



## **VisualFSM-RT**

# **Realtime Exchange and Collaboration Module**

# 1 Introduction

## *Introduction*

The VisualFSM-RT module adds real time exchange of VisualFSM projects and models and the facility to collaborate in the analysis and measurement of functional size.

It can be added to all versions of VisualFSM.

It is a subscription service which allows subscribed users to connect to other subscribed users to permit bi-directional peer-to-peer control of VisualFSM by both users once an authorized connection has been established.

The performance in terms of response time is dependent on the speed of the connection. Typically using broadband for exchanges, the response can be received in less than 10 seconds depending on model size. Commands are normally received at sub 1 second speed. The FUR model is the most unpredictable as it depends on the content, if there are many images the response time could be extended.

In the Community and Personal Editions the exchange and collaboration is peer-to-peer and the messages between users are encoded providing a basic level of security.

In the Professional, Team and Agile versions collaboration is performed between several team members, controlled by a team leader and the messages are encoded and encrypted using RSA Public and Private keys for better security.

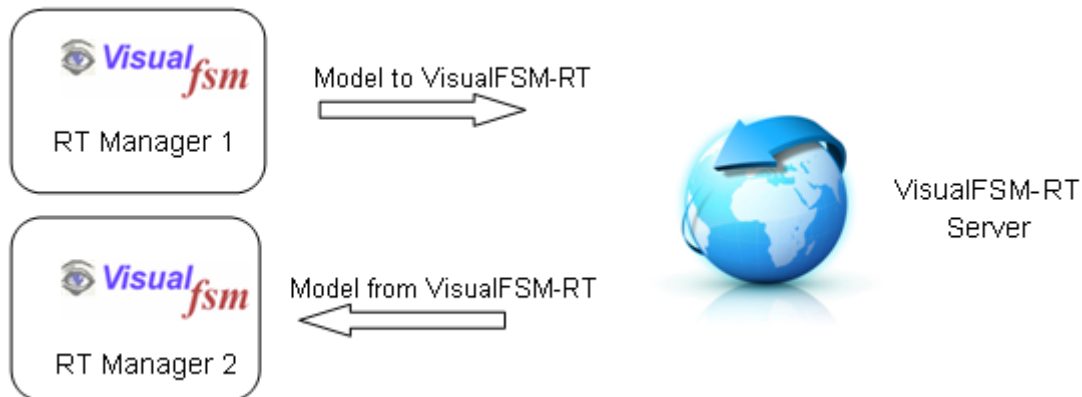
### **Note**

*The Agile Version makes extensive use of the functions provided by the RT model to manage the real time allocation of packages of work to be completed in an iteration and monitor progress.*

## 2 Model Exchange

*Realtime. This is dealt with in more detail in other VisualFSM publications*

### **Exchange**



The Models that can be exchanged are

#### **Support**

- Architecture Templates
- fsmPatterns

#### **Generic**

- Software Model
- Architecture Model
- FUR Model
- Function Model
- Data Model
- User Model

#### **Analysis**

- Analysis Requirements Model
- Analysis Scope Model

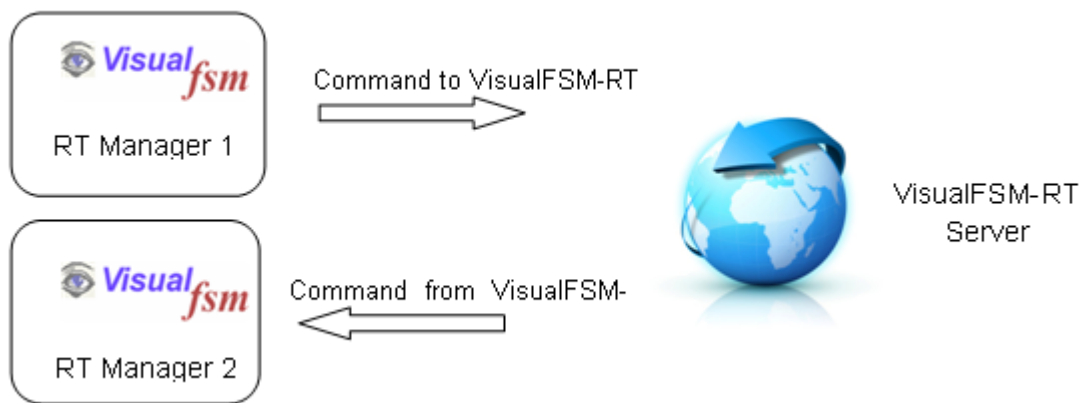
#### **Method Models (Common to all Methods)**

