



IBM Software Group

# Rhapsody Design Manager (RDM)

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**Innovate 2011**

**Rational** software



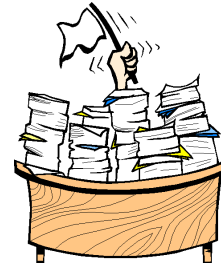
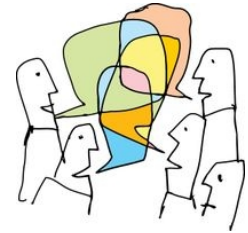
# The Challenge:

- Perform more effective collaborative reviews in a Model Based development process
- Typical Approaches today:
  - ▶ Document/paper centric
  - ▶ Model Centric



# Document / Paper Centric

- Produce document output
- Hold review meetings, document/minute, apply changes
- Pros:
  - ▶ Doesn't require stakeholders to have Rhapsody tool or be Rhapsody familiar
- Cons:
  - ▶ Clunky
  - ▶ Paper based audit trail
  - ▶ Challenging with distributed teams



*There's a great power in words, if you don't hitch too many of them together.*

- Josh Billings



# Model Centric

- Review physical models not document output
- Document/minute review comments, apply changes
- Pros:
  - ▶ Less clunky
  - ▶ More flexible - on the fly dive into model IP (not constrained by physical output)
  - ▶ Fits with philosophy of 'the model is the single source of truth'
- Cons:
  - ▶ Tendency to lock out non Rhapsody literate stakeholders
  - ▶ Half way house between model based and document based
  - ▶ Challenging with distributed teams



*A child of five would understand this. Send someone to fetch a child of five.*

- Groucho Marx



# Rhapsody Design Manager

- Enable 'at your desktop' collaborative model based design review
- Open up to non-Rhapsody user stakeholders: reviews through web browser
- Submit and respond to comments/mark up model
- Capture multiple stakeholders input in context of model
  - ▶ Data provides comment audit trail against model
  - ▶ Store review data separately from the core model but overlaid onto it
- Facilitate removing physical geographic barriers to effective reviews
- Outcomes:
  - ▶ Reduce review cycle times
  - ▶ Make accessible to more stakeholders
  - ▶ Promote model based development



# Perform Formal Reviews

- Select model elements to include in review
  - ▶ Select reviewers
  - ▶ Link reviews back to RTC work items
  - ▶ Reviews may be performed through the web or thick client

Reviews >

### 4: M1 Functional Analysis Review

Overview My Work Reviewers Resources Links

Draft → In progress  33% completed

Pause Review Finalize Review Reviewed Finalized

Author: Pete Snapshot: No snapshot (current)

Due: Sep 9, 2011

Instructions:

Participants					
Name	Role	Review results		Completed	Actions
Dan	Reviewer	0	0	2	0%
Pete	Reviewer	2	0	0	100%
Steve	Reviewer	0	0	2	0%

Resources					
Name	Status			Completed	Actions
Neutralize ThreatBlackBoxView	1	0	2	33%	
Detect ThreatBlackBoxView	1	0	2	33%	

Reviews >

### \*4: M1 Functional Analysis Review

Overview My Work Reviewers Resources Links

My Status In progress  50% completed

Detect ThreatBlackBoxView Aug 23, 2011 Reviewed - no comments

Neutralize ThreatBlackBoxView Aug 23, 2011 Not Started

**Change Status**

Change the review status of the selected model element.

Change status to: Reviewed - no comments

OK Cancel



# Comments and Markup

- Add comments and markup diagrams on the fly

**IBD\_Detect Threat**  
modified Aug 23, 2011 8:52:43 PM

Diagram Properties Related Elements Links

100%

Save

ibd [Package] DetectThreatPkg [IBD\_Detect Threat]

```

sequenceDiagram
    participant Pilot as itsPilot:Pilot
    participant Detect as itsUc_DetectThreat:Uc_DetectThreat
    participant Intercept as itsIntercept:Intercept
    Pilot->>Detect: pPilot
    Detect->>Intercept: pIntercept
    Intercept->>Detect: pUc_DetectThreat
    
```

**Comments**

Interface Content (2) 1 hour ago

**Pete** 1 hour ago  
We need to discuss the content of these Ports  
IBD\_Detect Threat  
A drawing was added

**Dan** 1 hour ago  
I've added a Work Item for Steve to review them before our next meeting - it's linked to this diagram and I've added you as a subscriber so you should get notified when Steve is done with it.

