B2BITS <epam>

FIX Edge

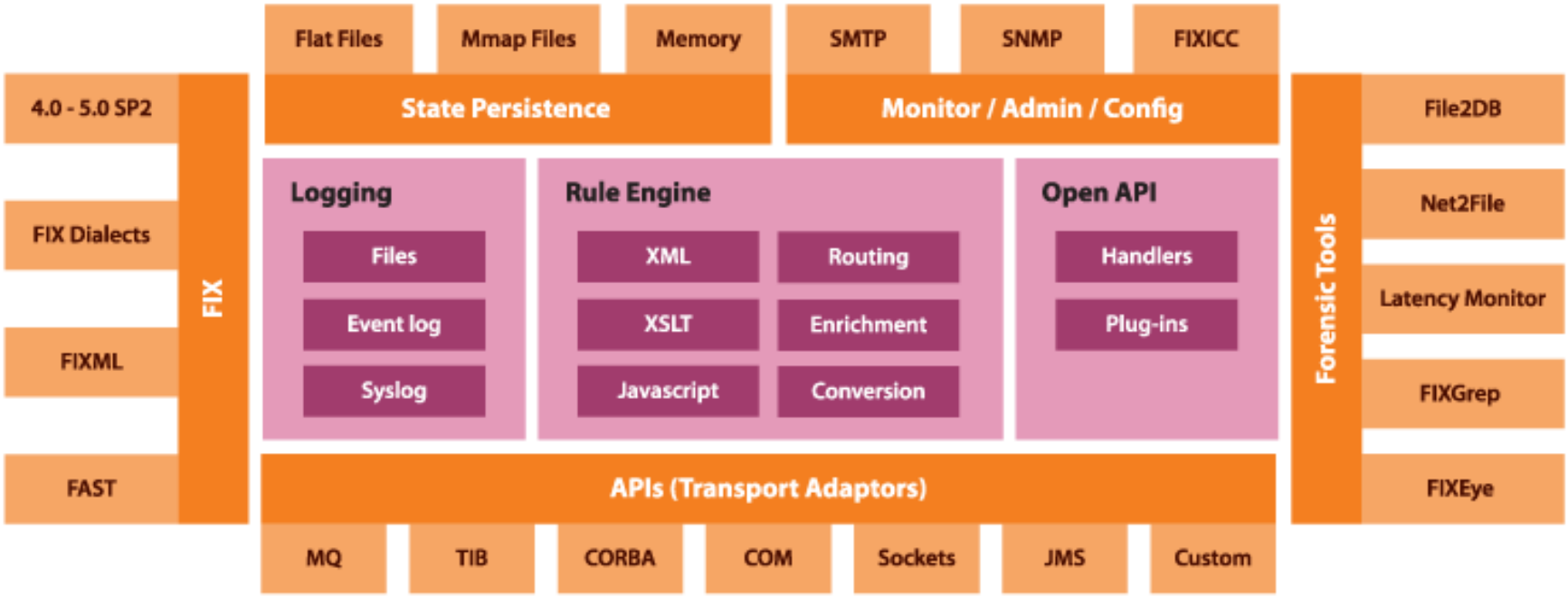
Overview

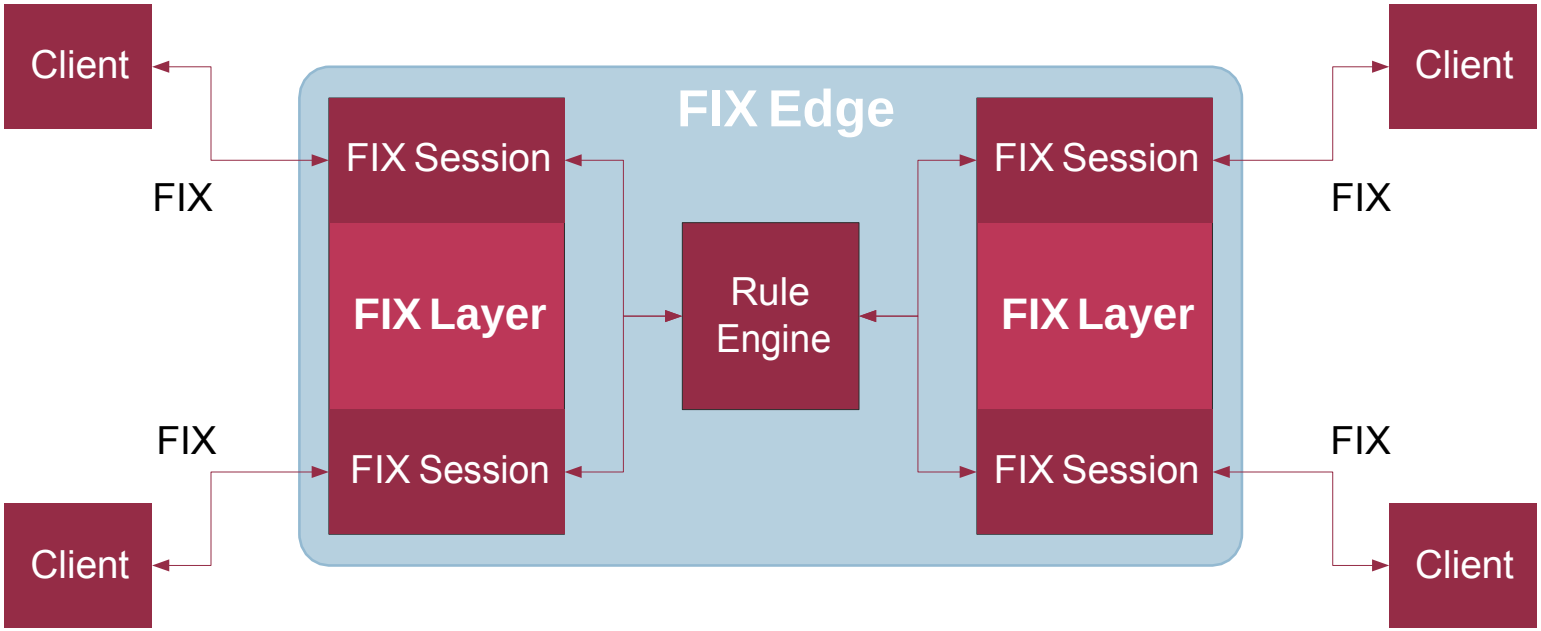
FIX Edge features

- Multiple FIX sessions
- FIX 4.0 - 4.4, 5.0, 5.0 SP1, 5.0 SP2 FIXT1.1
- FIX Dialects
- FIXML 4.0 - 5.0 SP2
- FAST
- Non-FIX API: ITCH, OUTCH
- *Route* FIX messages between FIX sessions
- Various remote access methods (sockets, MQs, TIB, COM/DCOM, etc.)
- Back-up connections
- *Persistent* and *transient* sessions
- XML-based business level rules for routing and transformation
- *Convert* messages between FIX protocol versions
- Support Javascript and XSLT in business level rules
- *Open interface* for plug-ins on transport level
- *Open interface* for plug-ins on business level
- High availability
- Multi-platform: Windows, Linux; 32-bit, 64-bit

FIX Edge is a FIX router

FIX server FIXEdge is mostly used as a generic smart router, common FIX connectivity service to delegate all FIX connectivity related tasks in the enterprise architecture.

