

FIX Edge

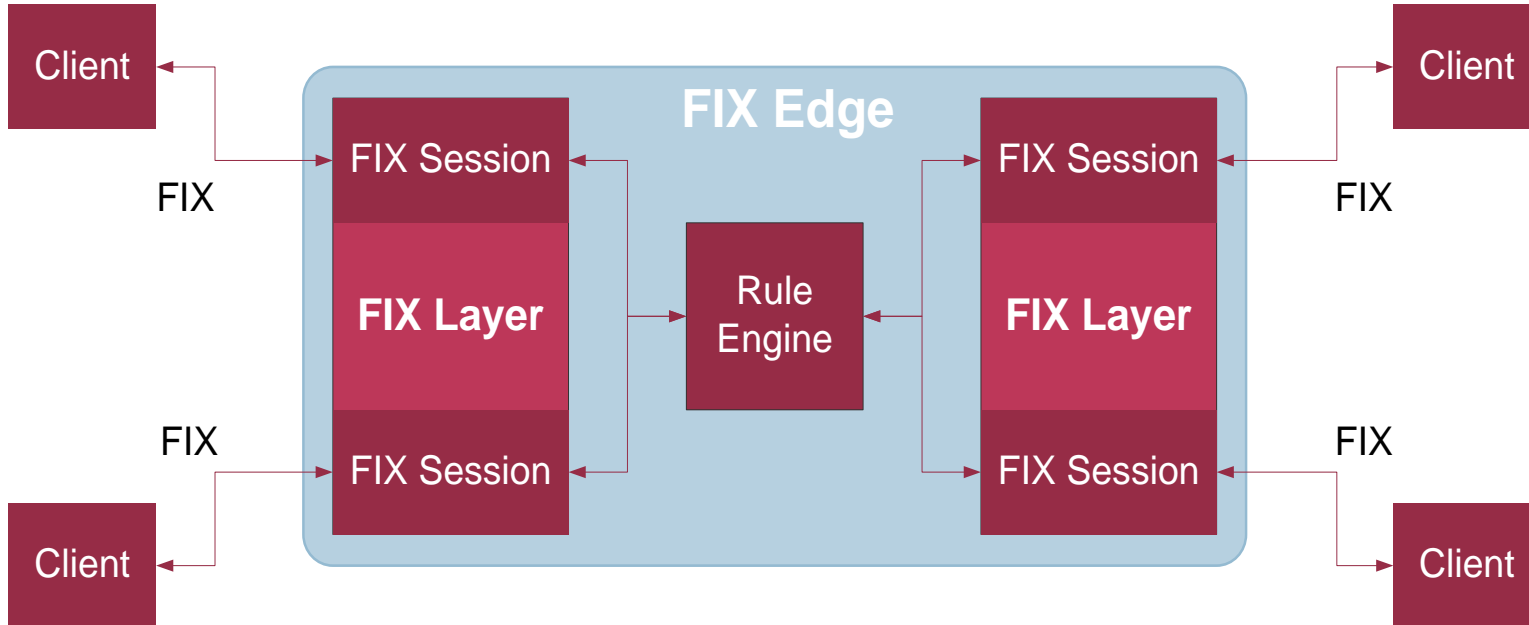
Overview



FIX Edge features

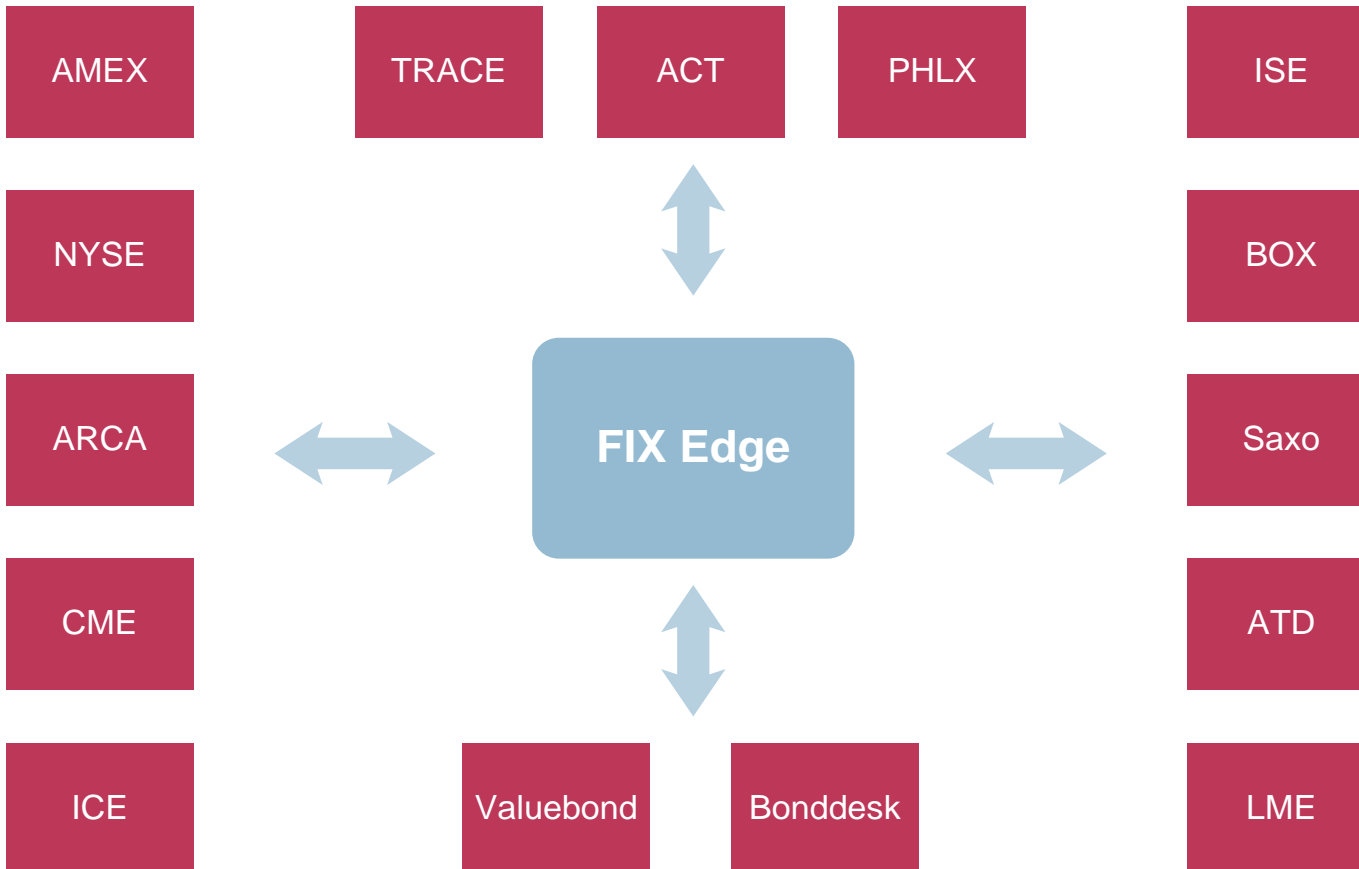
- Multiple FIX sessions
- FIX 4.0 - 4.4, 5.0, FIXT1.1
- FIX Dialects
- FAST
- Route FIX messages between FIX sessions
- Various remote access methods (sockets, MQs, TIB, COM/DCOM, etc.)
- Back-up connections
- Persistent and transient sessions
- XML-based business level rules for routing and transformation
- 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