Panel Diagram (1) Aug 24, 2011

**IBD\_Detect Threat**  
modified Aug 23, 2011 8:52:43 PM

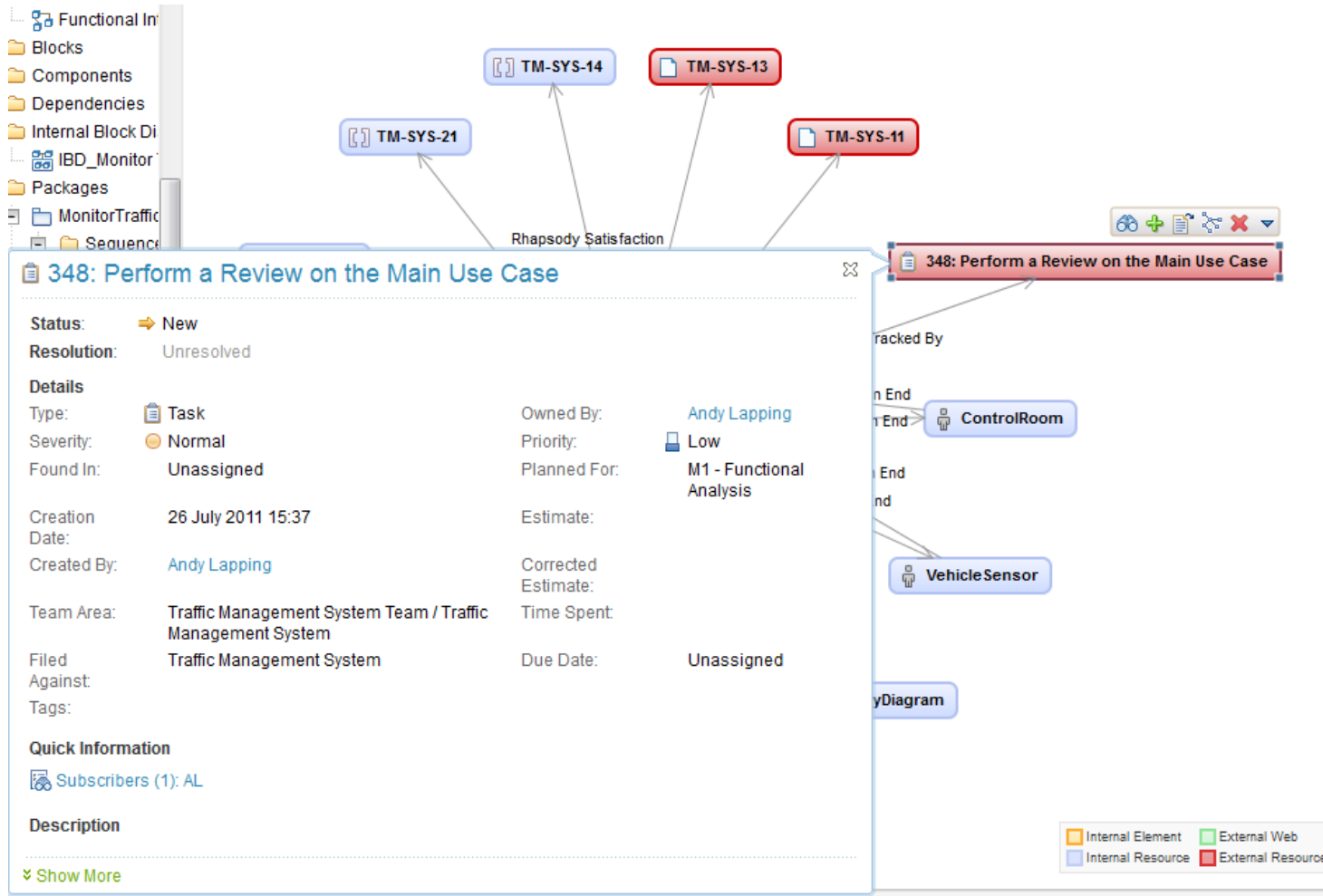
Diagram Properties Related Elements Links

