

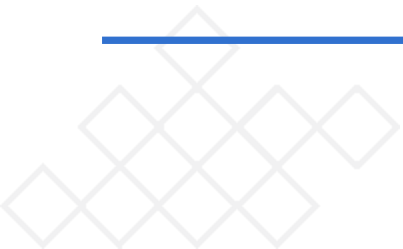



it's about time

# Control for Kx


## Functional Overview

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Extreme performance  
& low latency




Instant querying




Secure, reliable & high-  
performance data storage



Customization of data  
manipulation



Synchronizes master &  
transaction data



Ingests, processes, analyzes &  
stores streaming & historical data




Supports *ad hoc* analysis,  
visualization & dashboards



Complex event  
processing engine



Analytics development  
environment



In-memory, relational  
& columnar

## Extreme Performance

- Low latency, time series data
- Streaming Analytics
- Operational Intelligence

## Proven Solutions

- Rich Functionality
- Re-usable Components & Frameworks
- Configurable, Customisable and Extensible

## Accelerating and Guaranteeing Solution Delivery

- Solutions powered by Kx
- Project Management
- Agile Development and Engineering Services

## Overview

- Control for Kx is an all-encompassing code and process management system, providing our clients with flexibility of development and design, along with the ability to exercise rigorous control across their application landscape.
- 'Control' adds a framework of visibility and governance across Kx applications and processes, allowing clients to build up libraries of analytics and process workflows for swift solution deployment.
- On top of this, complex entitlement layers can be created to manage user access and alerts can be assigned for automated communication and escalation.
- A user can also configure multiple components centrally, monitor their dependencies and view system status via market leading HTML 5 dashboards.

## Key Features

### Time-To-Market

IDE for rapid application development, debugging and deployment with process and analytics library to enable code reuse.

### Run-Time Management

Dashboard views into process flows, their status and dependencies with robust user entitlements and access control.

### Enterprise Features

Robust failover management, standardized logging and error handling, process monitoring and coordination.



### Governance

Centralized configuration management system with consistent development patterns, release management and version control.

### Control

Exercise rigorous control across their application landscape, instantly determining processes running and ownership as well as their parameter / functionality settings

## Competitive Advantage

### DEMONSTRATE CONTROL

#### MARKET-LEADING TECHNOLOGY

Kx is very powerful technology for Big Data applications. Control for Kx leverages this and adds methodology to enable the creation of enterprise level solutions with strong run-time management.

#### VALUE-ADD

Speeds up time to market because it allows client to focus on value-add components instead of building out a variety of products, tools, and systems.

A highly differentiated product at a better price.

#### FLEXIBILITY

Build vs. Buy - traditional canned solutions are usually rigid but Delta Control is a flexible environment more than a typical canned solutions, it adds enterprise features and forms the core on which we have built all our products.

#### SUPPORT MODEL

Introduces Development & Implementation Standards/Processes based on FD's years of experience.

Standardised and streamlined maintenance and support procedures – allowing support teams to manage applications via rich visualisation tools.

## Downstream Control

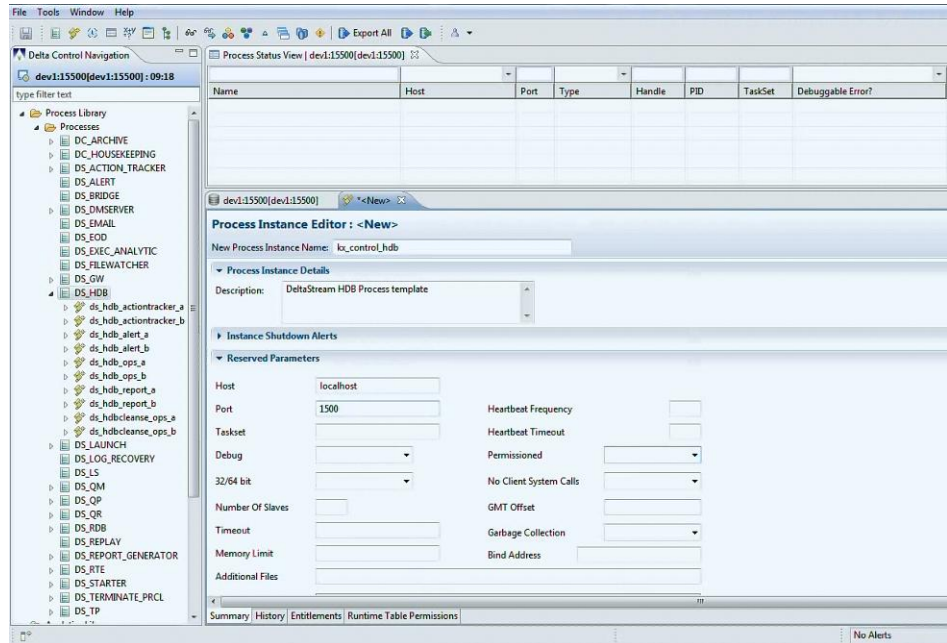
The following features enable control over all downstream business applications from a single Kx for Control process -

