

DCE IT System and Trading Connectivity

Technology Operations and maintenance Center, DCE
August 2020

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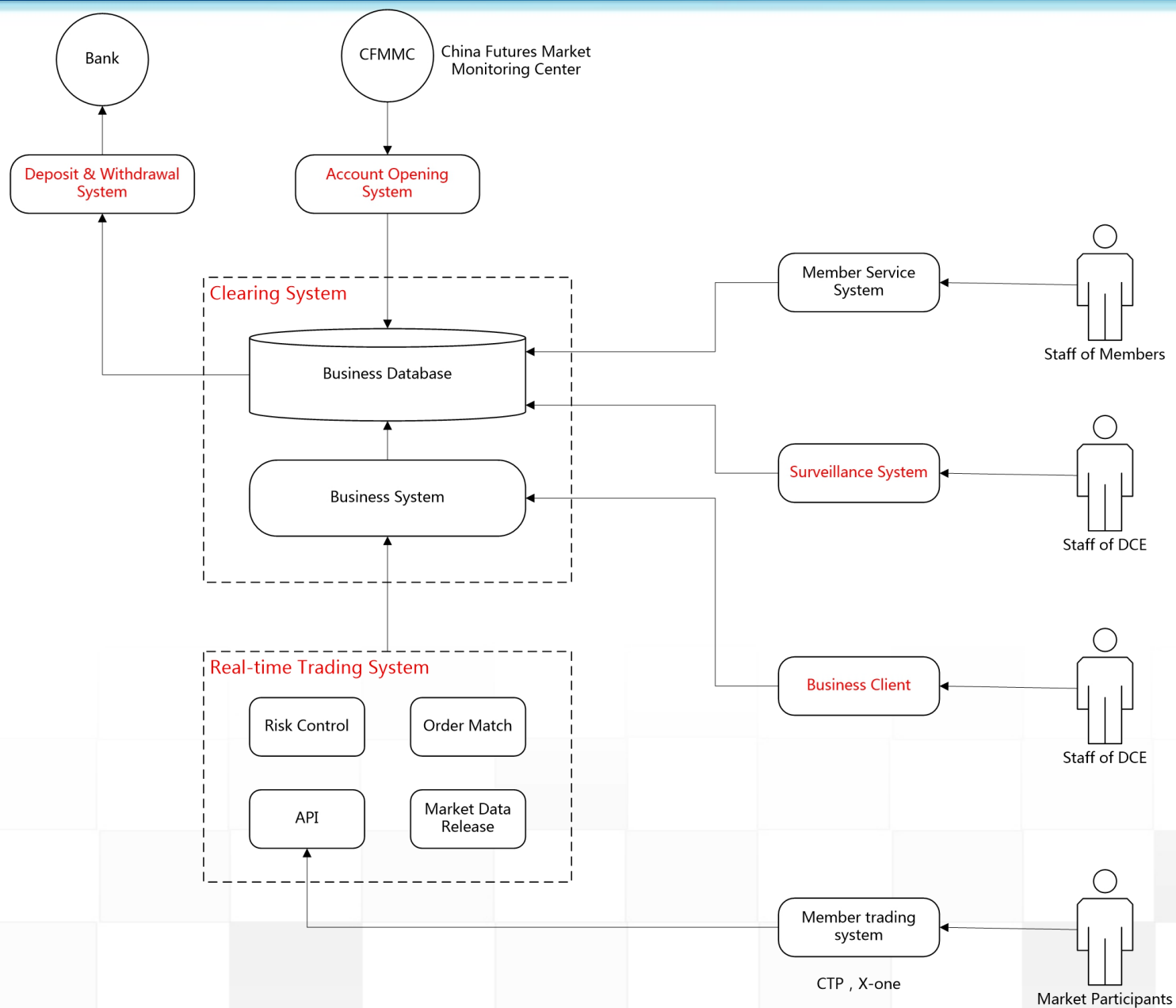
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03 Service Information Released



DCE Trading System Review





DCE IT Organizational Structure

Planning

Operation

Development

Test

1211

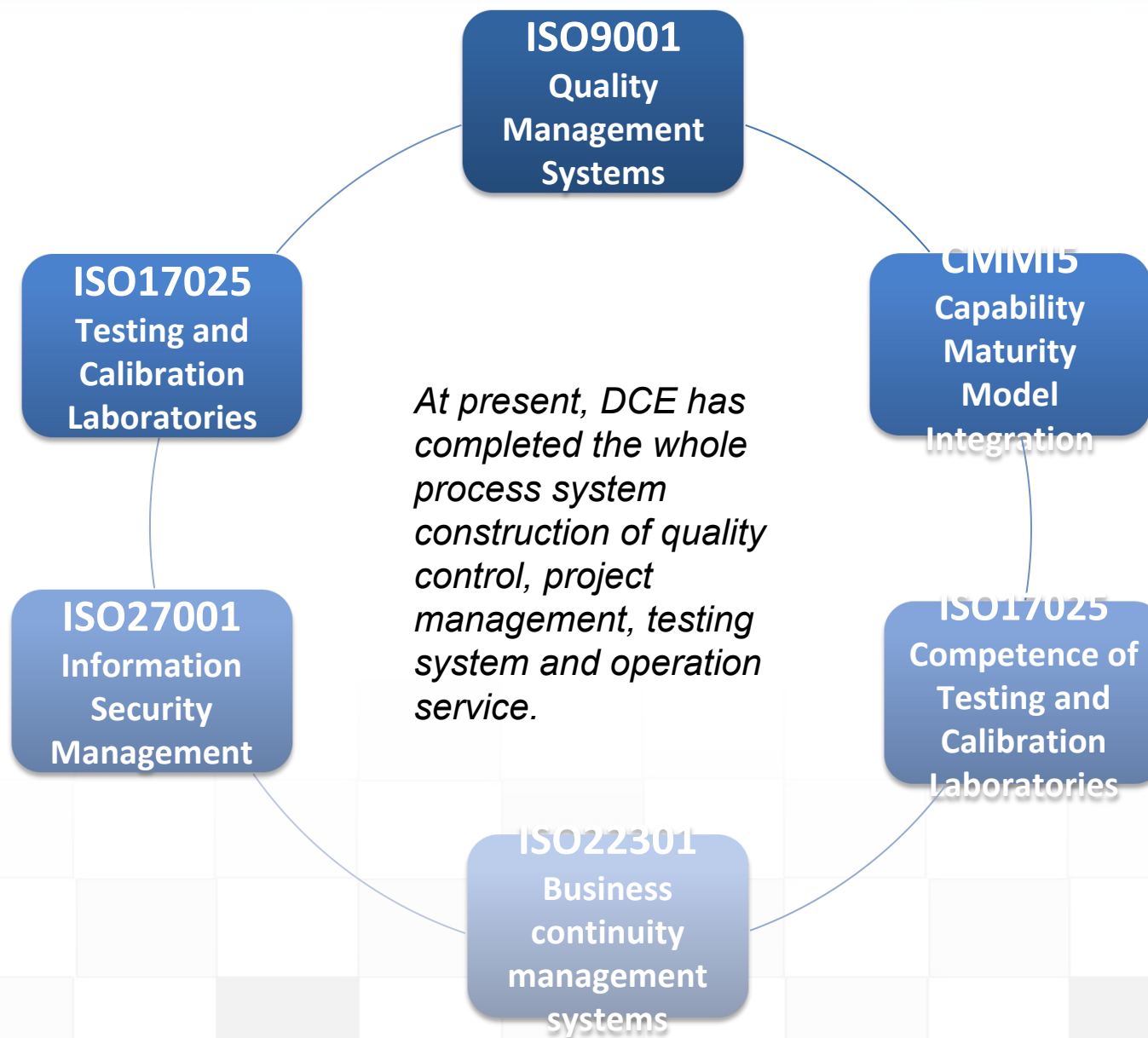
系统规划办公室
Technology Planning

0417

技术运维中心
Technology Operations
Center

飞创信息
Dalian Futures Information Tech

大商所飞泰测试技术有限公司





The layout of "Three centers in two cities"