FIX Edge is a FIX router

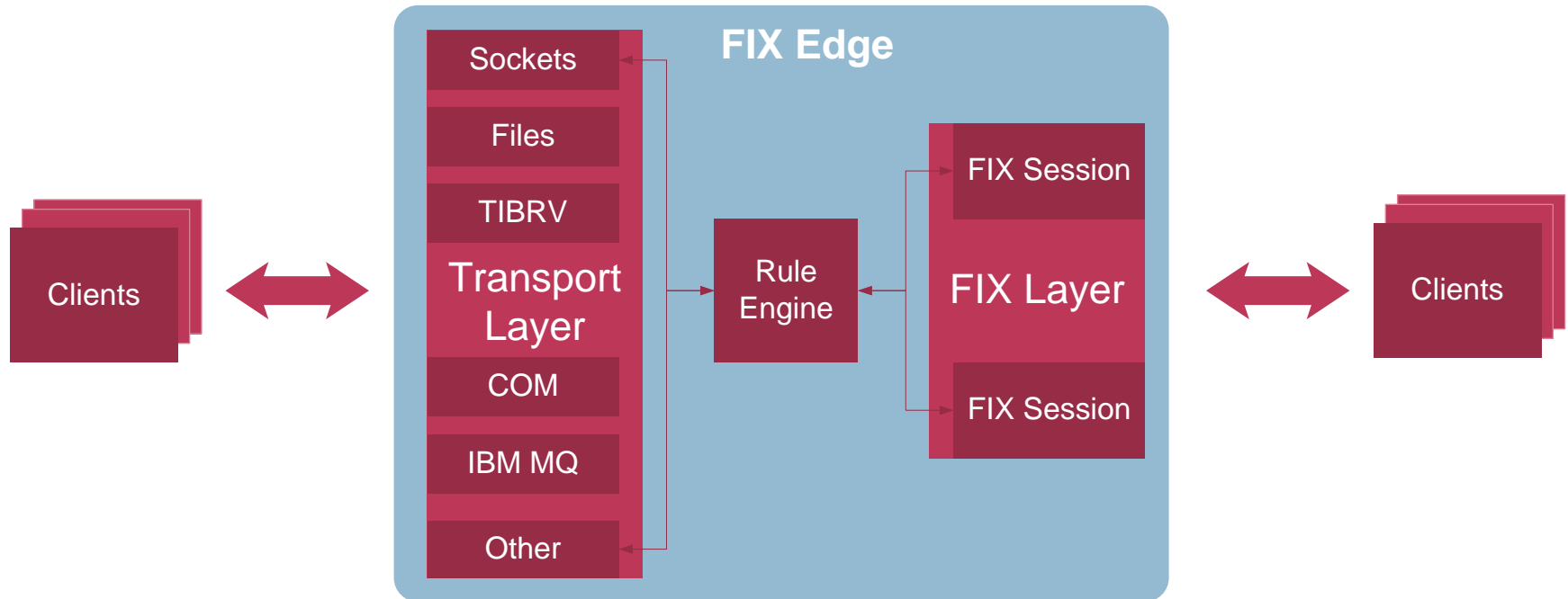


- Many-to-many routing
- Context based routing rules
- On-fly conversion
- Multiple FIX sessions
- FIX 4.0 - 4.4, 5.0, FIXT1.1
- FIX Dialects
- FAST