Add: External Web Page

Trace  
87: Review Functional Interfaces for Detect Threat



# Access linked data without changing views







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# How it Works

**Rational** software



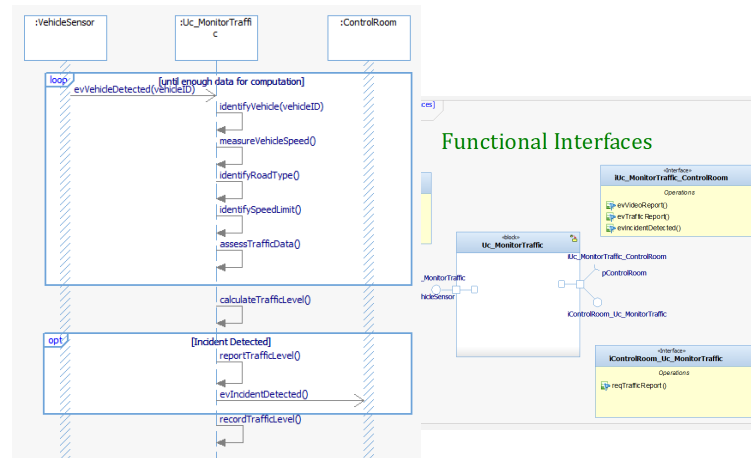
# Publish Models to JAZZ



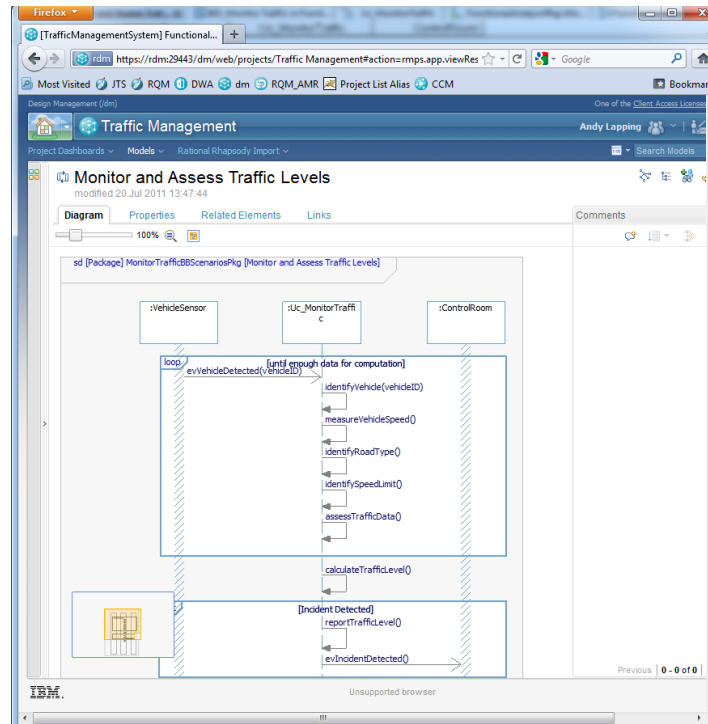
Scheduled Automatically



Manually

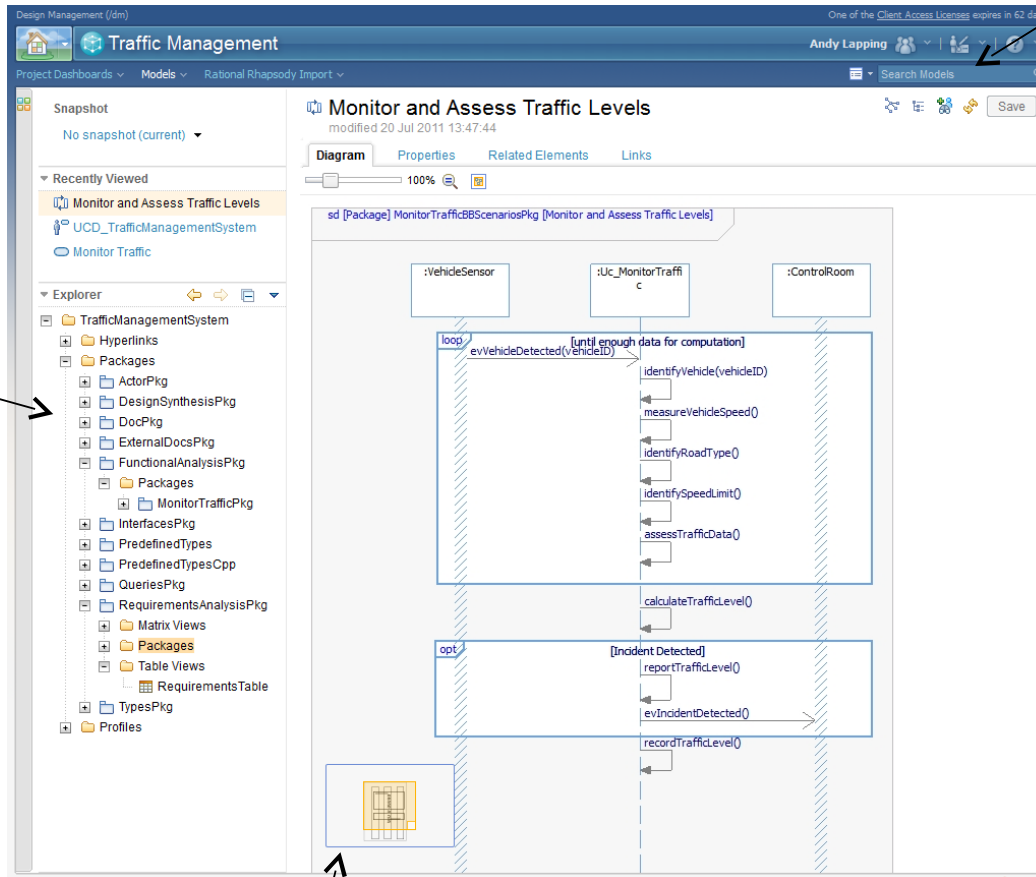


# View them using standard web browsers



# Browse and search models

Search Model Content



Model Browser

Birds Eye View



# Diagrams are 'live'

The screenshot displays a UML diagram titled "Functional Interfaces" within a package named "MonitorTrafficPkg". The diagram includes several elements:

- iVehicleSensor\_Uc\_MonitorTraffic**: An interface with an operation `evVehicleDetected(vehicleID:RhpString)`.
- iUc\_MonitorTraffic\_ControlRoom**: An interface with operations `evVideoReport()`, `evTrafficReport()`, and `evIncidentDetected()`.
- iControlRoom\_Uc\_MonitorTraffic**: An interface with an operation `reqTrafficReport()`.
- Uc\_MonitorTraffic**: A use case containing a **pVehicleSensor** port and a **Show View** button.
- iUc\_MonitorTraffic\_ControlRoom**: A use case containing a **pControlRoom** port and an **iControlRoom\_Uc\_MonitorTraffic** dependency.