*Emergency drill
on a yearly basis*

(Recovery Time Objective) **RTO < 5min**

(Recovery Point Objective) **RPO = 0**



Dalian Future Buiding Data Center

No. 129, Huizhan Load, Shahekou District

Liaoning Dalian

Officially lanched in 2010



Hekou Disaster Recovery Data Center

No. 901, Huangpu Load, Gaoxin District

Liaoning Dalian

Officially lanched in 2011



Shanghai Disaster Recovery Data Center

No. 1, Huajing Load, Pilot Free Trade Zone

Shanghai

Completed in the end of 2015

No Single Fault Node

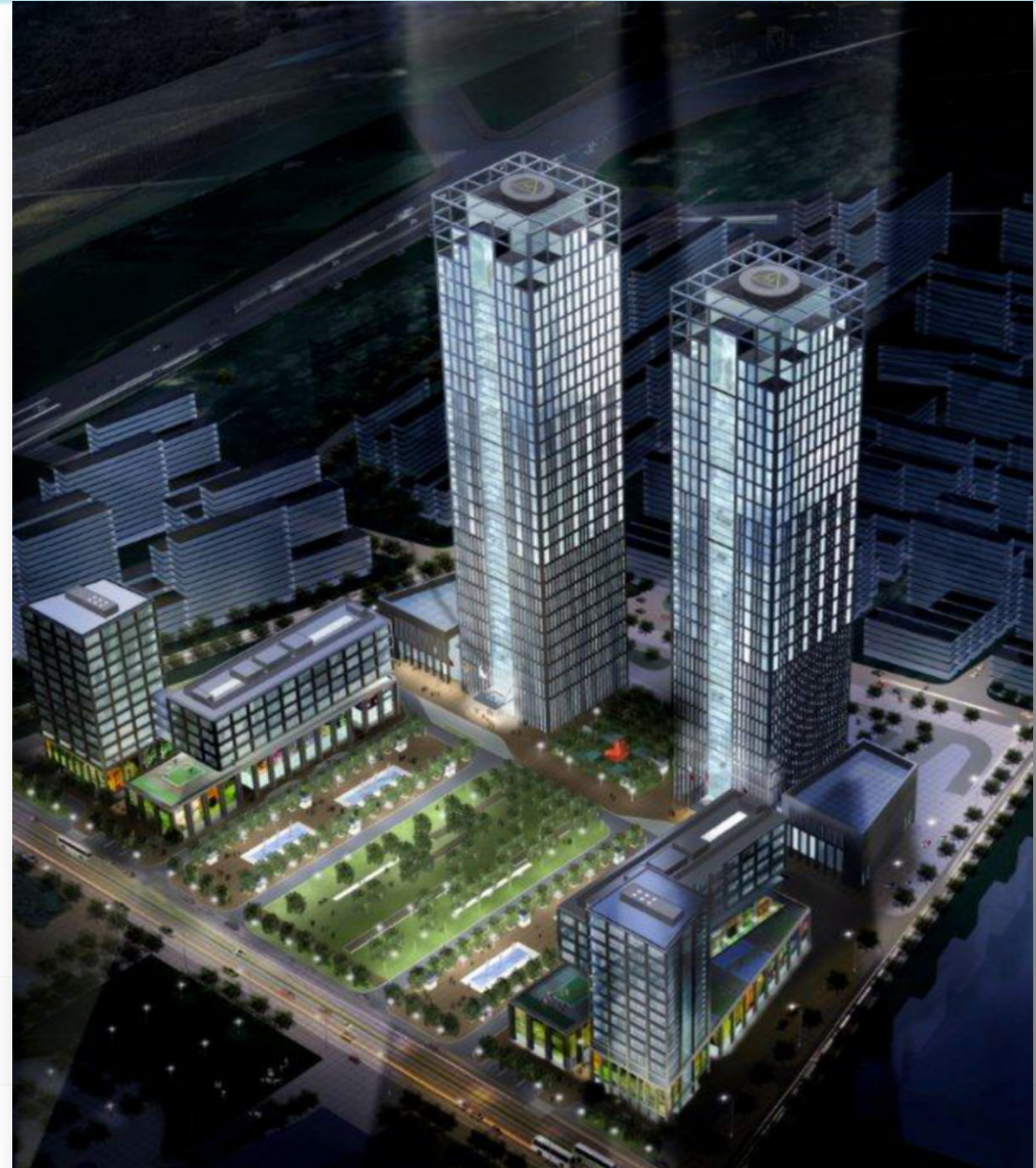
- *All of equipments are redundant*
- *Key equipments are hot standby and cold standby*
- *Hard disk, network card, controller, storage, link, can realize automatic fault switching*

Multiple Power Guarantees Data Center Power Supply

- *Multiple UPS (Uninterruptible Power Supply) redundancy mode*
- *High-power diesel generator*
- *Power supply from multiple electric substations*

High Standard Data Center Construction

- *The main center, local disaster recovery center and remote disaster recovery center are all designed and constructed according to T3 + standard.*



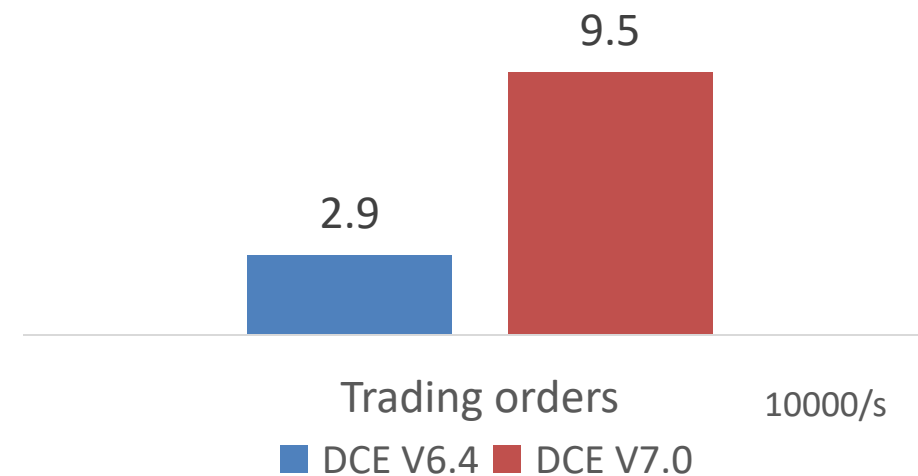


Trading system high-capacity

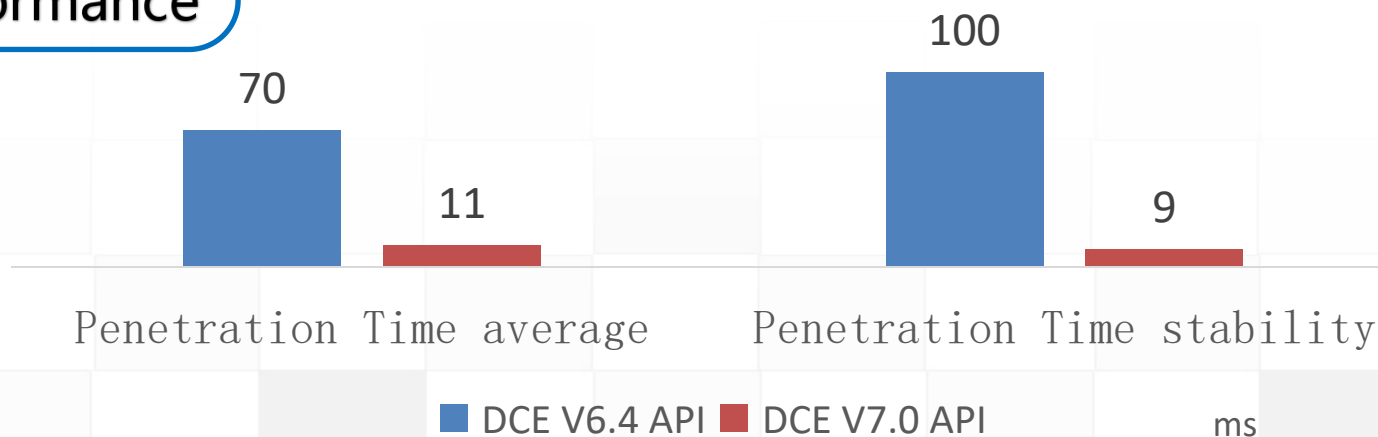
key indicators	DCE V6.4	DCE V7.0
Contracts	5,000	500,000
Orders	80,000,000	80,000,000
Seats	5,000	10,000