FIX Edge is not just a FIX



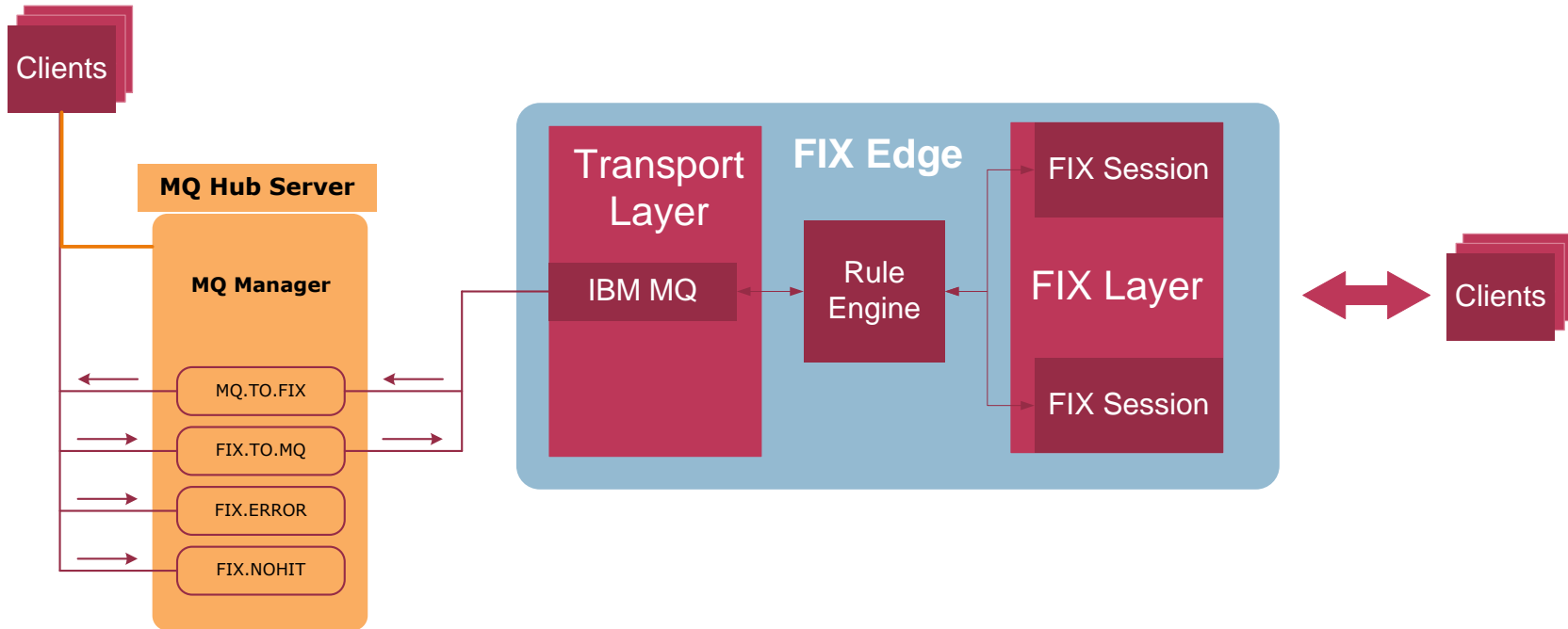
FIX Edge is a connector



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

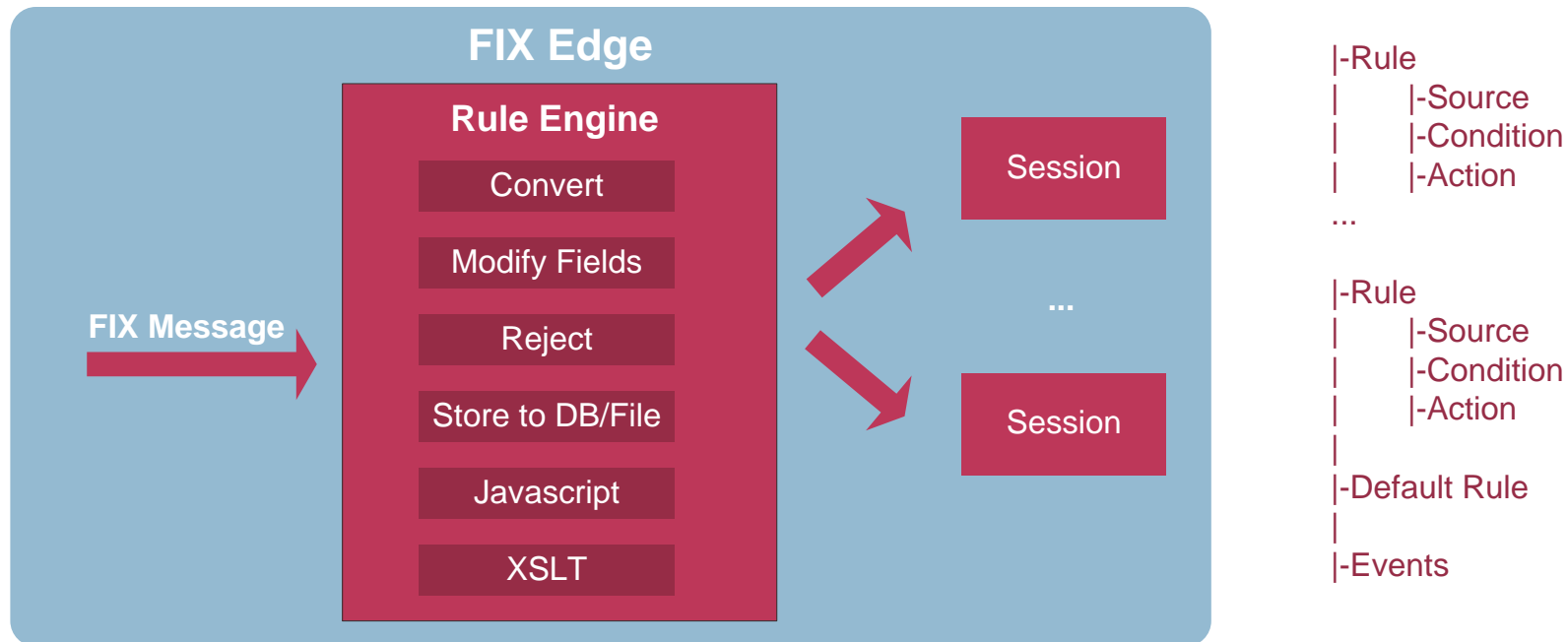
- CORBA Adaptor
- COM/DCOM Adaptor
- Named Pipe Adaptor
- IBM MQ Series Adaptor