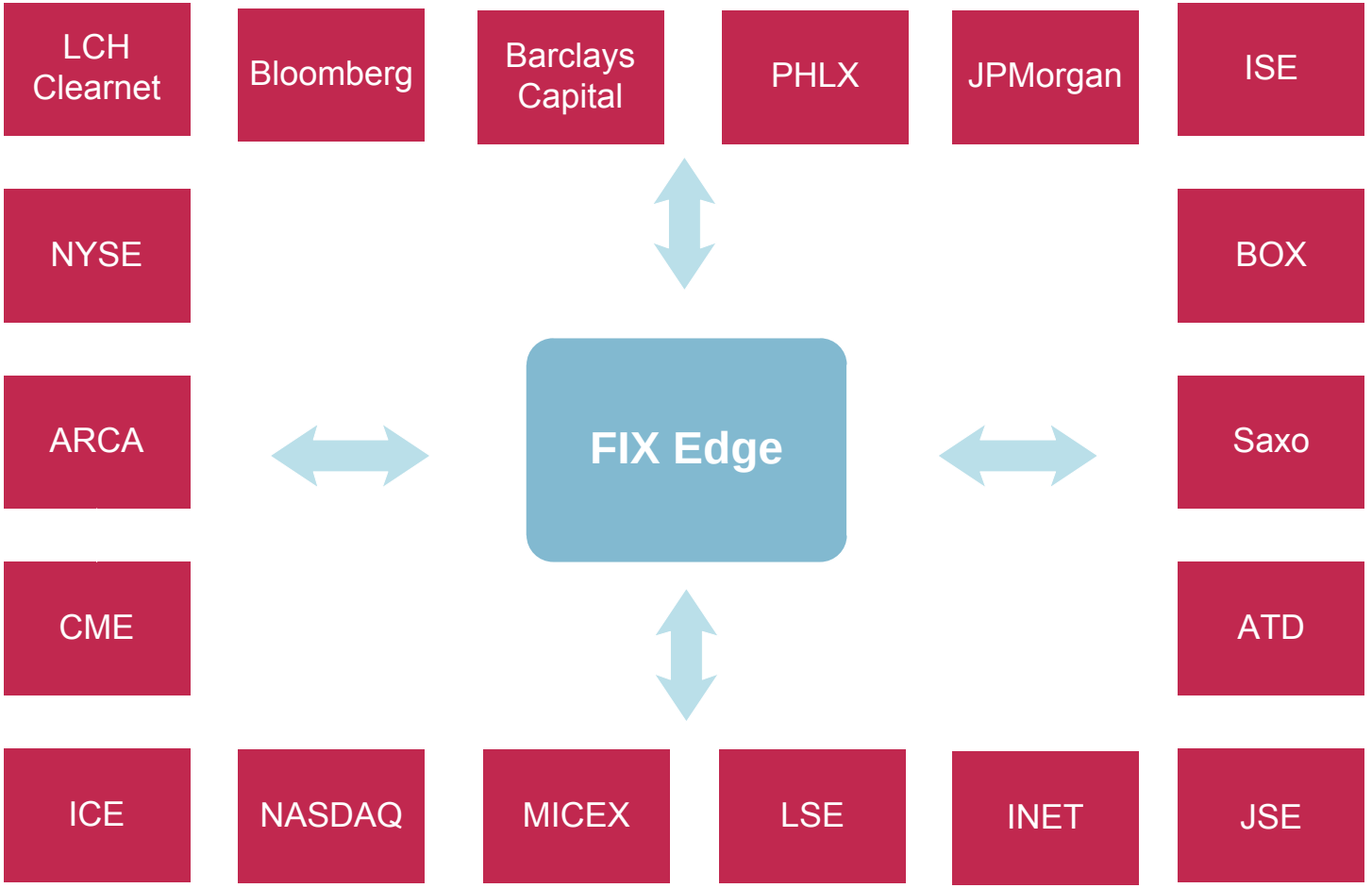




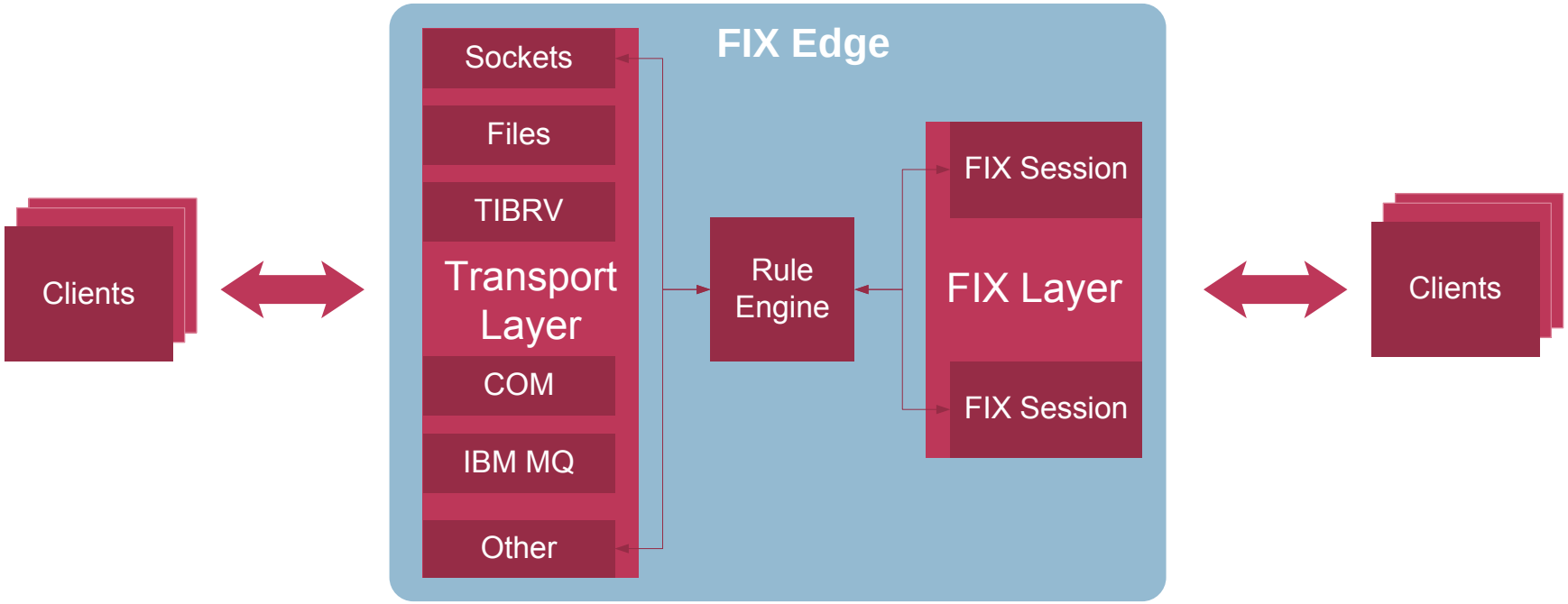
- Many-to-many routing
- Context based routing rules
- On-fly conversion
- Multiple FIX sessions
- Convertion from/to FIX; to/from FIXML

- FIX 4.0 - 4.4, 5.0, 5.0 SP1, 5.0 SP2 FIXT1.1
- FIX Dialects
- FAST
- FIXML 4.0 - 5.0 SP2