Trading system Performance



API performance

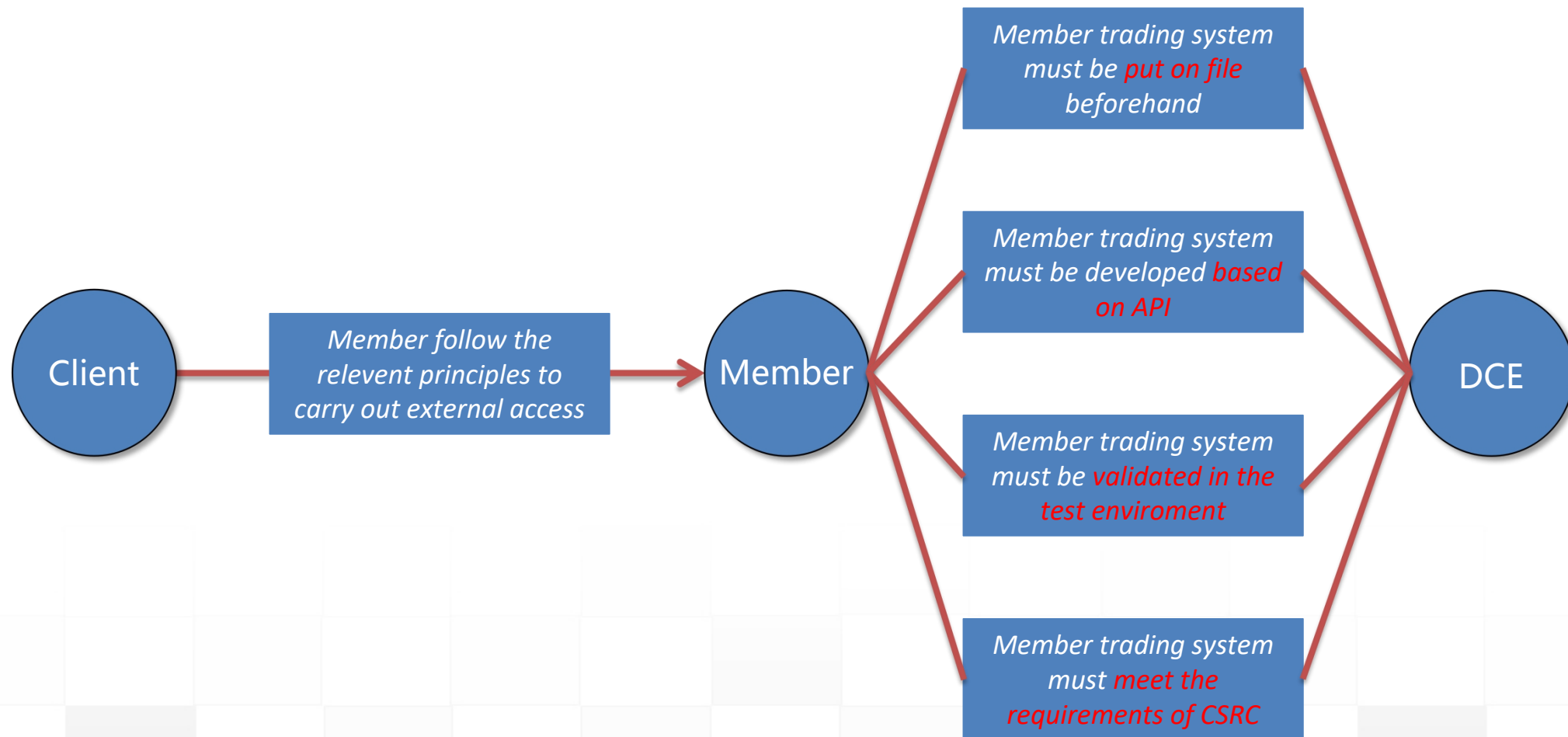


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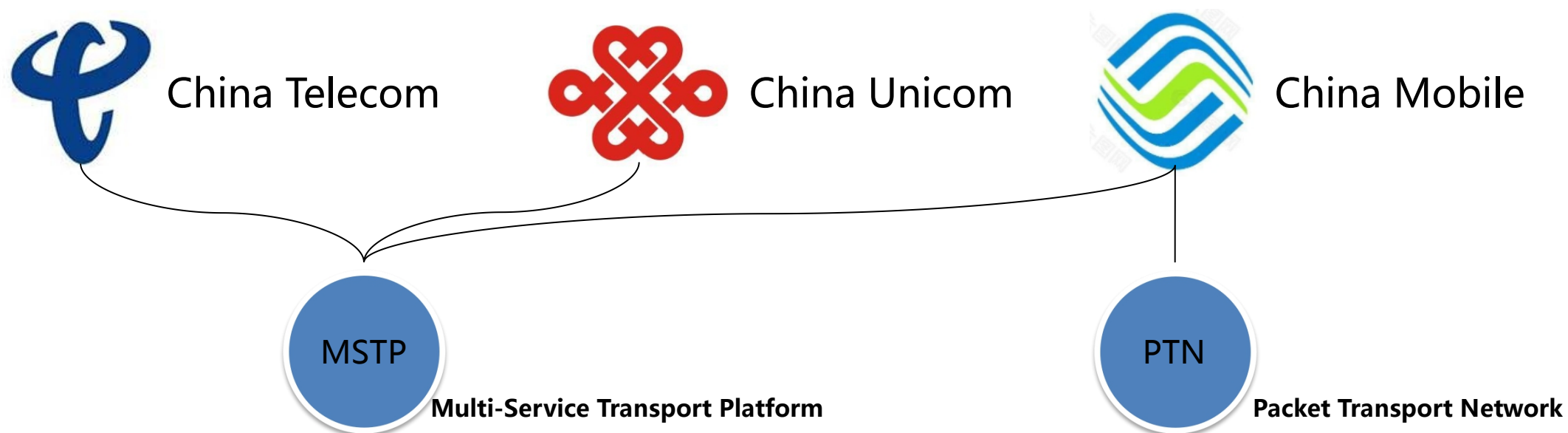
02 IT System and Trading Connectivity

03 Service Information Released



Futures and Options trading of the DCE can be classified as remote trading in the majority of cases, including three following ways. “Floor trading” is only used for emergency.