On the right, the properties panel for **pVehicleSensor** is shown, modified on 20 Jul 2011 13:47:45. It has tabs for "Properties", "Related Elements", and "Links".

**General** tab:

- Name: pVehicleSensor
- Description: (empty)
- Stereotypes: SysML::PortsAndFlows::standardPort (Stereotype)
- Defined In: FunctionalAnalysisPkg::MonitorTrafficPkg::Uc\_MonitorTraffic

**Advanced** tab:

- Show empty values:

Property	Value
<b>Advanced Properties</b>	
Id	GUID c36fc479-32c1-4bf7-83be-1b81e2dd1847
Requirement Tracability Handle	0
Save Unit	false
Label	pVehicleSensor
Full-Path Name	FunctionalAnalysisPkg::MonitorTrafficPkg::Uc_MonitorTraffic::pVehicleSensor
Metaclass	Port
User Defined Metaclass	StandardPort
Persist As Generated	false
Reference	false
Multiplicity	1
Static	false
Layout Positions	0
Reversed	false
Behavioral	true

Navigate from an element on a diagram



# Link Model Elements

- Make links from model elements to:
  - ▶ Doors Requirements
  - ▶ RTC Work Items
  - ▶ External web pages
- Use customizable link types

## IBD\_Detect Threat

modified Aug 23, 2011 8:52:43 PM

[Diagram](#) [Properties](#) [Related Elements](#) **Links**

Add: [External Web Page](#)

