HKATS and DCASS Upgrade to Genium INET Platform

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Derivatives Trading, Global Markets Division

Introduction

- Both HKATS & DCASS will be upgraded in the same exercise to the new technology platform – Genium INET

- Upgraded systems are built on a new infrastructure

- Significant reduction in latency for order processing

- Significant increase in trading capacity

- Tentative rollout in the fourth quarter of 2013

Project Highlights

- **Enhancements**
  - ➢ Introduction of Central Gateway ("CG")
  - ➢ CG as the primary access point for both trading and clearing functions
  - ➢ Same version of upgraded OAPI call and broadcast can be connected to both Network Gateway (NG) and CG, except no market data from CG
  - ➢ New functionalities such as Tailor-made Combination (TMC) order and Enhanced Central Order Size Limit
  - ➢ HKEx Orion Market Data – Derivatives (OMD-D) will be launched after the Genium upgrade
  - ➢ NG, CG and OMD-D connections can share the same SDNet/2 circuits

Project Highlights

- **Changes**
  - Changes in hardware / software requirements for NG, DCASS Server / Terminal (Client)
  - Increase in SDNet/2 circuit bandwidth requirements
  - ALL OAPI programs need to be certified in mid 2013 before the market rehearsal in Q2/Q3 2013

Infrastructural Features – Central Gateways (CGs) as primary access point

- Located on High Speed Message Bus for low latency order transactions
- Cost reduction for Participants by not needing to purchase, house and maintain their own Network Gateways
- Redundant Central Gateways at HKEx available for backup
- No Market Data available
- Market Makers must submit quotes via Central Gateways

Infrastructural Features – Network Gateways (NGs) as transitional access points

- Network Gateway ("NG") available only during transitional period (tentatively ends in 2017)

- Conflated market data can still be subscribed by OAPI programs via Network Gateways

- EP can access the Contingency Gateways provided by HKEx in case there is Network Gateway failure. The usage of Contingency Gateway will be subject to a fee at HK$1,000 per day per connection.

Infrastructural Features – HKATS Click Workstation

- Click Workstations available only during transition period (tentatively ends in 2017)
- Must connect via Network Gateways at Participant's premise
- Market data are available for a limited number of series (exact number will be advised by HKEx in due course and updated from time to time)
- EPs are advised to commence planning for switching to OAPI from Click Workstation

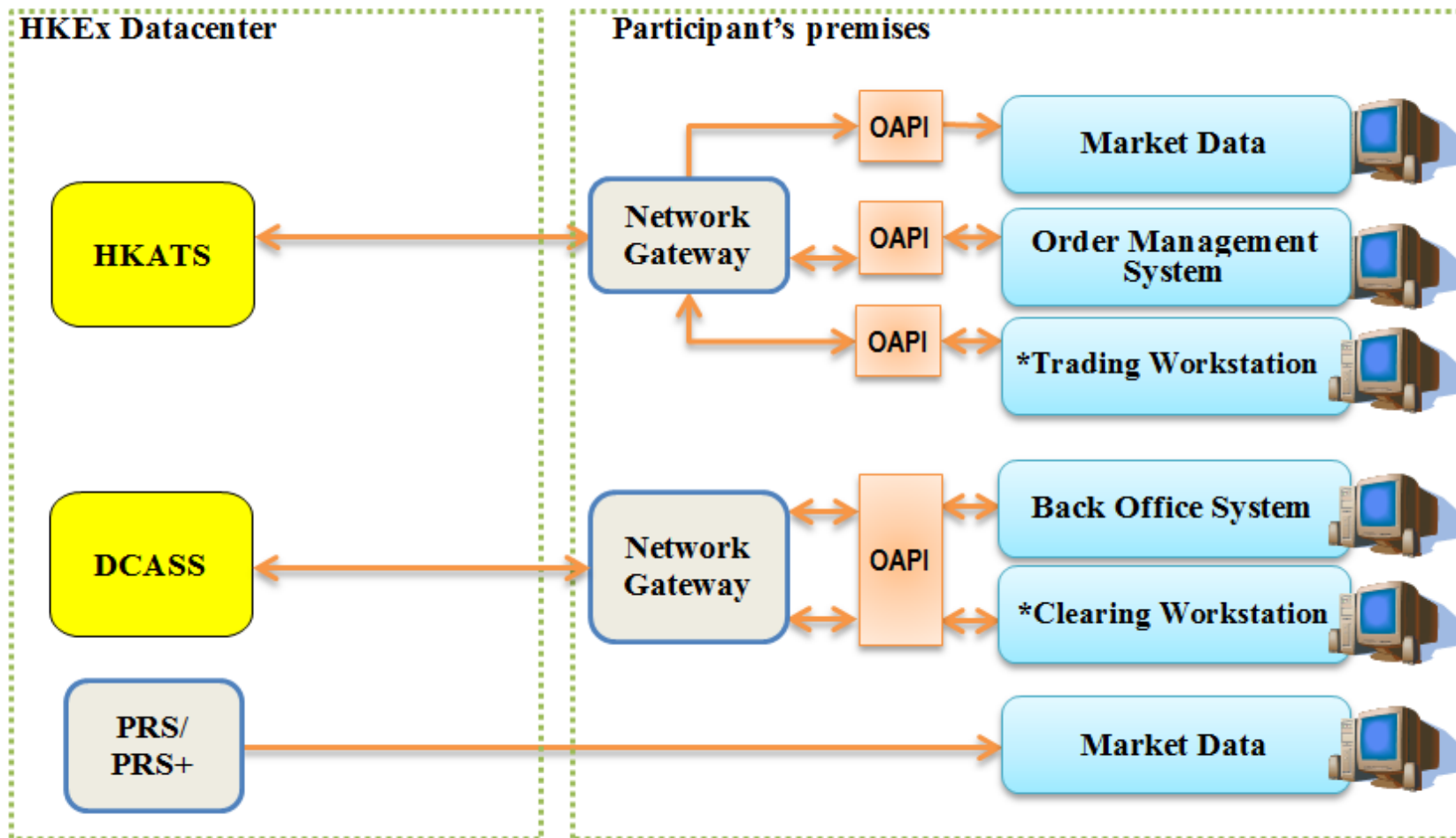# Infrastructural Features
- Preliminary Bandwidth Requirements