- **Kx IDE:** Allows simple navigation and development of code base
- **Housekeeping:** A single hub to manage and control housekeeping tasks
- **Grouping:** Easily group configuration parameters, analytics and processes to ensure the right application has the appropriate groups
- **Revision History:** A full revision history is held by Control for each entity on the Central Data Store
- **Archiving and Checkpoints:** In built archiving to allow for easy roll back of systems and version control
- **SVN:** Link to an SVN repository to check in changes directly from Control
- **Custom Processes:** Build and develop custom services and gateways
- **Expandable:** Simple to build upon Control by adding further Kx tools or Solutions packages

## Process & Analytics Library

A repository of rich, out-of-the-box process templates, complimented by an analytics library, that enable quick instantiation of ticker plant, intra-day, historic and real-time processes and engines.

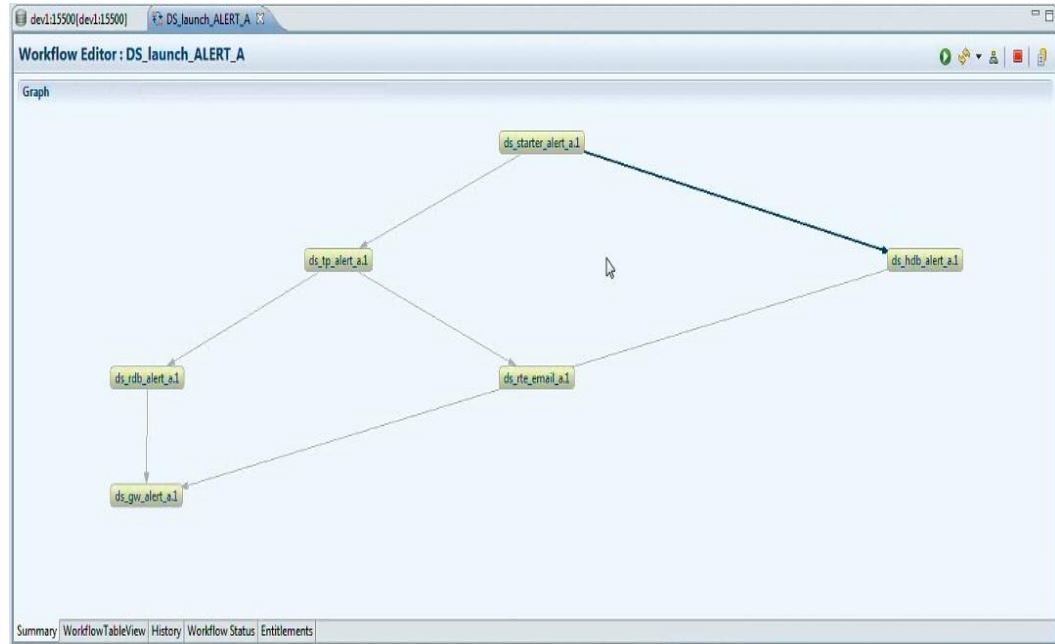
- **Notifications** → significant process events.
- **Deployment** → easily deploy analytics into running processes.
- **Connections** → used to make connections between processes. Can use environment variables for portability and be part of connection groups for load balancing / resilience.
- **Monitoring** → stats collected by Delta Daemon, server, file + process level information for investigation.
- **Archiving** → warehoused for historical investigation.





## Workflow Management

- Workflow manager allows processes to be linked together in a logical order.
- This allows process ordering, whereby a downstream process will only commence upon completion of it's parents in the process chain.
- Process instances within a workflow are known as tasks.
- The alerts workflow shows a number of tasks, connected by arrows which describe dependencies.
- Retain log history records.