Example: FIX Edge and MQ



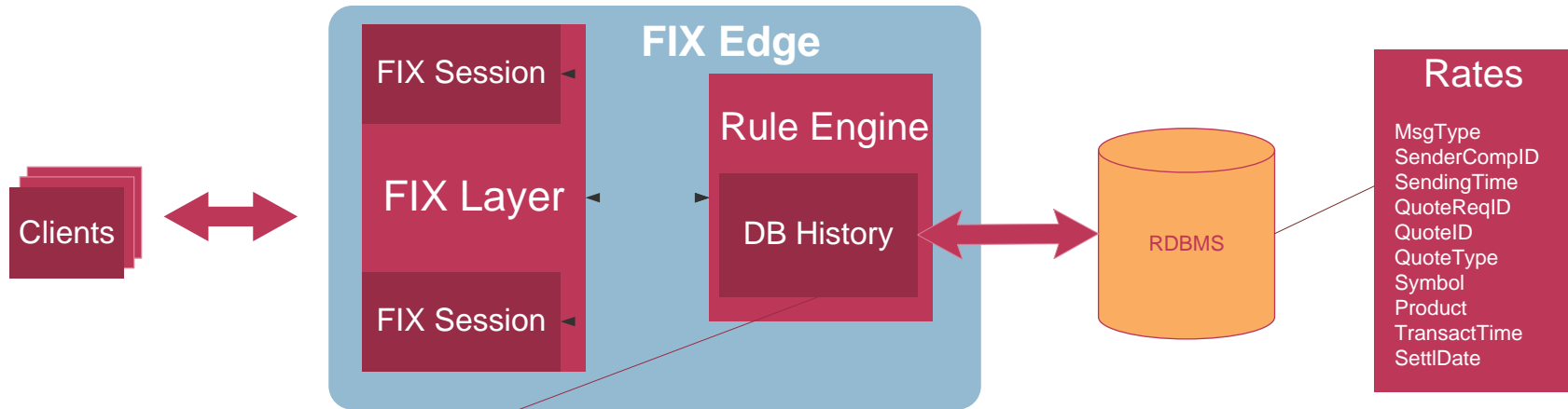
- `TransportLayer.MQAdaptor.SessionNumber = 1`
- `TransportLayer.MQAdaptor.Session.1.ClientID = MQHub`
- `TransportLayer.MQAdaptor.Session.1.FromClientQueue = FIX.TO.MQ`
- `TransportLayer.MQAdaptor.Session.1.ToClientQueue = MQ.TO.FIX`
- `TransportLayer.MQAdaptor.Session.1.NoHitQueue = FIX.NOHIT`
- `TransportLayer.MQAdaptor.Session.1.ErrorQueue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

FIX Edge rule engine



- XML Rules
- Rules are joint in OR
- Conditions are joint by AND
- Regular expressions
- Scripting languages
- Modify/convert message
- 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 Control Center

FIXEdge Control Centre Version 0.1.0.9: Administration - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:8902/

Google

FIXEDGE
B2BITS

Online Sessions Offline Sessions Administration Statistics graph documentation

FixEdge 1
 Fix
 FIX Sessions
 Transport

FixEdge2[NOT RUNNING]
 FIX
 Transport

Stop All Services

Refresh rate(0 to stop refresh): sec.

FixEdge.log
Engine.log

Table : Online Sessions Status

Categories	Active	Reconnecting	Waiting for incoming connection	Correctly terminated	Non-gracefully terminated	Received message's han time
Number of sessions which has given Status.	2	0	0	0	0	59

Table : Online Sessions List

Num	State	SenderCompID	TargetCompID	Role	Version	Host	Port	InSeqNum	OutSeqNum	Heartbeat	Messages In	Messages Out	Time In	Time Out
1	Established	S	T	initiator	FIX44	127.0.0.1	9106	7	7	10	6	6	20080508-20:59:48.097	20080508-20:59:4
2	Established	T	S	acceptor	FIX44			7	7	10	6	6	20080508-20:59:48.097	20080508-20:59:4

Table : Statistics by message type for session S:T

Type	Num Received	Last Time Received	Num Transmitted	Last Time Transmitted
D	5	20080508-20:59:48.097	5	
A	1	20080508-20:58:58.229	1	

Table : Statistics by message type for session T:S

Type	Num Received	Last Time Received	Num Transmitted	Last Time Transmitted
D	5	20080508-20:59:48.097	5	
A	1	20080508-20:58:58.229	1	