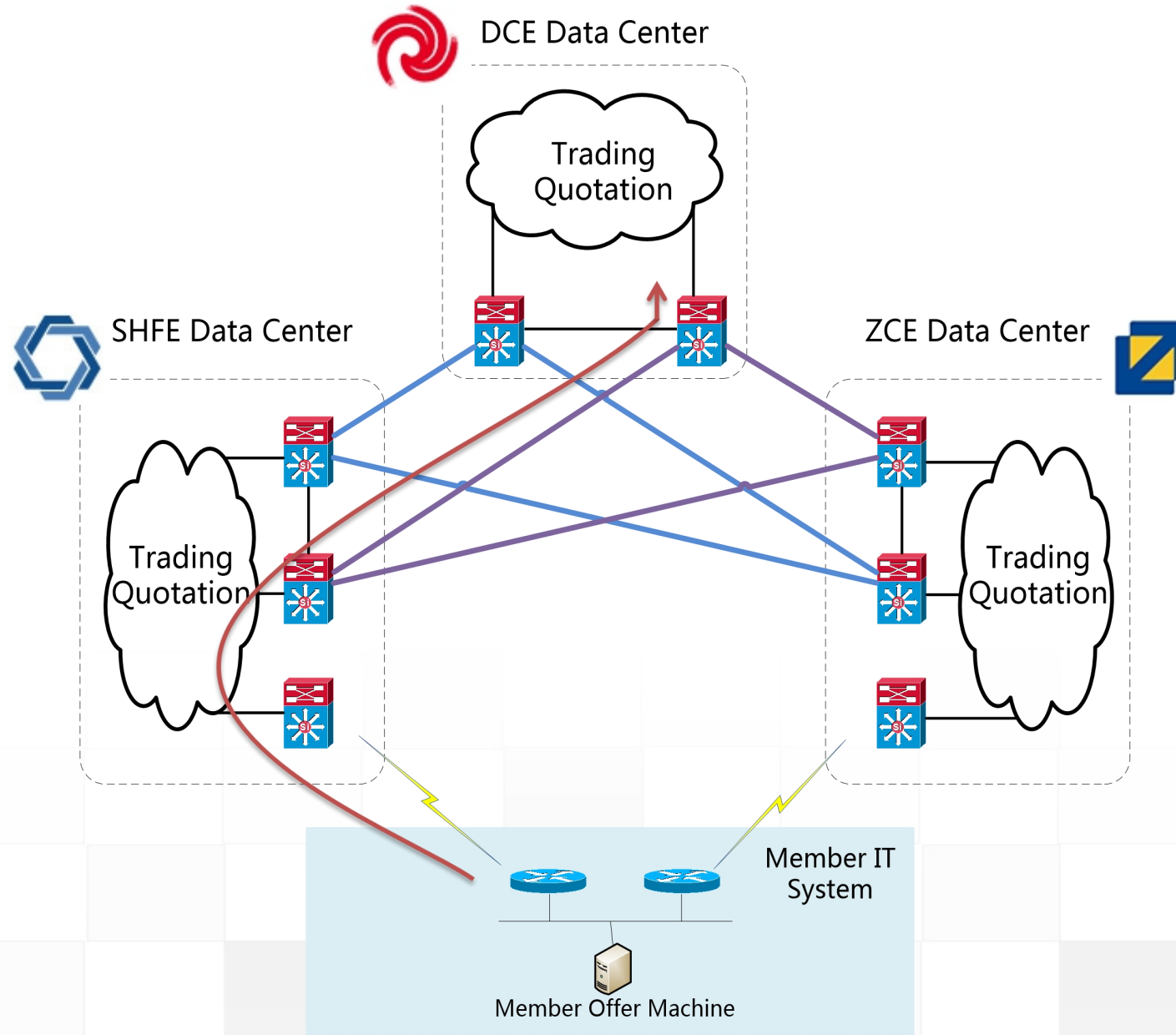




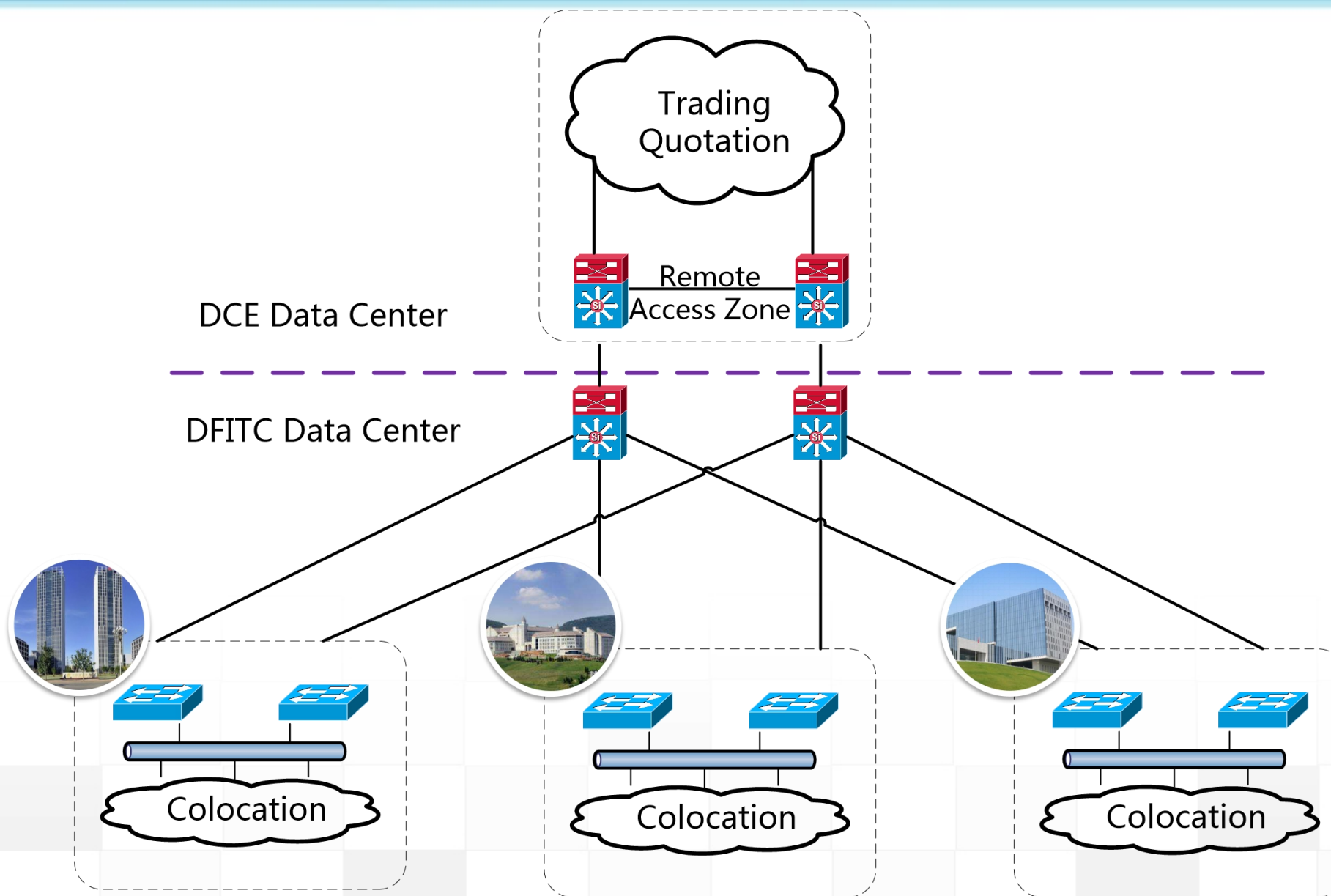
Notice:

- In order to ensure the reliability, each access seat of the member shall access to the **main and backup data center** (Futures Building and Hekou disaster recovery data center) of DCE through the dual lines which is provided by **different SP**.
- DCE provides each member with two trading dedicated lines **for free** (one for the main data center and one for the Hekou data center), and the other lines are applied and paid by the members themselves.
- The dedicated line related service can be **initiated independently**. The initiator of the line business is determined according to the following principles: for lines paid by the exchange, the initiator is the exchange; for the lines paid by members, the initiator is the member.

