

# A Technical Introduction to IBM Integration Bus

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Session JA



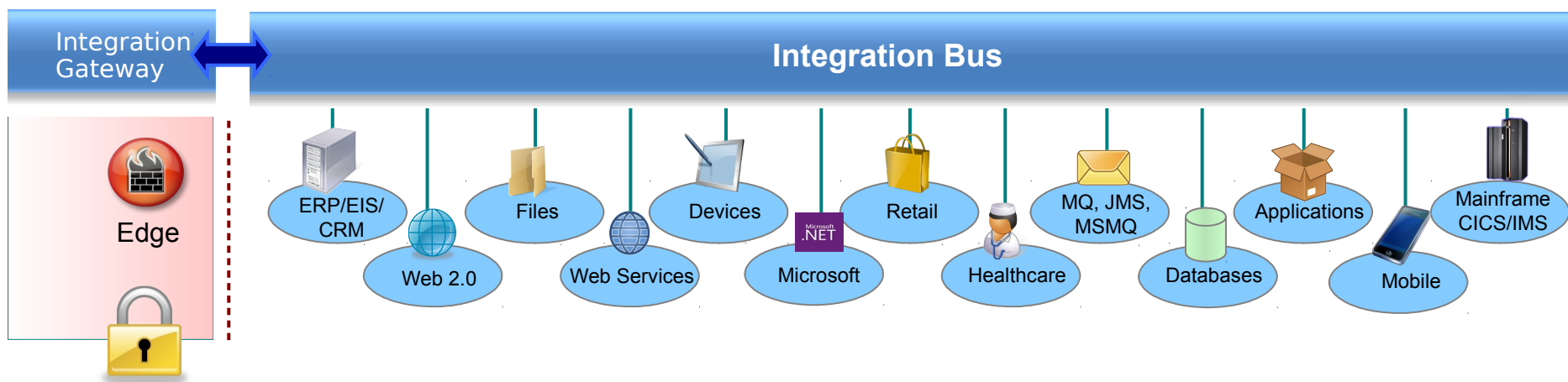
# Agenda

- What is IBM Integration Bus
- Key Concepts
- Product overview
  - System design
  - User roles and environments
  - Some other useful features
- Getting Started

# What is IBM Integration Bus

- IBM's strategic enterprise integration technology

- Single engineered product for .NET, Java and fully heterogeneous integration scenarios
- DataPower continues to evolve for integration gateway use-cases



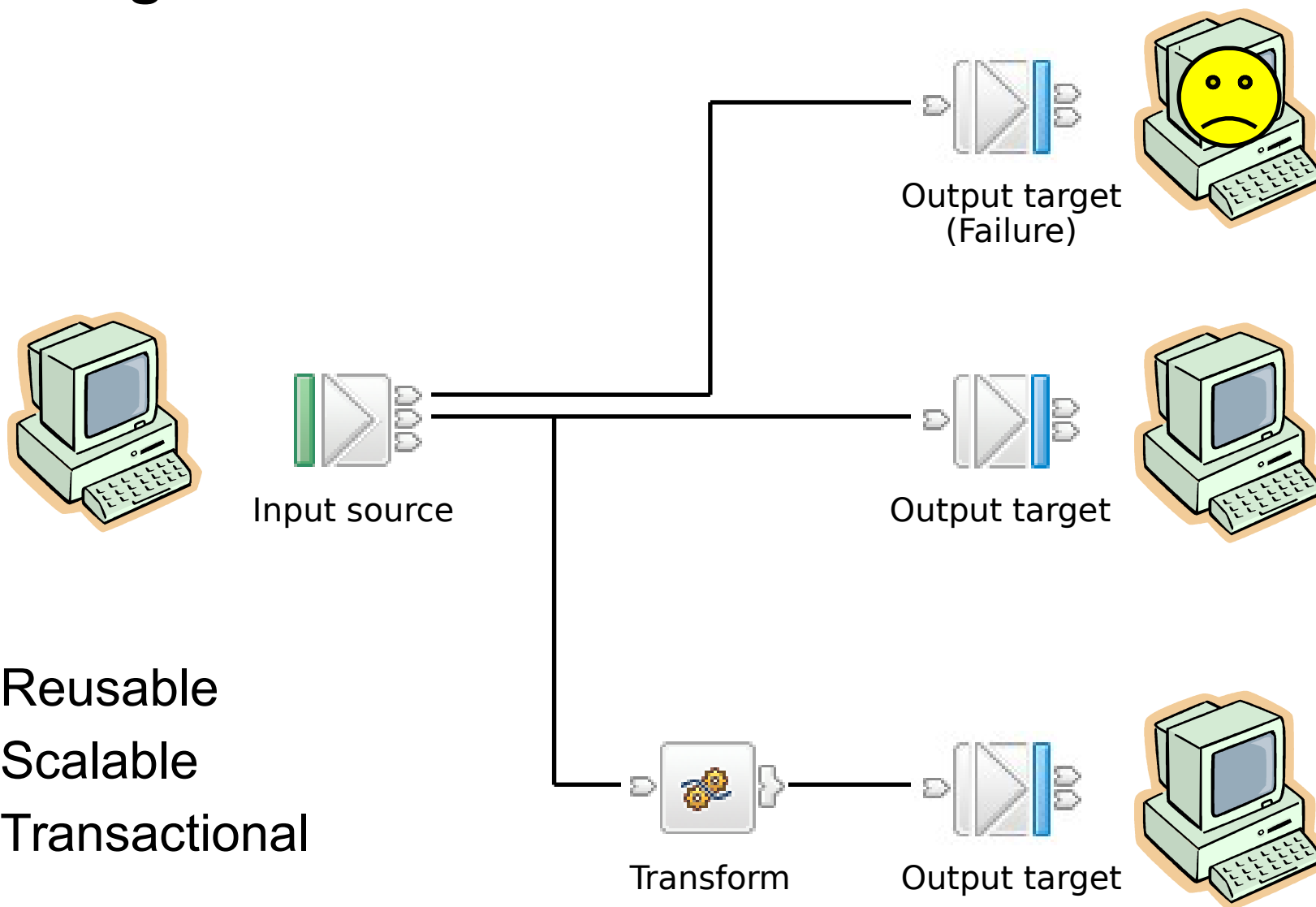
- IBM Integration Bus is the new name for WebSphere Message Broker

