



# B2BITS

*FPL Member*

*FIX Certification Agent*

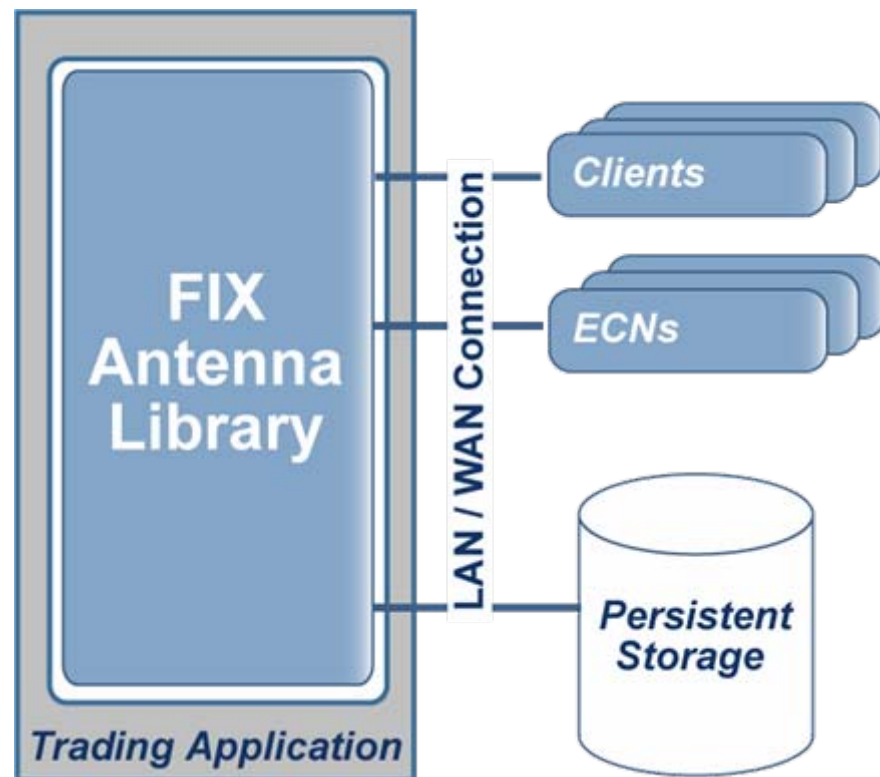
B2BITS is a financial software company committed to providing its clients with industry leading technology.

We believe that high performance, resilient messaging and trading software is a requirement for the financial services domain as a whole.

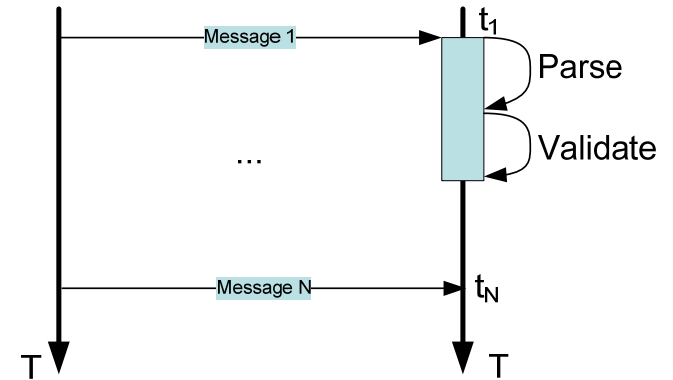
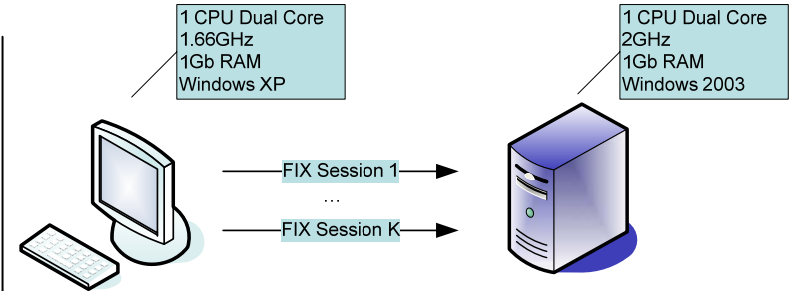
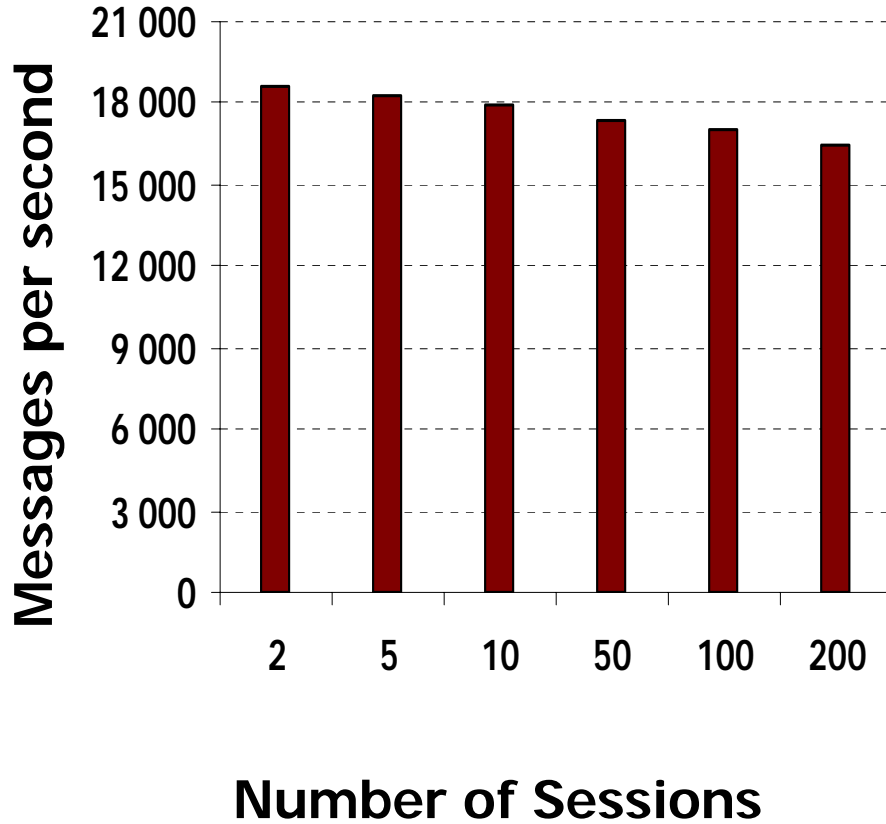
## **Core FIX products:**

