qualiware®
Enabling positive change

GWE

Part III: Governance workflow elaboration

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2 Preface

The primary target for this documentation are superusers of QualiWare, consultants and technical consultants.

GovernanceWorkFlowEngine (GWE) is used for controlling the flow of diagrams/objects in the QualiWare both in backend (QLM) and frontend (QEP).

The document is divided into three parts (different documents):

Part I: Setup and use of the governance workflow in QLM and QEP
Part II: Walkthrough of the different templates related to the GWE
Part III: Elaboration of the different governance workflows

Part III goes through different workflows where availability is depended on license(s). Below is a distribution of licenses and their respective workflows.

Collaboration license:

- Change Management
- ChangeRequest
- Document (QDM)
- Problem

CAI

- Audit
- Corrective action
- Non conformance

Compliance license (to obtain this a CAI license is required):

- Complaint
- Contract
- Incident
- Accident
- Asset
- Compliance

For more on how the licenses are structure and what you get besides workflows please contact our sales department (Salg@Qualiware.dk/Sales@Qualiware.com).

Information about how to create a good governance model based on best practices and research, please contact our Center of Excellence (DKCenterofExcellence@QualiWare.com).

3 History

Document Revision	Date	Author	Changes
0.1	25-07-16	Loa Lind	First draft

4 Change Management Module

QualiWare's Change Management module consist of the Change Management and Change Request workflow.

Change Management workflow is used for controlling the lifecycle of an object going from development to approval (as shown above).

When using private workspaces, approved objects can either be automatically or manually promoted to the base configuration.

Per default it is enabled for the templates BusinessProcessDiagram, BusinessProcessNetwork and WorkFlowDiagram, but can be extended to be executed for any Template.

The Change Management workflow is also intended to be very flexible therefore you will see transitions (arrows) from most states (the boxes).

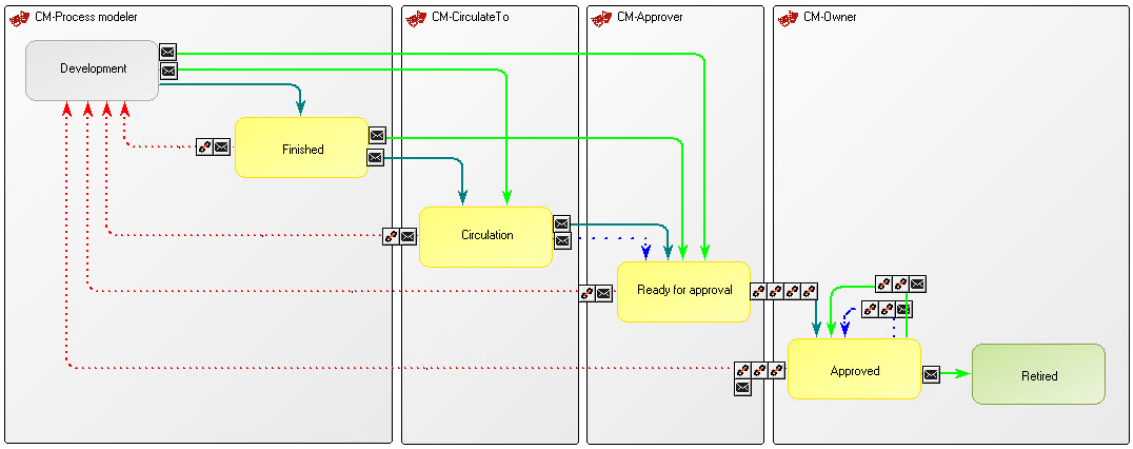
The "ChangeManagement.exp" is located in Models/Collaboration/Export Files and the export file consist of:

- GovernanceWorkFlow
  - Change Management

There is no need for further setup of the Change Management that importing the GovernanceWorkFlow, because it is part of the standard QualiWare Enterprise Publisher.exp.

4.1 Change Management

4.1.1 The governance workflow



State	Description
Development	The object is in development
Finished	The object is finished
Circulation	The object is circulated to all on CirculateTo list
Ready for approval	The object is ready for approval

Approved	The object is approved and frozen. From Approved the object can be promoted (this is only usable with the use of a private workspace). It will also publish the new diagram with promote.
Retired	The object is retired

4.1.1.1 Configure the workflow to work with private workspace

If you want to perform the governance in a development environment (a private workspace) then you have to change the Configuration Execution for the transition from Approved to Development to the Named Private workspace where you want to execute the Create New Revision action.

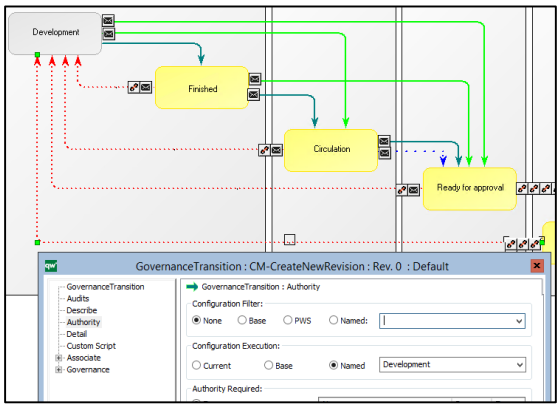
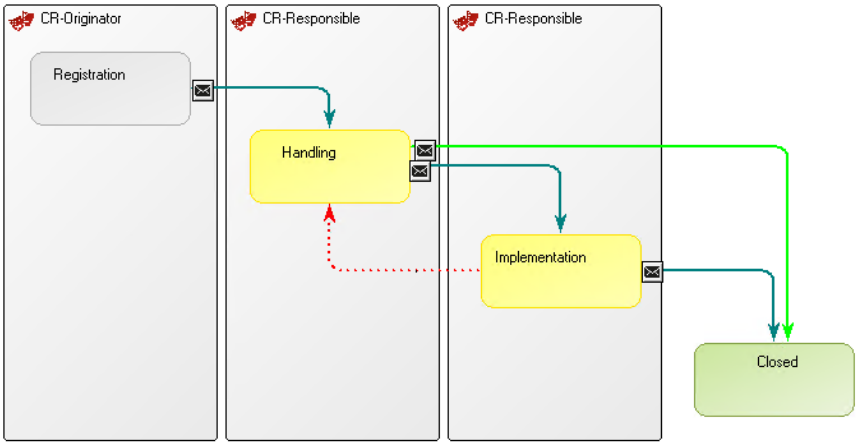


Figure 1: Change CM-CreateNewRevision action to be executed in Named configuration Development (private workspace)

5 Change Request

The Change Request workflow is used for managing changes associated with processes among other. It can be used to demonstrate your organization is continually improving the processes and documents. It provides you with an easy consistent way of involving all users in the improvement work.

5.1 The governance workflow



State	Description
Registration	The change request is registered.
Handling	The change request is sent to responsible. Email:
Implementation	The change request is implemented, and an email is sent to responsible (can be the same responsible as in handling). Email:
Closed	The change request is closed.

5.2 Web

The change request is portrayed in the form of two tabs one with the property sheet for the change request with all its data, and the other shows the governance history.

Figure 2: HTMLTemplateDefinition

The HTMLQueryResultView consist of a custom create button, which only means that the Create dialog will open immediately with the associated HTMLDialogLayout.