FIX Edge is not just a FIX



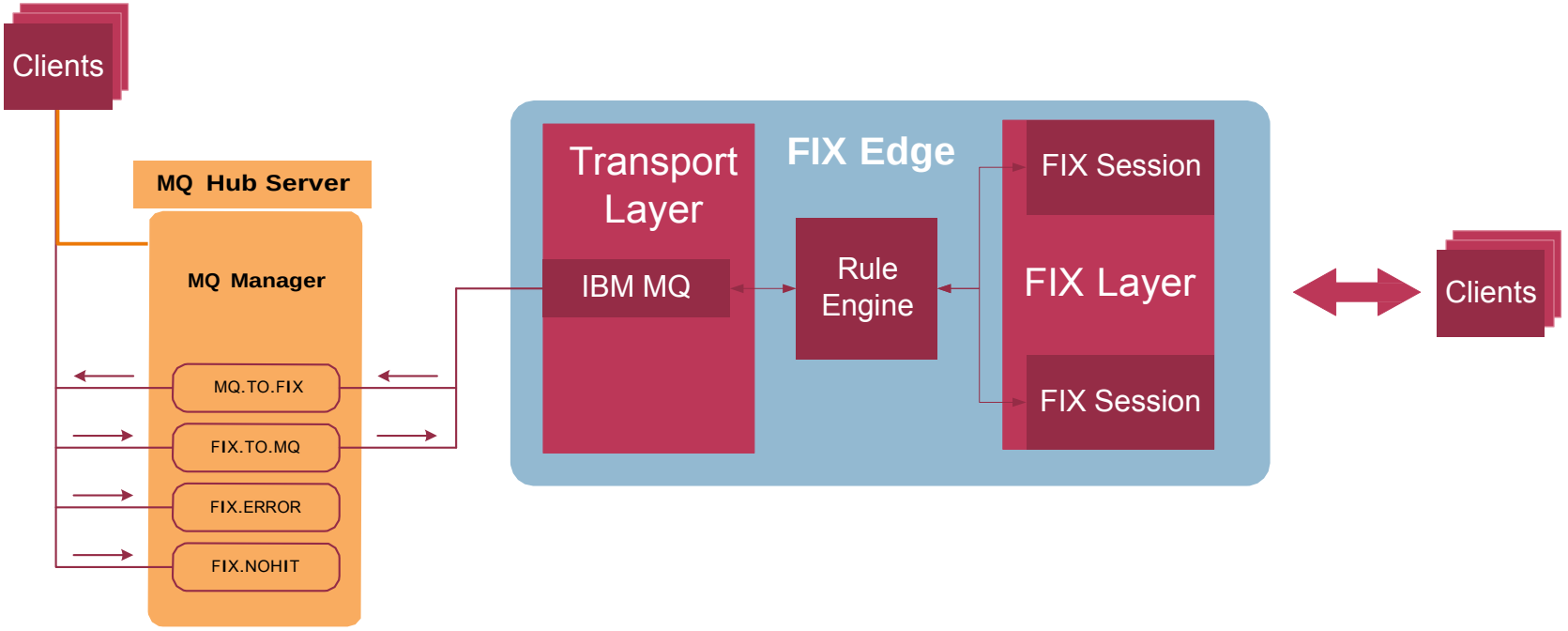
FIX Edge is a connector



- TCP Adaptor
- UDP Adaptor
- File Adaptor
- TIB RV Adaptor
- JMS Adaptor

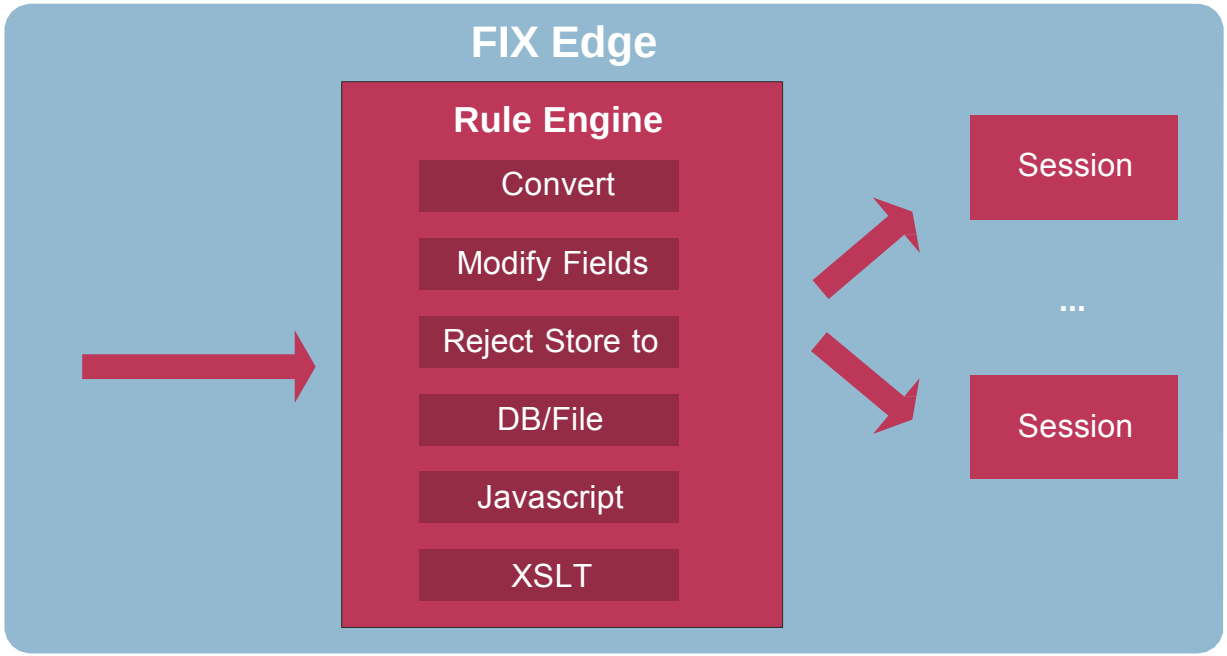
- CORBA Adaptor
- COM/DCOM Adaptor
- Named Pipe Adaptor
- IBM MQ Series Adaptor
- HTTPs Adaptor

Example: FIX Edge and MQ



- TransportLayer.MQAdaptor.SessionNumber = 1
- TransportLayer.MQAdaptor.Session.1.ClientID = MQHub
- TransportLayer.MQAdaptor.Session.1.FromClientQueue = FIX.TO.MQ
- TransportLayer.MQAdaptor.Session.1.ToClientQueue = MQ.TO.FIX
- TransportLayer.MQAdaptor.Session.1.NoHitQueue = FIX.NOHIT
- TransportLayer.MQAdaptor.Session.1.ErrorQueue = FIX.ERROR

FIX Edge rule engine



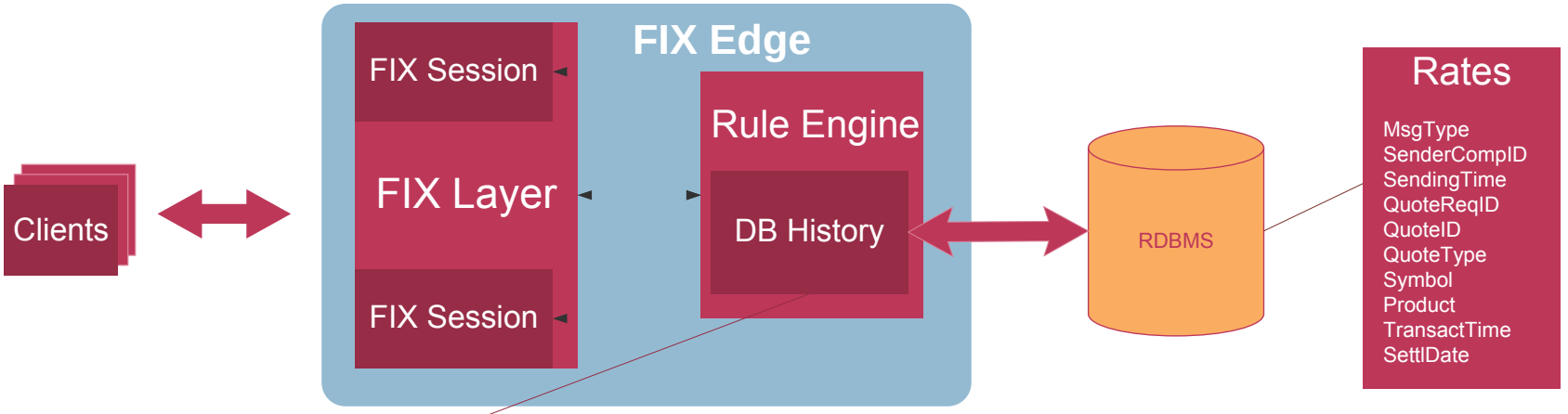

```
|-Rule
|       |-Source
|       |-Condition
|       |-Action
...

|-Rule
|       |-Source
|       |-Condition
|       |-Action
|
|-Default Rule
|
|-Events
```

