



Technical Overview



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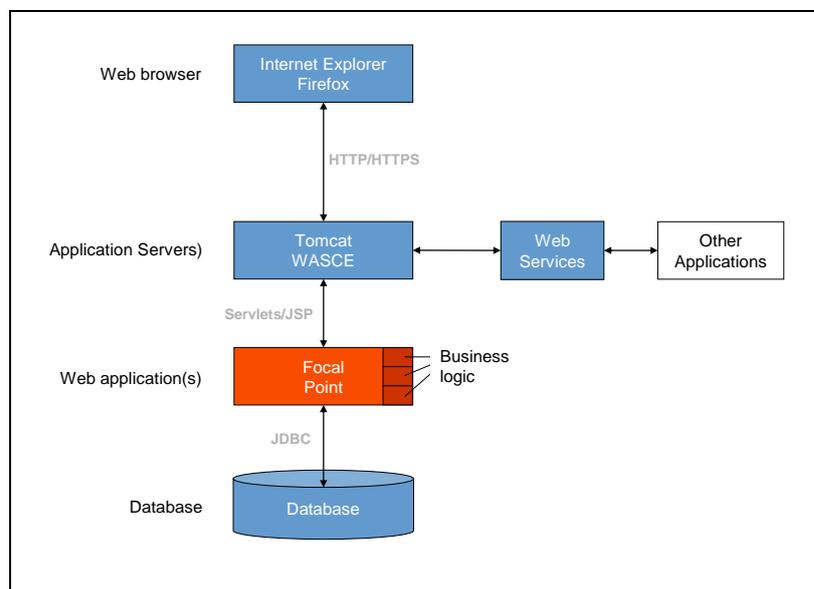
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Technical Overview

Introduction

Development of the Focal Point solution has been progressing since 1997. Focal Point is a true Web server application, thus no client installations are necessary, not even for administration and configuration. It is implemented in Java and only open and standard tools are used for development. Most of the third party code is Apache license.

System Architecture



Web Browser

The Web browsers supported by Focal Point are Internet Explorer and Firefox. The Web browser connects to the servlet engine, or application server, via the HTTP or HTTPS protocol.

Application Server

The application servers supported are Apache Tomcat and Websphere Application Server Community Edition. The application server administers the environment in which the Java servlets and JSPs are run. A Java Servlet is a small portion of Java code, a class file, to dynamically generate Web pages. It is executed in response to an HTTP request from the client (the Web browser) and produces an HTTP response.

Web Application

The application server interacts with the Focal Point Web application through the Java servlets and JSPs. Business logic refers to logic related to the information managed within the Focal Point Web application. In this case, the expressions in Focal Point, with which you can manage information in the database to do whatever you want (for example always send an e-mail to selected persons when a requirement is changed). Business logic is extensible at runtime.

Database

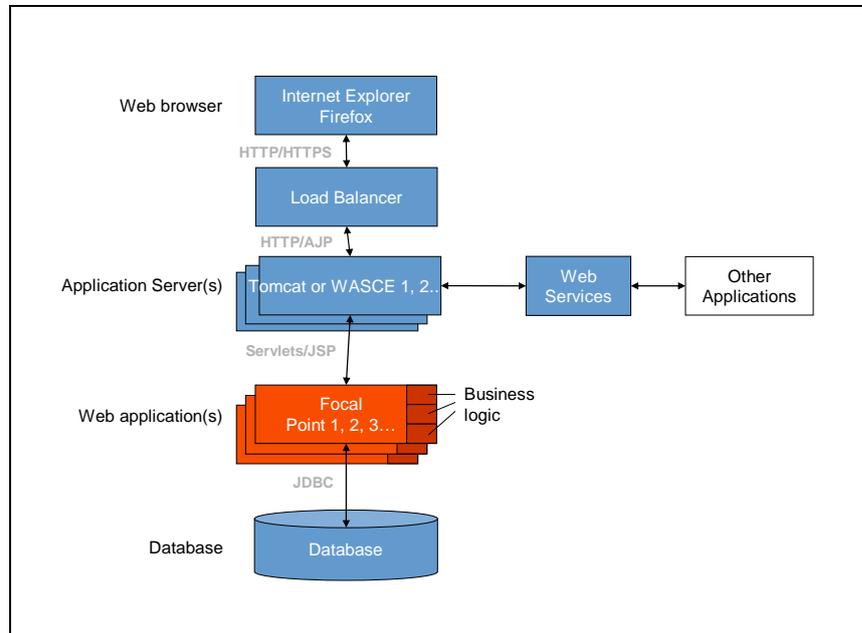
The Web application communicates with the database, PostgreSQL, Oracle or DB2, via JDBC (Java Database Connectivity). JDBC is a Java API (Application Program Interface) that enables Java programs to interact with a database. The database stores all changeable information that is saved via the Focal Point interface, and also all configurations made there.