- FIX Antenna
  - C++
  - .NET
  - Java
- FIX Edge
  - Standard Edition
  - Enterprise Edition

- **FIX 4.0 - 4.4**
- **FAST**
- **Customizable FIX**
- **Up to 200 concurrent sessions**
- **High throughput**
- **Low latency**
- **Failover**
- **Flexible session layer**
  - **Intraday logout tolerance**
  - **Force sequence number reset**
  - **Smart “sequence number too low” handling**



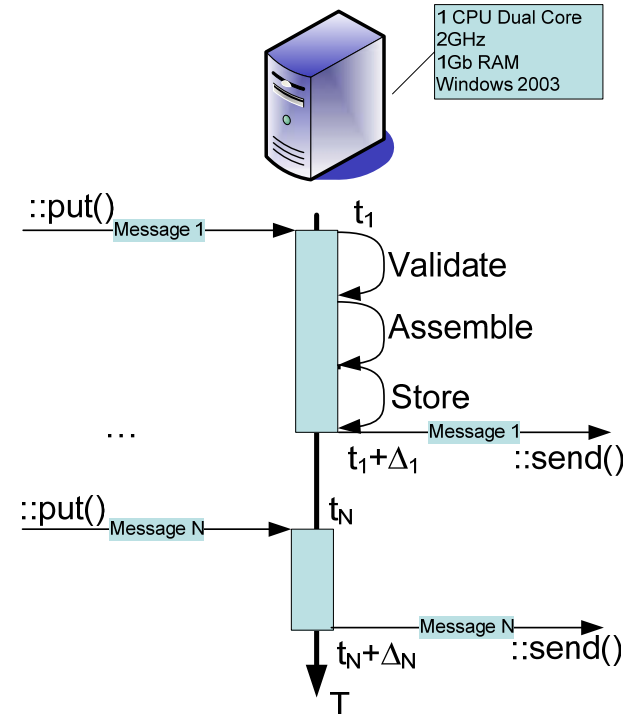
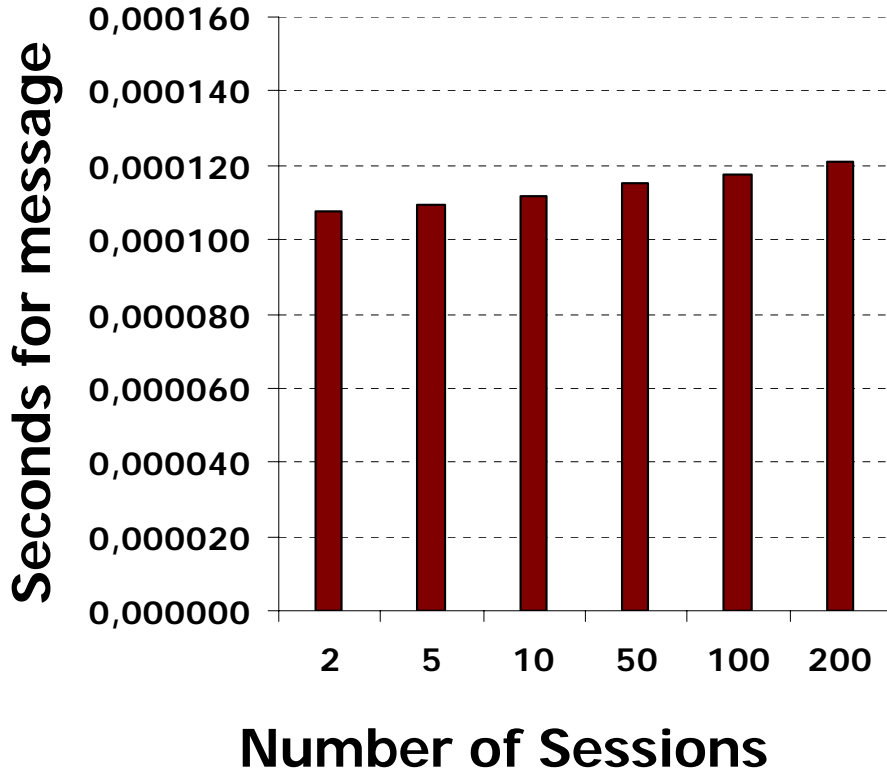
## Throughput



N – number of messages per session  
 K – number of session  
 t<sub>1</sub> – time, the first message in session received  
 t<sub>N</sub> – time, the N-th message in session received