- XML Rules
- Rules are joint in OR
- Conditions are joint by AND
- Regular expressions
- Create custom rules for smart order routing

- Scripting languages
- Modify message (set/remove field)
- Convert message (FIX-to-FIX & FIX-to-FIXML)
- Send to multiple sessions
- Change rules on-fly

Example: DB History

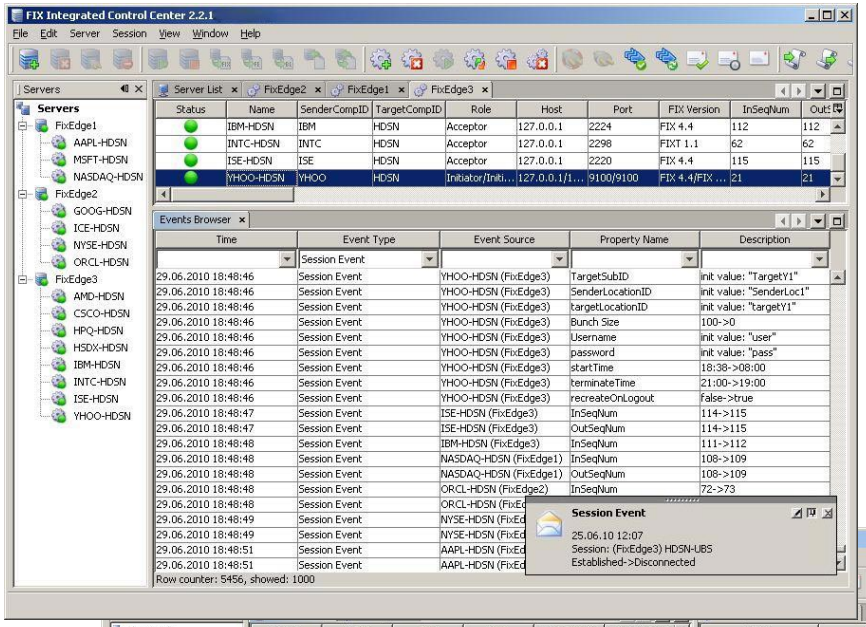



```
<History Name="Quotes"
              StorageType="ODBC"
              ColumnSize="256"
              TableName="Rates"
              ConnectionString="DSN=Cmp;UID=cmp;PWD=cmp321;">
   <Field ColumnName="MsgType" ColumnSize="4">35</Field>
   <Field ColumnName="SenderCompID" ColumnSize="40">49</Field>
   <Field ColumnName="SendingTime" DataType="Datetime" ColumnSize="20">52</
Field>
   <Field ColumnName="QuoteReqID" ColumnSize="40">131</Field>
   <Field ColumnName="QuoteID" ColumnSize="64">117</Field>
   <Field ColumnName="QuoteType" DataType="Int" ColumnSize="10">537</Field>
   <Field ColumnName="Symbol" ColumnSize="12">55</Field>
   <Field ColumnName="Product" DataType="Int" ColumnSize="10">460</Field>
   <Field ColumnName="TransactTime" DataType="Datetime" ColumnSize="20">60</
Field>
   <Field ColumnName="SettlDate" DataType="Date" ColumnSize="10">64</Field>
</History>
```

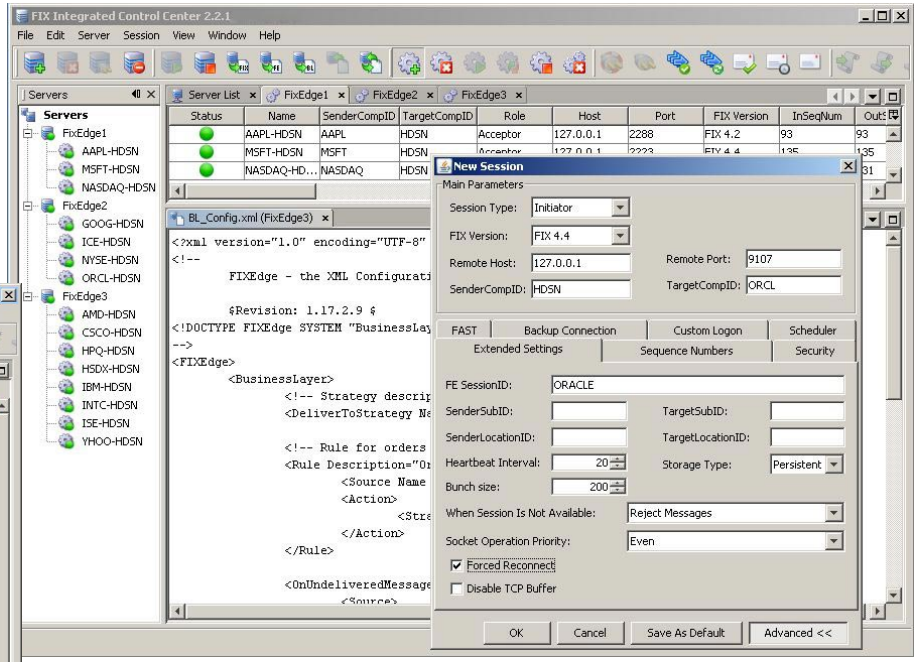
BL_Config.xml

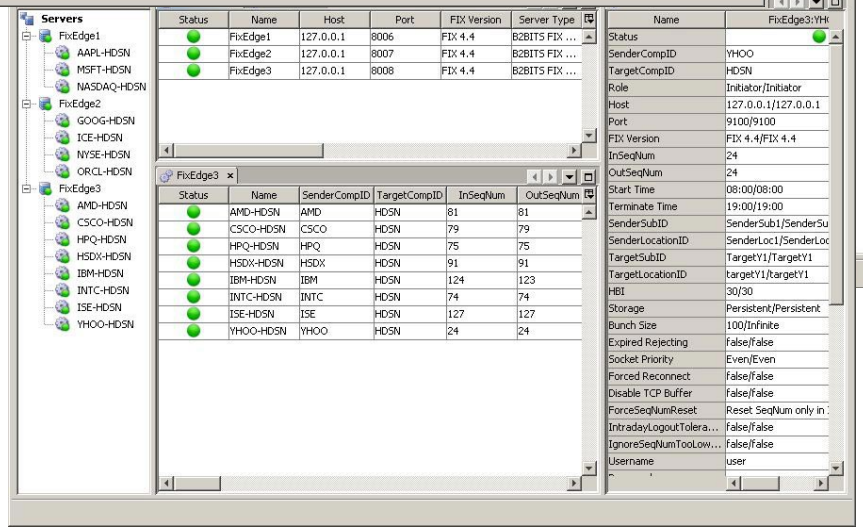
```
<Rule Description="Save Quote to DB">
   <Source>
      <FixSession SenderCompID="FIXEdge" TargetCompID="Client1"/>
   </Source>
   <Condition>
      <EqualField Field="35" Value="S"/>
   </Condition>
   <Action>
      <SaveToHistory Name="Quotes"/>
   </Action>
</Rule>
```

FIX Edge ControlCenter



FIX Integrated Control Center (FIXICC) allows to monitor status, maintain configurations, and review FIX logs of multiple FIX Edge instanses.