- Technology progression over 15 years, installed at 2500+ customers worldwide across all industries
- Fully supported worldwide by IBM global support network, standard 5 + 3 years support policy
- Version to version migration is key design consideration
- Global skills availability - SME's available globally via IBM and partners
- Close interaction with growing and loyal customer base: beta and lab advocacy programs
- Also incorporates WebSphere ESB use-cases

# Development concepts for Integration Bus

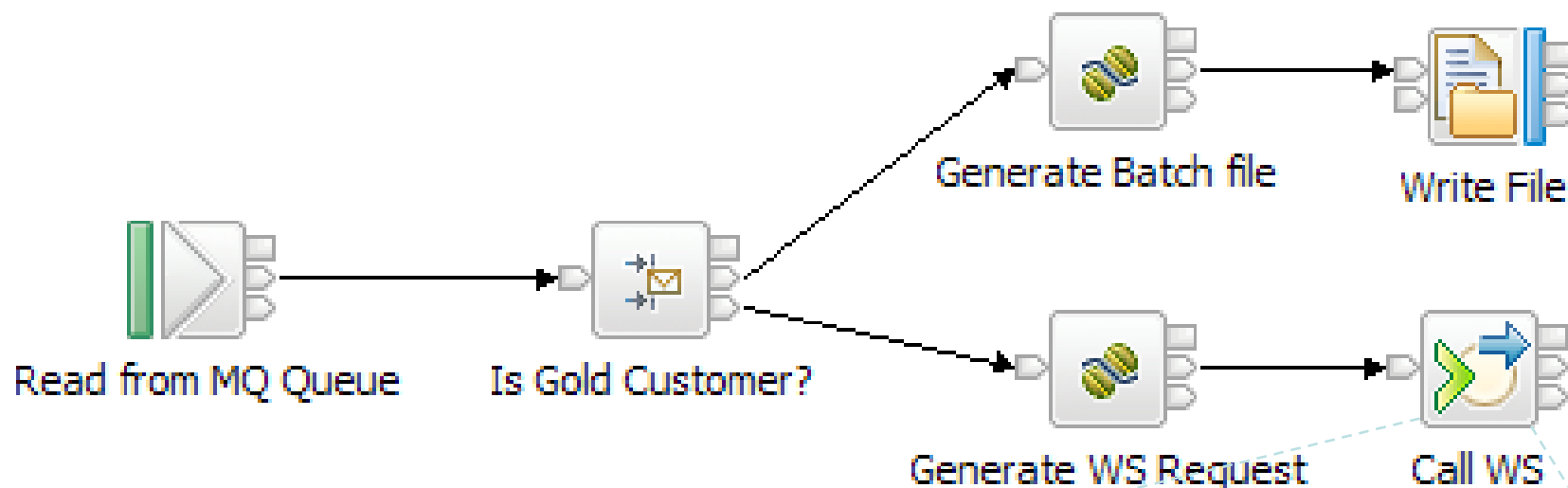
- An Integration Application is a set of event handlers
- Each one is called a Message Flow
- Can create:
  - From scratch, using visual tools
  - By importing an interface you want to provide or consume
  - By creating an instance of a pattern
- Most examples require customisation, not programming

