ION Trading

## ION MarketView

# Java API:
# Release Notes for Versions 117, 120, and 121

*Version 1.0*

Released: September 20, 2005

# Legal Notices



## Trademarks

# About This Document

This document provides information about the ION™ MarketView™Java® API rollout plan. It describes the features that have been released recently or that are planned to be released in the near future.

## Who Should Read This Document

This document is intended for software developers interested in building custom MarketView components. It is assumed that the reader is familiar with the MarketView platform.

## Related Documentation

- *ION MarketView: C API Reference Guide*
- *ION MarketView: Java API Reference Guide*
- ION MarketView: System Administration Tool documentation set

## Acronyms

| | |
|---|---|
| API | Application Program Interface. |
| OO | Object Oriented. |

# Contents

# 1. Component Summary

## Version Scope

The scope of this document is limited to the ION™ MarketView™Java® API versions listed in the following version table:

| Version | Motivation | Production |
|---|---|---|
| 117 | Minor release. | Feb 2005 |
| 120 | API re-factoring to provide better object orientation. | May 2005 |
| 121 | API Enhancements | Sep 2005 |

## Last Release

The latest public release is Version 121, released in September, 2005.

# 2. Feature List

## Java API Version 121 Feature List

### Functional

#### Pattern handling:

Pattern publishing and subscribing is now supported using the new `MkvPattern` class and `MkvObjectType`.pattern type.

#### Publish filtering:

Incoming publish objects can be now filtered out by setting the following new variables:

```
MKVPUBLISH_EXCLUDE
MKVPUBLISH_EXCLUDE_ORIGINATOR
MKVPUBLISH_INCLUDE
MKVPUBLISH_INCLUDE_ORIGINATOR
```

Publish filtering could increase publish download speed and decrease memory impact.

#### Log file splitting:

When a file reaches the size defined by the `MKVMAXLOGSIZE` variable, it is now closed and backed up automatically.

### Software Interface

#### MkvRecordListener.onFullUpdate first update:

`MkvRecordListener.onFullUpdate()` on a record subscription is now notified as a snapshot the first time it is called. Additionally, the associated `MkvSupply` contains all subscribed fields. This service is not yet available f pattern subscription.

#### Custom end-to-end delay sampling:

Custom end-to-end (E2E) delays can be now published using objects returned by the `MkvPlatform.getE2EDelaySampler()` method.

#### Relaxed function call rules:

For compatibility reasons, `MkvFunction.call()` can now be invoked with fewer arguments than required. Argument type checking is still performed.

### Performance

#### Publish download:

Download of incoming publish objects is now up to three times faster.

# Java API Version 120 Feature List

## Functional

### Listeners for function calls and transactions:

The API now supports listeners for function calls and transactions.

### Helper function for subscriptions:

A helper function is now provided to subscribe to all fields within a record.

### Permanent subscriptions:

The API supports permanent subscriptions on both chains and records. An application can add and remove subscriptions at any time and it is up to the API to handle chain or record subscription messaging when needed. With the new chain subscriptions, in particular, it is possible to subscribe to all the records in a chain with a single call to an API method.

Applications that want to monitor the availability of specific data will still have to monitor publication events (`onPublish` method).

### New logging service:

Where the ION implementation is simply a default, customers can provide their own implementation of the logging service. This is provided by making `MkvLog` an interface.

### New configuration variable management methods:

New methods for obtaining and registering configuration variables (properties) are provided. It is now possible to define constraints on accepted values ,and see and manage settings using the System Administrator Tool user interface.

## Software Interface

### Simplified MarketView main constructor:

The main `Mkv` object is not created anymore (because it is a singleton). However, a valid instance can now be obtained using an object factory method.

### New dedicated classes to manage enumerated types:

Dedicated classes are used instead of integer constants to represent enumerated types. This reduces the possibility of programming errors and makes the interface more cohesive.

### Case insensitive command line switches:

Command line switches are now case insensitive to avoid useless errors.

### Dynamic registration of event listeners:

Registrations of event listeners are now supported directly using object instances or object method calls instead of classes static methods.

### Reference parameter-passing to event listeners:

Event listener parameters have been revised to pass object references directly instead of object names. For performance reasons, fields are notified by index instead of by name. Also, the `MkvType` class offers a facility method to automatically convert an array of indexes to an array of field names.

### Revised chain structure:

The `Chain` object structure has been revised. It easily integrates with Collection Framework and now no longer requires external synchronization. In any case, if application logic requires locking a chain, synchronization on the chain object forbids other threads from modifying it.