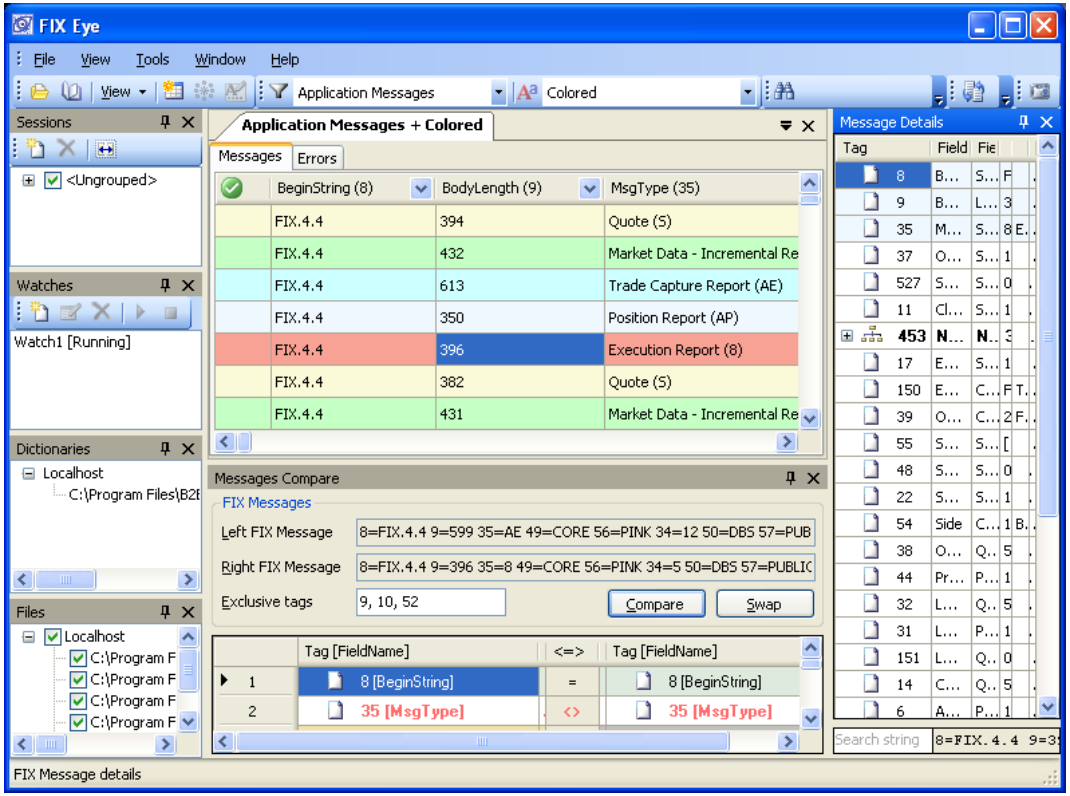


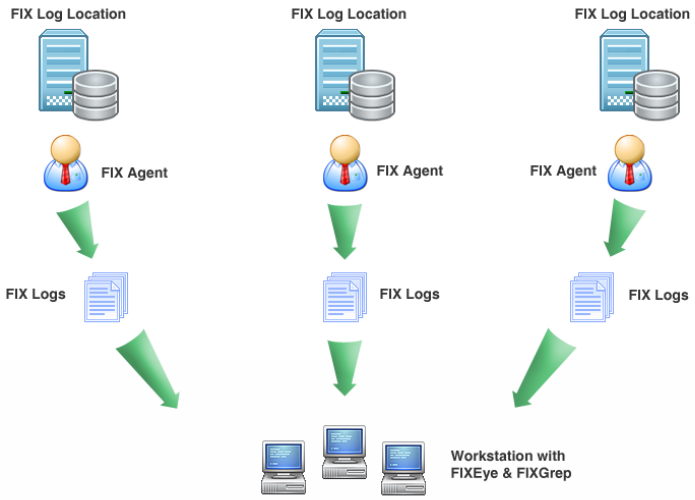


FIXICC sends commands and receives information via a special FIX session, has an open architecture, is extendible and customizable.

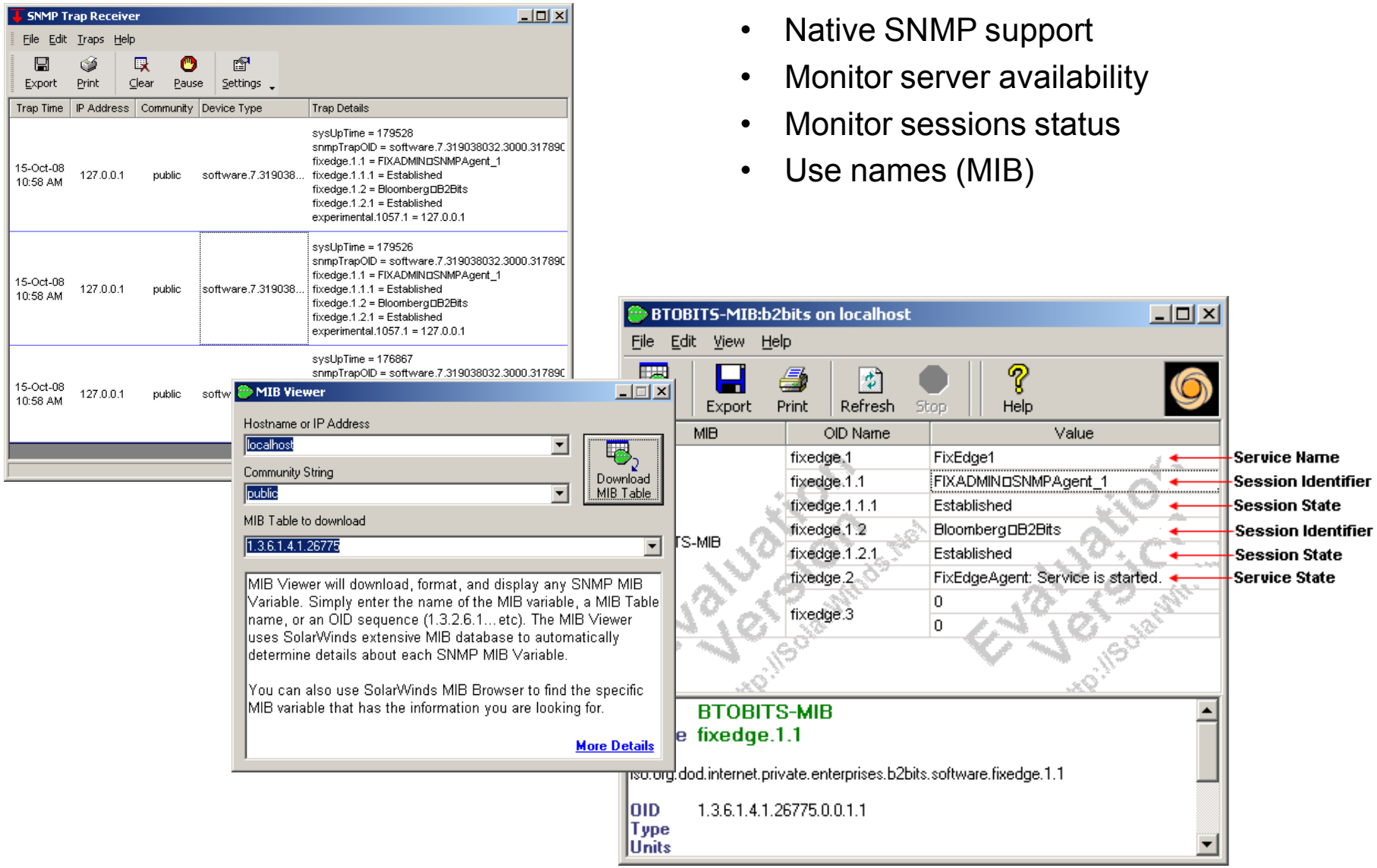
FIX Log Analyzer

FIX Eye is a powerful log analyzer allowing to monitor FIX Edge logs in both real-time (from machine where FIXEdge is deployed or from remote one) and non-real-time.