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

## Latency



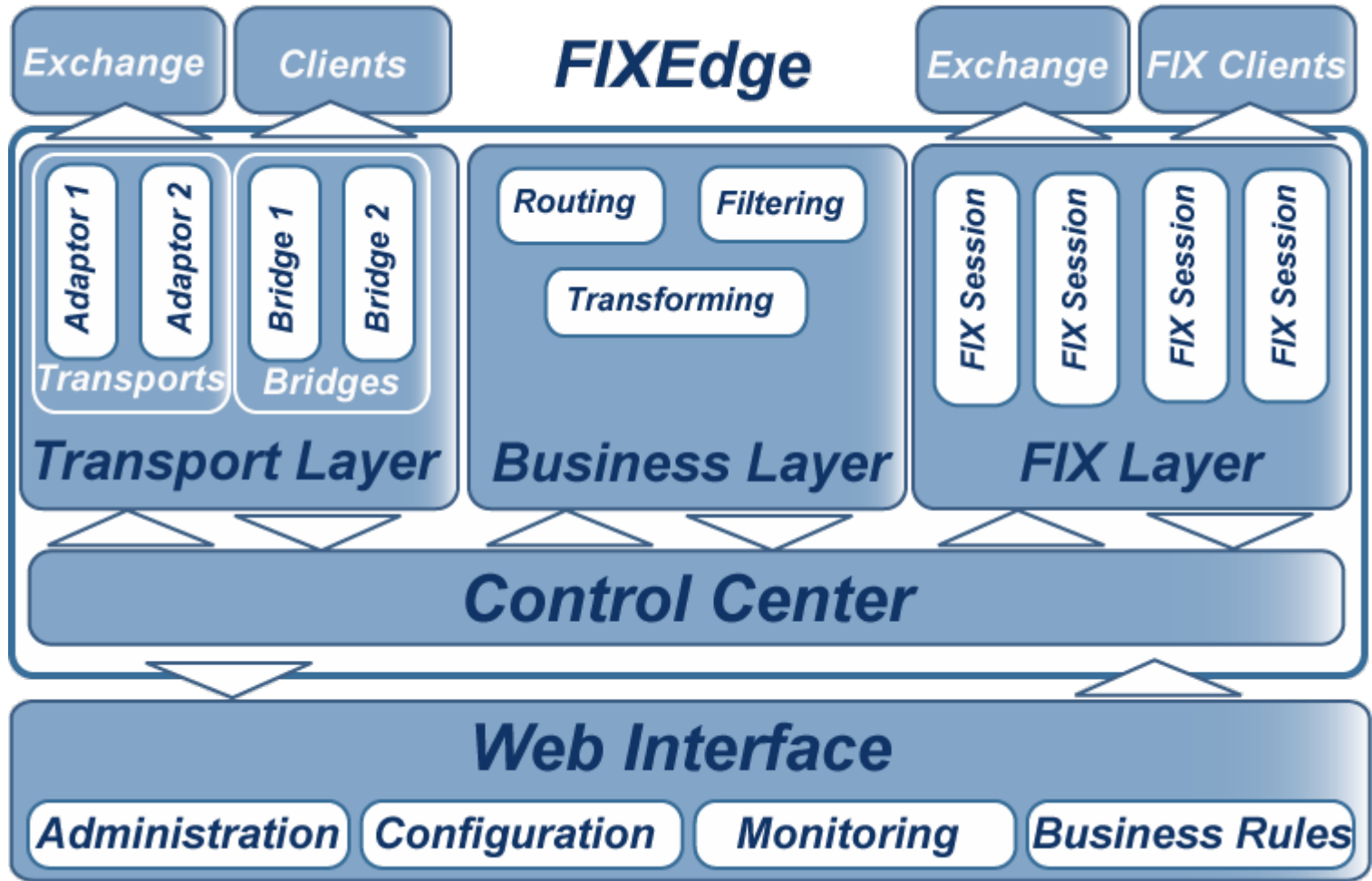
$N$  – number of messages per session  
 $t_1$  – time, the first message in session received  
 $\Delta_1$  – time the first message was processed before sending  
 $t_N$  – time, the N-th message in session received  
 $\Delta_N$  – time the N-th message was processed before sending