- Requirements
- Measurement Model
- Transaction Model
- Data Model

### 3 Collaboration

*Iteration to team members, who may remotely located. The RT module is then used to track progress and update the Team Leader dashboard in*

#### **Collaboration**

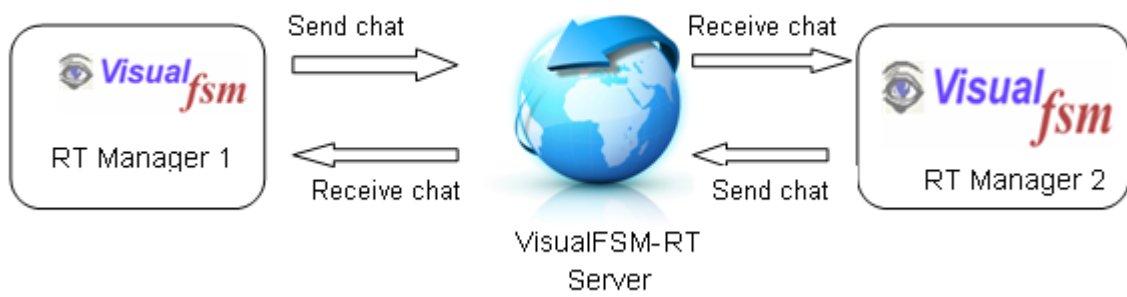


Selection of a model in one users VisualFSM results in the automatic selection in the remote users VisualFSM, and vice-versa.

Once a model to be worked on has been agreed, each user can make changes to the model described above in their copy of VisualFSM and the changes are updated in realtime on the other users model.

### 4 Chat

If direct oral communication is not possible or needed the Chat function allows users to exchange instant messages.



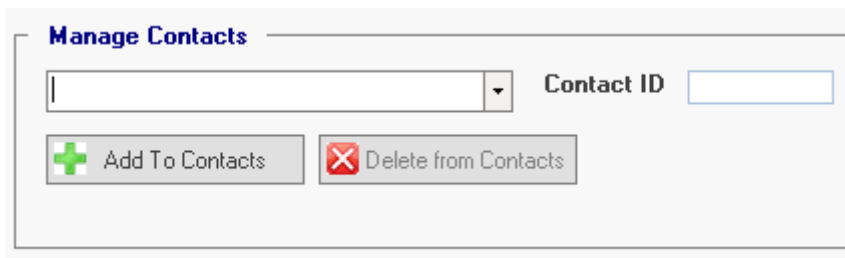
## 5 VisualFSM-RT Connection Manager

To use the VisualFSM-RT functions the user must first subscribe to the service by via the payment facility at <http://www.visual fsm. com>.

When the subscription is complete a license is sent and the licence installed the VisualFSM-Realtime tab on the main screen will be activated, selecting the tab will display the Real-Time Manager. The Licence also includes the name and a unique ID for the licence. This is displayed in the Real-Time Manager.

### Contact List

Communications can only be establish with another subscribed user when the Licencee name and ID are in the respective contact lists. The users must exchange this information and added it to their respective contact lists



The screenshot shows a 'Manage Contacts' window. At the top left, the title 'Manage Contacts' is displayed. Below the title is a search bar with a dropdown arrow. To the right of the search bar is a 'Contact ID' label followed by an input field. Below these elements are two buttons: 'Add To Contacts' with a green plus icon and 'Delete from Contacts' with a red minus icon.

2-Way connection can be initiated by either party using a handshake message exchange as described below,

