IP |
| | Leased line | http://193.29.93.174/emergency/index.html <br> http:// webgui.vpn.xetra.com/emergency/fqdn.html | | 80 / 8089 | TCP/IP |
| Java WebStart | Internet | 193.29.90.189 | - | 80 / (443) | TCP/IP |
| | Leased line | 193.29.93.174 | - | 80 / (443) | TCP/IP |
| GUI (Crypto)Proxies | Internet | 193.29.90.233 <br> 193.29.90.234 | 193.29.90.224/27 | 80 | TCP/IP |
| | Leased line - side A | 193.29.94.225 | 193.29.94.224/29 | 80 / 8089 | TCP/IP |
| | Leased line - side B | 193.29.94.233 | 193.29.94.232/29 | | |

| | Gateway type | IP subnets Side A | IP subnets Side B | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra ETI | HF trading gateways | 193.29.94.129 | 193.29.94.161 | 19006 | TCP/IP |
| | LF trading gateways | 193.29.94.65 | 193.29.94.97 | | |
| | Connection gateways | 193.29.94.65 | 193.29.94.97 | 19008 | TCP/IP |

| | Connection option | IP addresses | IP subnets | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra FIX Gateway | Leased line - side A | 90.152.253.41 | 90.152.253.0/24 | Individually assigned | TCP/IP |

| | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| Xetra MDI | Multicast groups | 224.0.161.16 - 30 | 59000 |
| | Source networks | 193.29.94.192/28 | - |
| | Rendezvous point Service A only | 185.102.253.252 | - |
| | Technical heartbeat Service A only | - | 59086 |

| | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| Xetra EMDI | Multicast groups | 224.0.160.0 - 63 | Snapshot: 59000 <br> Incremental: 59001 |
| | Source networks | 193.29.94.0/27 | - |

Table 6, Cash market network details in DR scenario, part 1/2

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| | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| **Xetra Extended Markat Data Service (EMDS)** | All Trade Prices (ATP) | 224.0.161.64 | 59000<br>Replay: 59001 |
| | Ticker feed | 224.0.161.31 | |
| | Source networks | 193.29.94.192/28 | - |

| | Description | Mutlicast groups service A | Ports |
|---|---|---|---|
| **Xetra RDI** | Multicast groups Snapshot data | 224.0.161.0 | 59098 |
| | Multicast groups Incremental data | 224.0.161.0 | 59099 |
| | Source networks | 193.29.94.192/28 | - |

| | Connection option | Gateway IP address | IP subnets | Ports | |
|---|---|---|---|---|---|
| | | | | Public | Particip. |
| **Common Report Engine** | Internet | 193.29.90.129 | - | 2221 | 2222 |
| | Leased line - side A | 193.29.90.65 | 193.29.90.64/27 | | |

| | Description | | |
|---|---|---|---|
| **Xetra EOBI** | currently not available | - | - |

Table 7, Cash market network details in DR scenario, part 2/2

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### 3.2.2 Xetra Vienna T7

The following tables summarize all available interface connection details in a disaster recovery scenario for Xetra Vienna T7

| Interface | Connection option | URL / IP addresses | | Ports | Protocol |
|---|---|---|---|---|---|
| GUI Landingpage | Internet | http://webgui.xetra.com/emergency/xvie/index.html | | 80 | TCP/IP |
| GUI Landingpage | Leased line | http://193.29.93.174/emergency/xvie/index.html<br><br>http://webgui.vpn.xetra.com/emergency/xvie/fqdn.html | | 80 / 8089 | TCP/IP |
| Java WebStart | Internet | 193.29.90.189 | - | 80 / (443) | TCP/IP |
| Java WebStart | Leased line | 193.29.93.174 | - | 80 / (443) | TCP/IP |
| GUI (Crypto)Proxies | Internet | 193.29.90.233<br><br>193.29.90.234 | 193.29.90.224/27 | 80 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side A | 193.29.94.225 | 193.29.94.224/29 | 80 / 8089 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side B | 193.29.94.233 | 193.29.94.232/29 | 80 / 8089 | TCP/IP |