- In order to support the capacity growth in the derivatives market with HKATS and DCASS Upgrade, the minimum bandwidth requirements are listed below :

Gateway Connections	Usage	
	HKATS Connections only	DCASS Connections only
CG (Central Gateway)	3 Mbps	3 Mbps[1]
NG (Network Gateway)	10 Mbps	3 Mbps[1]

* Bandwidth requirement for NG supporting both HKATS and DCASS connections is 20Mbps, which is the next available tier beyond 10Mbps
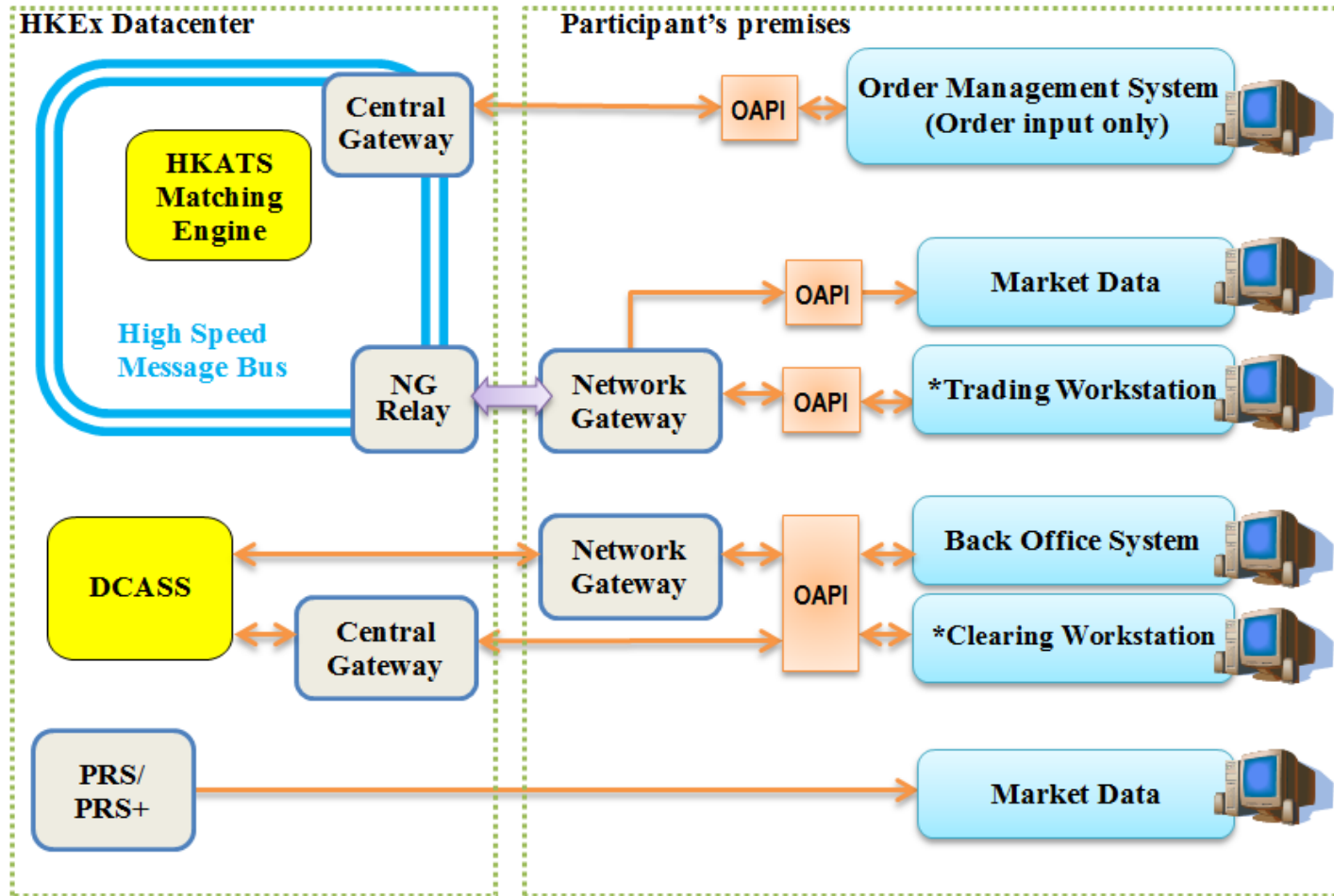
[1] 3 Mbps is optimal for supporting one DCASS Server plus up to three non-report download related OAPI applications