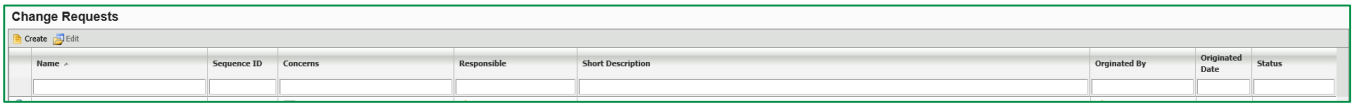


Figure 3: HTMLQueryResultView for change requests

5.3 Dialogs

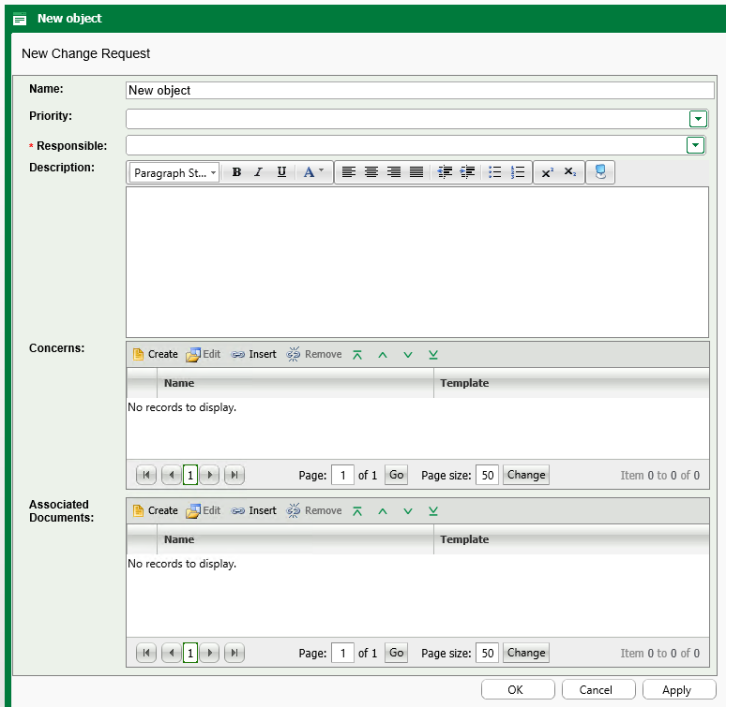


Figure 4: Dialog for ChangeRequest at creation time and in registration state

Creating a change request from the ChangeRequest HTMLQueryResultView the user will have to manually insert the relevant object in the concerns field.

If the Create Change Request button (GovernanceStateFeature) is used (see Figure 6) which ever object, the change request is created from the concerns will automatically be filled with this object. Figure 5 shows how this is setup in the GWE.

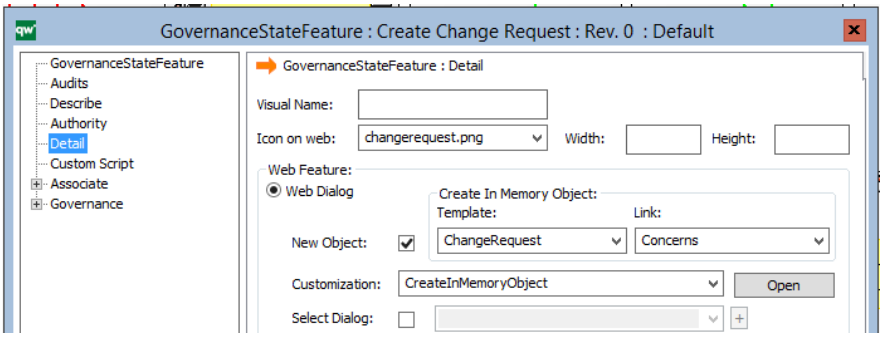


Figure 5: The standard create button for change request

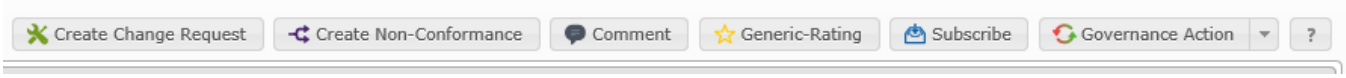


Figure 6: The buttons on the process in Approve state

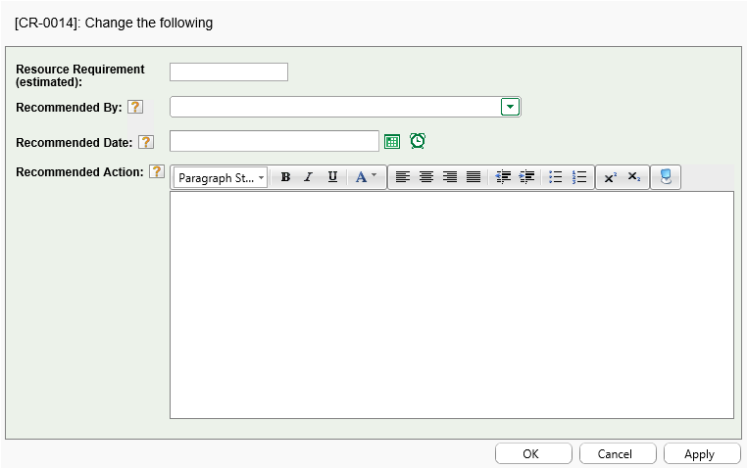


Figure 7: ChangeRequest in Handling state

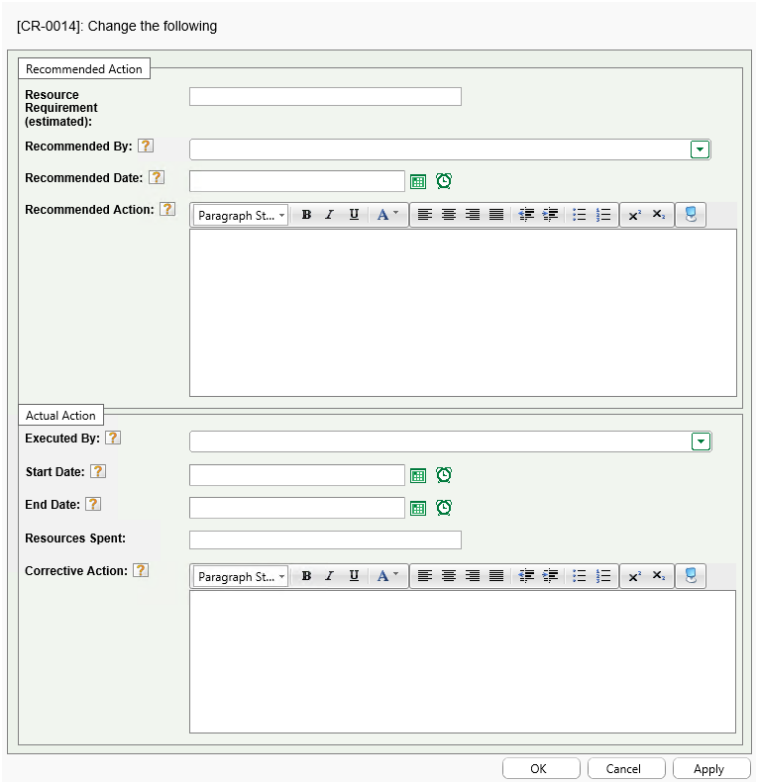


Figure 8:ChangeReqst in Implementation state

6 Document Management (QDM) Module

The overall purpose of the QDM module is not to be a substitute to SharePoint, but an extension to govern QDM documents. The governance workflow is basically the Change Management workflow with a checkout state, and this is the only state where the object can be edited otherwise it is read-only – if setup correctly.

The "DocumentMangement (QDM).exp" is located in Models/Collaboration/Export Files and the export file consist of:

- GovernanceWorkFlow
  - Document Managment
- HTMLDialogLayout
  - ExDoc-Create
  - ExDoc-Edit
- HTMLQueryResultView
  - Documents
- HTMLTemplateDefinition
  - ExternalDocumentQDM

6.1 Preconditions

6.1.1 Setup in QEF console and Repository Administrator (RA)

You should create a local group in the QEF console called QDMAdmin (or any other name you find suited).

This is the QDM admin-group that makes it possible for all users in the group to always be able to edit the QDM object no matter which state it is in.

The QDMAdmin group should therefore have all permissions for your repository. This group can be the same as your other QLM administrators with supervisor permissions.

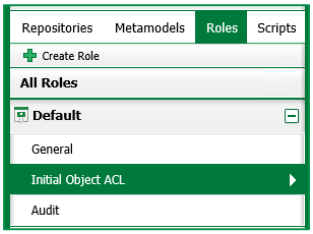
Figure 9: Supervisor permissions (in Advanced viewmode) in RA

The All_Users group just needs the standard permissions. Or all, but Modify Objects right.

Figure 10:The standard permissions for All Users group

For the roles associated with the repository you have to give on object level write permissions for the object. This is needed since we do not have write access on a repository level (in Permissions in the repository).

