IKASAN

Open Source Enterprise Integration

Ikasan Enterprise Integration Platform

INTRODUCTION

This paper provides an "in a nutshell" overview of the **Ikasan Enterprise Integration Platform (IkasanEIP)**. The goal is to provide users whether they are third-party vendors, community developers, or business users, with an understanding of what IkasanEIP is; its key functional features; its technologies; licensing; and its availability.

WHAT DOES IKASANEIP DO?

IkasanEIP addresses integration concerns in disparate application landscapes supporting what are often complex interwoven business processes within the financial sector. A key differentiator for IkasanEIP is the promotion of integration as a solution, addressing concerns holistically within the governance of a defined and traceable architecture.

MISSION STATEMENT

To provide simple, robust, configurable, commoditised integration solutions.

BACKGROUND

IkasanEIP was initially developed within a large investment bank to address real world integration issues. Within the scope of this highly pressured commercial environment it was possible to understand and address the integration concerns not just for developers, but also those of support staff, business analysts, and ultimately end users. Based on this IkasanEIP has some key features that go beyond that of being just another integration development framework.

VERSION

IkasanEIP latest stable production release version is 1.3.x.

LICENSING

IkasanEIP is distributed as Open Source software under the Modified BSD License.

DOWNLOADS

Binaries are available at Maven Central
Source code is available at https://github.com/ikasanEIP/ikasan

Binaries can also be built directly from source using build tools such as Maven.

KEY FUNCTIONAL FEATURES

The following “out-of-the-box” features help distinguish IkasanEIP from being just another integration development framework.

Robust & Guaranteed Operation

The fundamental core of IkasanEIP focuses on ensuring once and once-only guaranteed delivery in the sourcing and distribution of high value business events as often occur in the financial sector.

Simple Constructs within a Traceable Architecture

IkasanEIP lowers barriers to adoption by being built from a clearly defined architecture and established design patterns. This results in simple configuration and runtime constructs that can be understood by developers, support staff, and business users involved business application integration.

Automated Recovery from Failures

IkasanEIP’s runtime environment is configurable to provision automated recovery from both business data and technical failures thus ensuring integrity and continued business operation with minimal downtime or manual intervention.

Business Event Visibility

All business events flowing across IkasanEIP can be viewed, dynamically recorded, tracked, and downloaded, in real-time, without interruption to the runtime environment.

Business Flow Configuration

All business flows in IkasanEIP can have their component operations configured either statically through a web front end; or dynamically by the incoming business event. Either configuration can be undertaken without stopping core services thus allowing IkasanEIP to support critical 24/7 availability.

Business Flow Monitoring

All business flows configured within IkasanEIP actively report their runtime status of *“running”*, *“stopped”*, *“recovering”*, or *“in error”* to any registered monitor. Out of the box monitors include Big Brother / Hobbit, email, and HTTP clients.

Management Console

An HTTP client based management console provides business flow management, configuration management, real-time in-flight event capture configuration, user permissions and maintenance, and audit logs.

User Console

An HTTP client based user console supports business event tracking, business content searches, downloads, and permissions.

Event Hospital

Failed business events can to be parked outside the main flow in the Event Hospital until the issue can be resolved and the business event resubmitted back in to the flow.

KEY TECHNICAL FEATURES

Enterprise Design Patterns

Standard enterprise design patterns have been implemented based on common industry integration patterns from the published *"Enterprise Integration Design Patterns"*, by Gregor Hophe & Bobby Wolfe.

Pluggable Implementation Architecture

IkasnEIP's architecture facilitates the use of standard off-the-shelf functional libraries; 3rd party provided libraries; and bespoke user development such as simple Java POJOs. All are invocable at runtime within IkasanEIP 's pluggable architecture.

Pluggable Business Domain

IkasanEIP does not impose any specific type or structure on the business events being transported by flows. This allows the developer freedom to implement data constructs pertinent to their integration solution rather than being unnecessarily restricted.

Interoperability

IkasanEIP supports a number of protocols and 3rd party vendor APIs off-the-shelf. Where relevant these are implemented as transactional resources to ensure business event integrity. These include FTP, SFTP, JDBC/RDMS, JMS, SMTP, HTTP(S), and XTrakter's® TRAX Trade Reporting and Matching.

Test Driven Development (TDD) / Behaviour Driven Development (BDD) Dogma

IkasanEIP development strives for a *"release early, release often"* approach based on the adoption of TDD/BDD. This is achievable through automated and repeatable unit tests - using JUnit/JMock; automated and repeatable integration tests - using the Ikasan Flow Test Harness based on canned business data; and a continuous integration service - using Hudson. Each of these facets supports a fast and effective build out of business flows.

Development Technologies

IkasasnEIP is built entirely in Java 7 (JEE). It utilises Spring to dependency inject its internal constructs and Hibernate for core persistence, however, all aspects are pluggable and interchangeable.

Runtime Technologies

IkasanEIP Integration Modules provide the runtime solutions. Integration Modules are built using configuration XML with POJOs providing any additional required custom logic. Any other 3rd party libraries may be utilised within the scope of a packaged Integration Module.

CONTACTS

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Wiki: Confluence WIKI
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