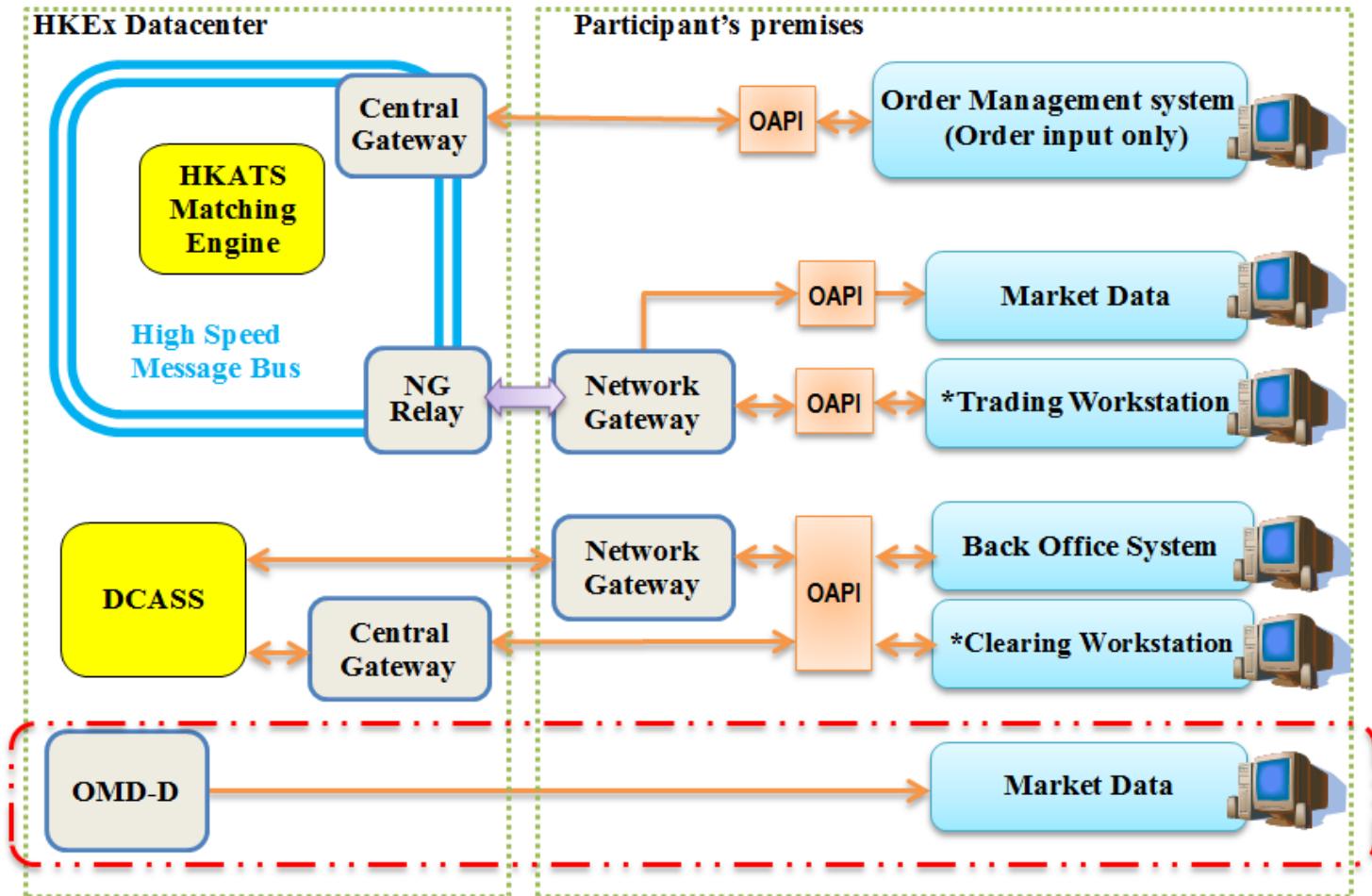# Infrastructural Features
- Existing System Architecture