Legend for Table : Online Sessions Status

Done

FIX Edge and SNMP

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

Trap Time	IP Address	Community	Device Type	Trap Details
15-Oct-08 10:58 AM	127.0.0.1	public	software.7.319038...	sysUpTime = 179528 snmpTrapOID = software.7.319038032.3000.31789C fixedge.1.1 = FIXADMINOSNMPAgent_1 fixedge.1.1.1 = Established fixedge.1.2 = BloombergOB2Bits fixedge.1.2.1 = Established experimental.1057.1 = 127.0.0.1
15-Oct-08 10:58 AM	127.0.0.1	public	software.7.319038...	sysUpTime = 179526 snmpTrapOID = software.7.319038032.3000.31789C fixedge.1.1 = FIXADMINOSNMPAgent_1 fixedge.1.1.1 = Established fixedge.1.2 = BloombergOB2Bits fixedge.1.2.1 = Established experimental.1057.1 = 127.0.0.1
15-Oct-08 10:58 AM	127.0.0.1	public	softw	sysUpTime = 176867 snmpTrapOID = software.7.319038032.3000.31789C

MIB Viewer

Hostname or IP Address: localhost

Community String: public

MIB Table to download: 1.3.6.1.4.1.26775

MIB Viewer will download, format, and display any SNMP MIB Variable. Simply enter the name of the MIB variable, a MIB Table name, or an OID sequence (1.3.2.6.1... etc). The MIB Viewer uses SolarWinds extensive MIB database to automatically determine details about each SNMP MIB Variable.

You can also use SolarWinds MIB Browser to find the specific MIB variable that has the information you are looking for.

[More Details](#)

BTOBITS-MIB:b2bits on localhost

MIB	OID Name	Value
	fixedge.1	FixEdge1
	fixedge.1.1	FIXADMINOSNMPAgent_1
	fixedge.1.1.1	Established
	fixedge.1.2	BloombergOB2Bits
	fixedge.1.2.1	Established
	fixedge.2	FixEdgeAgent: Service is started.
	fixedge.3	0
		0

BTOBITS-MIB

fixedge.1.1

iso.org.dod.internet.private.enterprises.b2bits.software.fixedge.1.1

OID Type Units

1.3.6.1.4.1.26775.0.0.1.1

- ← Service Name
- ← Session Identifier
- ← Session State
- ← Session Identifier
- ← Session State
- ← Service State

