



Viewpoint Manager

Quickstart Guide

1 Viewpoint and View Manager

Introduction

In all but the most simplest of applications a software system is composed of several components, each with a specific set of responsibilities. The Components communicate with one another in order to achieve the objective of the whole system. This is called its Architecture. .

In general terms the Architecture of a software system can be defined as the software elements it comprises, and the relationships among them. An element is a fundamental piece from which a system can be considered to be constructed. An element is commonly called a component and it that term that VisualFSM uses.

An important concept is that of the Stakeholder. A Stakeholder in a software architecture is a person, group, or entity with an interest in, or concerns about the realization of the architecture. Different Stakeholders may have different concerns and they may "see" the structure of the same software system in different ways. Thus the same software system may have many Architectures, each addressing a different concern.

A widely used approach is partition the Architecture into a number of separate but interrelated **Views**, each of which describes a separate aspect of the architecture. Views that address common concerns but in a different ways are grouped into what are called **Viewpoints**. A Viewpoint therefore represents the system from the perspective of the Stakeholder.

VisualFSM takes a very simple approach to defining what a View is, it comprises 3 elements.

- A View comprises one or more **Layers**;
- a Layer comprises one or more **Components**,
- Correspondence link to show the relationship between them

Usage

Before starting a measurement session it is important to ensure that the right thing is being measured for the right reason. To achieve this, one of the very first steps in the VisualFSM measurement process is to understand the Stakeholder concerns, the purpose and the scope of the measurement. That will lead to the selection of the Architecture to be used, i.e. the Viewpoint and View.

Another step in the measurement process is to create the Architecture.and using the Architecture Modeller it is possible to do this from scratch. However software Architectures tend to follow set patterns. The View and Viewpoint libraries contain sets of such templates representing those patterns,

To simplify the Architecture creation process the analyst is able to select a template from the library, and assign it. Assigning automatically creates instances of the Layers, Components and the correspondences.

See the VisualFSM Overview guide for more details

2 Layers, Components and Correspondences

As stated in the previous chapter, the architecture of a software system can be defined as the software elements it comprises, and the relationships among them.

VisualFSM represent this concept physical by means of an architecture diagram. The diagram comprises a set of boxes representing the software elements and shows the relationship. between them as links between the boxes.

Layer and Components

In its simplest form there are 3 types of software element, the **Layer** and the **Component**

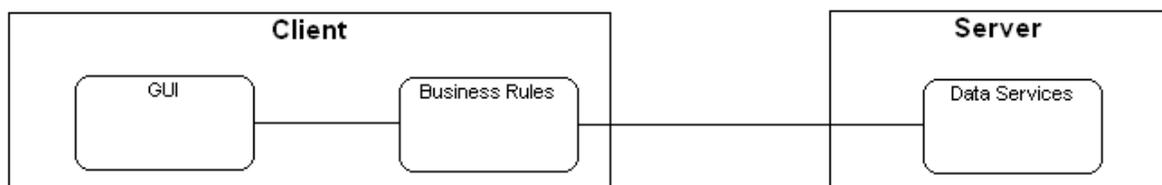
- **Layer** . A functional partition of a software system architecture into one or more components
- **Component**. A collections of individual functions which together deliver the functional requirements of the Component
- **Correspondence**. The relationships, or channels of communication between the components

VisualFSM requires the an architecture diagram comprises at least one Layer, and that each Layer comprises at least one Component

Correspondences

The links between the boxes means they communicate with each other. The communication take the form of messages and the communication can either be uni-directional or bi-directional. This cardinality is important for those build the software however it is not need to perform functional size measurement so is ignored.