* HKEx supplied software

Infrastructural Features
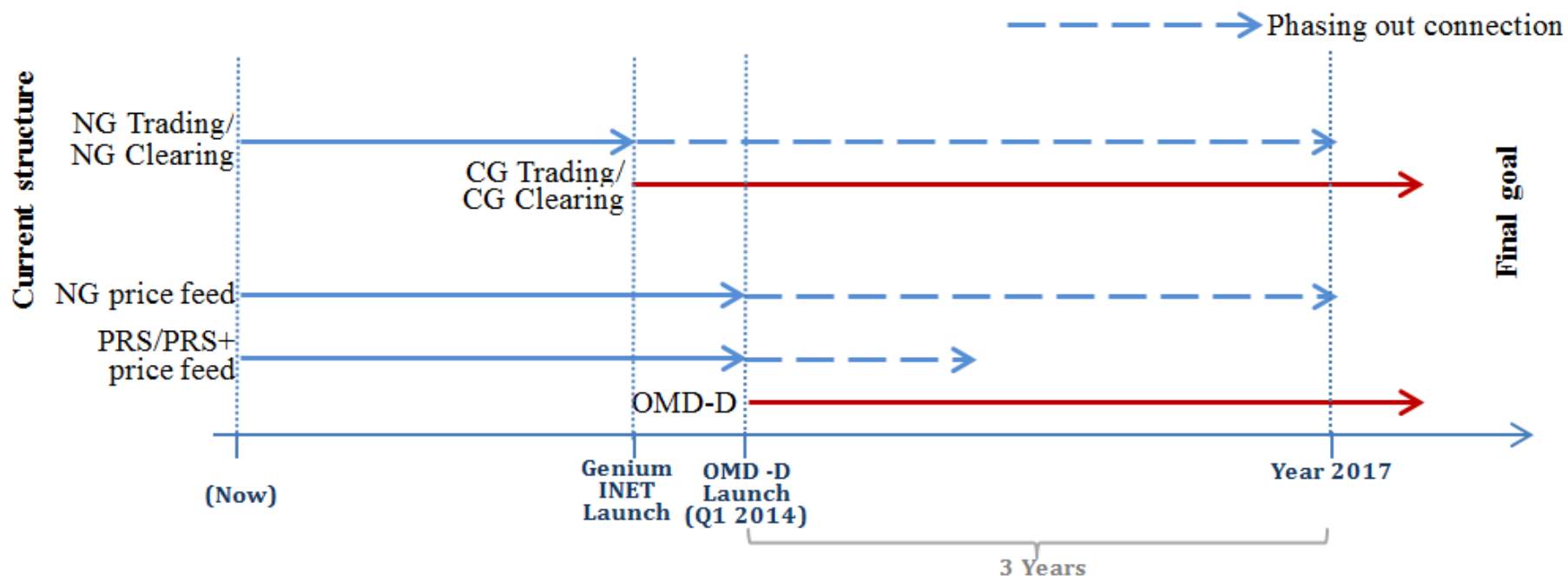# - System Architecture after Genium Upgrade

* HKEx supplied software

Infrastructural Features - System Architecture after OMD Derivatives Rollout

* HKEx supplied software

Infrastructural Features
- NG, CG, PRS/PRS+ and
OMD Connection Availability Roadmap

Genium Project Status

- Technical specification released in early February
- Development from now to April
- Testing environment available (Now)
- Testing connection fee (waived)
- Certification test from April to Mid June
- Review the bandwidth requirement for SDNet/2 (Now)
- Enroll for CG and NG connection by end of May 2013
- Upgrade the bandwidth for SDNet/2 (Second half 2013)
- Participate in Production Readiness Tests (PR) and Market Rehearsal (MR) (Second half 2013)
- Rollout in the fourth quarter of 2013

Enquiries

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Web Corner:

http://www.hkex.com.hk/eng/market/dv_tradinfra/genium.htm