FIX Edge and SNMP



- Native SNMP support
- Monitor server availability
- Monitor sessions status
- Use names (MIB)

FIX Edge customization

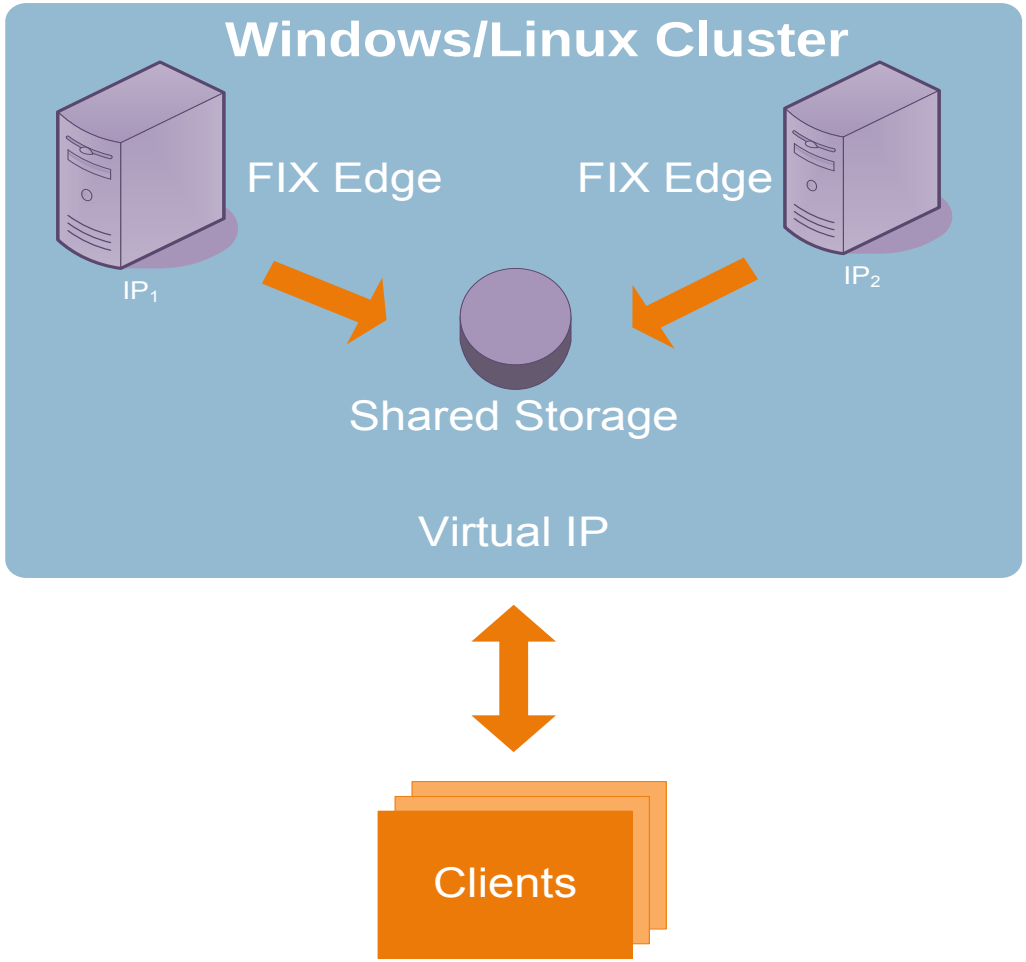
Custom Business Layer Handler

- Write your own library
- Implement Handler interface
- Override: process method
- Work with FIX message using B2BITS API
- Use MessageSender to queue message for sending
- Describe you handler in Rule Engine configuration
- Call you handler from Action section

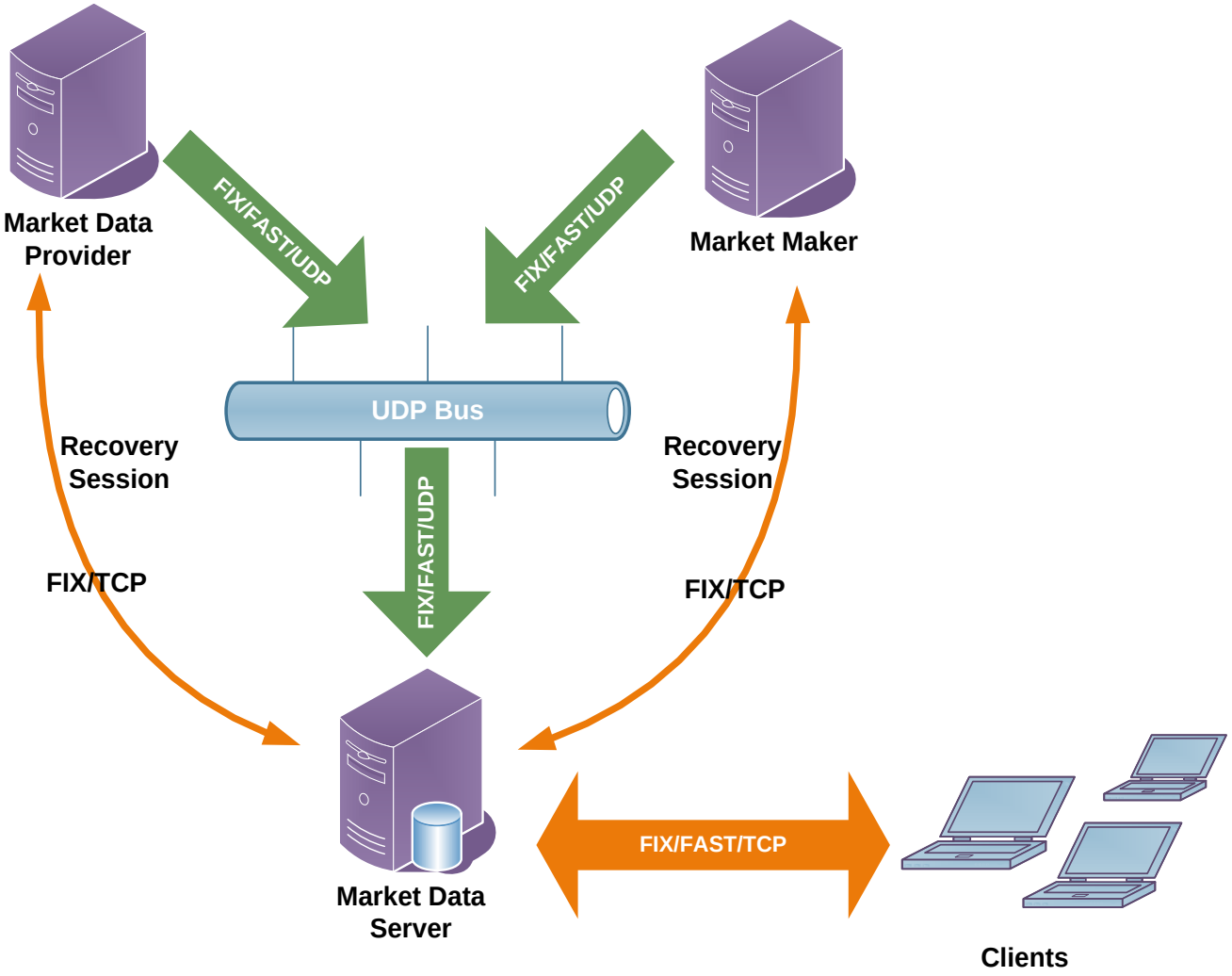
Custom Transport Adaptor

- Write your own library
- Implement TransportAdaptor inteface
- Override: sendToClient method
- Use observer to upload incoming messsages to FIX Edge
- Implement Administrable and Monitorable to add adaptor to Control Center
- Configure Adaptor in FIXEdge.properties