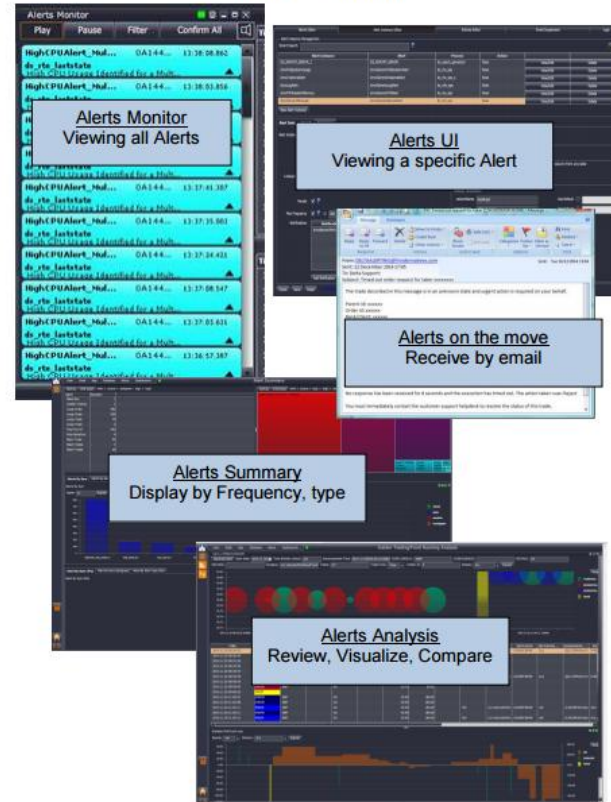


## Alert Framework

An alerts subsystem which acts as the central point to define, capture and view alerts.

- Integrates with Analytics Library and Action Tracker for automated alerting and subsequent management.
- Multiple Notification Types – Email / Sound / UI.
- External API allowing other systems to publish alerts.
- Case Management assigns ownership to alert investigation and defines SLAs to its resilient alerts process.
- Multiple concurrent users can configure and store alerts.

Sample Alert Screens



## Entitlements and Permissions

Control for Kx provides a very granular level of functionality around entitlements and permissions -

### 1) Multi Level Access

- Set at the User level or at a User Group level.
- Entity Level Permissions and grouping.
- Whitelist/Blacklist
- Read/Write and Deny Read/Deny Write

### 2) Password Policies

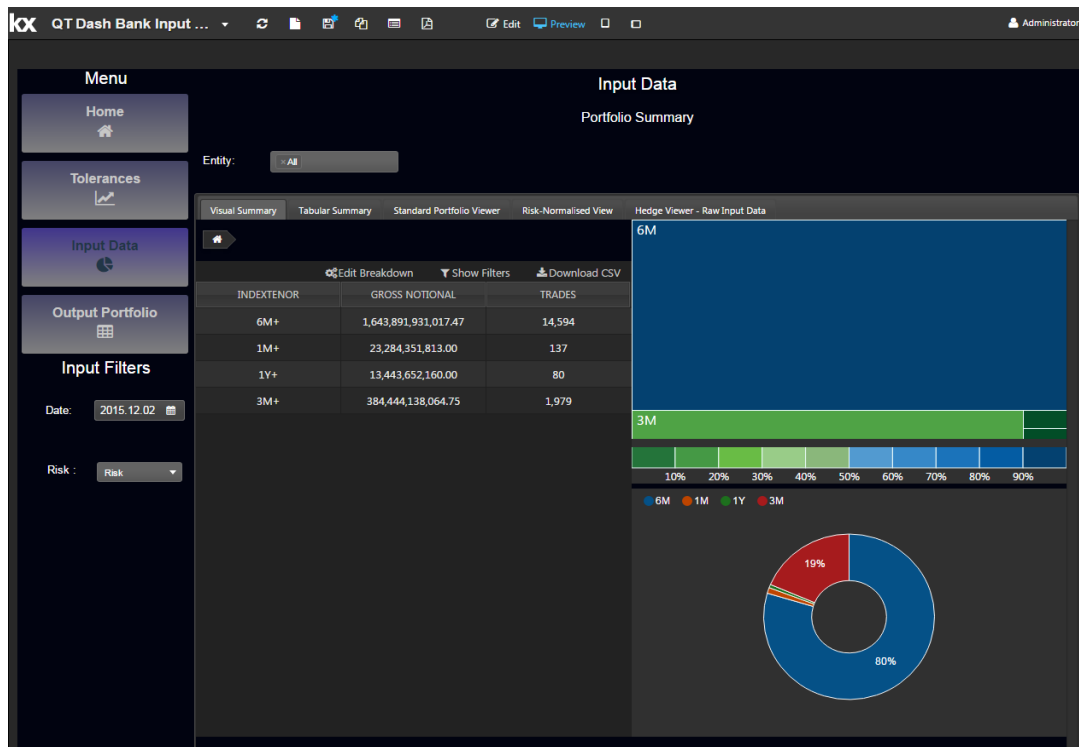
- SSAE16 regulation compliant
- Login Restrictions (Source IP Restrictions)