# Message flows



- Reusable
- Scalable
- Transactional

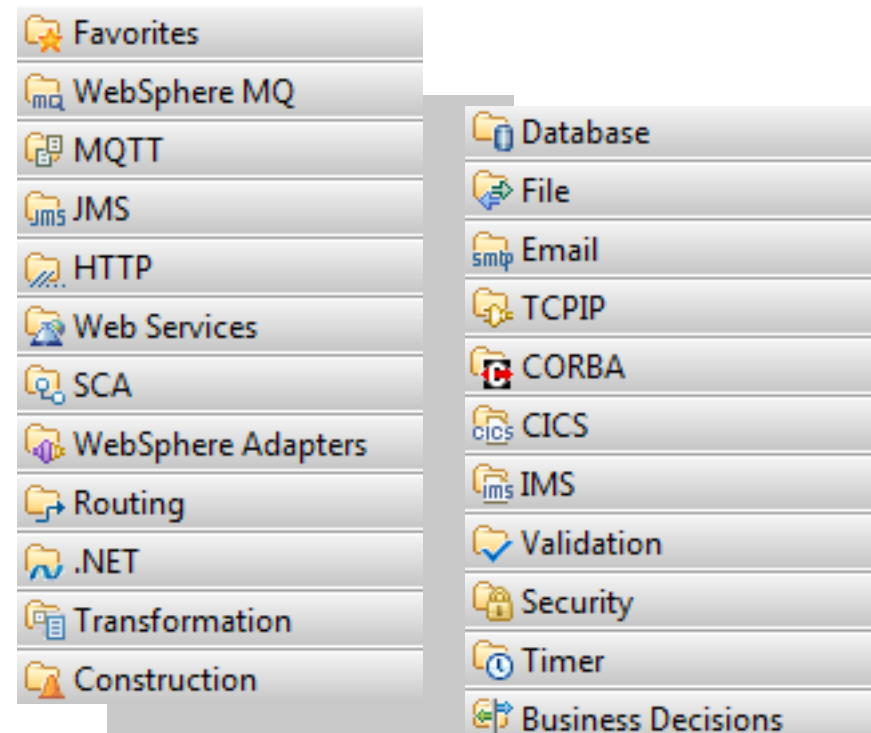
# Message flow example



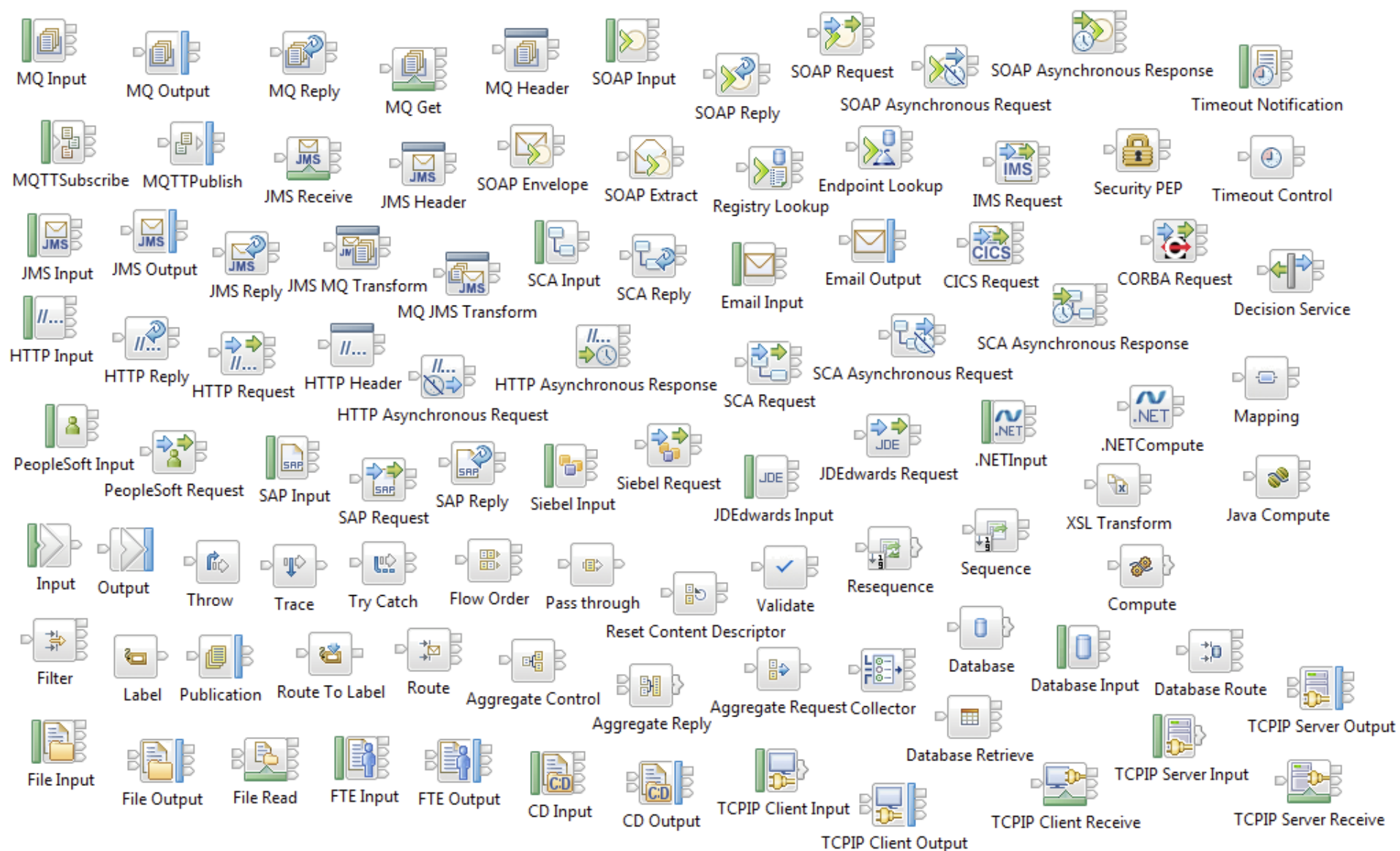
HTTP Request Node Properties - HTTP Request	
Description	Settings for working with the HTTPRequest node. <a href="#">More...</a>
Basic	Web service URL* <input type="text" value="http://example.org/MyWebService"/>
HTTP Settings	e.g. <i>http://server/path/to/service</i>
SSL	Request timeout (sec)* <input type="text" value="120"/>
Response Message Parsing	
Parser Options	

# Nodes

- The building blocks of message flows
- Each node type performs a different (input, output or processing) action
- Many different node types
  - Grouped into logical categories in the editor