$$Latency = \frac{1}{N} * \sum_{i=1}^N \Delta_i$$

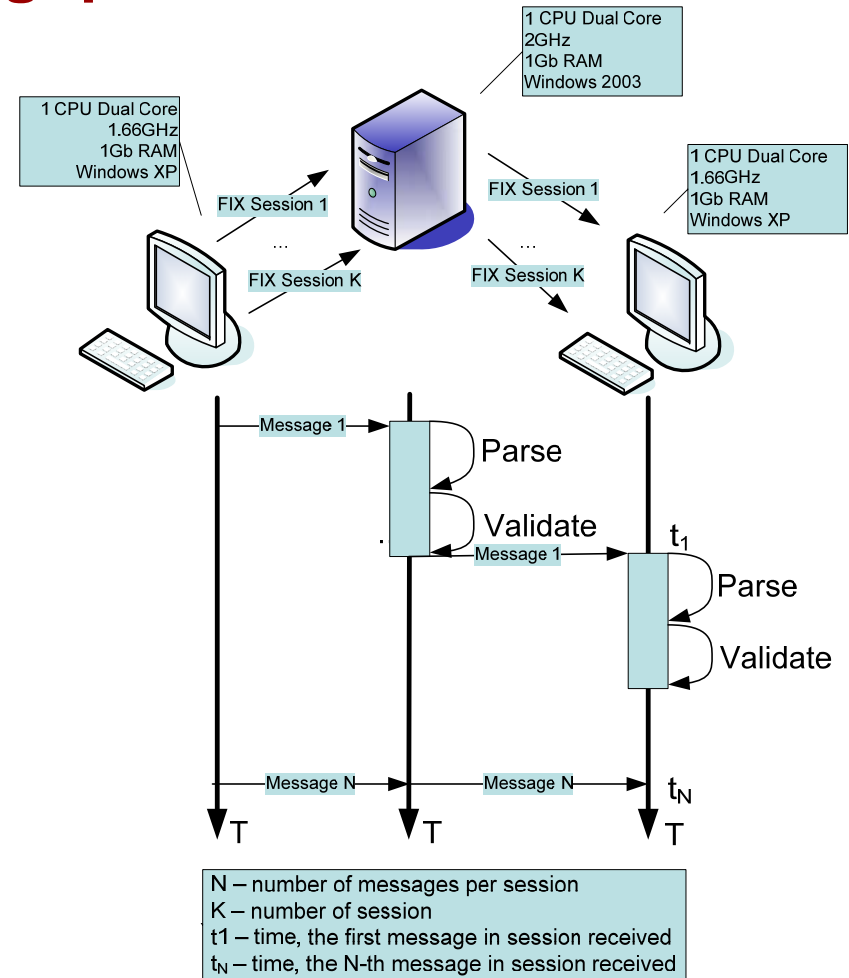
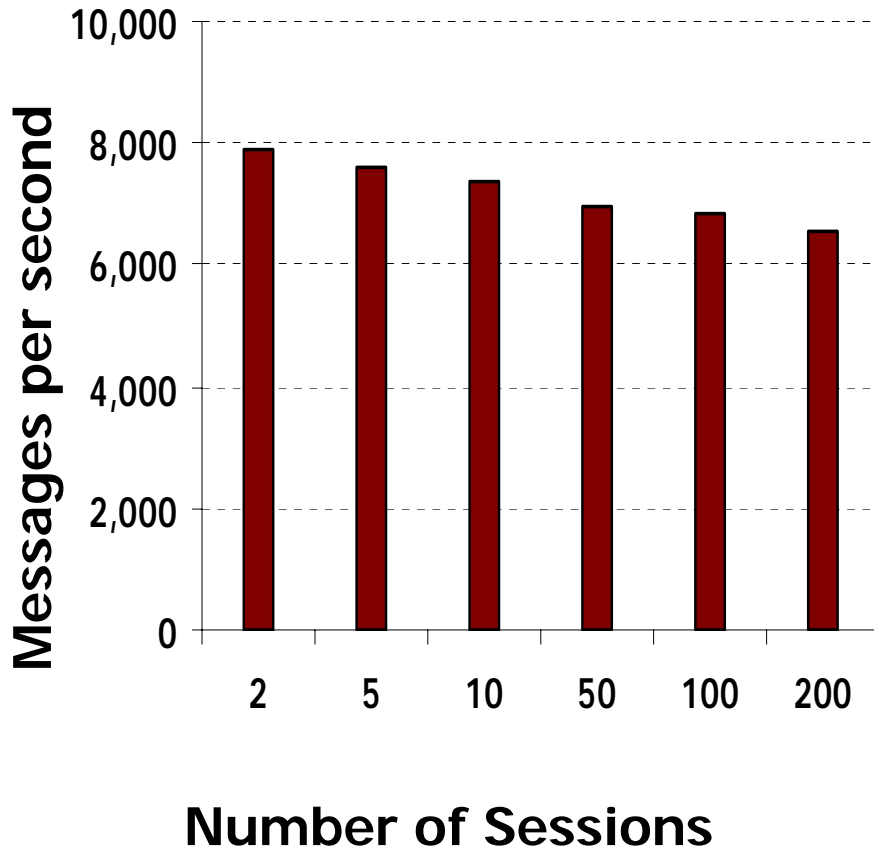


- Business Logic support (e.g. rule-based routing and transformation).
- Built in order state machine with persistent storage.
- Built in support of FAST protocol.
- Built in generic message history archive.
- Ability to define and support custom tags.
- Libraries in .Net, C++ and Java to parse/validate/assemble application-level FIX messages.
- Transaction simulator.
- Built-in FIXopaedia (FIX dictionaries for inline support).
- Web-based interface for configuration, administration and monitoring.
- Built-in log viewer.
- The automation of scheduled tasks (e.g. Start of Day, End of Day).
- Simple error detection and recovery (Notification API, Configurable Logging).
- A diverse set of supported transports (SXS, COM, MQ, TIB, NPipe).
- Ability to use custom transports.
- On-line support subject to market hours and client location.