| Interface | Gateway type | IP subnets Side A | IP subnets Side B | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra ETI | Trading gateways (LF only) | 193.29.94.65 | 193.29.94.97 | 19006 | TCP/IP |
| Xetra ETI | Connection gateways | 193.29.94.65 | 193.29.94.97 | 19008 | TCP/IP |

| Interface | Connection option | IP addresses | IP subnets | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra FIX Gateway | Leased line - side A | 90.152.253.41 | 90.152.253.0/24 | Individually assigned | TCP/IP |

| Interface | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| Xetra MDI | Multicast groups | 224.0.161.32 - 38 | 59000 | |
| Xetra MDI | Source networks | 193.29.94.192/28 | - | |
| Xetra MDI | Rendezvous point Service A only | 185.102.253.252 | - | |
| Xetra MDI | Technical heartbeat Service A only | - | 59086 | |

| Interface | Description | Multicast groups Service A | Ports | |
|---|---|---|---|---|
| Xetra EMDI | Multicast groups | 224.0.160.64 - 95 | Snapshot: 59000 | |
| Xetra EMDI | Multicast groups | 224.0.160.64 - 95 | Incremental: 59001 | |
| Xetra EMDI | Source networks | 193.29.94.0/27 | - | |

Table 8, Vienna cash market network details in DR scenario, part 1/2

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| Xetra Extended Markat Data Service (EMDS) | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| | All Trade Prices (ATP) | 224.0.161.68 | 59000<br>Replay: 59001 |
| | Ticker feed | 224.0.161.39 | |
| | Source networks | 193.29.94.192/28 | - |

| Xetra RDI | Description | Mutlicast groups service A | Ports |
|---|---|---|---|
| | Multicast groups Snapshot data | 224.0.161.1 | 59098 |
| | Multicast groups Incremental data | 224.0.161.1 | 59099 |
| | Source networks | 193.29.94.192/28 | - |

| Common Report Engine | Connection option | Gateway IP address | IP subnets | Ports | |
|---|---|---|---|---|---|
| | | | | Public | Particip. |
| | Internet | 193.29.90.129 | - | 2221 | 2222 |
| | Leased line - side A | 193.29.90.65 | 193.29.90.64/27 | | |

| Xetra EOBI | Description | | |
|---|---|---|---|
| | currently not available | - | - |

Table 9, Vienna cash market network details in DR scenario, part 2/2

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### 3.2.3   Xetra Dublin T7

The following tables summarize all available interface connection details in a disaster recovery scenario for Xetra Dublin T7

| Interface | Connection option | URL / IP addresses | | Ports | Protocol |
|---|---|---|---|---|---|
| GUI Landingpage | Internet | http://webgui.xetra.com/emergency/xdub/index.html | | 80 | TCP/IP |
| GUI Landingpage | Leased line | http://193.29.93.174/emergency/xdub/index.html<br>http://webgui.vpn.xetra.com/emergency/xdub/fqdn.html | | 80 / 8089 | TCP/IP |
| Java WebStart | Internet | 193.29.90.189 | - | 80 / (443) | TCP/IP |
| Java WebStart | Leased line | 193.29.93.174 | - | 80 / (443) | TCP/IP |
| GUI (Crypto)Proxies | Internet | 193.29.90.233<br>193.29.90.234 | 193.29.90.224/27 | 80 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side A | 193.29.94.225 | 193.29.94.224/29 | 80 / 8089 | TCP/IP |
| GUI (Crypto)Proxies | Leased line - side B | 193.29.94.233 | 193.29.94.232/29 | 80 / 8089 | TCP/IP |

| Interface | Gateway type | IP subnets Side A | IP subnets Side B | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra ETI | Trading gateways (LF only) | 193.29.94.65 | 193.29.94.97 | 19006 | TCP/IP |
| Xetra ETI | Connection gateways | 193.29.94.65 | 193.29.94.97 | 19008 | TCP/IP |

| Interface | Connection option | IP addresses | IP subnets | Ports | Protocol |
|---|---|---|---|---|---|
| Xetra FIX Gateway | Leased line - side A | 90.152.253.41 | 90.152.253.0/24 | Individually assigned | TCP/IP |