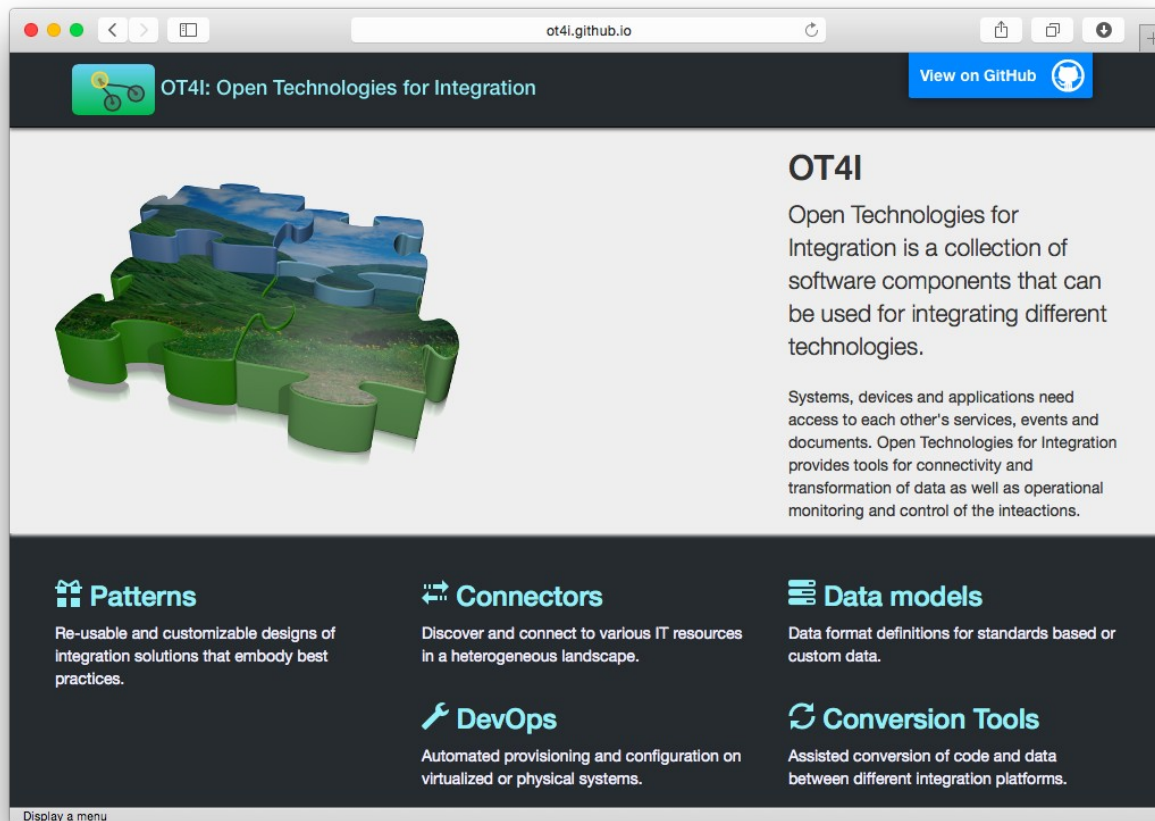


# Lots of nodes are built in





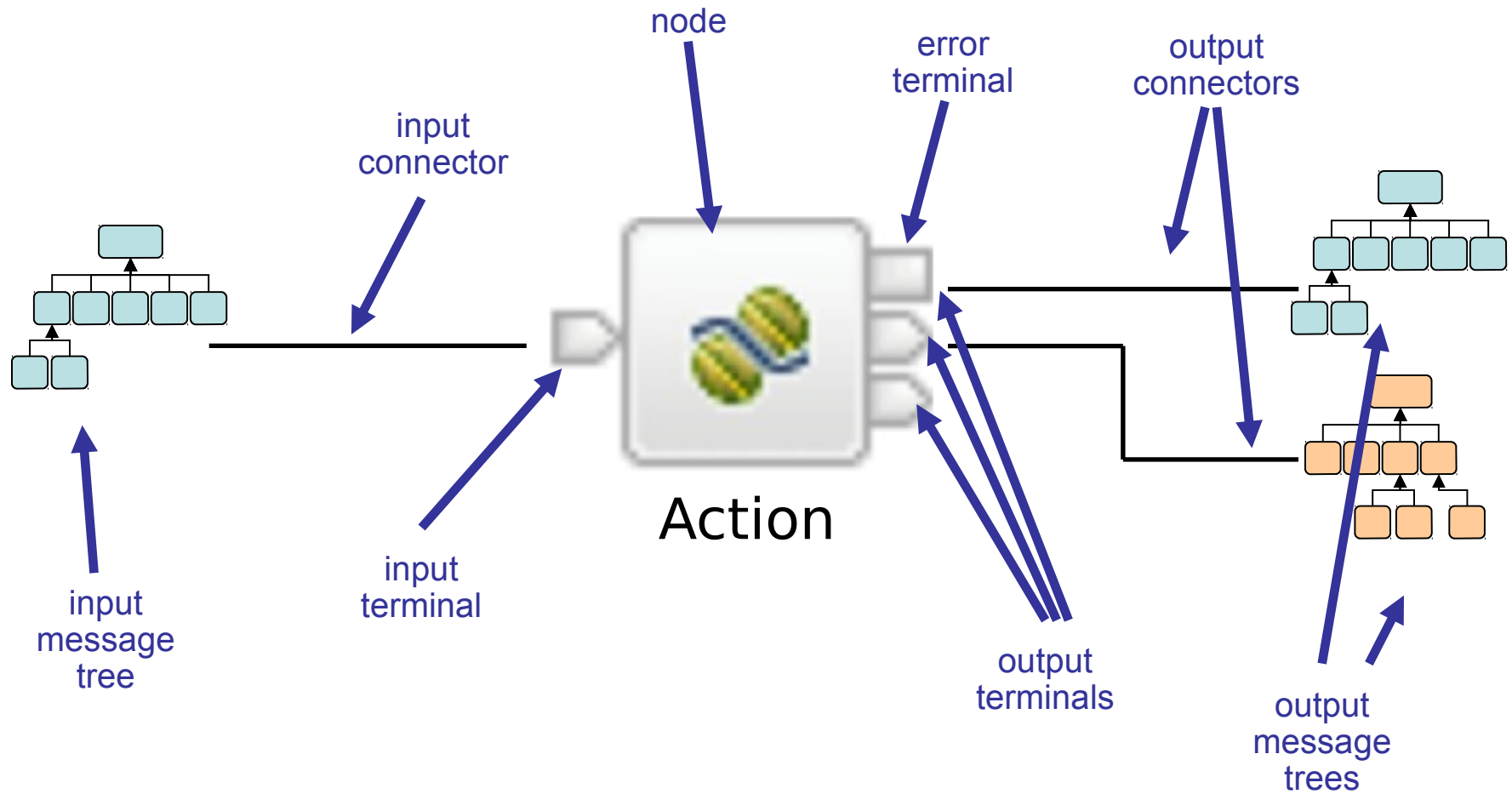
# IBM and third-party extensions



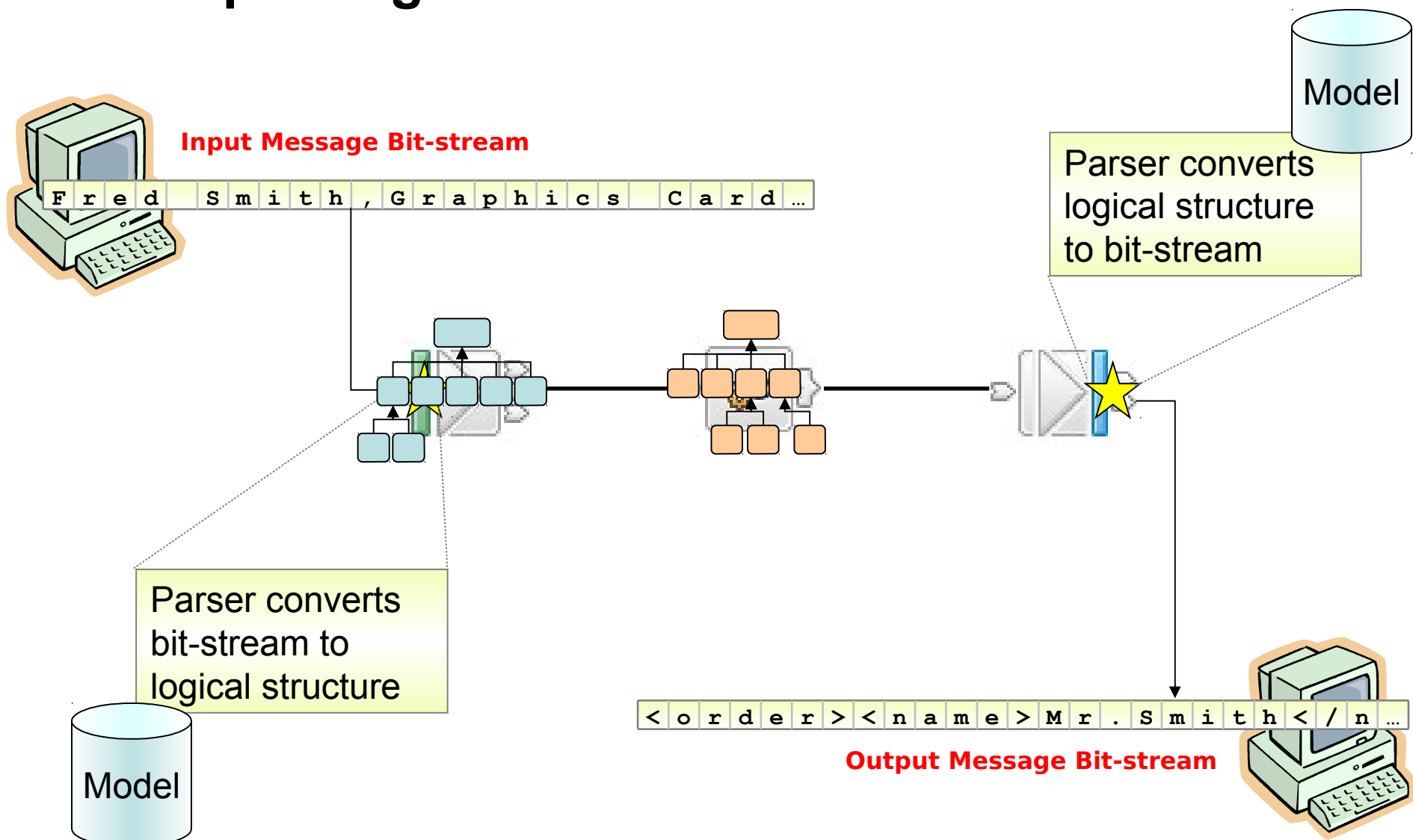
- Many other nodes and features available through product extensions
- Write your own User-Defined Nodes
  - Native node framework available in C and Java
  - OT4i connector framework provides means to implement full lifecycle, including endpoint discovery