A typical Architecture Diagram is shown below:

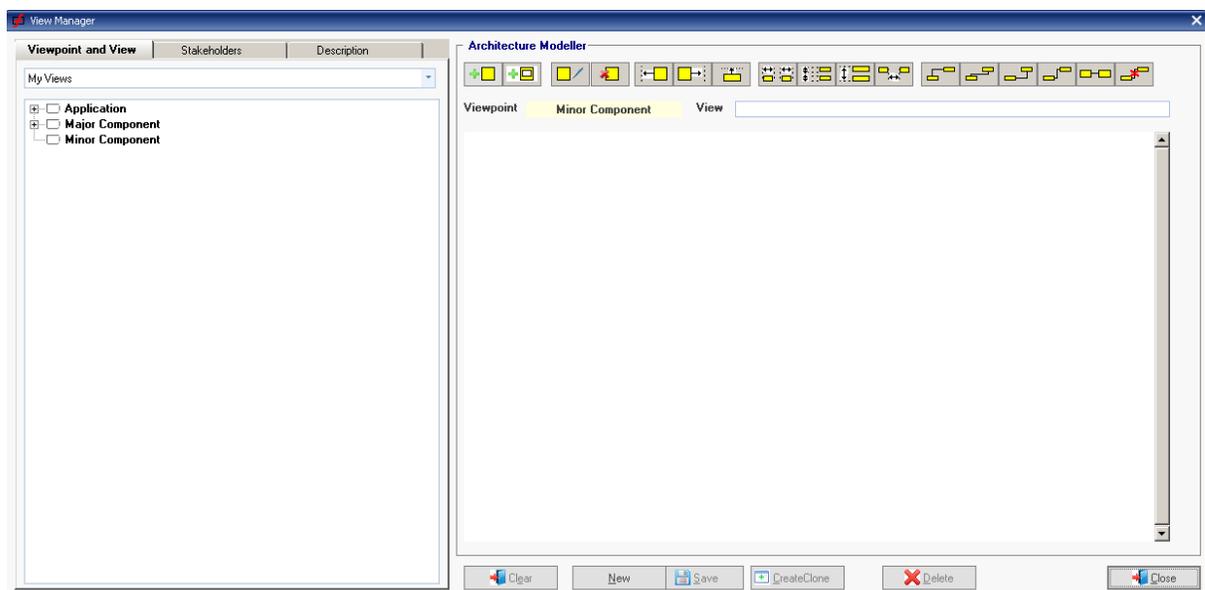
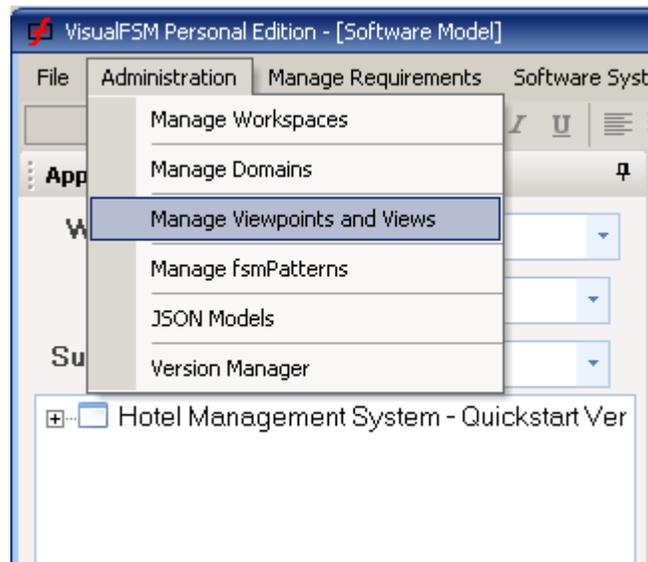


This guide will show this Architecture Diagram is constructed using the VisualFSM **View Manager**

3 View Manager

The View Manager is used to create and manage architecture views. 2 Viewpoints are pre-defined, the user cannot change or add to them in Community and Personal Editions