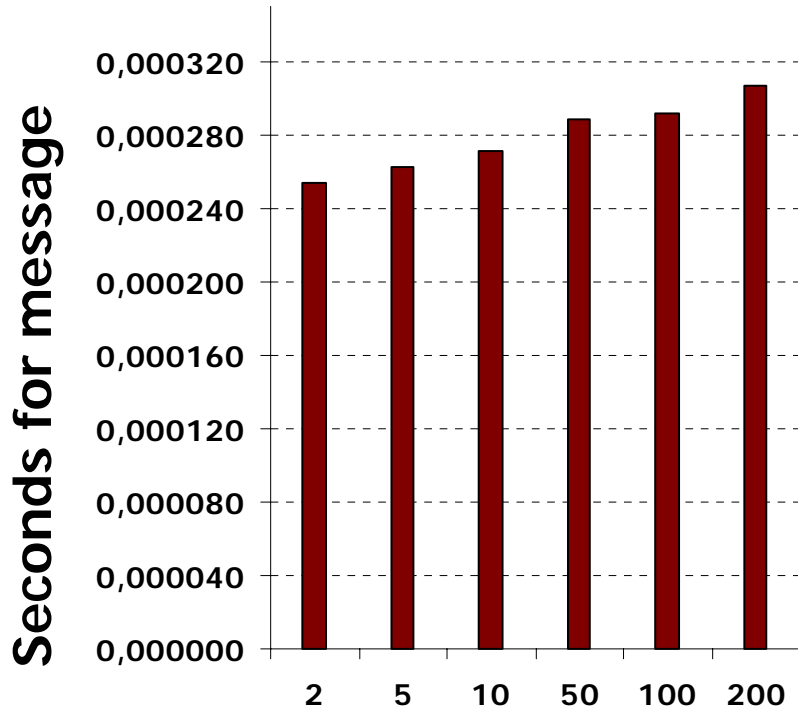
## Throughput



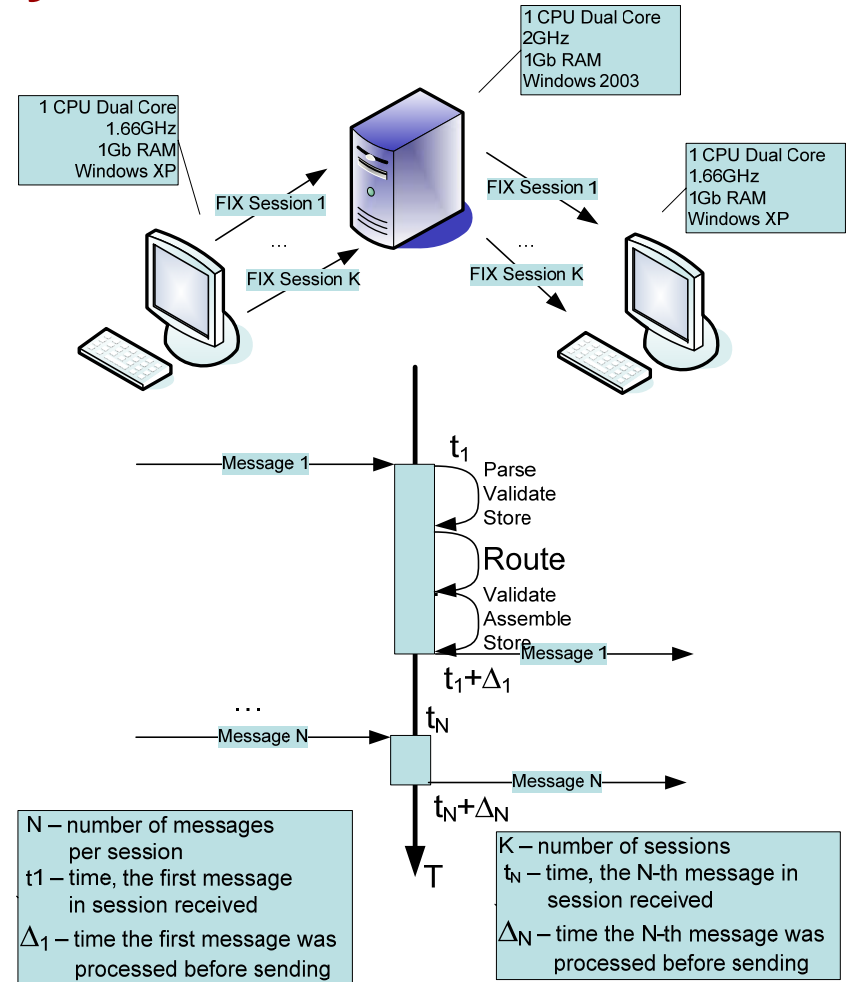
$$\text{Throughput} = \frac{N}{t_N - t_1} * K$$