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# Node terminology



# Data parsing



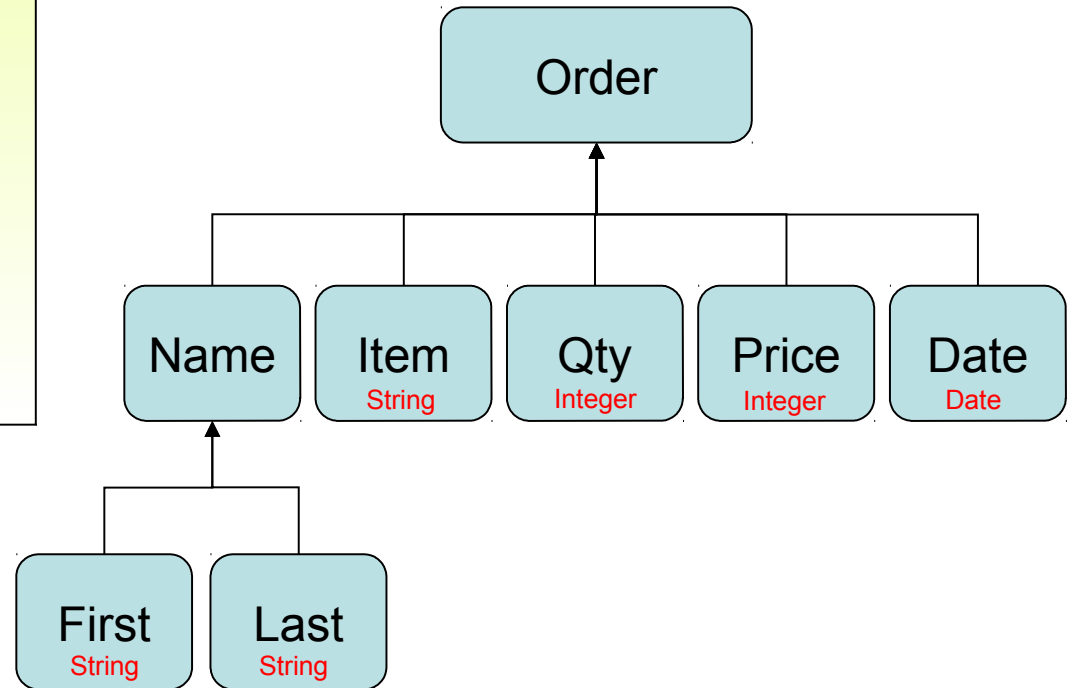
# Message models

Physical ← Logical

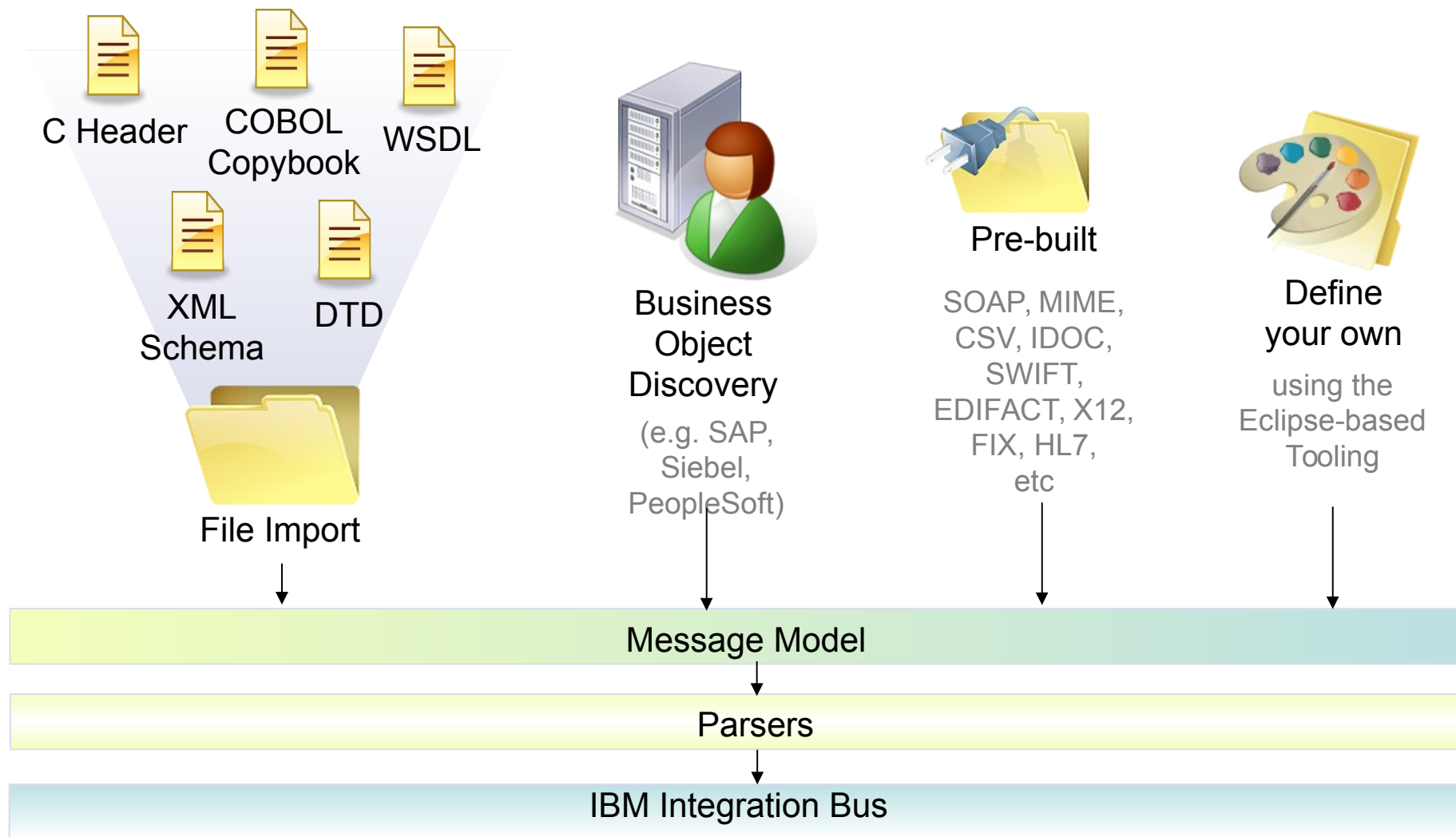
```
<order>
  <name>
    <first>John</first>
    <last>Smith</last>
  </name>
  <item>Graphics Card</item>
  <quantity>32</quantity>
  <price>200</price>
  <date>07/11/14</date>
</order>
```

```
John, Smith, Graphics Card,
32, 200, 07/11/14
```

```
John Smith.....
Graphics Card.....
3220020071114.....
```