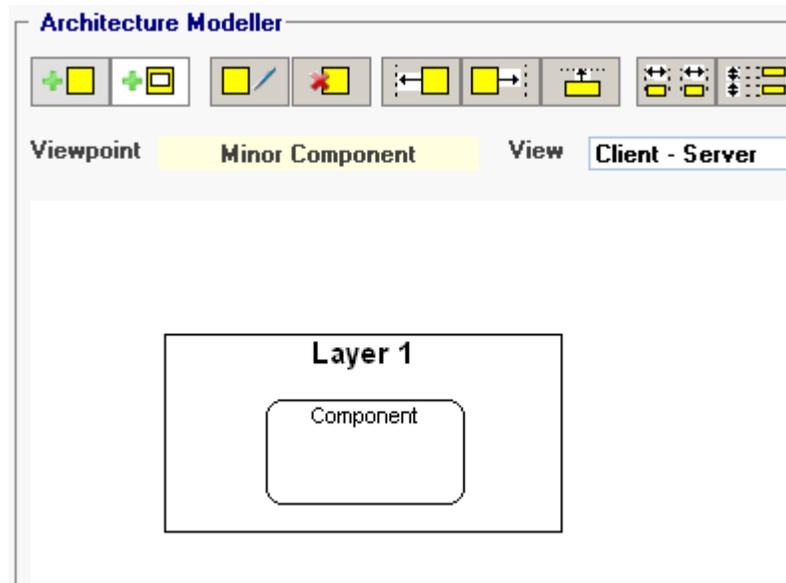
To Open the View Manager select **Administration** from the main menu then select **Manage Viewpoints and Views** from the drop-down menu.



The Navigator on the left shows the pre-defined Viewpoints and for each Viewpoint, the Views it comprises. For the purpose of this guide we shall construct the view shown in the previous chapter

1. From the Navigator select the **Major Component** viewpoint
2. Press the **New** button (the cursor will go to the View Name field)
3. Give the view a name

4. Add a new Layer by clicking the Add Layer icon in the tool box

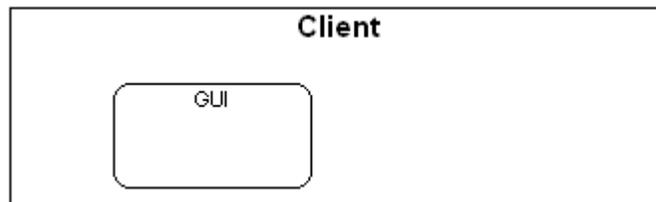


The Layer is added, together with a default Component.

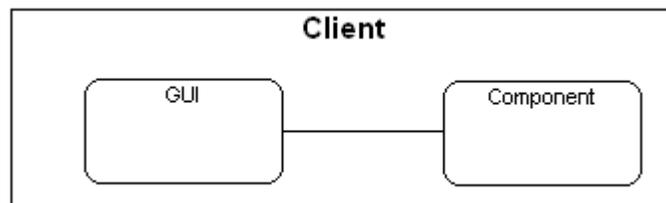
Mouse operations

- **Dragging.** The Boxes can be dragged around by pressing and holding the left-mouse button down and dragging to the required position
- **Edit Name.** Place the mouse cursor to be named, double-click the left mouse button and edit the Name. end by pressing **Return**
- **Selecting.** Single-click in th box to be selected. The resize-carets are shown on each edge, each corner and in the centre
- **Resizing.** after selection place the mouse cursor over the caret of the edge to be resized, pres and hold down the left mouse button, drag to resize, release the mouse button

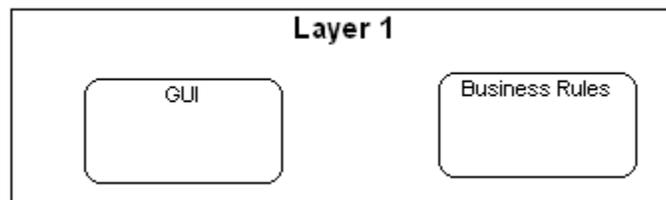
2. Double click in the Layer box then change the name by typing in "**Client**" then pressing Return.
3. Select the Layer box and resize by dragging the right-edge caret to make room for another component