FIX Edge cluster

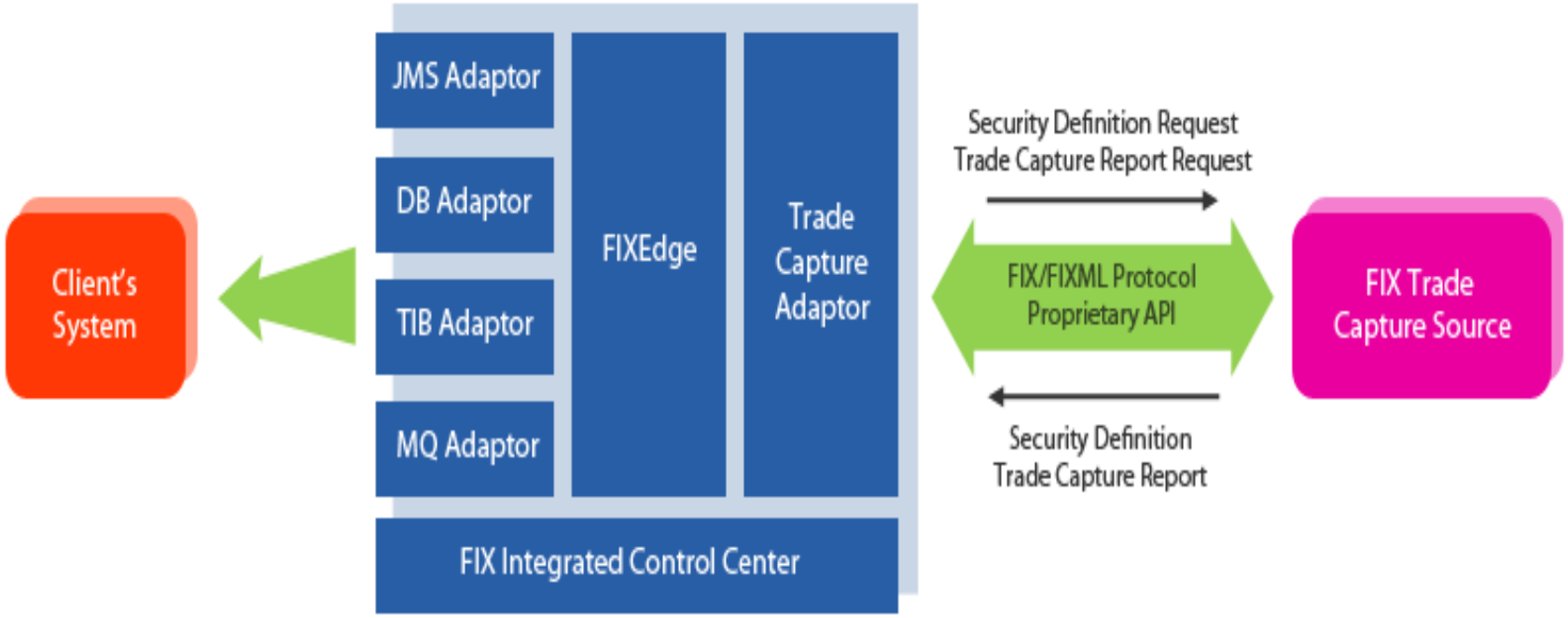


FIX Edge for market data



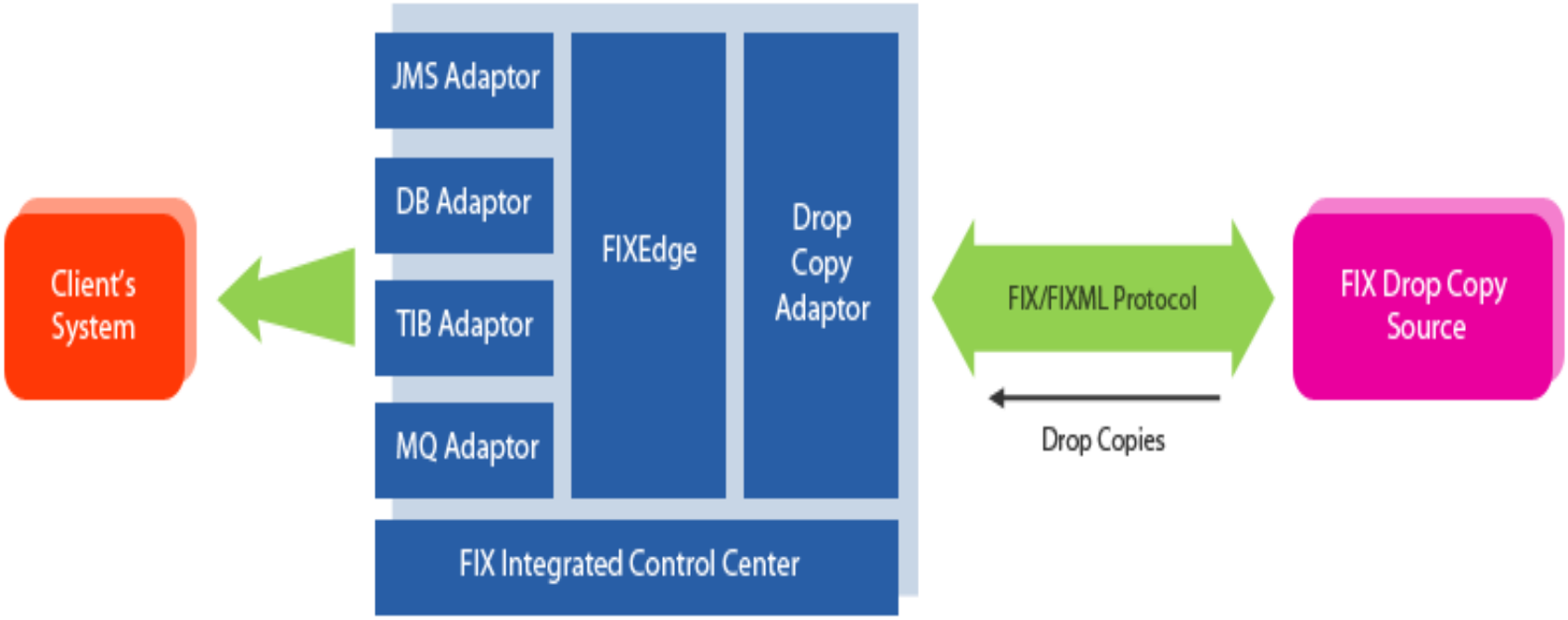
FIX Edge for Trade Capture

The process of capturing trades and/or security definitions is fully automated, while all the specifics of the connectivity are completely encapsulated and hidden from the client. In addition, FIXTCap package includes recovery tools, which allow requesting missing trades in case of failures.