If you only use the Default Role you only have to change for that role.



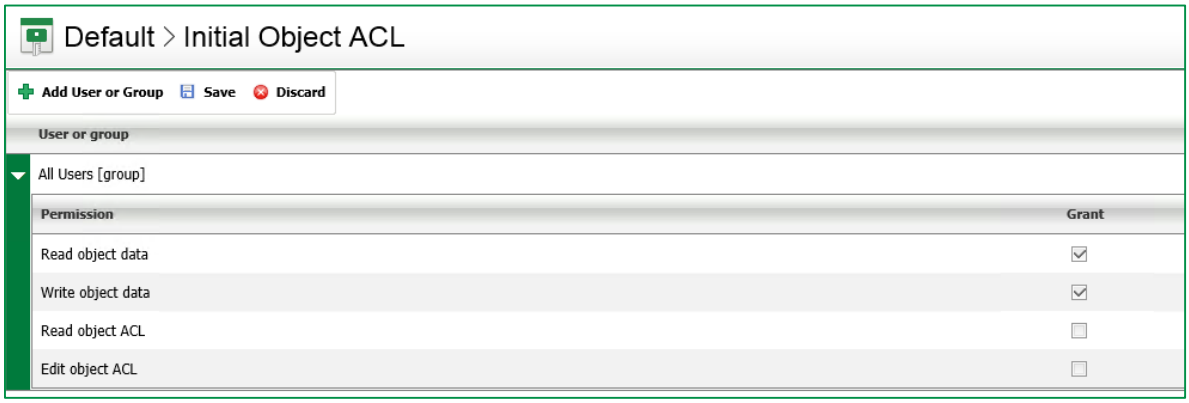


Figure 11: The Initial Object ACL All Users should have

6.1.2 Setup in QLM

If not already present the TemplateDefinition needs to be added to the HTMLPublisher, and the HTMLQueryResultView has to be added to the HTMLMegaMenu.

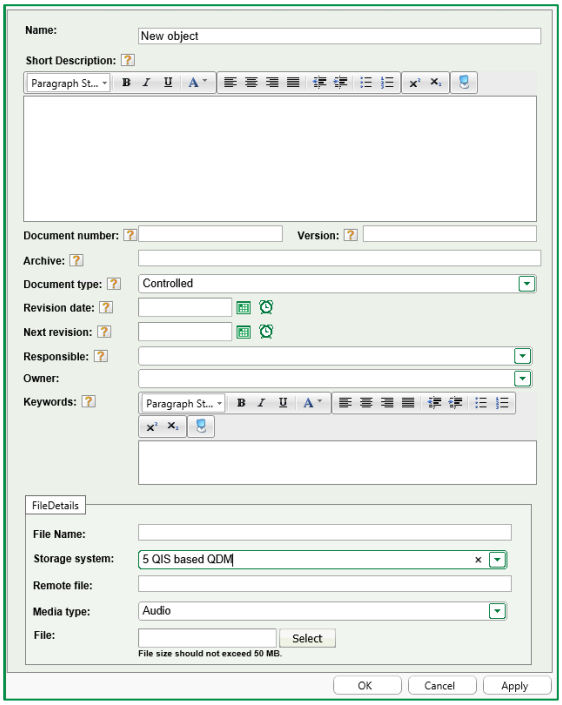


Figure 12: Dialog for ExternalDocument at creation time

6.2 The Governance workflow

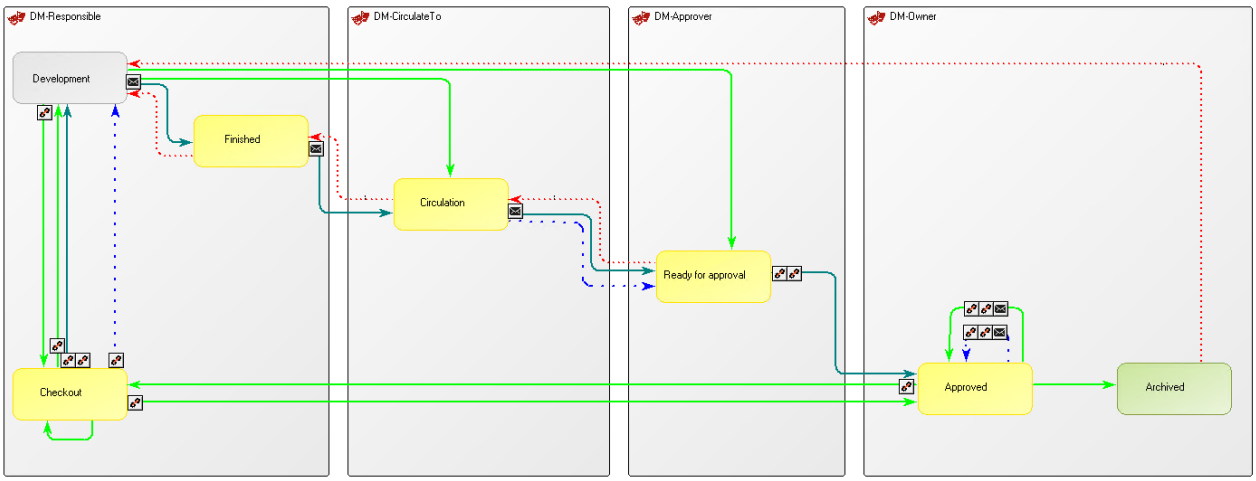


Figure 13: Document Management GovernanceWorkflow

The Apply condition for the GovernanceWorkFlow is not the standard *Generic-UseTemplateList*.

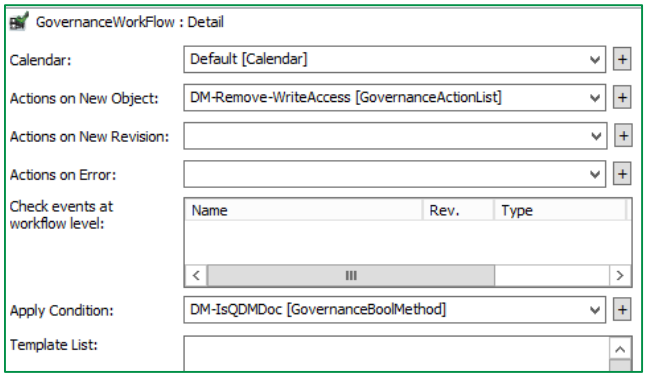


Figure 14: The Detail tab on the GovernanceWorkFlow

The condition checks for FileOrigin is "5 QIS based QDM" and Template is ExternalDocument, as shown below in the GovernanceBoolMethod:

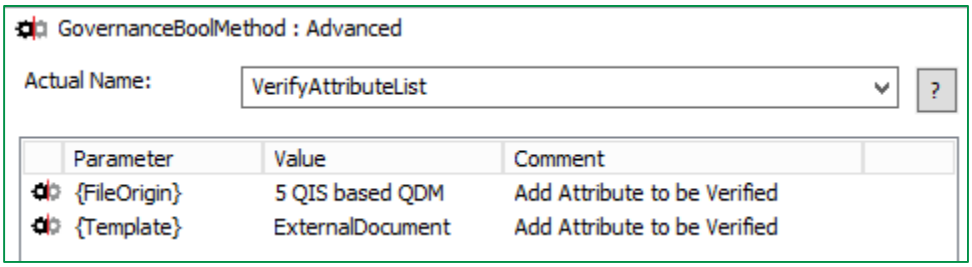


Figure 15: GovernanceBoolMethod that defines the QDM document to be registered by the GWE

When the ExternalDocument is registered by the GWE it has three initial actions:

1. It updates the responsible to current user if no responsible is set.
    a. N.B. If the responsible is set then to change it the document needs to be checked out to make that change.
2. Next it updates participant list for the object.
    a. The participant list are the users who may do a transition on the object. Checkout transition is set to have authority Everyone.
3. Lastly the write access is updated to read-only.