Indirect Access via Existing Three-exchange Connection



Indirect Access via Colocation Connection



Redundant access to DCE

Future Building Data Center

Hekou Data Center

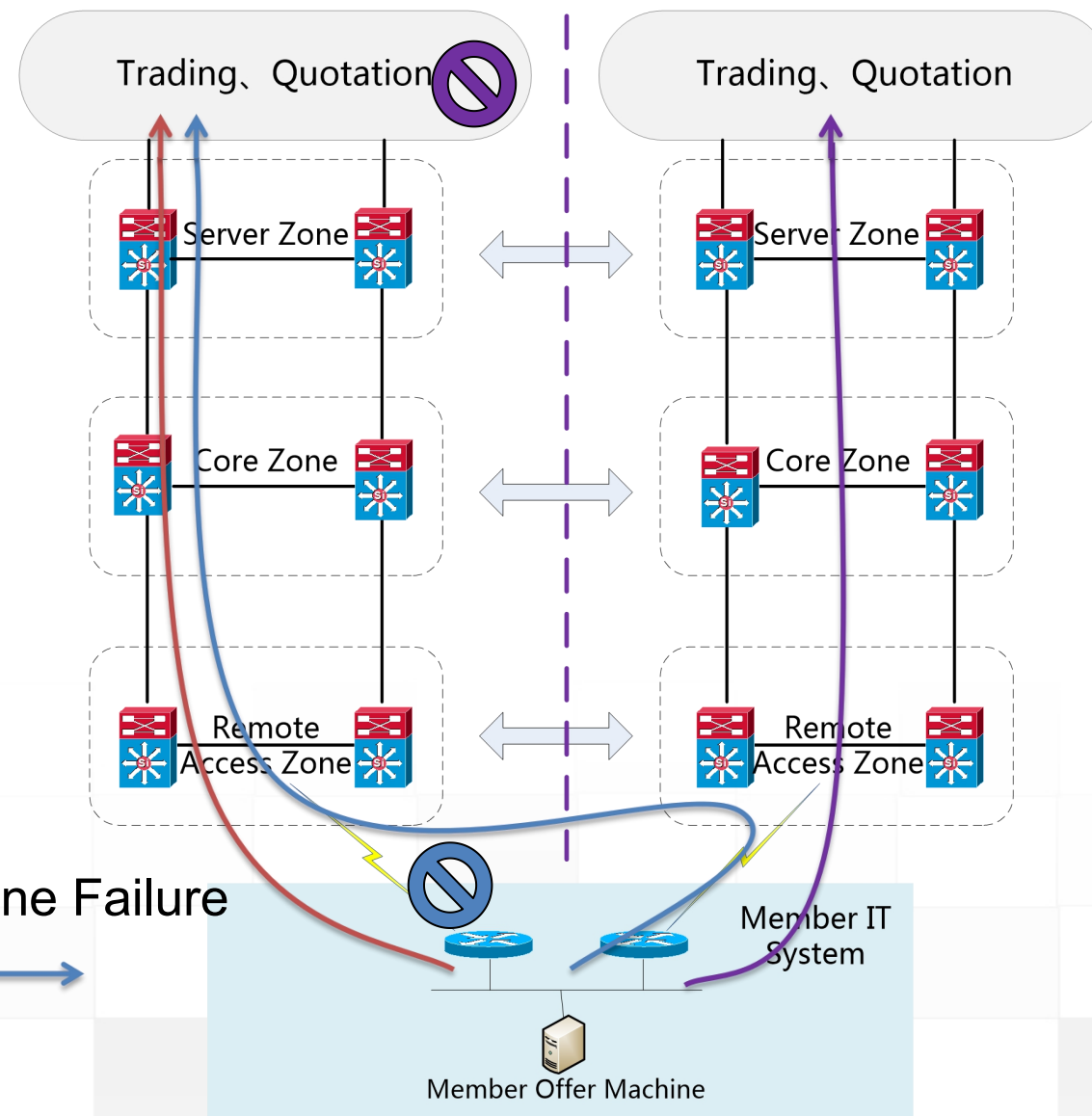
Trading, Quotation

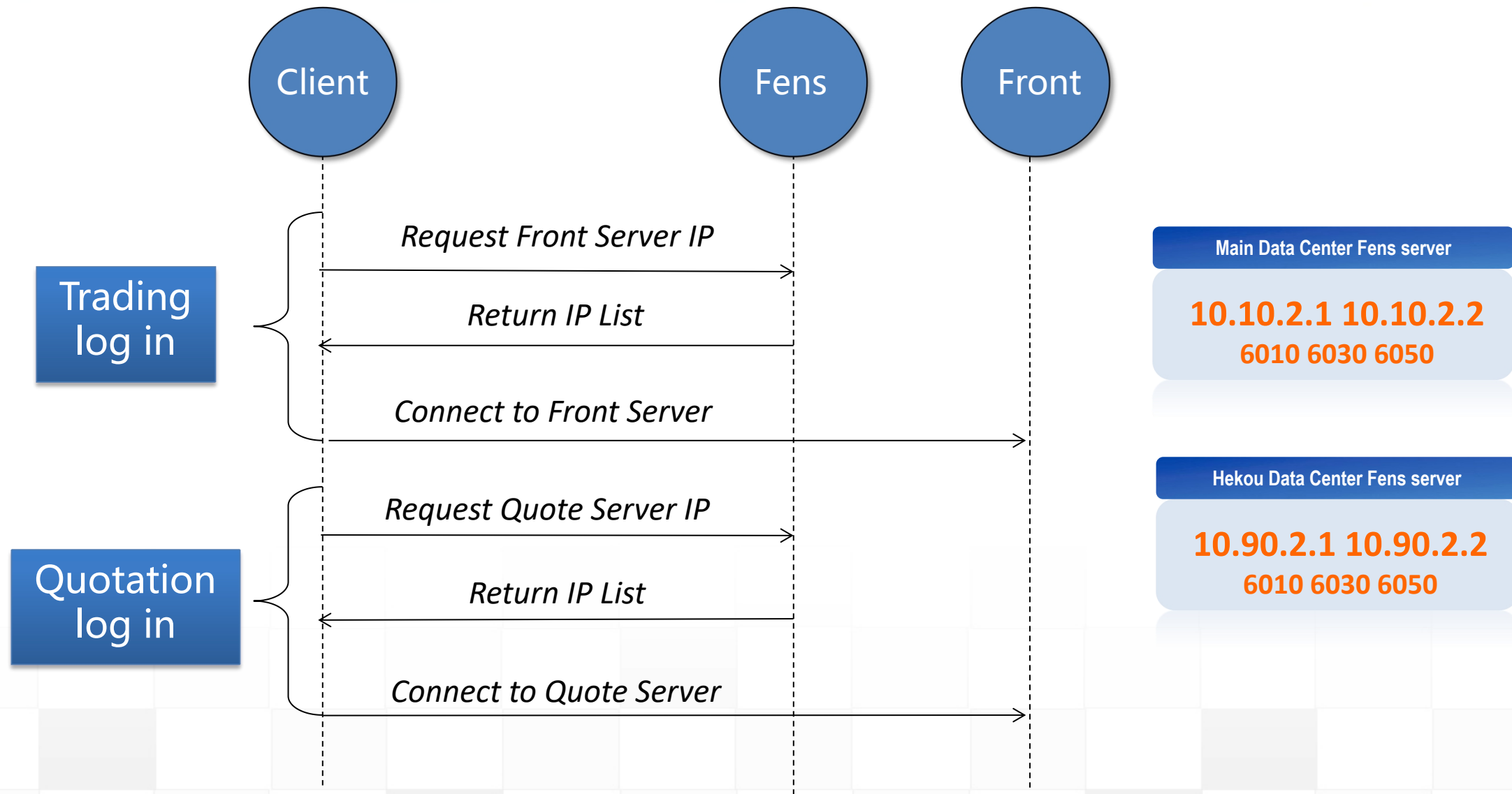
Trading, Quotation

Case 1: Normal Access

Case 3: Main Data Center Failure

Case 2: Main Line Failure





Main Data Center	Hekou Data Center	Shanghai Data Center	Port	Selection Rules
10.10.2.22	10.90.2.22	10.170.2.20	5000	If seat number divided by 6 remaining 0, select this front IP.
10.10.2.23	10.90.2.23	10.170.2.21		If seat number divided by 6 remaining 1, select this front IP.
10.10.2.24	10.90.2.24	10.170.2.22		If seat number divided by 6 remaining 2, select this front IP.
10.10.2.25	10.90.2.25	10.170.2.23		If seat number divided by 6 remaining 3, select this front IP.
10.10.2.26	10.90.2.26	10.170.2.24		If seat number divided by 6 remaining 4, select this front IP.
10.10.2.27	10.90.2.27	10.170.2.25		If seat number divided by 6 remaining 5, select this front IP.
10.10.2.132	10.90.2.132	10.170.2.20	5007	If seat number divided by 6 remaining 0, select this front IP.
10.10.2.133	10.90.2.133	10.170.2.21		If seat number divided by 6 remaining 1, select this front IP.
10.10.2.134	10.90.2.134	10.170.2.22		If seat number divided by 6 remaining 2, select this front IP.
10.10.2.135	10.90.2.135	10.170.2.23		If seat number divided by 6 remaining 3, select this front IP.
10.10.2.136	10.90.2.136	10.170.2.24		If seat number divided by 6 remaining 4, select this front IP.
10.10.2.137	10.90.2.137	10.170.2.25		If seat number divided by 6 remaining 5, select this front IP.