## Latency

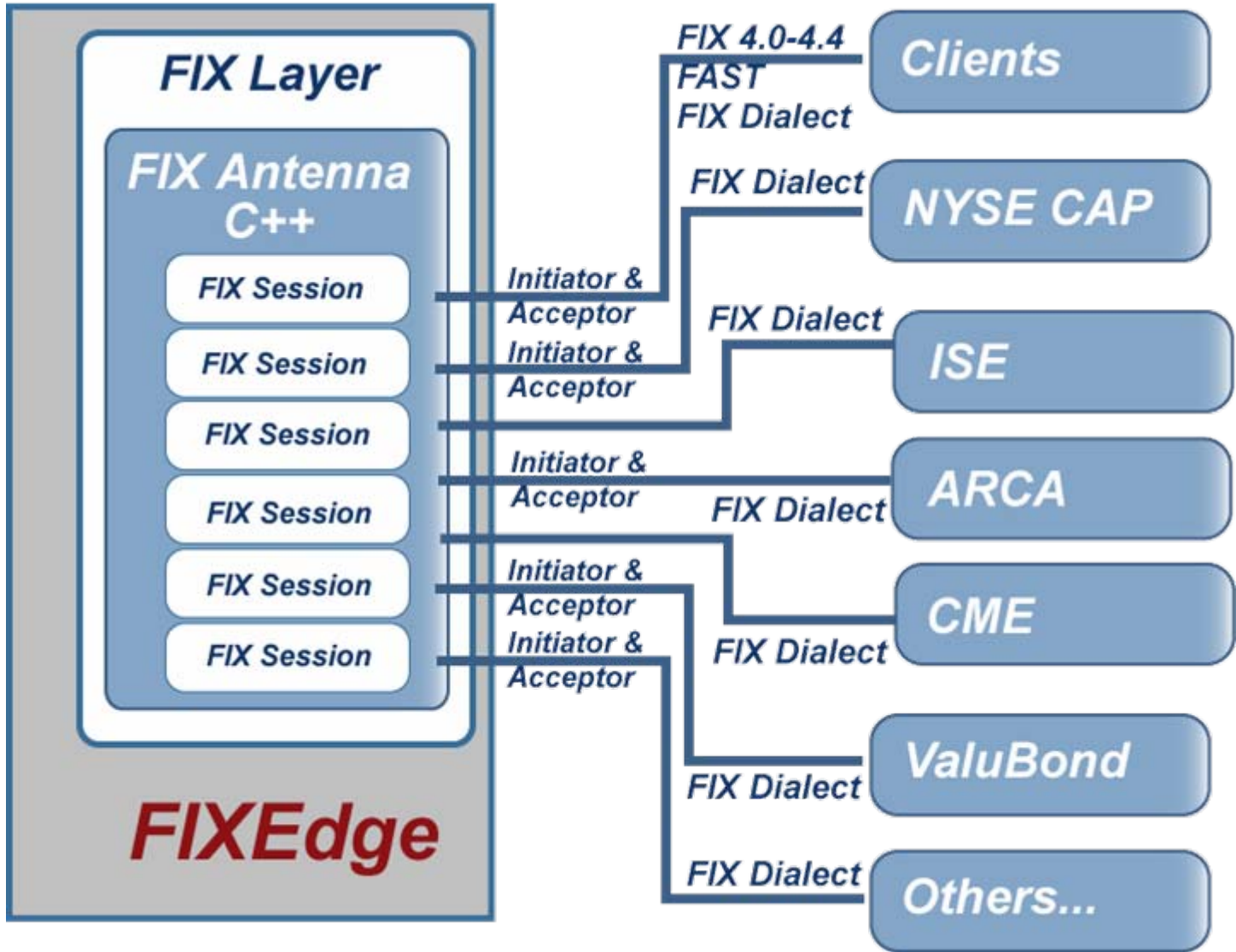


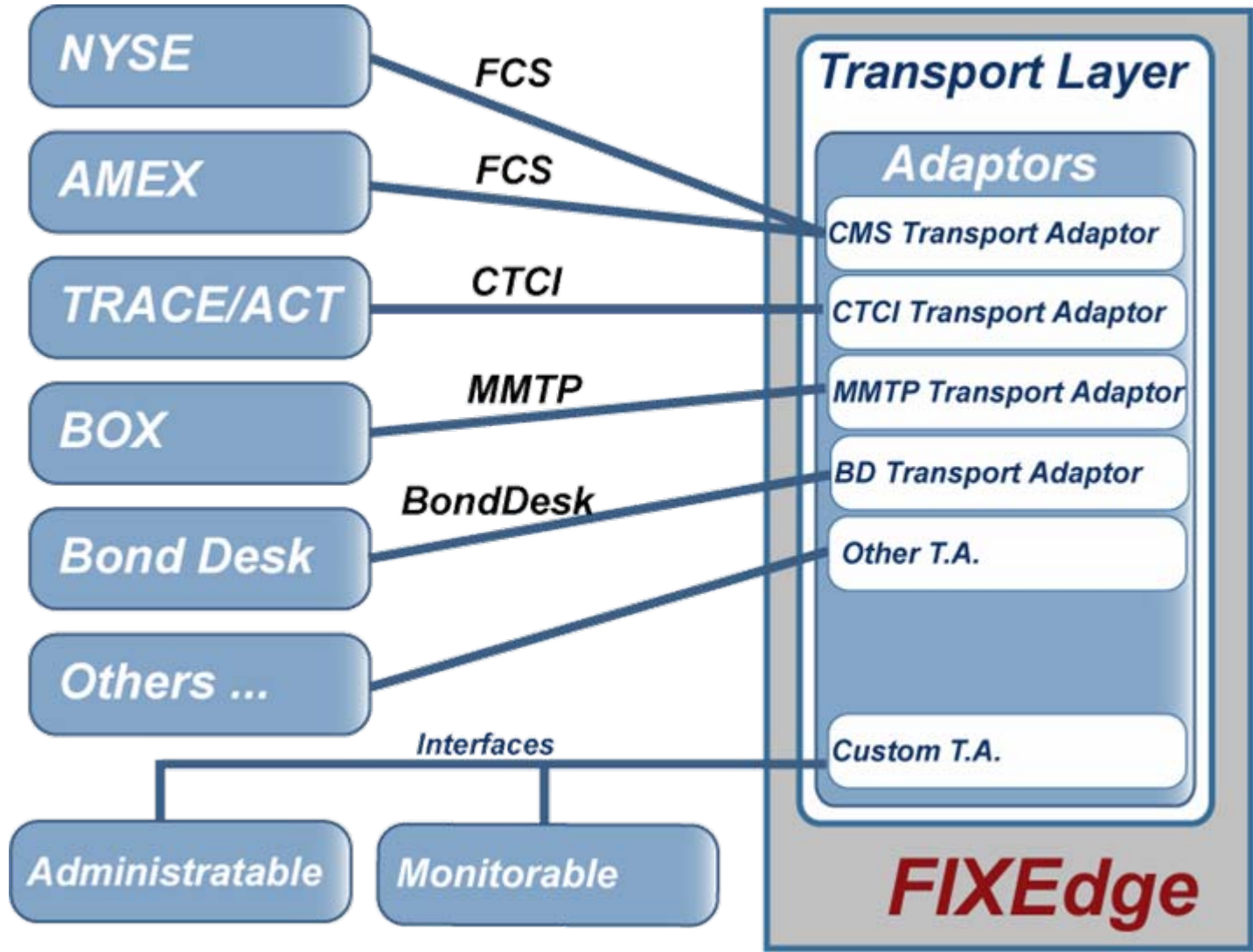
Number of Sessions

