XENOMORPH®

Independent Price Verification (IPV)

A solution for all your Price Verification and Data Validation Workflows

INDUSTRY CHALLENGES

Independent Price Verification (IPV), as defined by the Basel II Prudent Valuation Guidance, is "the process by which market prices or model inputs are regularly verified for accuracy. While daily marking-to-market may be performed by dealers, verification of market prices or model inputs should be performed by a unit independent of the dealing room, at least monthly (or, depending on the nature of the market/trading activity, more frequently)".

Significant discrepancies between the internal and independent prices above a certain threshold then trigger an investigation. It is important to note that this threshold is typically set in relation to the exposure that a firm has to a given asset (or liability). That means as part of the price verification process, firms need to collect up-to-date information relating to exposures (delta, vega and cash positions).

Any ensuing price investigation typically requires a controller to research circumstances that might have legitimately caused the discrepancy (for example - a distressed sale in the market causing a temporary blip in the 'independent source').

The independent nature of price verification refers to more than just the independence of the pricing source. For example, under the EU's Capital Requirements Regulation (CRR) it also refers to the individual in charge of the process, specifying that the verification process "shall be performed by a person or unit independent from persons or units that benefit from the trading book."

In order to meet these requirements it is important that firms maintain strict role-based access control over the verification process, as well as process auditability and 4-eyes checks to help safeguard and demonstrate compliance.

THE IPV SOLUTION

The Xenomorph IPV solution provides an automated framework for managing IPV workflows. It enables a strong governance model with clear rules and centres of competence - enabling straight through processing, the handling of exceptions by the correct experts, and clear oversight of the health of the IPV process.
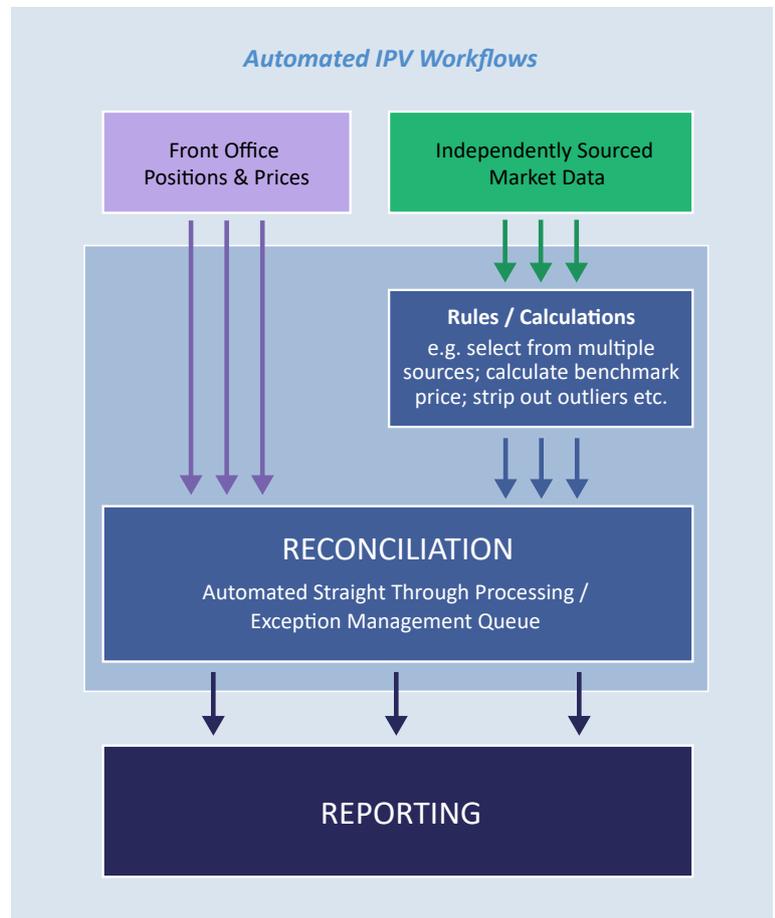
End of day positions and prices are imported from trading systems (such as Murex and Front Arena) and broken down by asset class.

External reference prices are then sourced for comparison with prices used in the front office systems.

Reference prices can be sourced from:

- Multiple sources (e.g. Bloomberg, Reuters, Markit, Super Derivatives, etc.)

- Specialist contributors (e.g. direct exchange, inter-dealer broker, evaluated pricing, etc.)

- Interpolated using Xenomorph curve functionality

- Inputs from internal/customer models

A quality indicator is calculated along with each reference price.

Automated IPV Workflows

Front Office Positions & Prices

Independently Sourced Market Data

Rules / Calculations
e.g. select from multiple sources; calculate benchmark price; strip out outliers etc.

RECONCILIATION
Automated Straight Through Processing / Exception Management Queue

REPORTING

The solution compares and tests the front office prices with the reference prices. Multiple pre-configured checks are available such as:

- Exact match
- Front office price within a bid/ask spread +/- tolerance
- Front office price within any bid/ask spread from multiple contributors
- Front office price within a standard deviation of median price from multiple contributor

Results are displayed as a set of customer-defined outcomes such as: pass, missing, outlier etc.

These results then enter an exception management process that, being rules-based and configurable, can prioritise and automate responses to align with expected business process and internal policy (e.g. exceptions ranked according to the size or sensitivity of the position).

Additionally, bandwidth control features enable firms to optimise thresholds and manage the number of exceptions.

XENOMORPH DATA MANAGEMENT

Data Acquisition / Consolidation

Xenomorph's IPV solution enables firms to consolidate data from any number of sources – with pre-built adapters to independent providers of market data and evaluated pricing services, as well as a range of options to integrate data from internal trading / risk management systems. All data sources are then normalised into a consistent, multi-source data model, allowing for ease of aggregation, comparison and consolidation between different sources of pricing data.

Data Verification

To carry out independent price verification across all of a firm's assets and liabilities invariably requires a flexible rules engine. Our solution enables banks to easily configure verification rules, setting thresholds and prioritising exception management workflows to suit their requirements.

Workflow Optimization

Detailed what-if analysis of historical IPV process data to determine optimal thresholds relative to the number of exceptions that can be investigated.

Data Derivation / Calculation

The system is adept at all forms of analytical data management. It can be used to derive any benchmark used for independent price (or model) verification.

In addition, pre-built interfaces to leading financial analytics platforms such as FinCad and Numerix, popular analytical programming languages such as Python and R, and leading risk management applications make it easy to integrate model inputs and outputs into verification/validation workflows.

Data Lineage and Process Auditability

Carrying out IPV can be burdensome in itself, but firms must also be able to demonstrate that they have complied with process requirements. We offer full data lineage and process auditability, enabling firms to show how independent prices were sourced or derived, who carried out relevant checks, and the details of verification workflows.

Compliance

Our solution is compliant with the IPV requirements within Basel II and Basel III's Capital Requirements Regulation.