### Trace

 [87: Review Functional Interfaces for Detect Threat](#)

## Monitor Traffic

modified 20 Jul 2011 13:47:45

[Properties](#) [Related Elements](#) **Links**

Add: [Internal Link](#)

### Requirement Tracked By

 [TM-SYS-11](#)

 [348: Perform a Review on the Main Use Case](#)

### Requirement Implemented By

 [TM-SYS-13](#)

### Incoming Links

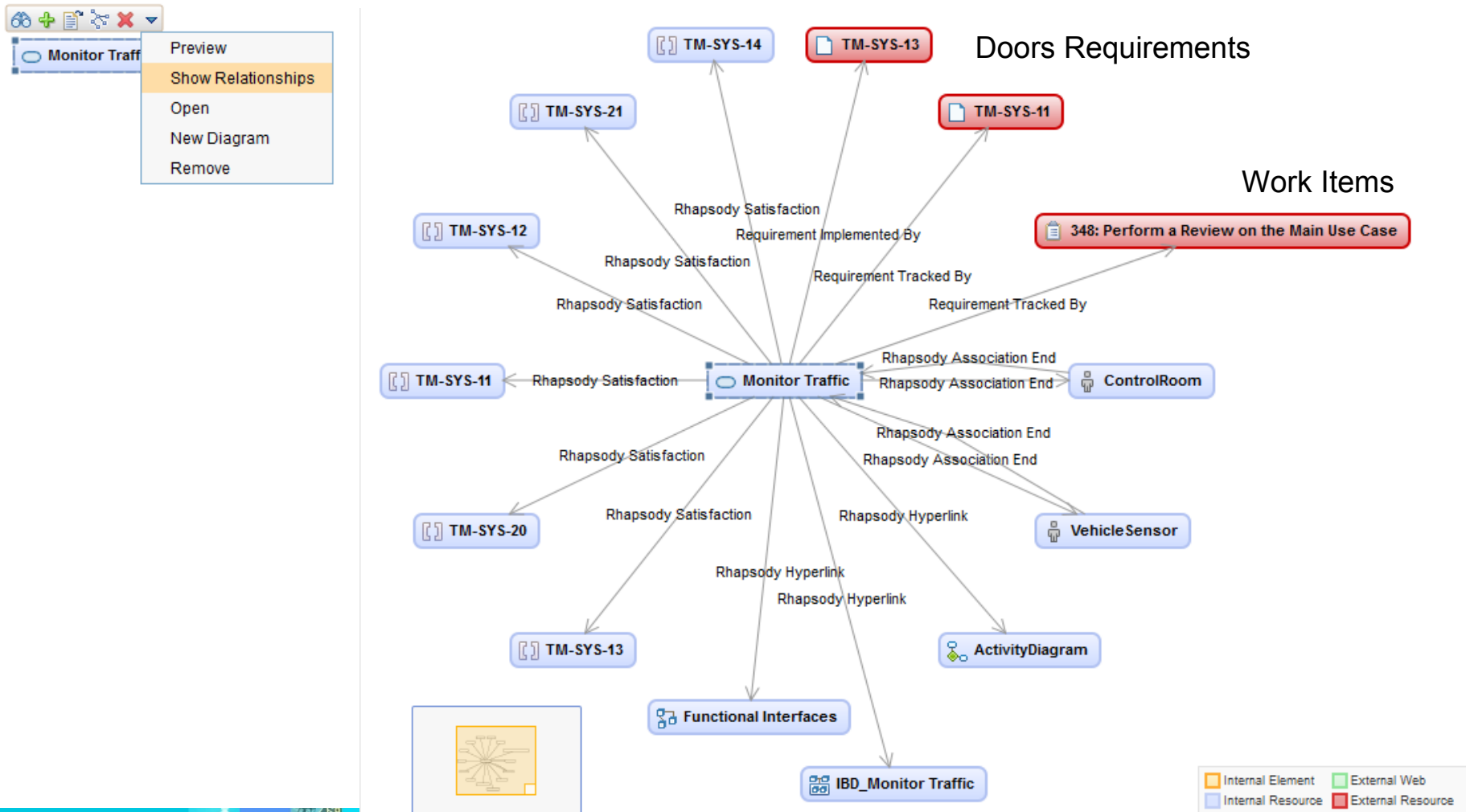
[Traffic Management System Requirements \(doors:8080\)](#)