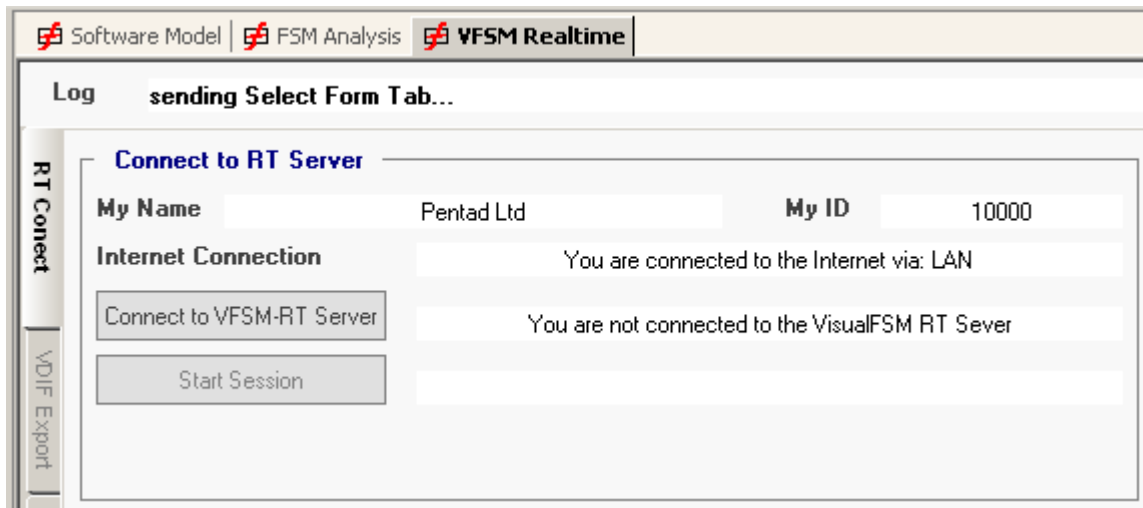
If the user receiving user allows the connection the 2 users can now xxchange information, collaborate and send and receive messages

## 5.1 Initiating a connection

### Connect to VFSM-RT Server

When the Real Time manager starts it check that the PC has an internet connection, if so a message is displayed and the **Connect to VFSM-RT Server** button is enabled. The VFSM-RT Server controls the interchange of messages between users,

When a subscribed user connects to the VFSM-RT Server by pressing this button, the user subscription state is checked and if verified the connection is allowed, a message id shown to that effect, and the **Start Session** button is enabled.



Pressing the **Start Session** button sends a request to the VFSM-RT Server requesting a session. VFSM-RT server allocates the user to a channel and it returns a Session ID (this for information only) The connected user can now send and receive messages to and from the VFSM-RT Server.

Both users must perform this action before they can communicate. Both user now listen for messaged addressed to them

### Request a Connection

**Outgoing Connection**

Connect to

Request to be connected as  Host  Client

RequestConnect

The user initiates a connection by first selecting the initial Role, selecting the other party from the contact list

**Host:** You can send and receive models and automatically control the remote users VisualFSM to synchronize, navigate and update.

**Client:** You will receive models and commands from the remote user which will keep the models synchronized and the view the same at each end of the link. You cannot send anything in this mode.

Once connected you are able to swap modes using the mini-control in the Explorer. The change of mode is handled automatically so at any one time there is only 1 host

VFSM-RT Active

Synchronize Context

Connected as

Host  Client

Send

When selected a message is sent to the requested user and if then status is show as either Offline or Online. If Online the **Request Button** is enabled.

**Outgoing Connection**

Connect to  **Online**

Request to be connected as  Host  Client

RequestConnect


Pressing this button sends a message to the other party requesting a connection and waits for a response.



**Outgoing Connection**

Connect to  Online

Request to be connected as  Host  Client

 RequestConnect Connection to Pentad 3 Pending ...

The other party is notified of the request and will return a message indicating the connection is Authorized or Denied

**Log** connection with Pentad 3 authorized


**RT Connect**

**Connect to RT Server**

My Name	<input type="text" value="Pentad Ltd"/>	My ID	<input type="text" value="10000"/>
Internet Connection	<input type="text" value="You are connected to the Internet via: LAN"/>		
<input type="button" value="Connect to VFSM-RT Server"/>	<input type="text" value="You are connected to the VisualFSM RT Sever"/>		
<input type="button" value="Disconnect"/>	<input type="text" value="Session de07e6aa7ca64ff4 with VisualFSM-Team-01 started"/>		

**Outgoing Connection**

Connect to  Online

 RequestConnect You are connected to Pentad 3

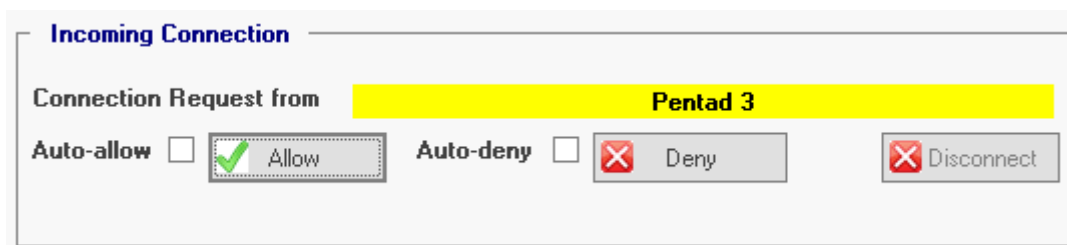
If the other party declines, a not authorized message id return. If a response in not received within 20 seconds

## 5.2 Allowing a connection

All message are prefixed with the Name and ID of the sender. When connected to the VFSM-RT Server and a session has been initiated, the system listens for messages.