Focal Point supports PostgreSQL, DB2 and Oracle as specified in the Focal Point system requirements.

Web Services

It is possible to access a limited set of Focal Point's functionality through a public web service API. The API uses the standards SOAP and WSDL.

Clustering and Load Balancing

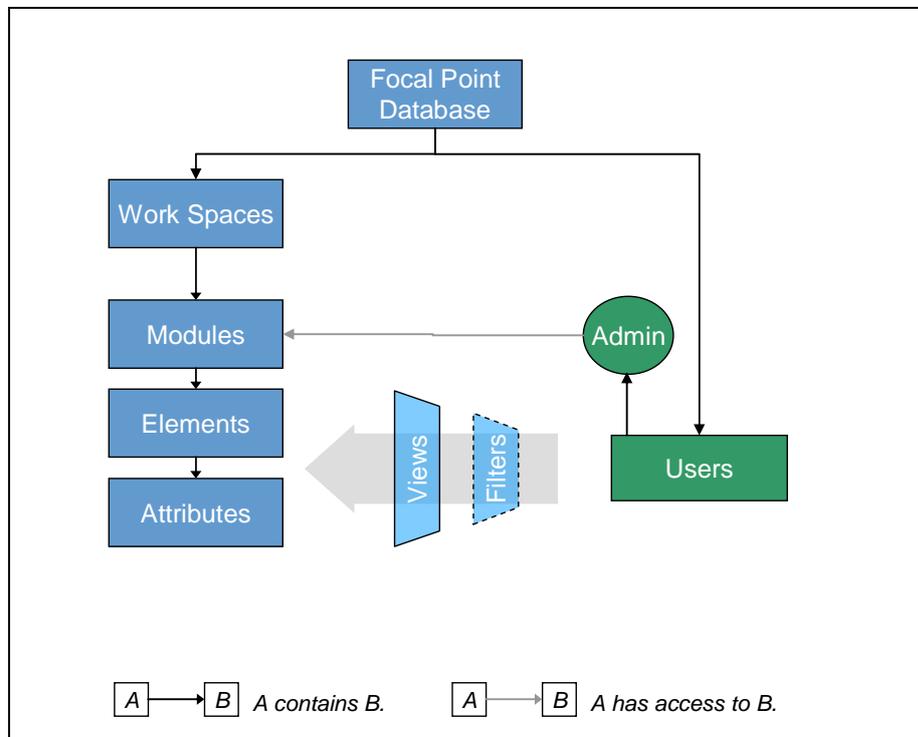


Focal Point can be set up in a clustered environment. Clustering of Focal Point servers provides the possibility to balance the load on several parallel servers (Tomcat or WASCE 1, 2, 3... and Focal Point 1, 2, 3...) via a load balancing software. If one of the nodes fails or needs to be shut down, the other nodes are still running and Focal Point can still be used.

When a user logs in he is directed to a suitable node, with spare processing power. The load balancing software communicates with the application servers via HTTP/AJP requests.

Information Structure

The picture below shows a schematic overview of the information structure and access issues in the Focal Point Database:



The Focal Point Database contains a number of Workspaces. In turn, all Workspaces contain a number Modules with adherent Elements and Attributes. The Focal Point Database also contains a number of Users. Users have access to the information in the Elements and Attributes through Views. A User can have Administrator rights and as an Administrator it is possible to create, configure, and manage Views and give different Users access to these Views. The information in a View is based on selected Elements and Attributes in different Modules. In case a User wants to make a personal selection of information in a certain View, the Filter feature can be used.