### Use of thread groups:

All API threads are now part of a (user configurable) thread group. This change allows users to define whether the ION API should use daemon threads or not, and to catch fatal asynchronous errors.

### Reduction of static methods:

Functions which were exported using static methods are exported in dedicated class instances and grouped by functional area.

### New MkvSupply interface and helpers for wrapping MarketView records on Java objects:

Value updates are now notified and can be supplied using the `MkvSupply` interface. In addition, this version provides a rich set of helper methods that automate the conversion between Java objects and the `MkvSupply` interface.

## Performance

### Proactive socket handling:

The use of an asynchronous socket interface has been introduced using a proactor pattern. Asynchronous sockets allow the API to use bandwidth more efficiently and to implement a non-blocking connection mechanism.

### Aggregation of packets to optimize bandwidth usage:

Instead of sending small packets separately, the API now supports the optimizing of data transfer by aggregating small packets into one bigger packet when possible. This feature is already available on the rest of the platform and is driven by the DTBLOCKING property.

### Flow control mechanism:

A flow control mechanism has been implemented which is compatible with the same mechanism already available in the C API. This mechanism will maintain delays between components under control, even in case of fast publishers and slow consumers.

### Reduced memory allocation:

The use of internal and dynamic memory buffers has been drastically reduced. With this change, the garbage collector is called less frequently and takes less time to complete.

## Safety

### Use of standard Java exception handling mechanism:

Fatal errors are notified using the standard Java exception handling mechanism, instead of using methods' return values.

## Maintenance

### Export of API statistics:

Statistics about application activity are now exported to the system to provide better transparency of Java-based applications developed over the MarketView platform.

This version of the API supports component statistics, connection statistics, and end-to-end delays which are compatible with the C API version 124.

## JDK Support

### Java Development Kit support:

Starting from this version, JDK Version 1.4 or higher is required. JDK Version 1.3 is no longer supported.

# Java API Version 117 Feature List

## Functional

### Local function and transaction calls support :

Locally published functions can be called and, similarly, transactions for locally published records can be requested.

### Router 124 compatibility:

Support has been added for the `DbReset` event sent by Router Version 124 or higher. This is to optimize the management of component and connection down events.

## Software Interface

### MkvValue compliance with object interface:

Added `MkvValue.equals()` and `MkvValue.hashCode()` methods.

## Safety

### JVM shutdown:

Added a shutdown mechanism to safely close the API when the JVM is closed using the `System.exit()` method or using an external break signal.

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# Customer Information

This section contains information about accessing documentation online and how to contact Technical Support.

## Accessing Documents Online

To access documents using a Web browser:

1. Go to the ION Trading Web site at:

   http://www.iontrading.com/
2. Go to the ION Tracker Web site by logging in to the **Customers** section.
3. Click **Documentation** in the left hand frame.
4. Click on either **docs-tree** or **docs-date**.
5. Navigate to the document you want.

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If you have a *problem*, you can contact ION Technical Support in one of the following ways:

- Telephone
- Web
- E-mail

### Telephone Support

The service hours for all our clients in Europe and the U.S.A. are from 7:00 am to 6:00 pm (local time), Monday to Friday, and from 9.00 am to 5.00 pm in Japan.

| | | |
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| EUROPE | 7.00 am to 6.00 pm | + 44 207 398 0222 |
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## Web Support

You can access the ION Tracker Web site at the following Web site:

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- News
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- Documentation
  All the guides and release notes available in PDF format.
- New releases
  Each new version of a component will be available for download in this section.
- Development plans and enhancements
  Current development plans and tracking system of the enhancement requests submitted to ION.

## E-mail Support

You can send e-mail to Technical Support at the following address:

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When you send e-mail, please provide the following information to accelerate the process:

- What platform is affected
- What component is involved
- The version of the component
- Detailed description of the problem
- Instrument codes involved
- Operators involved
- Detail of any error messages

Please provide logs whenever possible.

To allow us to gather as many elements as possible from the aftermath of crashes, customers are advised to enable the following options on machines running Microsoft® Windows®:

(Dr Watson configuration)

- Dump Symbol Table
- Dump All Thread Contents
- Create Crash Dump File

Remember to send all heavy log files or attachments to the following address:

bigfiles@iontrading.com.

Once you have logged an issue, you will be assigned a reference number. Please ensure you quote this number in all related communications.

Please send all other communications to sales@iontrading.com.