- **Static routing** is required for member access. The following are the static routes that members need to configure.

Trading & Quotation

DCE main data center front IP subnet: 10.10.2.0/24

DCE Hekou Disaster recovery data center front IP subnet: 10.90.2.0/24

DCE Shanghai Disaster recovery data center front IP subnet: 10.170.2.0/24

Member Service & Test

DCE main data center Member Service System IP subnet: 10.10.36.0/24

DCE Hekou Disaster recovery data center Member Service System IP subnet: 10.90.36.0/24

DCE Shanghai Disaster recovery data center Member Service System IP subnet: 10.170.36.0/24

DCE test IP subnet: 10.93.0.0/16

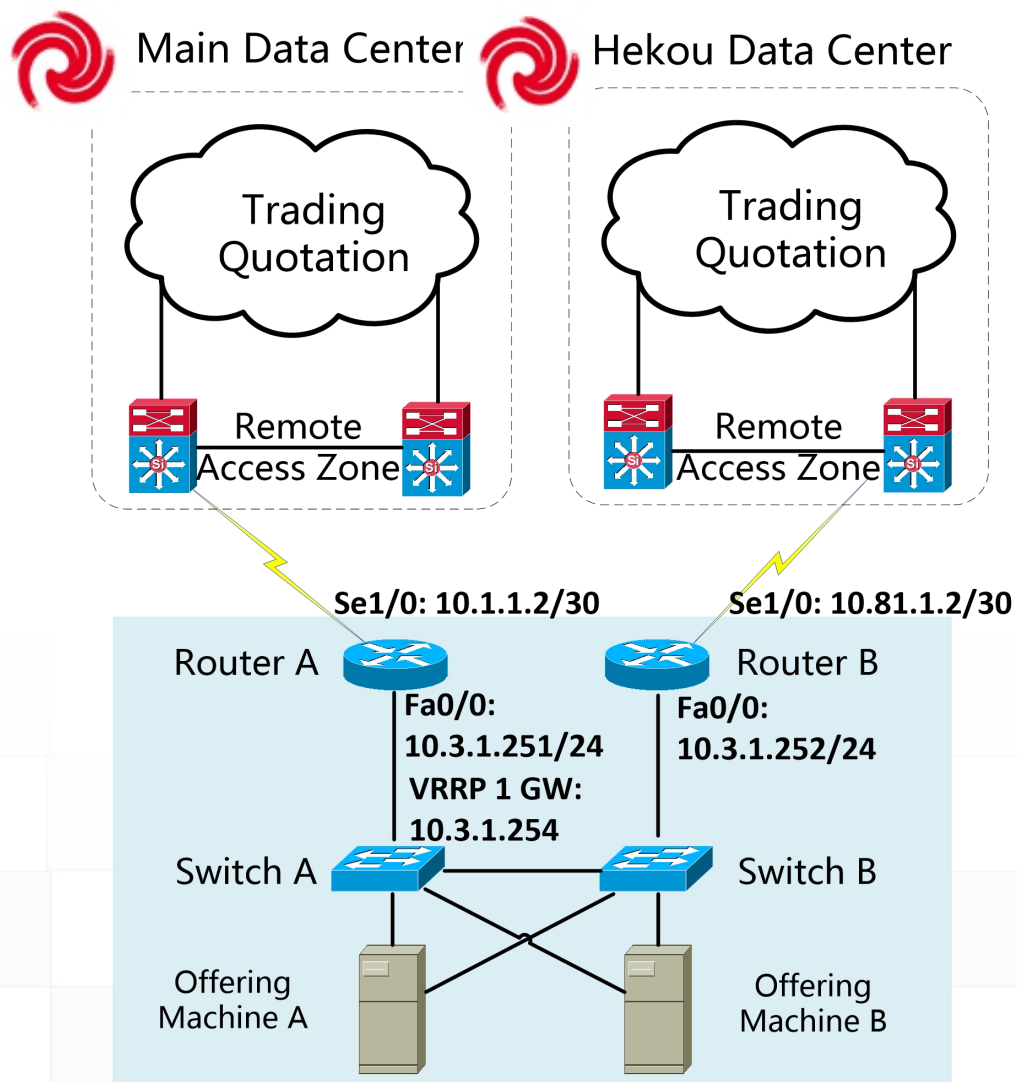
Other Organization

CZCE front IP subnet: 129.0.0.0/8

SHFE front IP subnet: 192.168.0.0/16

CFMMC data submission front IP subnet: 15.9.1.0/24、 15.9.11.0/24

1 Directly access to DCE (Dual lines and dual routers)



● Redundancy mechanism

- **Multiple lines**: Member shall select one dedicated line as main line, and the other line can be a backup.
- **Multiple offer machines**: Each offer machine adopts dual-card access (dual NICs are bound for redundancy). Configure a same set of offer machine as a backup.
- **Multiple routers and switches**: Each router connects different dedicated lines; switches connect routers and offer machines, respectively. By deploying NAT + VRRP technology, routers can realize gateway redundancy switching.

● Line Failure Detection

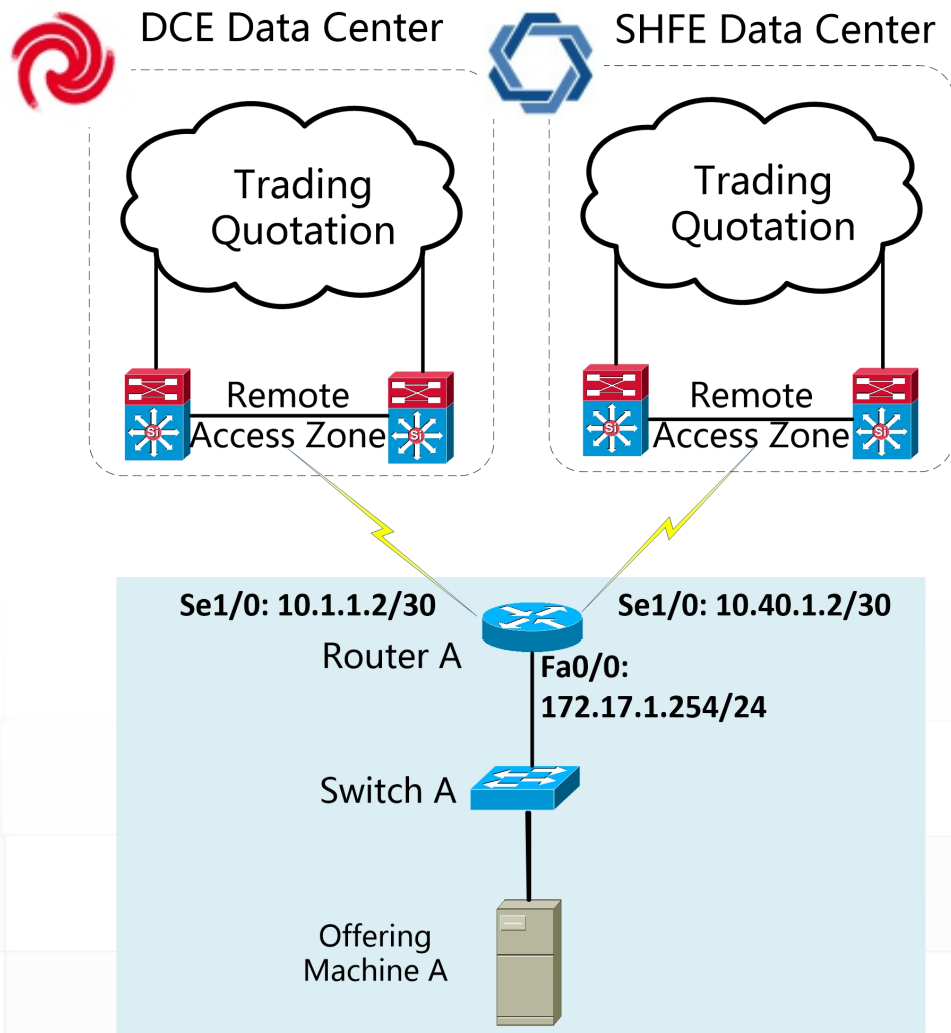
Since MSTP link interruption will not cause interface up/down information, it is necessary to use network connectivity detection mechanism to determine whether the dedicated line is normal. We recommend **BFD** method for line health detection. If the member device does not support it, **IP SLA** mechanism can also be considerable.