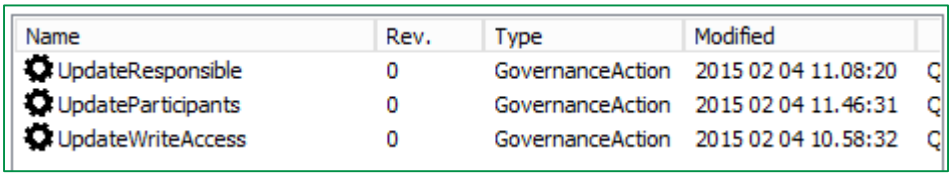


Figure 16: Initial GovernanceActions for the QDM document

The participants (GovernanceRole) throughout the GovernanceWorkFlow are as follows:

DocumentResponsible	HasResponsible OwnedBy Author* *The Author role is only applicable when the document is checked out. The check outed person is inserted into the Author attribute. When the document is checked in / cancelled this attribute is emptied and automatically set when the document is checked out again. This is used to give write access to the person checking out the document. The document responsible (HasResponsible) will automatically also get write access when the document is checked out.
CircualteTo	CirculateTo HasResponsible
DocumentApprover	HasResponsible OwnedBy ToBeApprovedBy
Owner	HasResponsible OwnedBy

6.2.1 Important transitions

6.2.1.1 Development to/from Checkout

When going from *Development* to *CheckOut* the write access is given to the person checking out the document (Author attribute) and the responsible of the document (HasResponsible attribute).

A new revision is created for each time the document is checked out.

If the user *Cancel*s the checkout, then the new revision is permanently deleted and the previous object is set to default. The reason for it being permanently deleted is in order to have the correct increment of revision number.

The user *Check in* the document, and a log entry is appended to the *HistoryOfChange* attribute.

If a message is written in the *DescriptionOfChanges* attribute; then this message is also appended. See the example below.

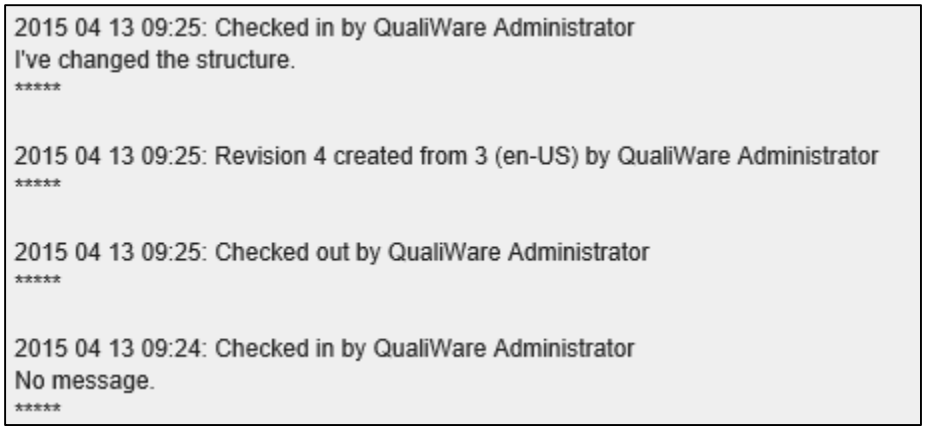


Figure 17: HistoryOfChanges

6.2.1.2 Development to Circulation

Going from *Development* to *Circulation* a message will be send to all on the circulation list (*CirculateTo* attribute). Everyone on the circulation list will be able to send the document to *Ready for approval* or back to *Finished*.

6.2.1.3 Ready for approval to Approved

Going from *Ready for approval* to *Approved* an approval message will be appended to the history of changes.

Figure 18: HistoryOfChanges automatic approval message

6.2.1.4 Approved to/from Checkout

This does the same as in the transition from *Development* to *Checkout*, except when you check in the document it has to go through the whole governance workflow again to be approved.

6.2.1.5 Promote

If a private workspace is used with the GovernanceWorkFlow; it can manually be promoted when it is approved or automatically promoted if the ValidFrom date attribute is set.

7 CAI Management Module

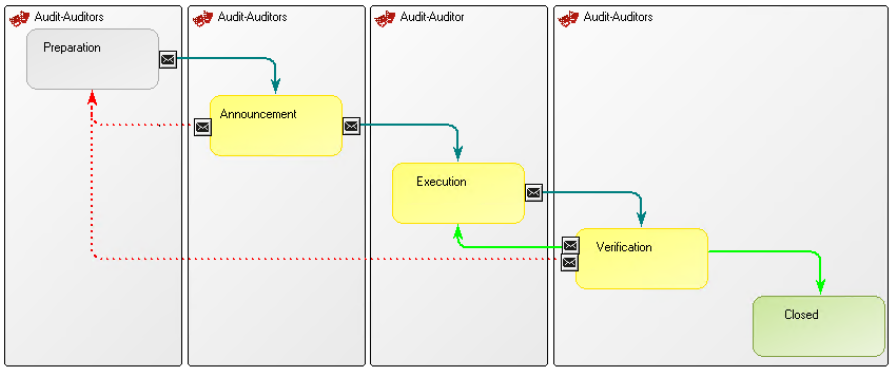
The Audit module contains the handling of quality audits, corrective actions and non-conformances.

The "CAIManagment.exp" export file consist of:

- GovernanceWorkFlow
  - Audit Management
  - CorrectiveAction Managment
  - NonConformance Management
- HTMLDialogLayout
  - Audit-Creation
  - Audit-Preparation
  - Audit-Verification
  - Audit-Execution
  - CA-Creation
  - CA-Registration
  - CA-Handling
  - CA-Implementation
  - NC-Creation
  - NC-Registration
  - NC-Handling
  - NC-Verification
  - NC-Implementation
- HTMLQueryResultView
  - Audits
  - Corrective Actions
  - Non Conformances
- HTMLTemplateDefinition
  - QualityAudit
  - CorrectiveAction
  - NonConformance

7.1 Quality Audit

7.1.1 The governance workflow



State	Description

Preparation	The audit is prepared.
Announcement	An email is sent to lead auditor and auditors
Execution	The audit is executed, and an email is sent to lead auditor
Verification	The audit is verified, and an email is sent to lead auditor
Closed	The audit is closed

7.1.2 Web

The quality audit is portrayed in the form of two tabs one with the propertysheet for the quality audit with all its data, and the other shows the governance history.

Figure 19: HTMLTemplateDefinition for

The HTMLQueryResultView consist of a custom create button, which only means that the Create dialog will open immediately.