FIX Edge customization

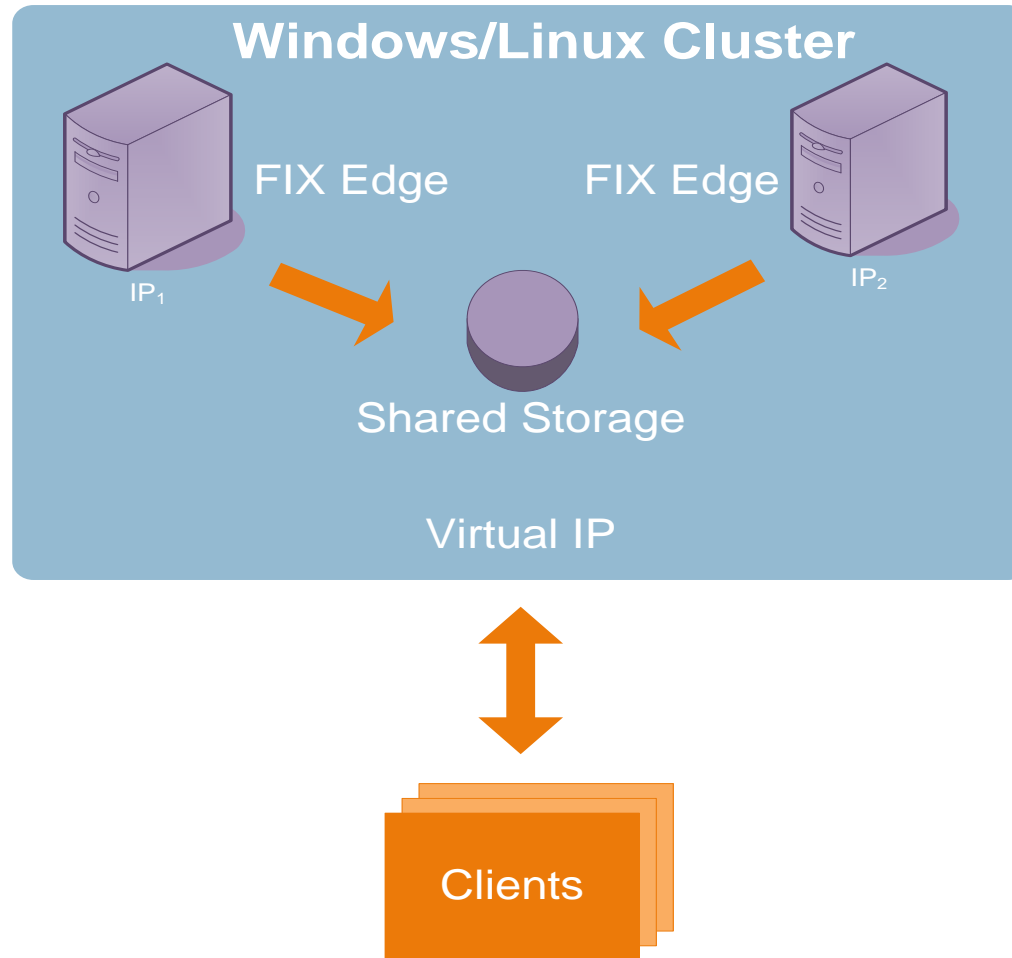
Custom Business Layer Handler

- 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 your handler in Rule Engine configuration
- Call your handler from Action section