● IP address assignment

offer machine	Main data center assigned subnet	Hekou data center assigned subnet
10.3.1.1	10.3.1.0/24	10.83.1.0/24
10.3.1.2		

2

Access to DCE and other exchange (Dual lines, single router, single switch and NAT)



● Redundancy mechanism

➤ **Multiple lines**: Member submit two dedicated lines which access to DCE and some other exchange. The offer machine configuring private IP address completes the order and quotation flow communication with different exchanges through different dedicated lines. Two dedicated lines can backup each other by NAT technology.

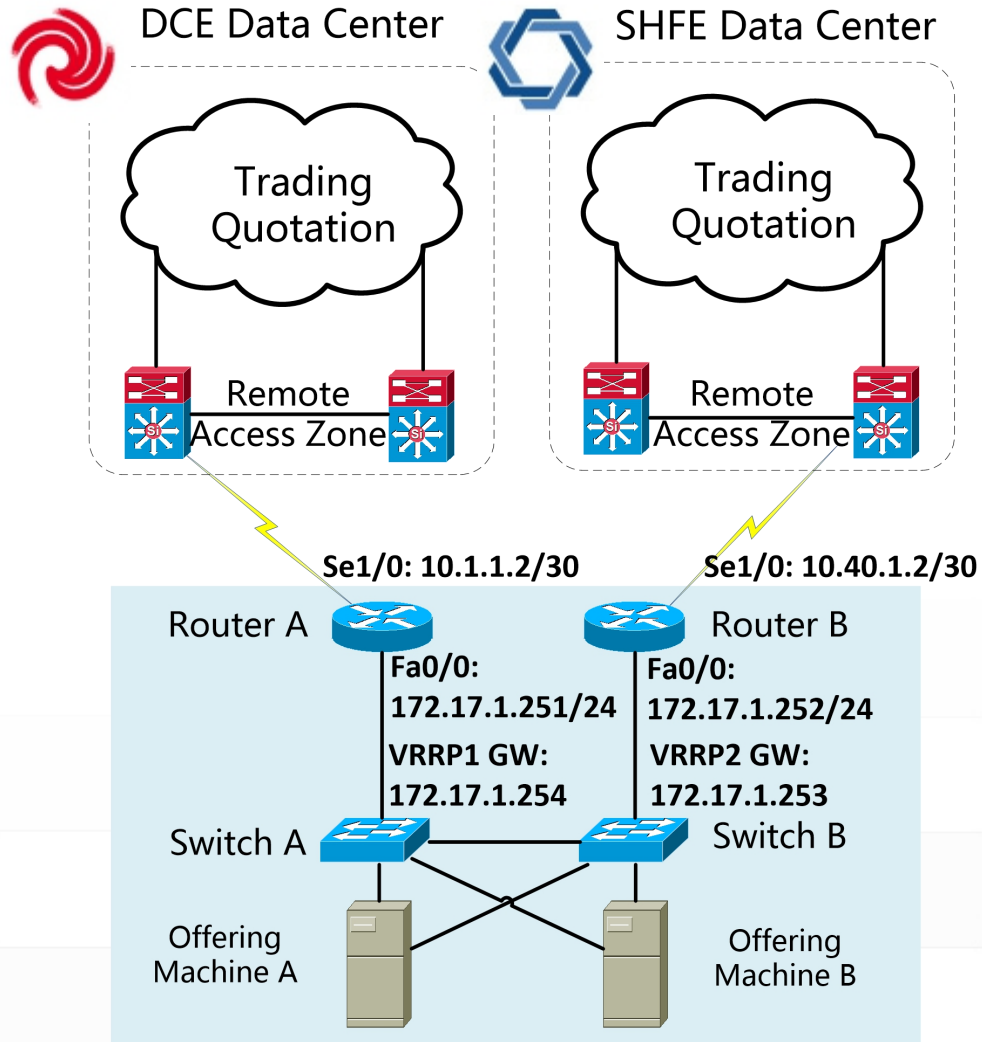
● Line Failure Detection

Since MSTP link interruption will not cause interface up/down information, it is necessary to use network connectivity detection mechanism to determine whether the dedicated line is normal. We recommend **BFD** method for line health detection. If the member device does not support it, **IP SLA** mechanism can also be considerable.

● IP address assignment

offer machine	DCE data center assigned subnet	SHFE data center assigned subnet
172.17.1.1	10.3.1.0/24	10.47.1.0/24

3 Access to DCE and other exchange (Dual lines, dual routers, dual switches and NAT)



● Redundancy mechanism

- **Multiple lines**: Member submit two dedicated lines which access to DCE and some other exchange. The offer machine configuring private IP address completes the order and quotation flow communication with different exchanges through different dedicated lines. Two dedicated lines can backup each other by NAT technology.
- **Multiple offer machines**: Each offer machine adopts dual-card access (dual NICs are bound for redundancy). Configure a same set of offer machines as a backup.
- **Multiple routers and switches**: Each router connects different dedicated lines; switches connect routers and offer machines, respectively. By deploying NAT + VRRP technology, routers can realize making full use of two dedicated lines and gateway redundancy switching.

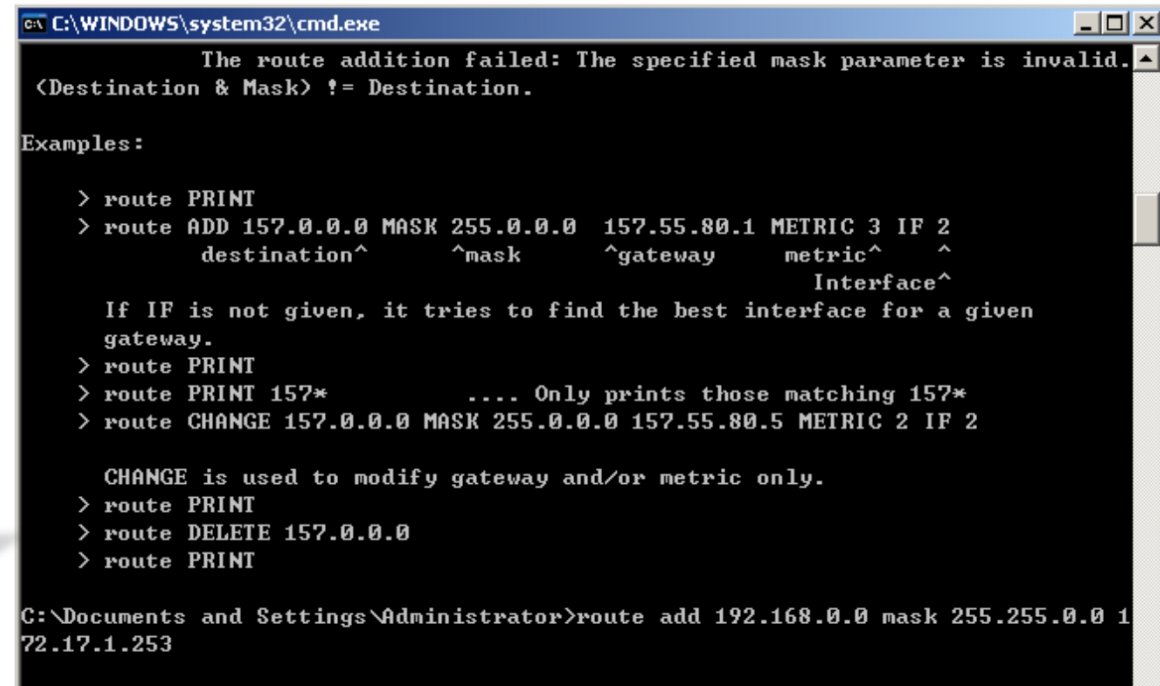
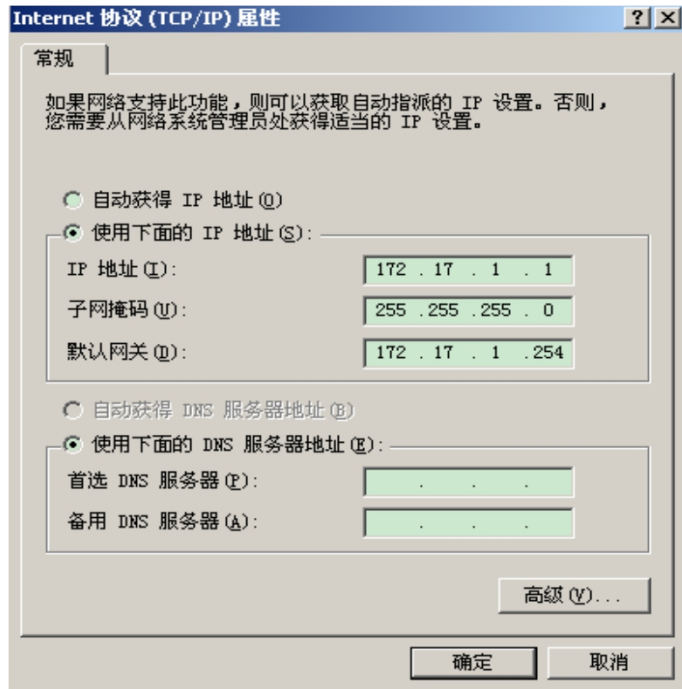
● Line Failure Detection