4. Add another Component by clicking the **add Component** icon in the Toolbar 



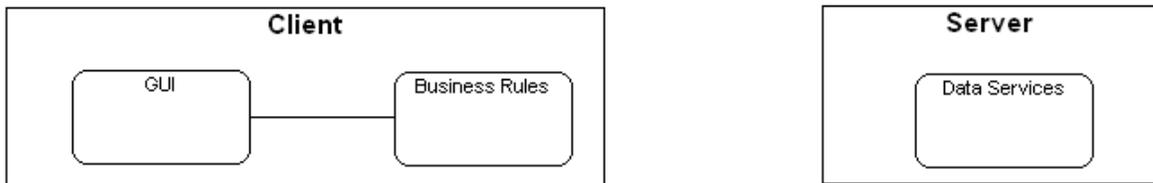
5. Rename the new component to "**Business Rules**"



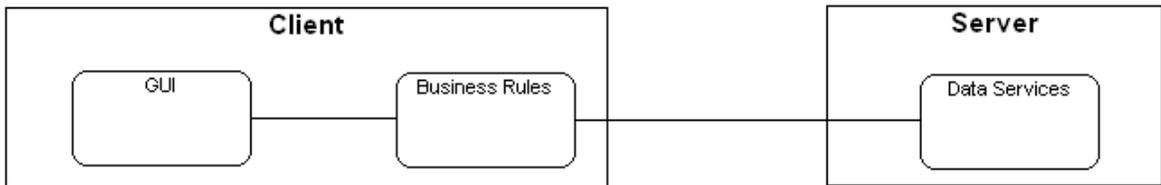
6. select the **GUI** Component and draw a link to the **Business Rules** box

7. Add a new layer by clicking the **Add Layer** icon in the tool box  and drag to right of the other layer.

8. Rename the layer to "**Server**" and the component to "**Data Services**"



9. select the **Business Rules** component and draw a link to the **Data Services** component



10. Press the Save button, the Architecture View will be added to the catalog



4 Other Toolbox Functions

This Guide demonstrate some of the main functions available from the Toolbox. Hover the mouse over the other buttons and it function will pop-up. They are used to format the diagram to make it presentable and tidy.

The function each button performs is described below

General Functions



Edit Element (Not active in the Community and Personal Editions)



Delete Element. Select the box to be delete and press. It and all the links associated with it will be removed



Delete Link. Select a link, press and the link will be removed

Element Alignment



Align Left Edges. Select 2 or more elements, press and the left edges will align



Align Right Edges, (ditto for top edge)



Align Top Edges. (ditto for top edge)

Element Size



Make Same Width. Select 2 or more elements, press and the width will be the same



Make Same Height (ditto height)



Equal Vertical Spacing. Select 3 or more elements, press and the spaces between them will be the same



Equal Horizontal Spacing. (ditto vertical)

Link Formatting



Make Link VH. Select a link, press and the link will be vertical-horizontal



Make Link VHV. Select a link, press and the link will become vertical-horizontal-vertical