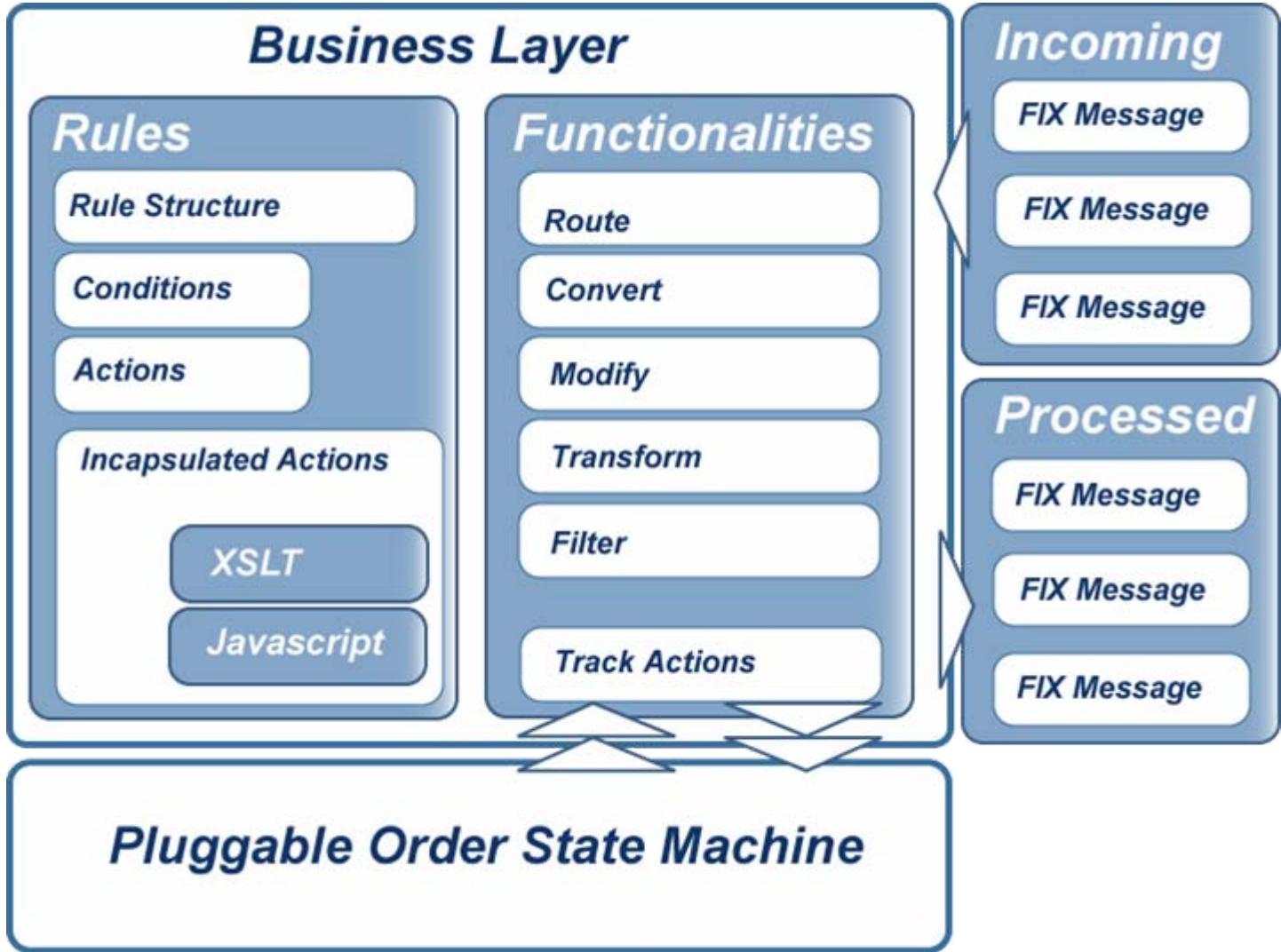


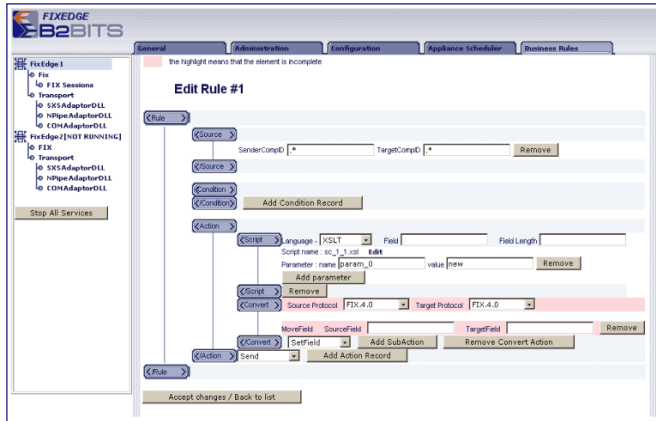
$$Latency = \frac{1}{N * K} * \sum_{i=1}^{N * K} \Delta_i$$