See recommended connection 1 and 2.

● IP address assignment

offer machine	DCE data center assigned subnet	SHFE data center assigned subnet
172.17.1.1	10.3.1.0/24	10.47.1.0/24
172.17.1.2		

- Multiple Offering in One Server



The offer machine set the gateway as the virtual IP of VRRP group one, and set next hop of other exchange's route as the virtual IP of VRRP group two, separating the traffic to each dedicated line correspondingly.

- In the case of dual direct dedicated lines, member should make sure the two lines are connected to **different data centers**.
- In the case of indirect access, member should choose the **dedicated lines of different SP**.
- One dedicated line is recommended to carry one seat, and bandwidth **is not less than 10Mbps**.
- Member as well as colocation data center should be **isolated from IT system of DCE** by deploying security equipment or configuring security policy.
- Member as well as colocation data center should **conduct line switch drill** every half a year.
- Except for the test organized by DCE, any type of hardware and software test accessing to DCE are ***strictly prohibited***.

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Test environment for trading



	Member test environment		Simulation test environment	Development test environment
	Zlinc access	Dedicated line access		
Technical Parameter	Fens : 42.24.3.14 FENS Trading Port: 5888 FENS Quotation Port: 5889 FENS level2 Quotation Port: 25889	Fens: 10.93.249.56 FENS Trading Port: 5888 FENS Quotation Port: 5889 FENS level2 Quotation Port: 25889	Fens: 42.24.3.20 FENS Trading Port: 6010 FENS Quotation Port: 6030 Level 2 Quotation front: 42.24.3.31 42.24.3.32 Level 2 Quotation port: 5025	V7.0 Fens: 124.93.249.141 V7.0 Port: 7000 Trading gateway type:1 Auxiliary Gateway type: 2 Quotation Gateway type: 3 V6.4 Fens: 124.93.249.141 FENS Trading Port: 6010 FENS Quotation Port: 6030 FENS level2 Quotation Port: 6050
User & Password	Same as production environment	Same as production environment	Same as production environment	Assigned by Technology Operations and maintenance Center
Opening times	Open all day except legal long leave	Trading day: 16:00-20:00 Saturday: 03:00-24:00 Sunday: open all day Legal long leave: closed all day	Open from Monday to Friday: 08:30-16:30, and close at other times Saturday - Sunday: closed all day Statutory holidays: closed all day	Open all day except legal long leave
Access	Zlinc & Dedicated Line		Zlinc	Internet
Customers	Member		Investors	Developer



Service information released



http://www.dce.com.cn/DCE/Market_Data/Market%20Statistics/index.html

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[DCE > Market Data > Market Statistics](#)

[Daily Data](#) [Weekly Data](#) [Monthly Statistics](#)

2020 year 07 month

Sun Mon Tue Wed Thu Fri Sat

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

DCE Daily Data

Date : 20200713

Txt Excel Print





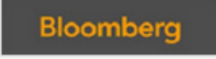


Contract	Open	High	Low	Close	Prev Settle	Settle	Chg	Volume	OI	OI Chg	Turnover
a2007	-	-	-	5,402	5,402	5,402	0	0	71	-23	0
a2009	4,758	4,807	4,728	4,743	4,782	4,766	-39	262,655	153,421	16,469	12,518,932.98
a2011	4,342	4,358	4,303	4,310	4,342	4,332	-32	2,600	2,351	254	112,641.79
a2101	4,277	4,307	4,265	4,280	4,285	4,286	-5	26,401	57,101	-892	1,131,648.89
a2103	4,274	4,300	4,268	4,272	4,289	4,277	-17	311	261	35	13,303.04



Service information released




http://www.dce.com.cn/DCE/Market_Data/censed%20Distributors/index.html

Licensed Distributors		Real Time	Real Time Level - 2	Historical	Delayed Quotes	Statistics
	Fidessa	✓	✓	✓	✓	✓
	Wenhua Information Systems Co., Ltd.	✓	✓	✓	✓	✓
	Shanghai GW Network Technology Co.,Ltd.	✓	✓	✓	✓	✓
	Shanghai Pobo Network Data Information Co.,Ltd.	✓	✓	✓	✓	✓
	Bloomberg L.P	✓		✓	✓	✓
	Shenzhen GTA Information Technology Co.,Ltd.	✓	✓	✓	✓	✓
	Interactive Data Corporation	✓	✓	✓	✓	✓




<http://www.dce.com.cn/DCE/TradingClearing/Markets/Memberships/index.html>




Business
Parameters

Trading Clearing
Delivery Holidays
Option



Guidelines

Membership Trading Delivery Clearing
Technology Service Legal Surveillance PFMI



Exchange
Notices

Membership

Members List

Overseas Brokerage Firm

CODE	NAME	ADDRESS
0011	Zhonghui Futures	16/F, Xianghai Bldg, 39 Xinjian Rd, Taiyuan, Shanxi
0012	Yinjian Futures	Bldg 29, Fanggu Garden #1, Fangzhuang, Fengtai Dist, Beijing
0014	Cinda Futures	16/F, Chuban Wuzi Bldg, 108 Wenhui Rd, Hangzhou, Zhejiang
0015	Xinhu Futures	36/F, 100 Yutong Rd, Shanghai

http://www.dce.com.cn/webquote/futures_quote_en.jsp?varietyid=C








DCE Delayed Quotes

Date:20200814

☒ Futures

☐ Options

<	No. 1 Soybeans			No. 2 Soybeans		Soybean Meal			Soybean Oil		RBD Palm Olein		Corn	Corn Starch		Egg	>
Contract	Open	High	Low	Last	Change	Bid	Bid Size	Ask	Ask Size	Vol	OI	Close	Settle	Pre_Close	Pre_Settle	Charts	
c2009	2210	2270	2210	2264	48	2264	285	2267	7	106308	102928	2264	2245	2214	2216		
c2011	2228	2290	2228	2280	54	2279	1	2280	84	54552	55940	2280	2265	2230	2226		
c2101	2227	2301	2225	2296	69	2296	22	2297	35	1391064	1136517	2296	2272	2228	2227		
c2103	2251	2324	2251	2320	68	2311	55	2336	1	20773	11962	2320	2293	2252	2252		
c2105	2264	2334	2260	2331	68	2328	1	2331	32	122098	319268	2331	2306	2265	2263		
c2107	2290	2358	2290	2353	65	2349	3	2353	1	17402	33574	2353	2330	2288	2288		

Thank You!



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