Make Link HV. Select a link, press and the link will be horizontal-vertical



Make Link Straight. Select a link, press and the link will become straight

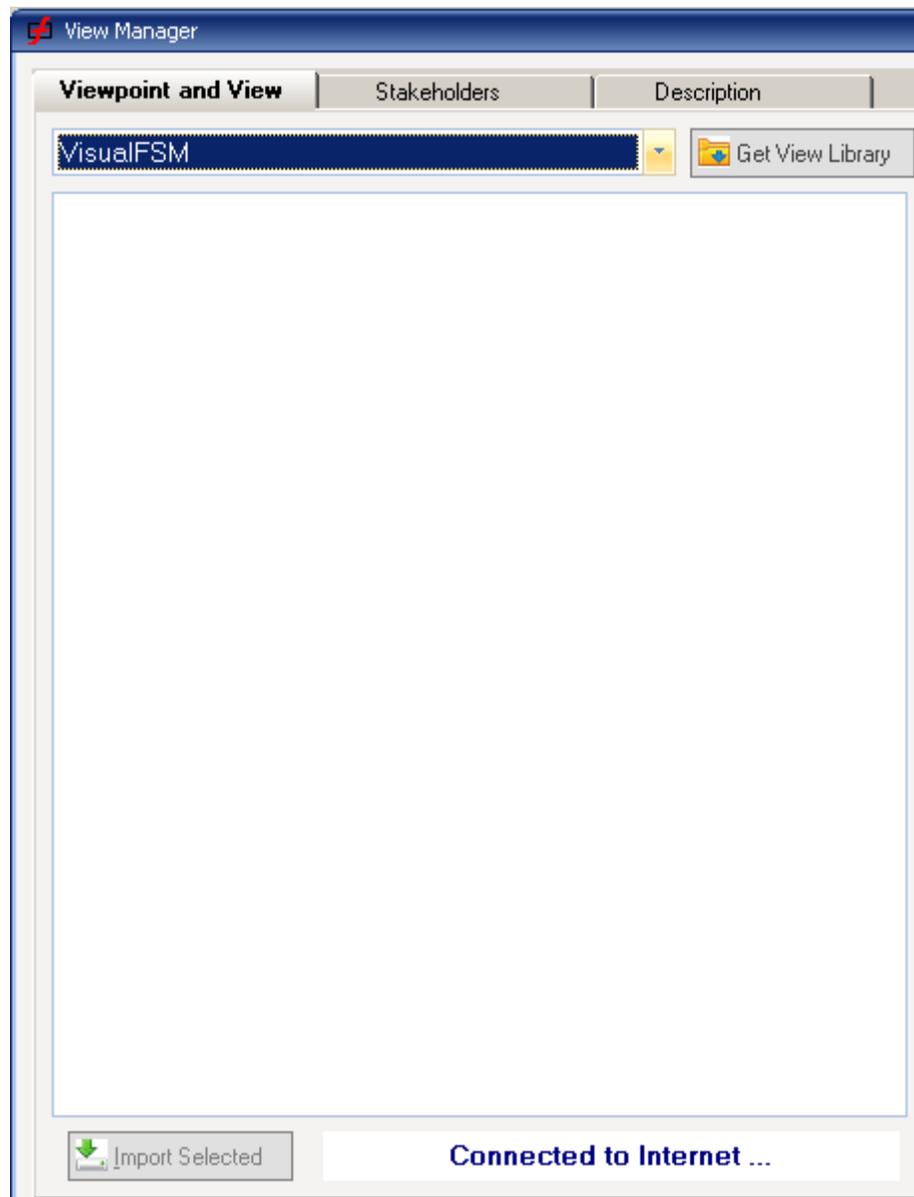
5 Importing views from the Solution Farm

Introduction

The VisualFSM Solution Farm (the Farm) is a web-based resource of case studies, solutions and other documents related to functional size measurement. The aim is to promote the use of functional size measurement by equipping practitioners with the means to understand the topic, and the train on realistic material using the VisualFSM functional size measurement tool,