# Creating message models



# Transformation options



## Compute

- Describe powerful transformations quickly
- Uses SQL-based language (ESQL)



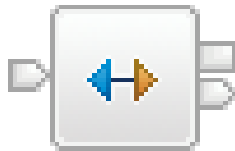
## JavaCompute

- Uses Java programming language
- Ability to use XPath



## .NETCompute

- Invoke general purpose logic in any .NET supported language
- Windows only



## Mapping

- Graphical, easy to use
- Drag and Drop fields, apply functions



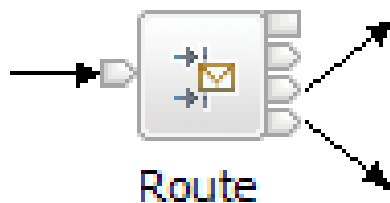
## XSL Transform

- Convert XML to anything
- Uses standard XSL Style sheets

# Easily address message elements



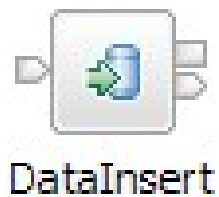
```
public class jcn extends MbJavaComputeNode {
    public void evaluate(MbMessageAssembly assembly) throws MbException {
        ...
        String lastName =
            (String)assembly.getMessage().evaluateXPath("/Body/Order/Name/Last");
        ...
    }
}
```



Route Node Properties - Route

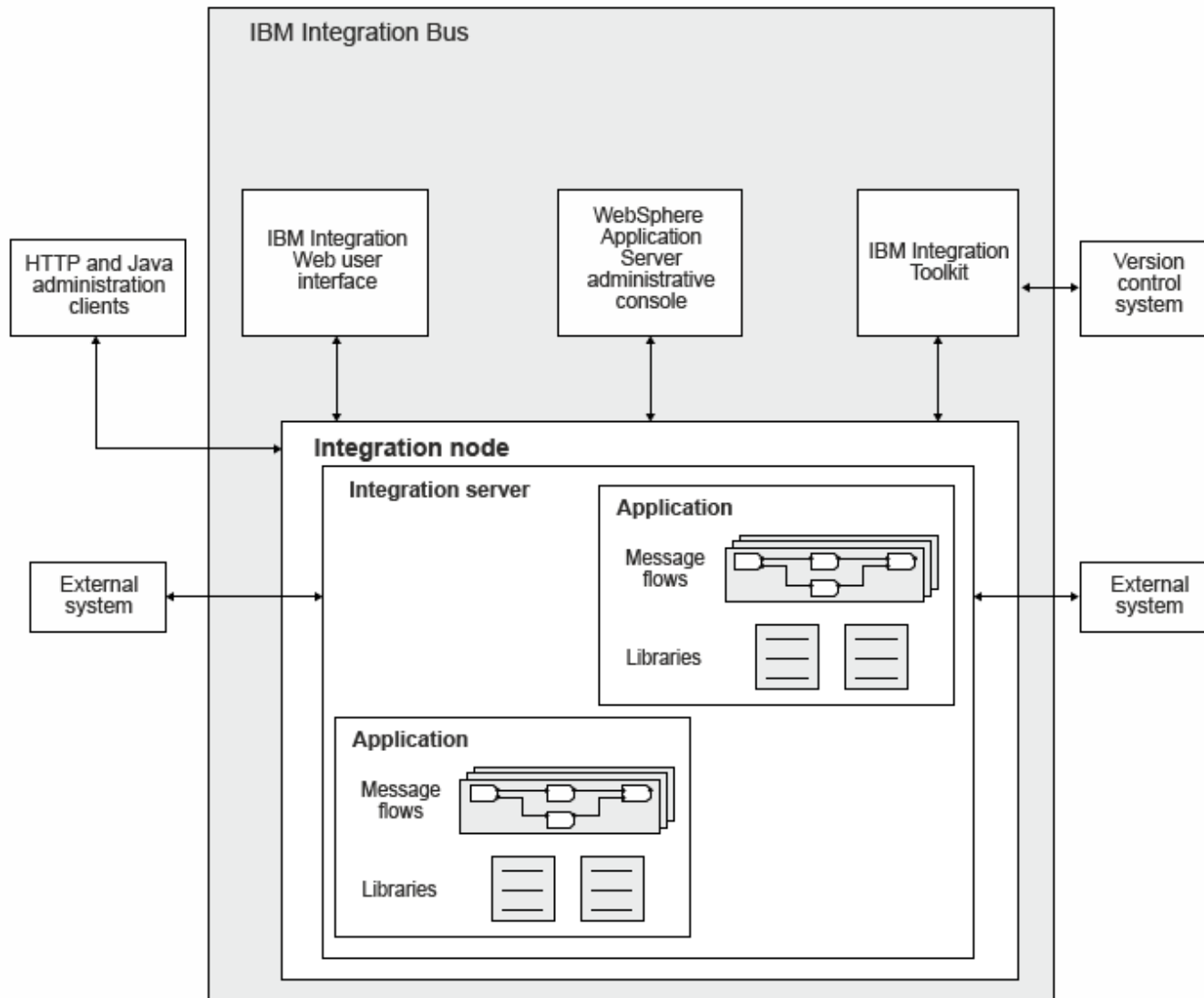
Filter table\*

Filter pattern	Routing output terminal
\$Body/Order/Price > 1000	BigSpenders
\$Body/Order/Price < 200	Cheapskates



```
IF Body.Order.Date < '2008/01/01' THEN
    INSERT INTO Database.OldOrders (LastName,Item,Quantity)
    VALUES (Body.Order.Name.Last,
            Body.Order.Item,
            Body.Order.Quantity);
ENDIF;
```