### 3) Audit Trail

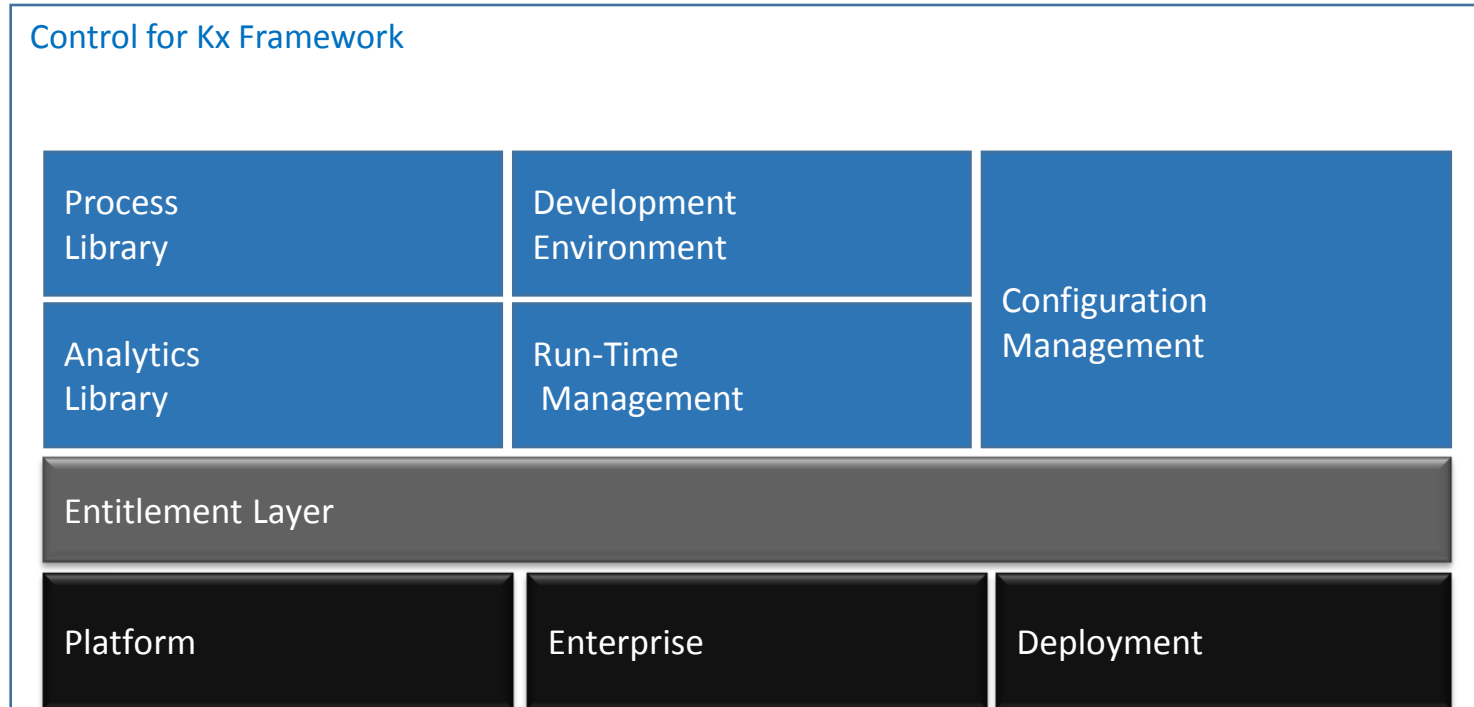
- All access attempts are logged.
- Calls to the security API to add users and change permissions are kept in an audit table, along with the users who made them.

## Dashboard Integration

- Control for Kx easily integrates with front-end GUIs, based on a variety of programming languages, such as HTML 5 and Javascript.
- Link up back-end processes and analytics to dashboards to produce stunning visuals of the underlying data. This allows for more effective monitoring, investigation and validation.
- Dashboards for Kx can handle hundreds of thousands of streaming records per second.



## Architectural Overview



# Contact

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