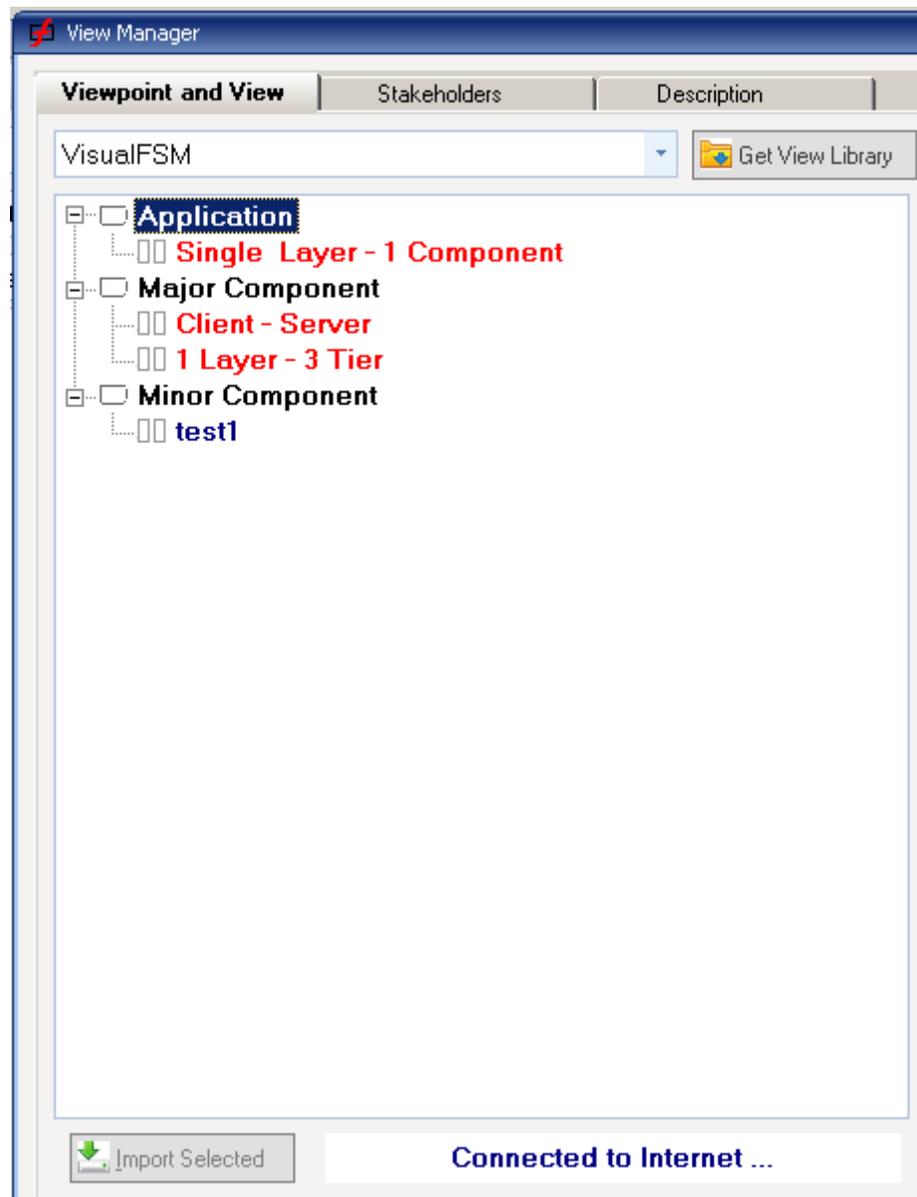
One of the resource is an Architecture View Library and the views can be previewed in VisualFSM and if required they can be imported and added to the local view library