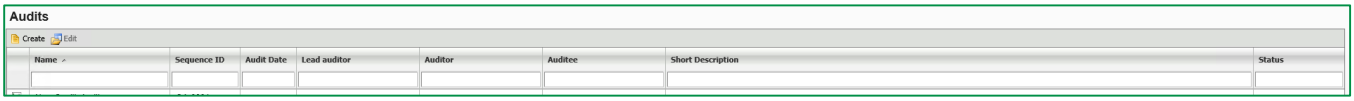


Figure 20: The HTMLQueryResultView for quality audits

7.1.3 Dialogs

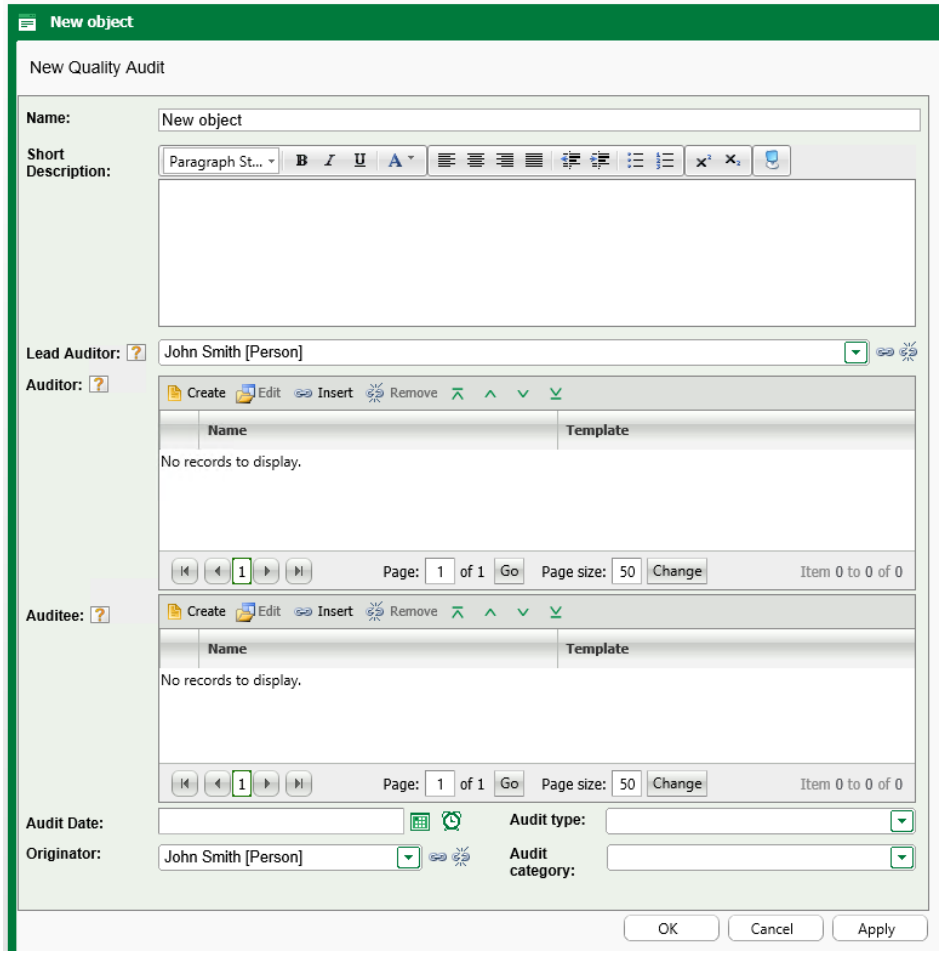


Figure 21: Quality audit at creation time

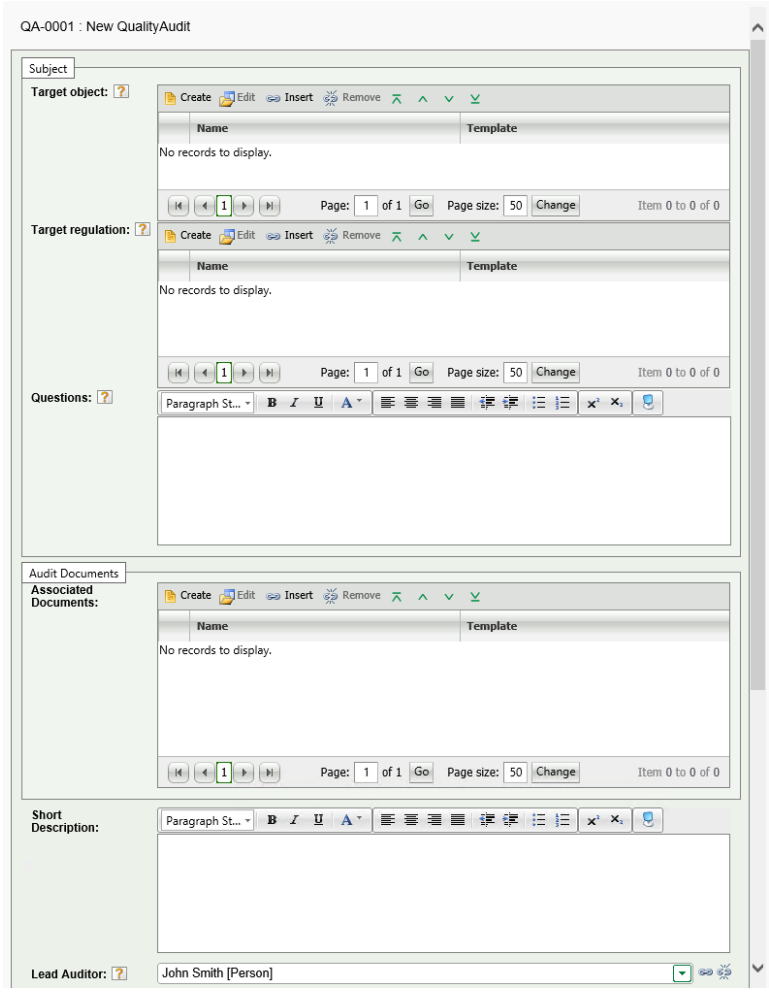


Figure 22: Quality audit in preparation

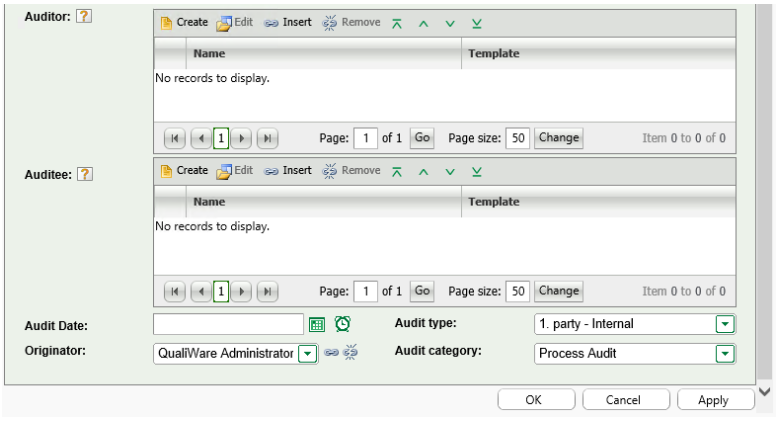


Figure 23:Quality audit in preparation continued

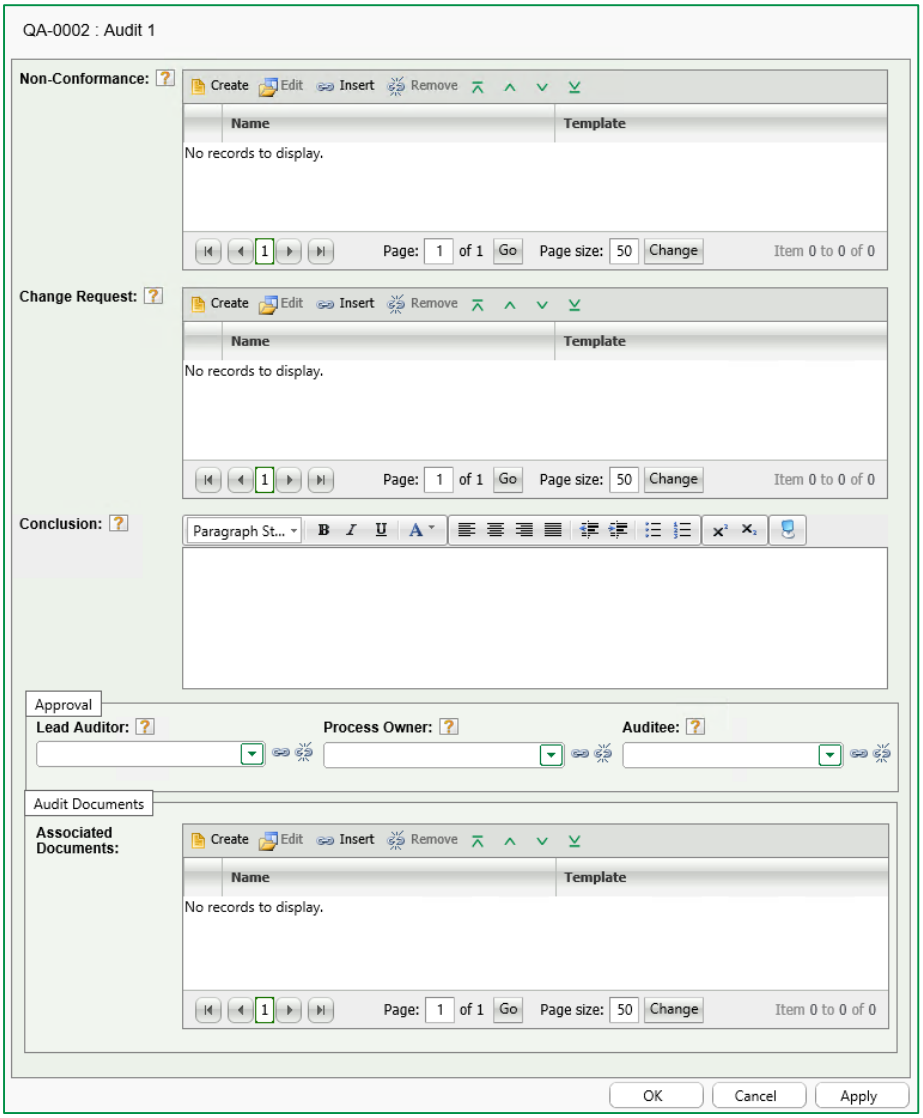


Figure 24: QualityAudit in execution state

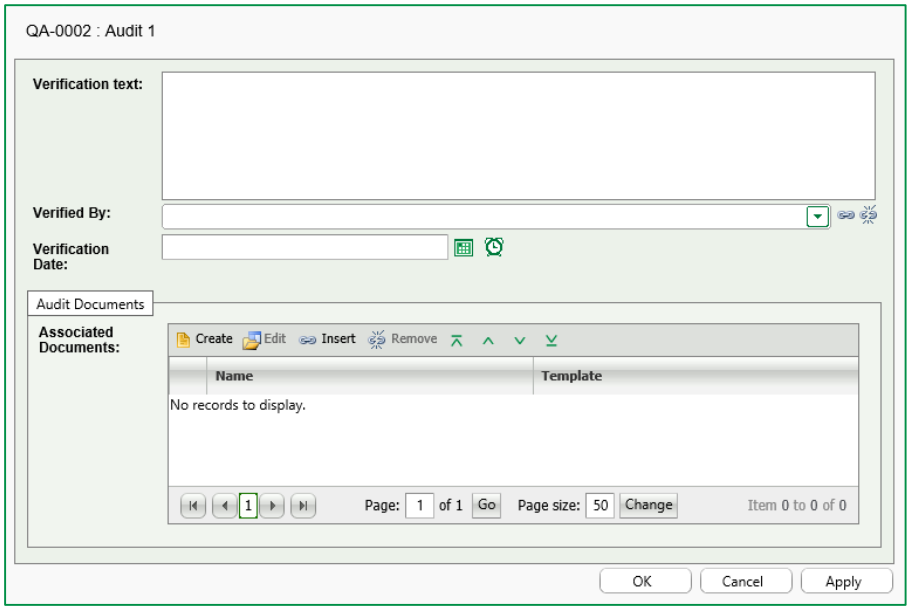
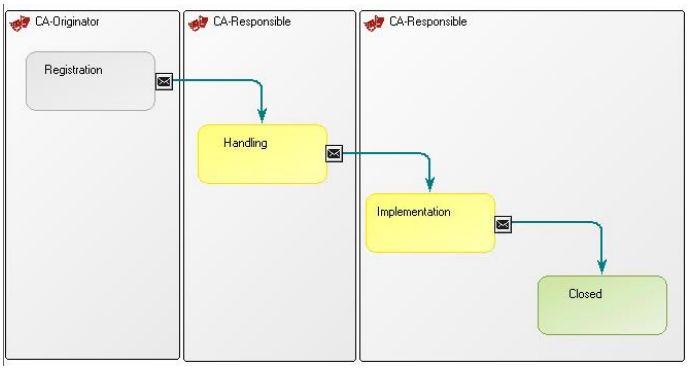


Figure 25: QualityAudit in verification state

7.2 Corrective Action

7.2.1 The governance workflow



State	Description