In the Community and Personal version only one connection is allowed at any one time. multiple connect can be active.

When a request is received the system first checks that is from someone in the contact list. if so the notification is displayed in the Incoming Message panel



The User can either Allow or Deny the connection and the appropriate message id returned to the requester.

If the Auto-allow box is ticked, when a request for connection is received, and it is from someone in the contact list, VisualFSM automatically respond to the request allowing the connection.

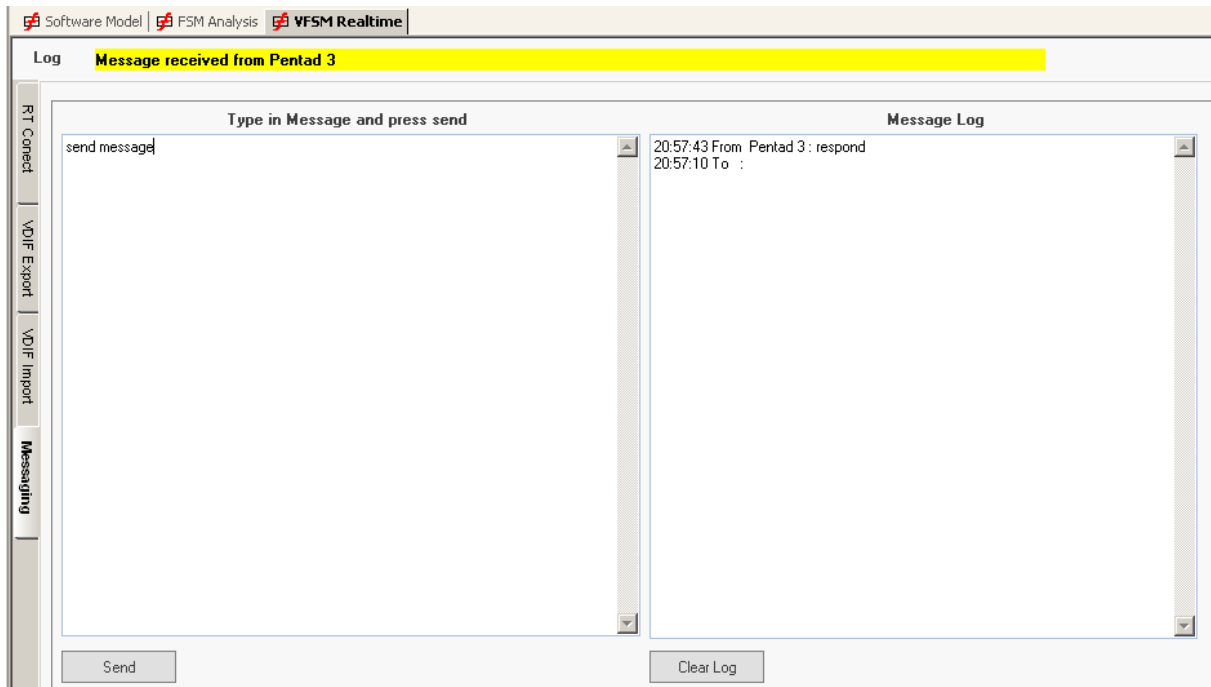
Similarly If the Auto-deny box is ticked, VisualFSM automatically respond to the request denying the connection

Otherwise the response is allowed or denied manually by pressing the appropriate button.

Pressing the Disconnect button terminates the current connect but keeps the connection to the RT server alive so incoming request can be serviced.4

## 5.3 Chat

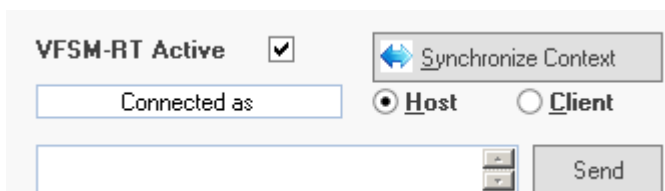
The Chat facility is accessed by selecting **Messaging Tab** which is enabled when both users are connected together as described previously



Simply type in a message in the left- hand panel and press the **Send button**, the message is repeated in the right-hand Log panel. which also displays message received from the connected User.

The **Clear Log** button does just that.

Received Chat messages are repeated in the Explorer RT-Mini Controller



A message can also be sent by entering it and pressing the **Send button**.