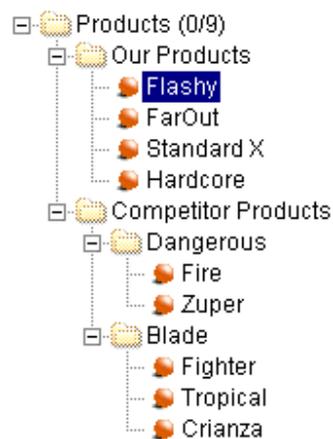
Term	Description
Focal Point Database	The Focal Point Database contains all Users that have access to Focal Point and all Workspaces that have been created.
Users	A User gets access to the information in Focal Point through Views created by a Workspace Administrator. In case a User wants to make a personal selection of information in a certain View, the Filter feature can be used.

Workspaces	Workspaces contain a number of Modules for managing information. The Users in the Database can be given access to zero, one, or more Workspaces. Note: Workspaces used to be called Projects in earlier versions of Focal Point, but since many companies manage their project portfolios in Focal Point, the term Workspace is used to avoid confusion.
Modules	There are several Modules and they have different functions, but they all contain a structured set of Elements . Some Modules support the work of the Administrator and exists in Focal Point from start. These Modules cannot be deleted. Examples are <i>Saved Charts</i> and <i>Saved Reports</i> . Other Modules can be created according to specific business requirements and they are used to configure business-specific information, e.g. projects and requirements.
Elements	Elements are built up by a selectable number of Attributes and all Elements in the same Module share the same set of Attributes. Example of an Element is the requirement "The customer shall be able to login" in the Requirements Module.
Attributes	The Elements in a Module are associated with a number of Attributes. An Attribute has a Name, a Type, a Description, and a Value. The available Attribute types are; <i>Checkbox, Choice, Date, File, Float, Heading, History, Integer, Link, Incoming Links, List, Lock, Mirror, Matrix, Multichoice, Text, Timegrid, Unique Id, URL</i> and <i>Version</i> .
Views	Views are used for selecting a subset of the Elements in a Module (and with them a subset of Attributes that belongs to the Elements in question). The process of defining Views is made by an Administrator. Regular Users only have access to certain Elements and Attributes through Views. This access must be given explicitly to the User.
Filters	To select a subset of the information (in the form of Elements and Attributes) in a View you can use Filters. Each User can have one (and only one) Filter activated for each one of her Views.

Example

Let's say that a motorcycle manufacturer is using Focal Point. The **Users** in the Database are the selected employees that will use Focal Point in their daily work. The **Workspace** is called *Product Portfolio*. One User per department is set to be **Workspace Administrator**. The rest are **Regular Users**.

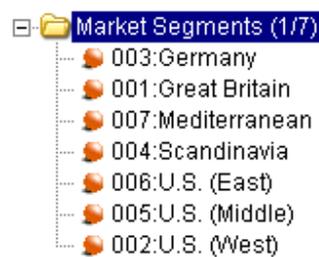
Apart from the standard **Modules** (e.g. *Saved Chart*, and *Saved Reports*) the Workspace Administrator in each department respectively has created a number of specific Modules for the company, e.g. *Products*, *Needs*, and *Market Segments*. The content of these Modules are shown in the screenshots below:



Products: This screenshot shows the different Elements in the Products Module in a tree structure. The Administrator has created subfolders to categorize the different Elements. The categories are Our Products and Competitor Products. Within the Competitor Products folder there are further subfolders according to the different competitors to this motorcycle manufacturer. In this example, the competitors are Dangerous and Blade. In each of the folders, there are a number of products (Elements), e.g. Flashy, Fire, and Fighter.



Needs: This screenshot shows the different Elements in the Needs Module in a tree structure. There are no subfolders in this Module, so the needs (Elements) are placed directly under the Needs folder. Example of Elements in the Needs Module are Usability, Design, and Reliability.