Registration	The corrective action is registered.
Handling	It goes into handling and an notification is sent to the responsible
Implementation	The corrective action is implemented, and an email is again sent to the responsible (it can be a different person in each state)
Closed	The corrective action is closed

7.2.2 Web

The corrective action is portrayed in the form of two tabs one with the propertysheet for the corrective action with all its data, and the other shows the governance history.

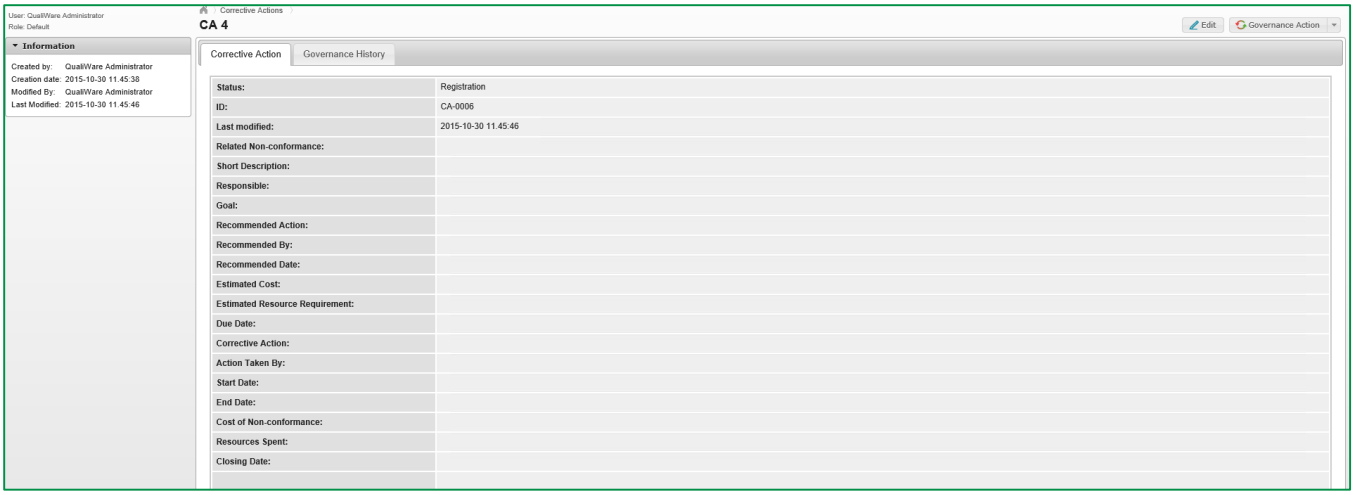


Figure 26: HTMLTemplateDefinition CorrectiveAction

The HTMLQueryResultView consist of a custom create button, which only means that the Create dialog will open immediately.