| Interface | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| Xetra MDI | Multicast groups | 224.0.161.40 - 46 | 59000 |
| Xetra MDI | Source networks | 193.29.94.192/28 | - |
| Xetra MDI | Rendezvous point Service A only | 185.102.253.252 | - |
| Xetra MDI | Technical heartbeat Service A only | - | 59086 |

| Interface | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| Xetra EMDI | Multicast groups | 224.0.160.96 - 103 | Snapshot: 59000<br>Incremental: 59001 |
| Xetra EMDI | Source networks | 193.29.94.0/27 | - |

Table 10, Dublin cash market network details in DR scenario, part 1/2

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| | Description | Multicast groups Service A | Ports |
|---|---|---|---|
| Xetra Extended Markat Data Service (EMDS) | All Trade Prices (ATP) | 224.0.161.72 | 59000 Replay: 59001 |
| | Ticker feed | 224.0.161.47 | |
| | Source networks | 193.29.94.192/28 | - |

| | Description | Mutlicast groups service A | Ports |
|---|---|---|---|
| Xetra RDI | Multicast groups Snapshot data | 224.0.161.2 | 59098 |
| | Multicast groups Incremental data | 224.0.161.2 | 59099 |
| | Source networks | 193.29.94.192/28 | - |

| | Connection option | Gateway IP address | IP subnets | Ports | |
|---|---|---|---|---|---|
| | | | | Public | Particip. |
| Common Report Engine | Internet | 193.29.90.129 | - | 2221 | 2222 |
| | Leased line - side A | 193.29.90.65 | 193.29.90.64/27 | | |

| | Description | | |
|---|---|---|---|
| Xetra EOBI | currently not available | - | - |

Table 11, Dublin cash market network details in DR scenario, part 2/2

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|---|---|

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|---|---|
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## 4     Disaster recovery test scope

Disaster recovery test exercises will be performed once a year on a weekend (usually Saturday). DR test exercises haven been aligned with the yearly FIA business continuity test (see https://bcp.fia.org ) in 2016 and 2017. Participation in the DR test exercise is optional but highly recommended for all trading and clearing participants to ensure easy transition in case of a real disaster.

During a DR test, exercise production reference data will be used, including User IDs, T7 GUI SSH keys and ETI sessions. Changes done to these reference data will not be copied back to production after the test. It is not advised to perform any changes to this data during the test exercise.

Any order book or trading information created during the DR test exercise will <u>not</u> be transferred back to production.

The scope of DR test <u>exercises</u> is as follows:

The following T7 interfaces will be available during the DR test <u>exercise</u>

- Enhanced Transaction Solution (ETI)
- T7 Market Data Service (MDI)
- T7 Enhanced Market Data Service (EMDI)
- T7 GUI
- Reference Data Interface (RDI)
- Reference Data File (RDF)
- Common Report Engine (CRE)

Customers participating in the DR test <u>exercise</u> can

- receive market data via MDI, EMDI and T7 GUI
- read reference data via RDI
- receive Reference Data File (RDF) - provided by CTS on request
- enter orders and quotes via ETI and T7 GUI
- access CRE

The following T7 interfaces will <u>not</u> be available during the DR test <u>exercise</u>

- FIX Gateway
- Enhanced Order Book Interface     *(as no CoLocation installations are available in this scenario)*
- Extended Market Data Service
- Market Signals (MS)

The Xetra legacy trading system and the Clearing systems C7 and CCP are not participating in the DR test exercise. No data generated during a DR test exercise is forwarded to any Clearing system.

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## 5    Change log

The change log describes on a higher level, what changed in the latest version of the document over older versions.

| No | Chapter, page | Date | Change |
|---|---|---|---|
| 1.0.0 | | 27 Sept 2013 | Initial version the Eurex Exchange's T7 Disaster Recovery Concept |
| 2.0.0 | All | 25 July 2016 | Added EOBI, EMDS and Eurex Market Signals |
| 3.1.1 | All | 31 August 2017 | Change to common document including T7 cash markets and EEX |