

Preview Paper

# Orion Derivatives Platform (ODP) – Preview Paper

## VERSIONS

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## OVERVIEW

The purpose of this Preview Paper is to outline the key aspects of the upcoming transition to the Orion Derivatives Platform (“ODP”). This transition is a significant step forward for HKEX, migrating away from our existing Hong Kong Futures Automated Trading System (HKATS) and Derivatives Clearing and Settlement System (DCASS) systems to our in-house modular architecture for Trading, Clearing and Risk Management.

In this document, we will cover the scope of changes from a system perspective, the implementation approach, a high-level timeline, and the next steps required. Market participants’ active participation and support will be crucial in ensuring successful implementation of ODP.

## BACKGROUND

HKEX is deeply committed to investing in the sustainability and competitiveness of Hong Kong’s financial market. Derivatives remain a key focus for HKEX as part of our strategy to enhance market vibrancy, build future-ready technology and operations and position Hong Kong as Asia’s risk management centre.

To achieve our strategic goals, HKEX must ensure its technology infrastructure is agile, scalable, and aligned with the evolving demands of today’s globally competitive landscape in the derivatives market. ODP represents a key investment in this transformation – designed to modernise our technology and support long-term innovation.

Developed in-house and targeted for launch in 2028, ODP will serve as a future-proof platform that enhances HKEX’s ability to deliver differentiated offerings and meet the evolving needs of global market participants.

ODP is designed to enable faster product launches, support new asset classes and extend trading hours. Its modern APIs and flexible architecture offer improved operational efficiency and the expected integration of capital-efficient risk models and portfolio margining will bring better risk-management tools and more capital efficient solutions to global market participants.

### Project Timeline

The ODP project is currently in the development phase, with core development to be complete by mid of 2026 and market readiness activities expected in 2027. Given the scale of the initiative, HKEX will develop optimal migration options to ensure a smooth transition for trading, clearing and risk management functions.

## WHAT TO EXPECT?

### ODP Go Live

Over 2027 and 2028, HKEX is embarking on a significant transformation of its technical infrastructure. This pivotal initiative will see the replacement of the current vendor-based HKATS and DCASS systems with in-house solutions tailored for Trading, Clearing, and Risk operations. In tandem, OMD-D will capitalise on the opportunities presented by the ODP migration to further enhance and advance the market data application, ensuring it evolves in step with the broader platform upgrade.

The initial phase of ODP deployment is strategically designed to modernise the exchange’s infrastructure while preserving backward compatibility wherever possible, ensuring a seamless transition for Exchange Participants. Disruption will be kept to a minimum, as the primary changes will focus on updating the order gateway interface protocol and the DCASS OAPI, leaving core participant operations unaffected.



Key enhancements at initial launch include:

- **Modern Connectivity:** Introduction of the new ODP Gateway Binary Trading Interface Specification and the Clearing platform's RESTful API.
- **Hybrid gateway topology:** Supporting both Partition Specific Gateways and Convenient Gateways to address diverse requirements on trading and market making activities for different Exchange Participants.
- **Throttle Model:** Implementing a saw-tooth throttle with increased transactions per second (TPS) for each trading session (Comp ID)).
- **Enhance Market Making tools:** Introducing cancel hint value in Mass Quote message at quote side level to enhance the efficiency of managing risks via Mass Cancellation function as well as Market Maker Protection function.
- **Enhance Cancel on Disconnect:** Optionality at order and quote level will be available to retain specific orders or quotes in event of COD triggers.
- **Enhanced Post-trade Functionalities:** Capabilities such as position segregation, flexible netting settings, an extended give-up window and new user interface to improve operational efficiency.
- **Enhanced Reporting Format:** Post-trade reports will now be delivered in CSV format, replacing the previous text-based format. This upgrade introduces new risk-related reports and revised product groupings. Although HKEX aims to keep data content changes minimal, participants are advised to review the updated structure and adjust their internal systems and workflows to ensure compatibility with the new format and reporting logic.
- **Enhanced Derivatives Pricing:** Improvements to intraday (ITD) and end-of-day (EOD) pricing processes by leveraging market observables and reinforcing the theoretical framework through proprietary derivatives pricing methodology. These enhancements will strengthen margin calculations, large error trade (LET) detection, and volatility control mechanisms (VCM).
- **Performance & Resilience:** A robust design to support higher volumes and enhanced security.