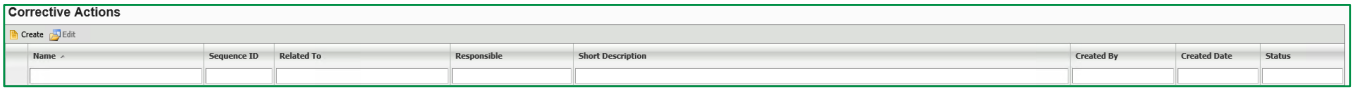


Figure 27:HTMLQueryResultView CorrectiveAction

7.2.3 Dialogs

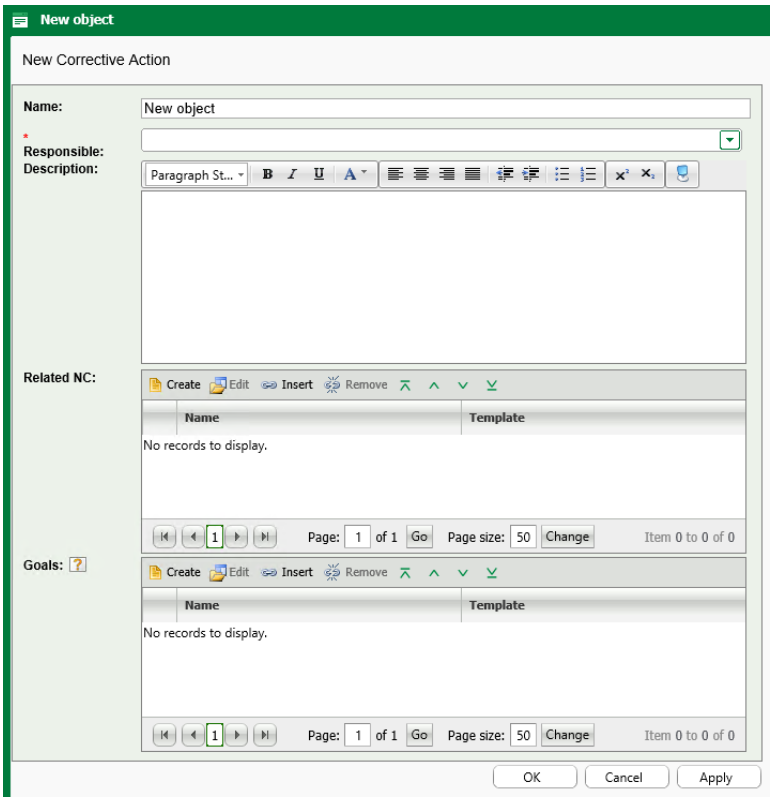


Figure 28: Corrective action at creation time and registration

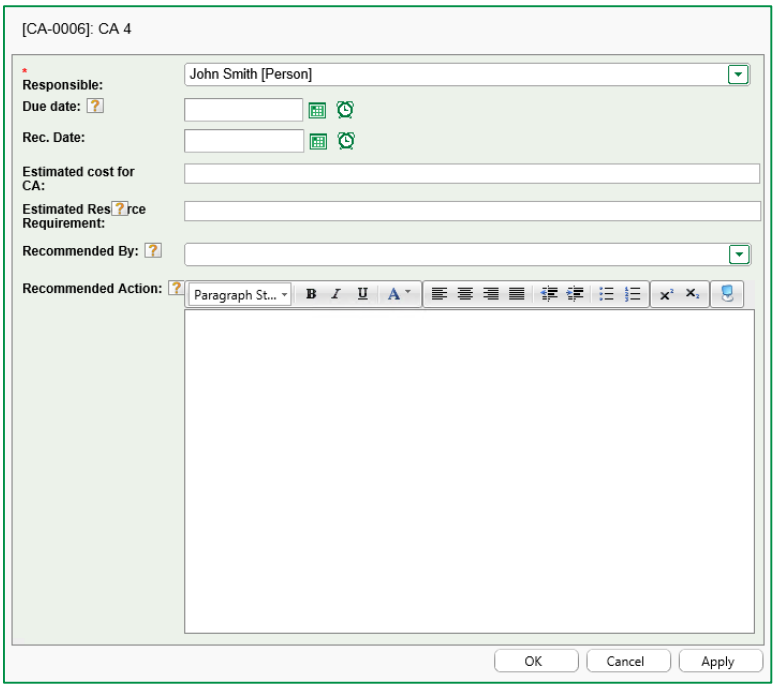


Figure 29: Corrective action dialog at handling state

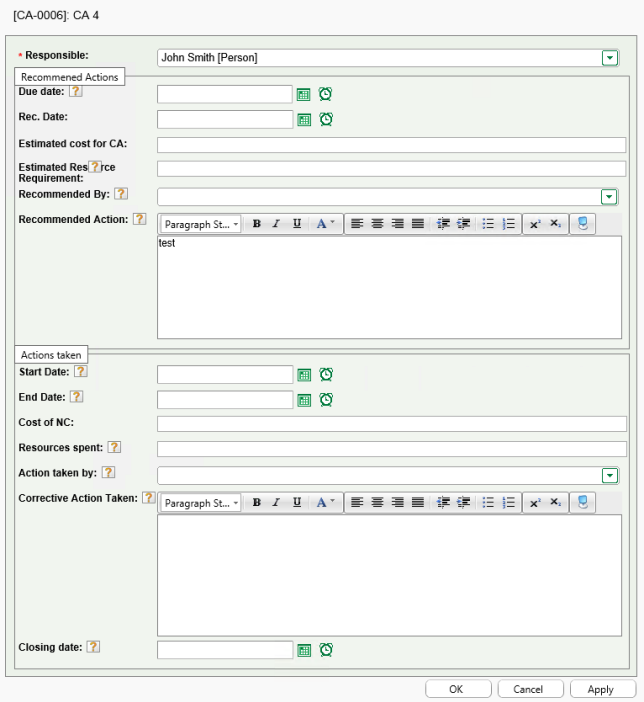
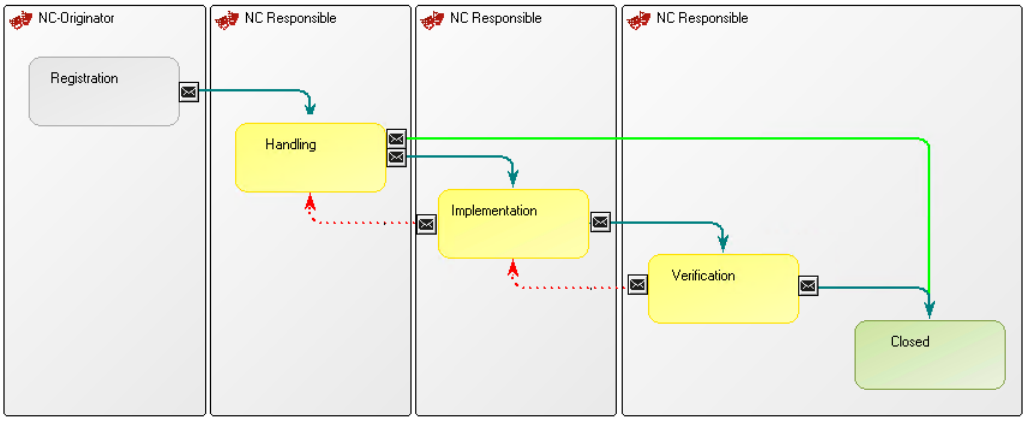


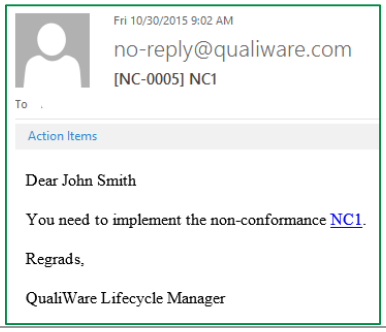
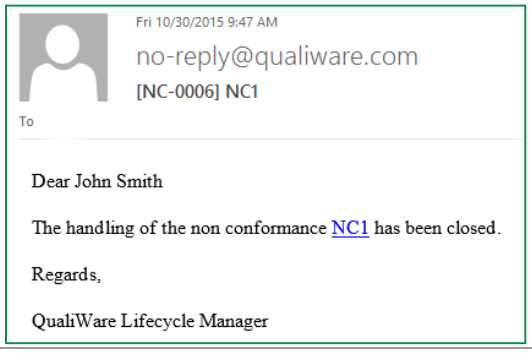
Figure 30: Corrective action dialog at implementation state

7.3 Non-Conformance

7.3.1 The governance workflow



State	Description
Registration	The non-conformance is registered.
Handling	The non-conformance is handled with an immediate action. Email sent to responsible:

<table>
<tr><td></td><td>
</td></tr>
<tr><td>Implementation</td><td>The corrective actions are implemented – either as a description or creating an actual corrective action object.
Email sent to responsible:
 
</td></tr>
<tr><td>Verification</td><td>Verify the implementation and handling of the non-conformance.
Email to responsible:
</td></tr>
<tr><td>Closed</td><td>The non-conformance is closed.
The register gets an email:
 
</td></tr>
</table>

7.3.2 Web

The non-conformance is portrayed in the form of three tabs one with the propertysheet for the non-conformance with all its data, overview of related corrective action objects and the governance history.