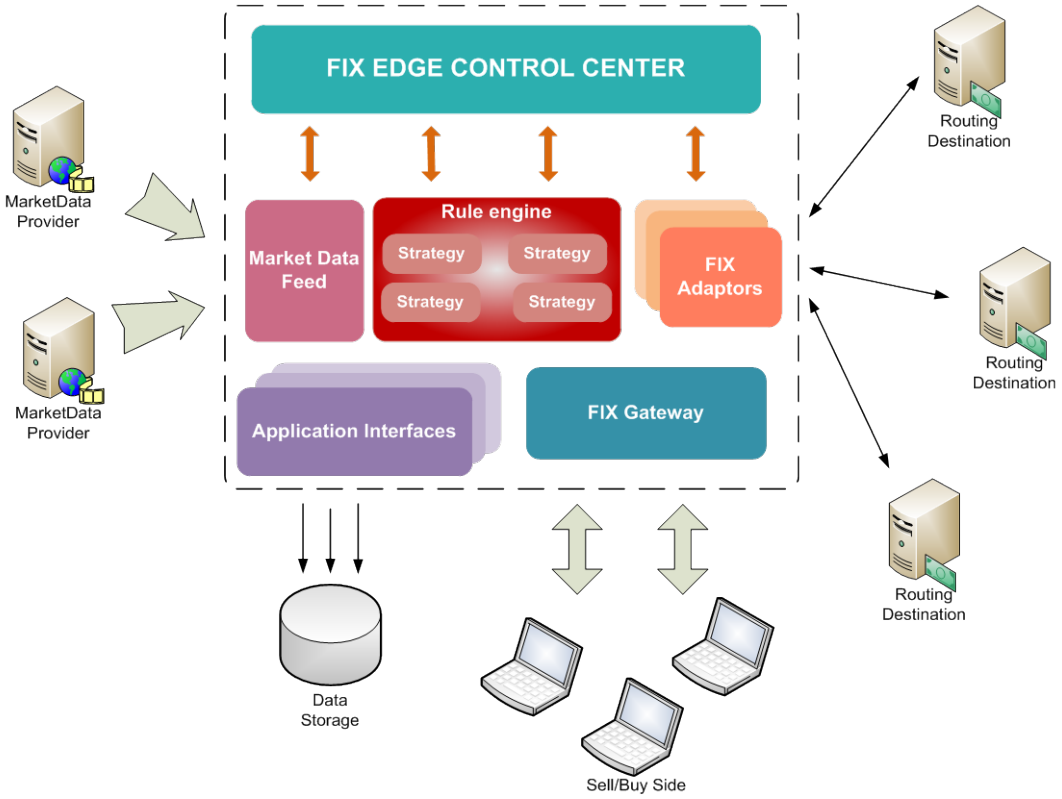
FIX Edge for Drop Copies

FIX Drop Copy Solution allows retrieving drop copies of trades from FIX-compliant drop copy sources, includes recovery tools, which allow requesting missing data in case of failures. The process of capturing drop copies by server is fully automated, while library FIXDCap can be easily integrated with client's trading platform.

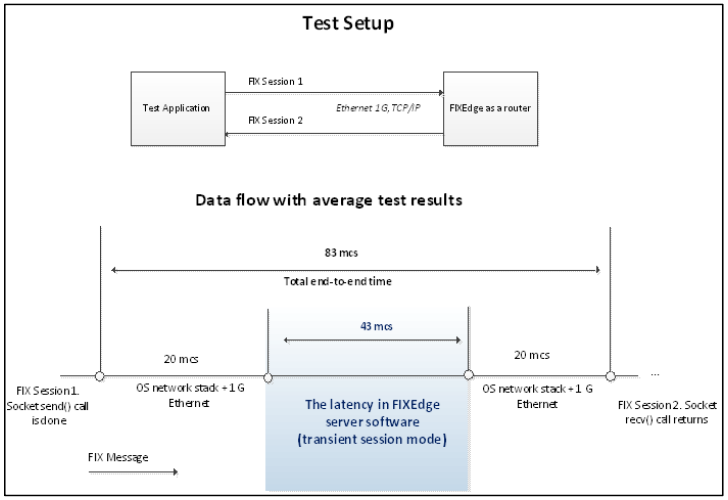


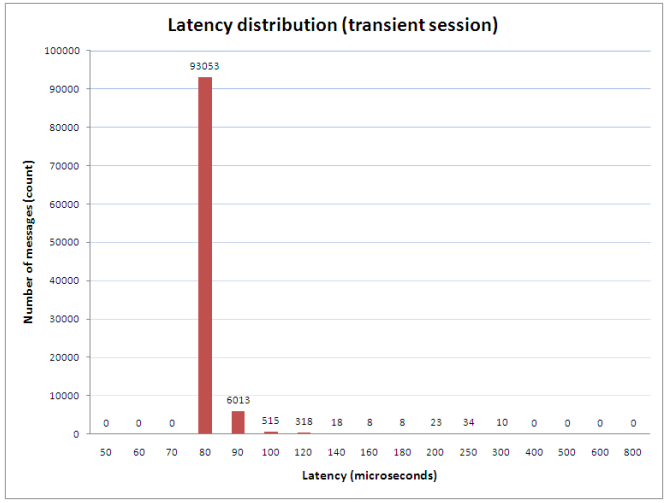
FIX Edge for Smart Order Routing

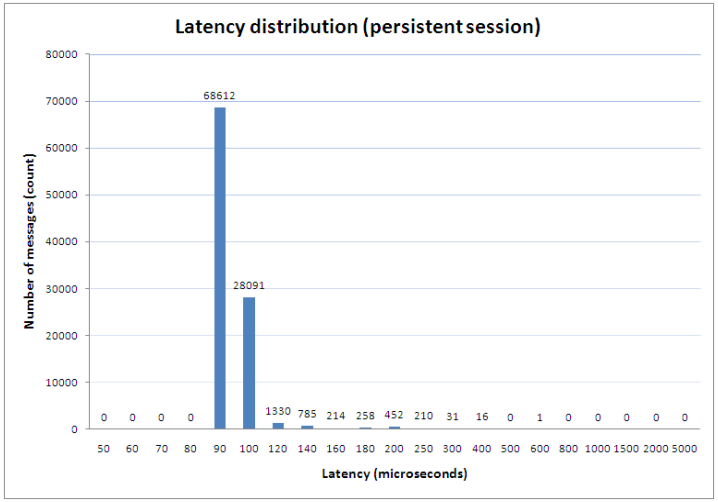
Smart Order Router allows receiving and routing orders according to predefined rules and market conditions, fees tables, securities based preferences, accounts based preferences and ranking of preferred venues.
It allows connecting to as many destinations as required for one or more asset classes.

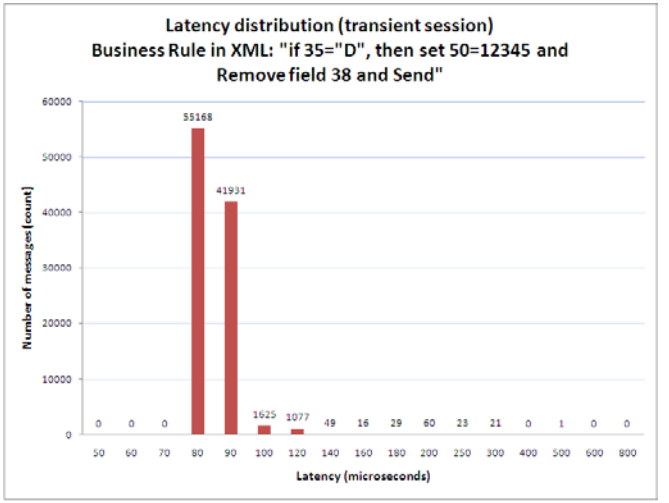


FIX Edge benchmarks









FIX Edge Overview

Further information on the product is available at:

www.b2bits.com

http://forum.b2bits.com

Contact manufacturer: sales@b2bits.com