Participants should start planning in 2025, with development and system integration expected to start in 2026 and continue into 2027.

## Post ODP Go Live

Following the initial rollout, ODP will progressively introduce advanced capabilities that position HKEX for long-term leadership in global derivatives markets, including but not limited to:

- **Extended Trading Hours:** Extended trading to support international participation with improved pre-trade risk controls and trade error prevention. Trading, Clearing and Risk Management systems have been architected to operate seamlessly across the extended trading window.
- **Capital Efficiency Risk Management:** Implementation of a Value-at-Risk (VaR). Enhanced initial margin modelling approach to better recognise margin offsets across derivative portfolios.



This approach provides participants with ample time to prepare for each enhancement, ensuring smooth integration as each new feature becomes available.

## WHAT IS COMING NEXT?

### Interface Specifications

To facilitate early planning and development, HKEX will release the ODP Gateway Binary Trading Interface Specification and Clearing RESTful API Specification via the ECP Download Corner on Client Connect, followed by the publication of the OMD-D Interface Specification by Q3 2025.

Market participants are strongly recommended to leverage these specifications to conduct impact assessments to plan and budget necessary resources ahead of market testing in 2027.

Participants should also liaise with their associated clients to assess any potential system changes arising from the ODP.

### Offline Test Simulators

HKEX will additionally release offline test simulators for ODP Gateway Binary Trading Interface and Clearing RESTful API in August 2025. The ODP test simulator is a testing tool that enables participants to verify the message format they have developed without the need for connecting to the HKEX test environment.

### Planned timeline for specifications and offline test simulators

Timeline	Item	Distribution Channel	Audience
2025 Q3	ODP Preview Paper	HKEX ODP webpage	CP/EP/vendor
	Trading Binary Specification	Electronic Communication Platform (ECP)	EP/vendor
	Trading offline simulator guide		EP/vendor
	Trading offline simulator package		EP/vendor
	Clearing RESTful API Specification	Client Connect	CP/vendor
	Clearing offline simulator guide		CP/vendor
	Clearing offline simulator package		CP/vendor
	OMD-D Specification	HKEX website	OMD-D Clients
2026 Q1	ODP information Paper	HKEX ODP webpage	CP/EP/vendor
	Clearing Report Specification	Client Connect	CP/vendor
2026 Q2	Risk Report Specification	Client Connect	CP/vendor

### Market Testing

HKEX will provide comprehensive testing support, including end-to-end testing, conformance tests, and market rehearsals to ensure readiness for ODP implementation. More details on the testing schedule and requirements will be shared in H2 2026.

## CONCLUSION

In summary, this transition will involve several key changes from a system perspective, including the introduction of new connectivity interfaces and enhanced reporting formats.

Participants are encouraged to begin planning in 2025, as development and system integration will start in 2026 and continue into 2027.

To ensure successful implementation, we ask that you take the following actions:

1. Review the specifications and assess the impact to plan and budget necessary system development.



2. Ring-fence the required personnel and budget in accordance with the high-level timeline.
3. Assign a responsible person for all ODP-related matters.

Your active participation and support are crucial in ensuring a successful transition to ODP. We look forward to your cooperation and collaboration in this important initiative.

## **ENQUIRIES**

For queries and clarification on the HKEX Orion Derivatives Platform (ODP), please email [ODP\\_Support@hkex.com.hk](mailto:ODP_Support@hkex.com.hk).

For future project updates, please refer to the [ODP project webpage](#) on the HKEX website.

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