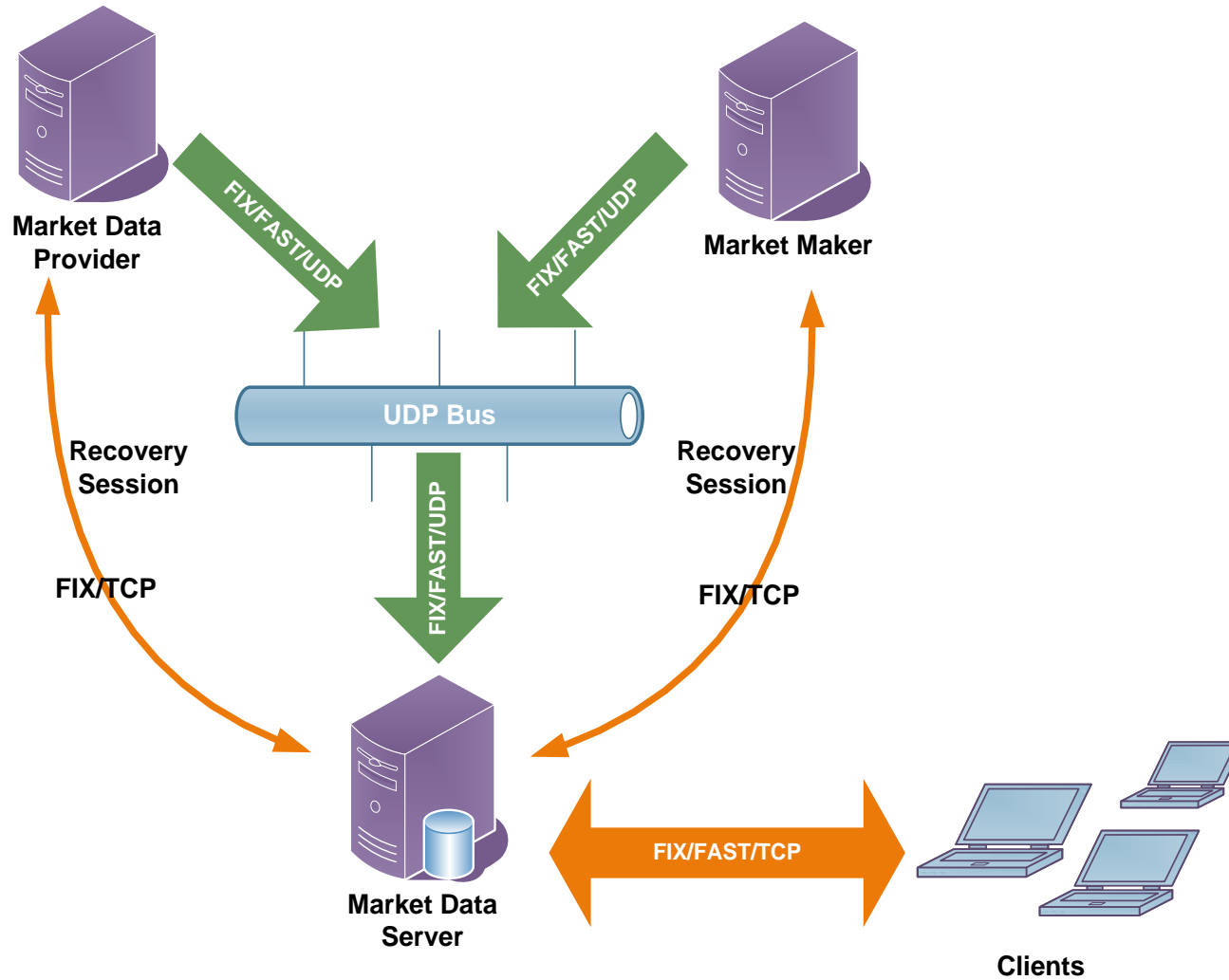
Custom Transport Adaptor

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

FIX Edge cluster

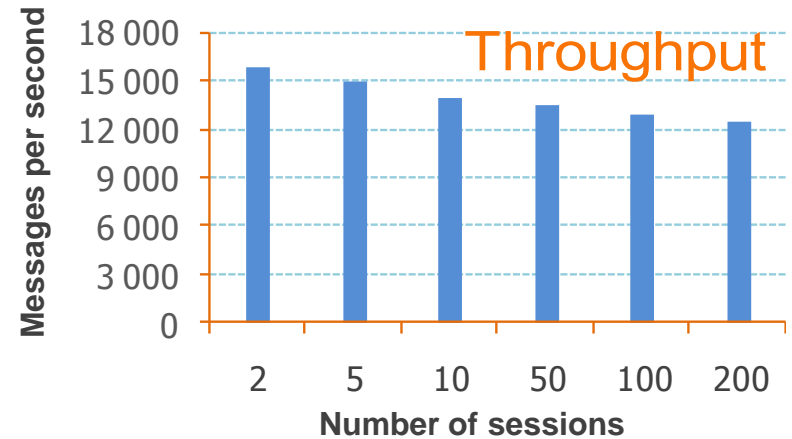
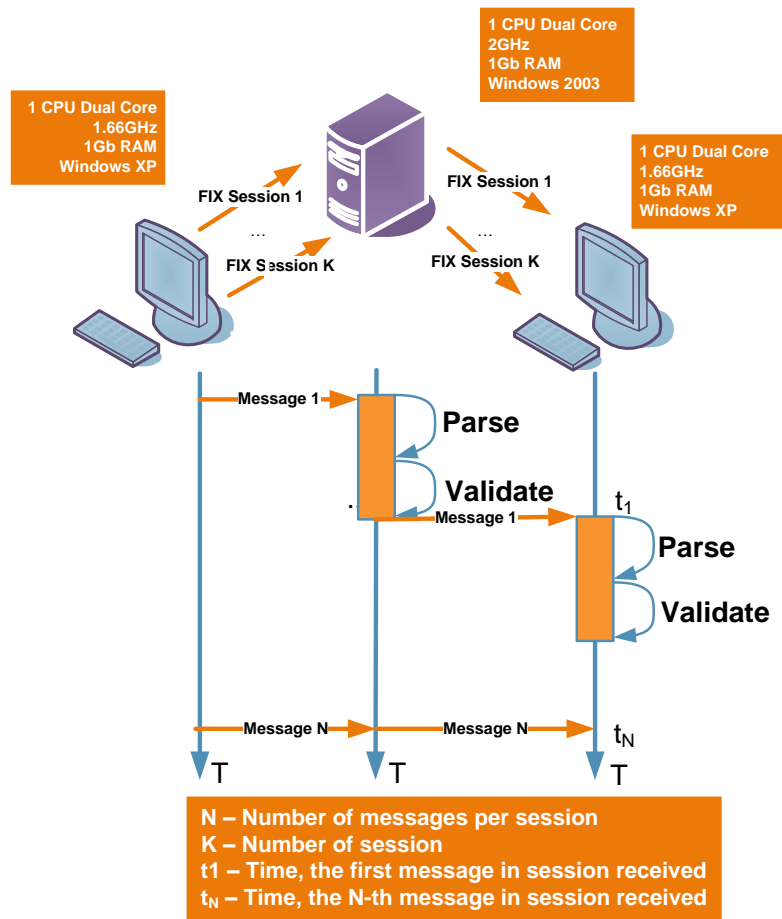


FIX Edge for market data



FIX Edge benchmarks

$$Throughput = \frac{N}{t_N - t_1} * K$$



FIX Edge Overview

Further information on the product is available at:

www.b2bits.com

<http://forum.b2bits.com>

Contact manufacturer: sales@b2bits.com