Market Segments: This screenshot shows the different Elements in the Market Segments Module in a tree structure. There are no subfolders in this Module, so the market segments (Elements) are placed directly under the Market Segments folder. The market segments in this company are based on a geographical division. Example of Elements in the Market Segments Module are Germany, Great Britain, and Mediterranean.

The Elements in these Modules are for example *Flashy* and *FarOut* in Products, *Usability* and *Design* in Needs, and *Germany* and *Great Britain* in Market Segments.

All Elements have Attributes. The Element Mediterranean in the Market Segments Module has the following Attributes *Title*, *Description*, *Priority (1-5)*, *Key Account Manager*, *Creator*, *Created Date*, *Last Changed By*,

Last Changed Date, and Parent Folder (see screenshot below).

Mediterranean	
ID	001
Title	Mediterranean
Description	
Priority (1-5)	3
Key Account Manager	Thomas
[-] Element Information	
Owner	Sandra
Creator	Sandra
Created Date	5/8/07
Last Changed By	Sandra
Last Changed Date	5/8/07
Parent Folder	Market Segments

All Attributes have a Title, a Type, and a Value. The Attribute *Key Account Manager* has the Title *Key Account Manager*, the Type is *Text*, and the Value is *Thomas*. The Attribute *Created Date* has the Title *Created Date*, the Type is *Date*, and the Value is *5/8/07*.

In this example, the Administrator for the Development Department has given one of the Regular Users, a product planner, access to relevant Elements and Attributes in the Product Portfolio Workspace by creating a set of Views for her. The company is facing the development of a new motorcycle model, based on new needs from all of the market segments. To be able to make a plan for the release of this new model, the product planner first needs to prioritize these needs. In order to do so, she needs access to the Needs Elements and their corresponding Attributes. This access is granted to her through one of the Views called *Prioritize Needs*. In this View, it is possible for her to do the prioritization.

After completing the prioritization, the product planner wishes to visualize the results in a chart. Now she uses a different View, called *Visualize Prioritized Needs*. So, it is by using different Views, that the product planner can manage the information in Focal Point. Sometimes, she wishes to display only certain aspects of a View, for instance the needs that originate from the Market Segment *Scandinavia*. This can be done by using the Filter feature for this View.

More Information

Contacting IBM Rational Software Support

If the self-help resources have not provided a resolution to your problem, you can contact IBM® Rational® Software Support for assistance in resolving product issues.

Note If you are a heritage Telelogic customer, a single reference site for all support resources is located at <http://www.ibm.com/software/rational/support/telelogic/>

Prerequisites

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage® software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from <http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html>

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.
- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to <http://www.ibm.com/software/support/>.
- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting.

Use the following table to determine the severity level:

Severity	Description
1	The problem has a <i>critical</i> business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a <i>significant</i> business impact: The program is usable, but it is severely limited.
3	The problem has <i>some</i> business impact: The program is usable, but less significant features (not critical to operations) are unavailable.
4	The problem has <i>minimal</i> business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information. When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?

To determine the exact product name and version, use the option applicable to you:

- Start the IBM Installation Manager and select **File > View Installed Packages**. Expand a package group and select a package to see the package name and version number.

- Start your product, and click **Help > About** to see the offering name and version number.

- What is your operating system and version number (including any service packs or patches)?

- Do you have logs, traces, and messages that are related to the problem symptoms?

- Can you recreate the problem? If so, what steps do you perform to recreate the problem?

- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?

- Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.

3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:

- Online:** Go to the IBM Rational Software Support Web site at <https://www.ibm.com/software/rational/support/> and in the Rational support task navigator, click Open Service Request. Select the electronic problem reporting tool, and

open a Problem Management Record (PMR), describing the problem accurately in your own words.

For more information about opening a service request, go to

<http://www.ibm.com/software/support/help.html>

You can also open an online service request using the IBM Support Assistant. For more information, go to <http://www.ibm.com/software/support/isa/faq.html>.

•**By phone:** For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at <http://www.ibm.com/planetwide/> and click the name of your country or geographic region.

Through your IBM Representative: If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at <http://www.ibm.com/planetwide/>.

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