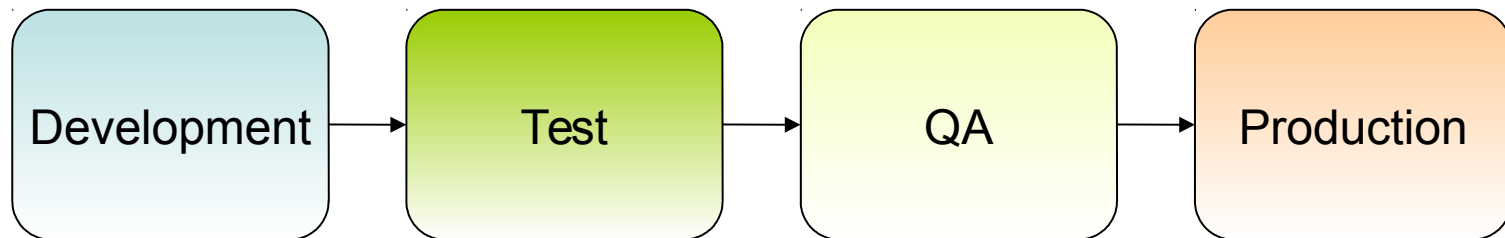
# Architected for high performance and scalability



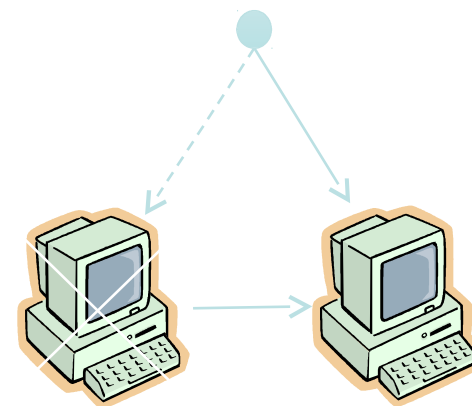
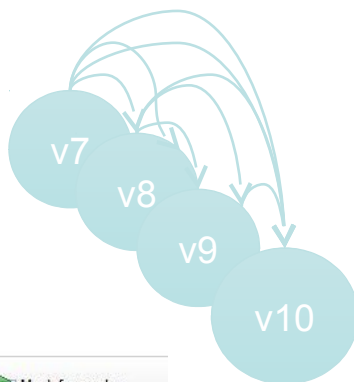
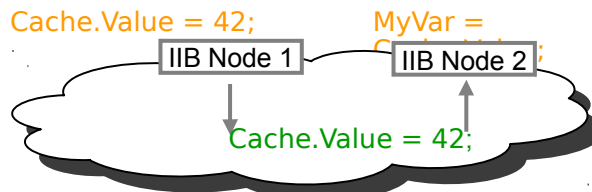
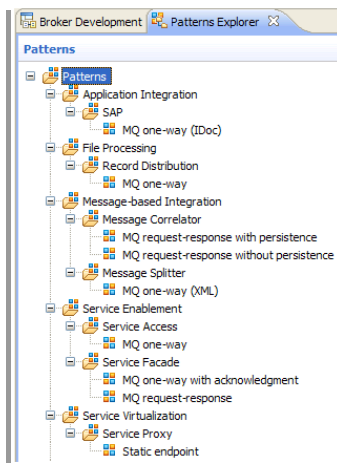


# User roles and environments

- Application Developer
  - Develops message flows, message models etc.
  - Unit Tests on local machine
  - Creates Broker Archive (BAR) files containing required artefacts
- Administrator
  - Customizes BAR for target environment (message flow properties including queues, database names etc.)
  - Deploys BAR to target broker
  - Broker management and operational control
  - Monitoring...



# Some other useful features

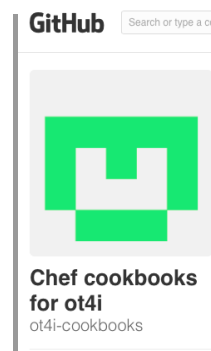


**Data Capture Store**

Data viewer | Replay list

DefaultCaptureStore [Mark for replay]

Event time	Local Transaction ID	Parent Transaction
2012-01-24 16:16:48.716	TESTDATA0123456789@!	CDA



**Policies**

Overview

**WorkloadManagement**

Values that you do not define on this page are inherited from t

Policy Name: BatchWor

Targets and Limits

Notification Threshold: 100

Maximum Rate: 300

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# Getting started

**IBM Integration Bus**

Family | Scenarios | Downloads

An enterprise service bus enabling universal connectivity and transformation

IBM Integration Bus for Developers  
fully licensed software, at no charge

**Download**

**IIBSetup10**

IBM Integration Bus 10

IBM Integration Bus 10

IBM Integration Bus 10

Setup Progress

Processing: IBM Integration Bus 10

Setup Successful

Close

Default Programs  
Desktop Gadget Gallery  
Internet Explorer  
Windows Anytime Upgrade  
Windows DVD Maker  
Windows Fax and Scan  
Windows Media Center  
Windows Media Player  
Windows Update  
XPS Viewer  
Accessories  
Games  
IBM Integration Bus 10  
IBM Integration Console 10  
IBM Integration Toolkit 10  
Startup

Matt  
Documents  
Pictures  
Music  
Computer  
Control Panel  
Devices and Printers  
Default Programs  
Help and Support

Back

Search programs and files

Shut down

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