The Solution Farm is accessed by selected VisualFSM farm from the drop-down

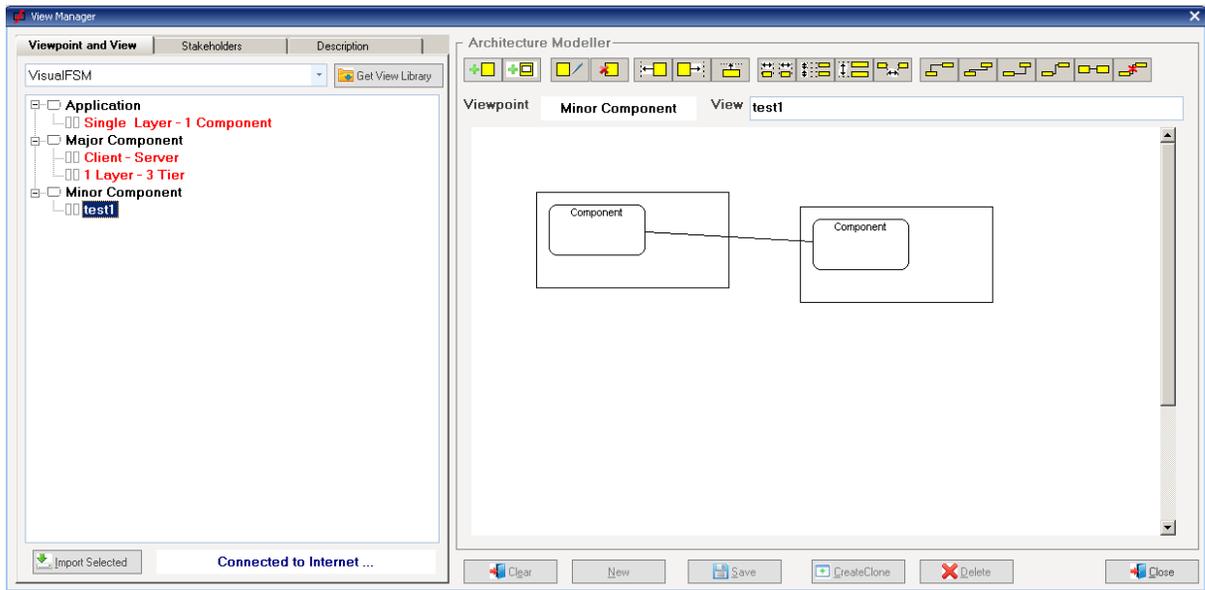


... and pressing the **Get Library** button

VisualFSM will check for an internet connection. if there is one, after short delay, download the VisualFSM View Library and display it in the same form as the My View library.

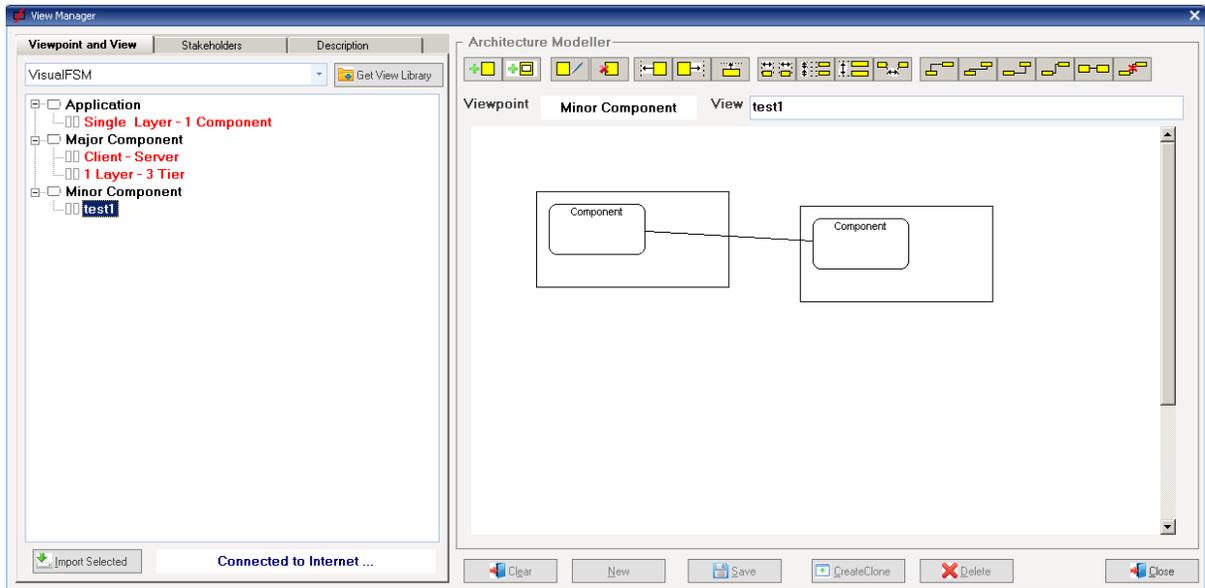


The Tree shows all the Views in the library. Those in red already exist in your My View library. For demonstration purposes a new view, Rest1 has been made available, we will import it. Select it, the View will be downloaded and displayed.



The view is locked so it cannot be used directly, it has to be imported. Do this by pressing the **Import Selected** button

Switch back to **My Views**, the view has been added, to confirm, select it



The View can edited as described previously