[Traffic Management System \(rtc:9443\)](#)



# Explore connections on the fly

- Create dynamic views of relationships between model elements



# Same tools in rich client

- View and respond to comments
- View diagram markup

The screenshot displays the IBM Rational software rich client interface. The main window shows a diagram titled "ibd [Package] DetectThreatPkg [IBD\_Detect Threat]". The diagram consists of three components connected by lines:

- itsPilot:Pilot**: Represented by a pilot's helmet image. A red circle highlights the connection point labeled **pUc\_DetectThreat**.
- itsUc\_DetectThreat:Uc\_DetectThreat**: Represented by an image of a jet aircraft firing missiles. A connection point labeled **pPilot** is shown between the first and second components.
- itsIntercept:Intercept**: Represented by an image of a helicopter. A connection point labeled **pIntercept** is shown between the second and third components. A red circle highlights the connection point labeled **pUc\_DetectThreat** on the right side of the diagram.

The left sidebar contains a "Comments" panel for "IBD\_Detect Threat". It shows two comments:

- Pete** (2 hours ago): "We need to discuss the content of these Ports. A drawing was added."
- Dan** (2 hours ago): "I've added a Work Item for Steve to review them before our next meeting - it's linked to this diagram and I've added you as a subscriber so you should get notified when Steve is done with it."

Below the comments is a "Panel Diagram (1)" section dated "Aug 24, 2011". At the bottom left, the "Entire Model View" shows a tree structure with folders for "ADMS\_76", "Components", "Packages", and "Profiles".



# Build custom cross-server dashboards

The screenshot shows the 'Traffic Management' dashboard interface. At the top, there's a navigation bar with 'Traffic Management' and user information 'steve'. Below the navigation bar, there are tabs for 'Project Dashboards', 'Models', and 'Rational Rhapsody Import'. A search bar for 'Search Models' is also present. The main content area is titled 'Traffic Management' and contains several widgets:

- My Open Work Items (4):** A list of tasks including '342: Define permissions', '341: Define team members', '340: Define iterations', and '339: Define an iteration plan'.
- Recent Comments (4) Past Week:** A list of comments from 'IBD\_Monitor Traffic' and 'Monitor Traffic' with timestamps like '45 minutes ago' and '2 days ago'.
- Most Comments (2) Past Week:** A list of 'IBD\_Monitor Traffic' and 'Monitor Traffic' comments.
- Rhapsody Tips Feed:** A feed of tips such as 'Merlins Cave is now Searchable' and 'New Tip - RPE and New Terms'.
- Reviews (9) My Reviews:** A list of reviews with titles like '10: Functional Analysis Review' and '11: Initial Use Case Review', along with dates and reviewer names like 'Andy Lapping'.
- Recent Links (6) Past Week:** A list of links to various resources, including 'Monitor Traffic' and 'BlkMonitorTraffic'.

RTC Work Items

RDM Data

External Feeds



# Produce cross-server reports using RPE

## Use Case Report on Design Manager Project: TrafficManagementSystem

### Use Case: Monitor Traffic

#### Comments

**Title:** No Description

**Created By:** andyl

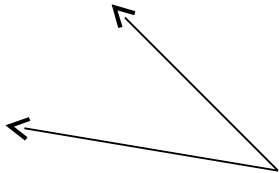
*This Use Case could use a Description*

#### DOORS Links

Link Type	Target Object	Object Text
Requirement Tracked By	TM-SYS-11	The system shall monitor traffic levels using video surveillance cameras.
Requirement Implemented By	TM-SYS-13	The system shall monitor traffic levels using loop sensors embedded in the roadway.

#### Linked Work Items

Link Type	URL
Traced to Work Item	link



'Live' Hyperlinks to DOORS/RTC

### Use Case: Alleviate Traffic

#### Comments

No Comments Found

#### DOORS Links

Link Type	Target Object	Object Text
Requirement Tracked By	TM-SYS-11	The system shall monitor traffic levels using video surveillance cameras.

#### Linked Work Items

No Work Items Found



Thank  
You

[www.ibm/software/rational](http://www.ibm/software/rational)