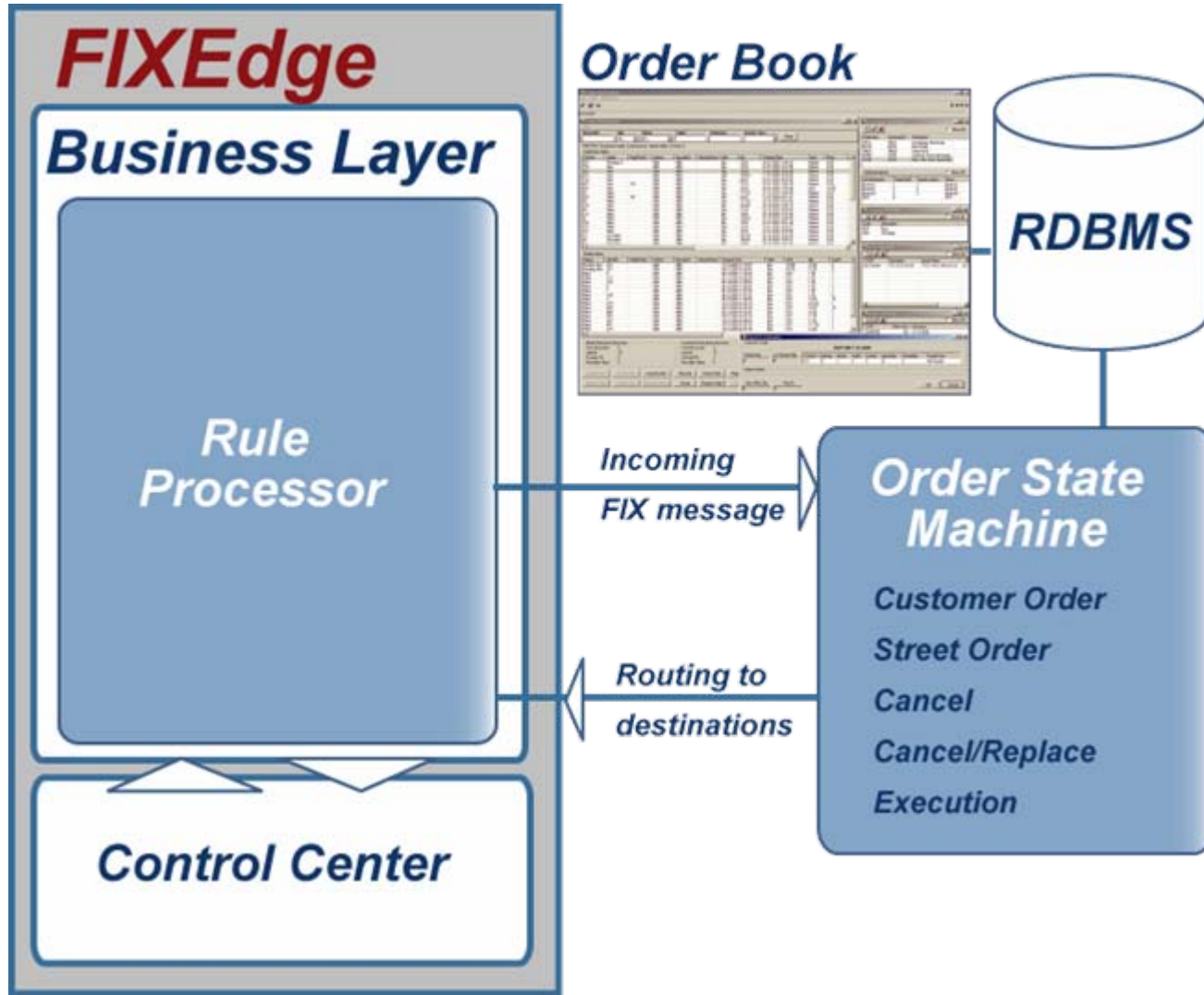


### Sample.js:

```
if(!undefined == getStringField(65)){
  setStringField(55, getStringField(55)
  + "." + getStringField(65));
}
```

```
<?xml version='1.0'?>
<xl:stylesheet
xmlns:xl='http://www.w3.org/1999/XSL/Transform'
version='1.0'>
<xl:output encoding='US-ASCII'/>
<!-- Declaration of the parameter with the default value -->
<xl:param name="param1" select="" default value""/>
<!-- Declaration of the parameter with the default value -->
<xl:param name="param2" select="" default value""/>
<!-- Find '<doc>' element inside XML -->
<xl:template match='doc'>
  <!-- Replace with '<out>' element -->
  <out>
    <!-- Remain text in element unchanged -->
    <xl:value-of select="."/;>
    <!-- Append value of the first input parameter -->
    <xl:value-of select="$param1"/>
    <!-- Append value of the second input parameter -->
    <xl:value-of select="$param2"/>
  </out>
</xl:template>
</xl:stylesheet>
```





## Configure FIXEdge

- Session management
- Session scheduling
- Appliance scheduling
- Add/Remove Business Rules
- Configure Transport Adaptors

## Administratre FIXEdge

- Start/Stop
- Reload Business Rules
- Export logs
- Create/Delete sessions on-fly

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## Monitor FIXEdge

- Logs
- Session messages
- Session statistics







- **Graphic design** that gives clear picture of **management logic** and **intuitive interface** for components and their functionality.
- **Configuration** is divided into sections that are strongly related to components. User manages smaller number of parameters at a time and thus, has a better understanding what is being configured.
- **Appliance scheduler** is added as a standard feature.
- Business Rule section in the main menu provides functionality for adding, removing and **editing business rules**. The GUI used in this section can help to arrange the business logic even for people who are not familiar with XML.
- FIXEdge Control Center supports **multiple instances** of FIXEdge. Users will have a single management tool for all FIXEdge services installed on their systems. This gives the advantage of **fast accessibility** and **storage efficiency**.





FIXEdge Control Centre: Administration - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://127.0.0.1:8902/

Personal Documentation Entertainment Science Palm Daily RSS Bugzila Panel

**FIXEDGE**  
B2BITS

Online Sessions Offline Sessions Administration

FixEdge1  
Fix  
FIX Sessions  
Transport

Stop All Services

Test link to Graph page

Refresh rate(0 to stop refresh): 0 sec. Update Reset

**FixEdge.log**  
**Engine.log**

Table : Online Sessions Status

Categories	Active	Reconnecting	Waiting for incoming connection	Correctly terminated	Non-gracefully terminated	Received message's handing time	Sent message's handing time	Message's validation time	Received messages	Si
Number of sessions which has given Status.	2	0	1	0	0	45	204	3	1000	10

Legend

- Active: Number of sessions which has status 'Active'.
- Reconnecting: Number of sessions which has status 'Reconnecting'.
- Waiting for incoming connection: Number of sessions which has status 'Waiting for incoming connection'.
- Correctly terminated: Number of sessions which has status 'Correctly terminated'.
- Non-gracefully terminated: Number of sessions which has status 'Non-gracefully terminated'.
- Received message's handing time: Average received message's handing time.
- Sent message's handing time: Average sent message's handing time.
- Message's validation time: Average message validation time.
- Received messages: Received message count.
- Sent messages: Sent message count.
- Proceed messages: Total messages proceed.

Table : Online Sessions List

Num	State	SenderCompID	TargetCompID	Role	Version	Host	Port	InSeqNum	OutSeqNum	Heartbeat	Messages In	Messages Out	Time In	Time Out	Bytes In	Bytes Out	Last Logon	Last Logoff	Last Terminate
1	Established	SCID	TCID	initiator	FIX44	localhost	9106	1346	1346	10	1345	1345	20061022-17:51:34.281	20061022-17:51:34.281	95745	95745	20061022-14:07:34.484	20061022-14:07:34.281	20061022-14:07:3
2	WaitForFirstLogon	SCID	TCID2	acceptor	FIX42			1	1	0	0	0	20061022-17:51:38.250	20061022-17:51:38.250	0	0	20061022-17:51:38.250	20061022-17:51:38.250	20061022-17:51:3
3	Established	TCID	SCID	acceptor	FIX44			1346	1346	10	1345	1345	20061022-17:51:34.281	20061022-17:51:34.281	95745	95745	20061022-14:07:34.484	20061022-14:07:34.375	20061022-14:07:3

Legend

- Num: The number.
- State: The current session state.
- SenderCompID: It is used to identify a firm, which sends the message.
- TargetCompID: It is used to identify a firm to which the message is sent.
- Role: The session role: initiator or acceptor.
- Version: FIX protocol version.
- Host: Network address of the computer, to which connection is established.
- Port: Port's network number on the computer, to which connection is established.
- InSeqNum: Input sequence number.
- OutSeqNum: Output sequence number.

Done