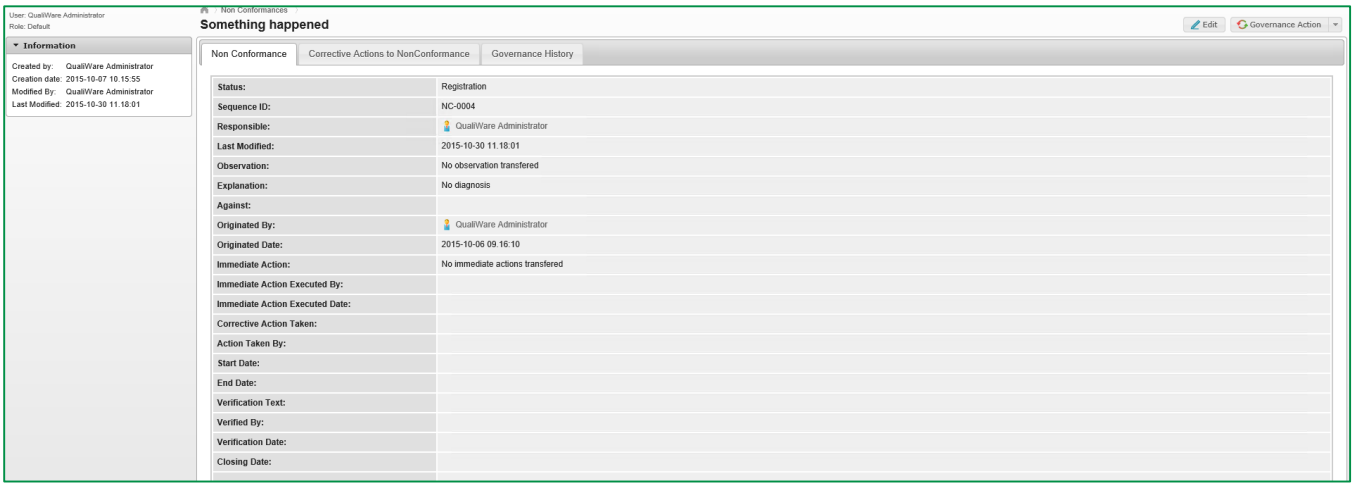


Figure 31:HTMLTemplateDefinition for Non-Conformance

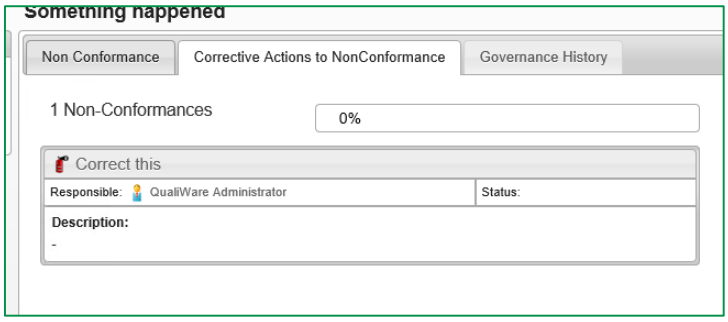


Figure 32: HTMLContentBlog for related corrective action objects

The HTMLQueryResultView consist of a custom create button, which only means that the Create dialog will open immediately.

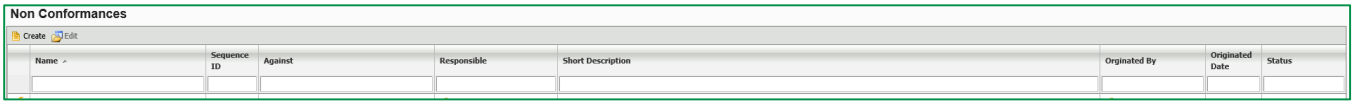


Figure 33: Non-Conformance HTMLQueryResultView

7.3.3 Dialogs

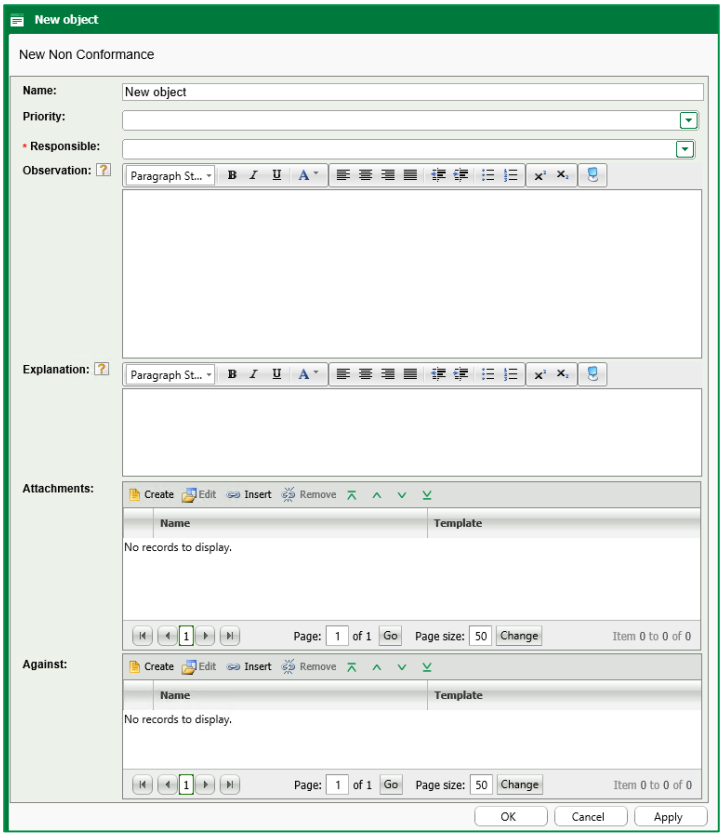


Figure 34: Dialog for creation of Non-Conformance and registration state

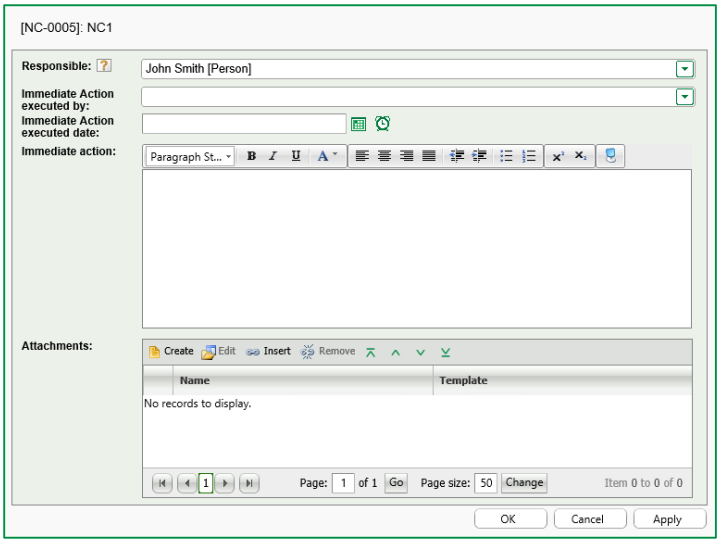


Figure 35:Non-Conformance in Handling state

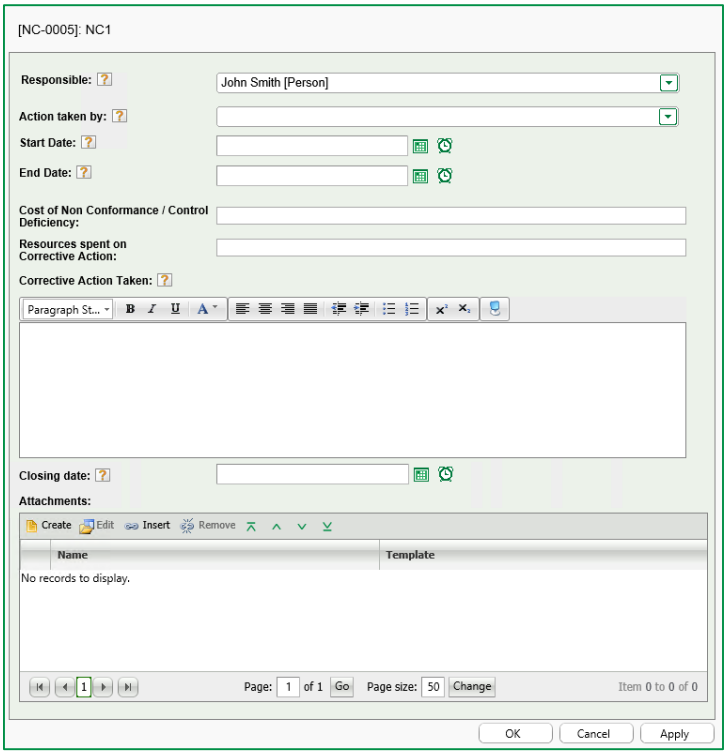


Figure 36: Non-Conformance in Implementation state

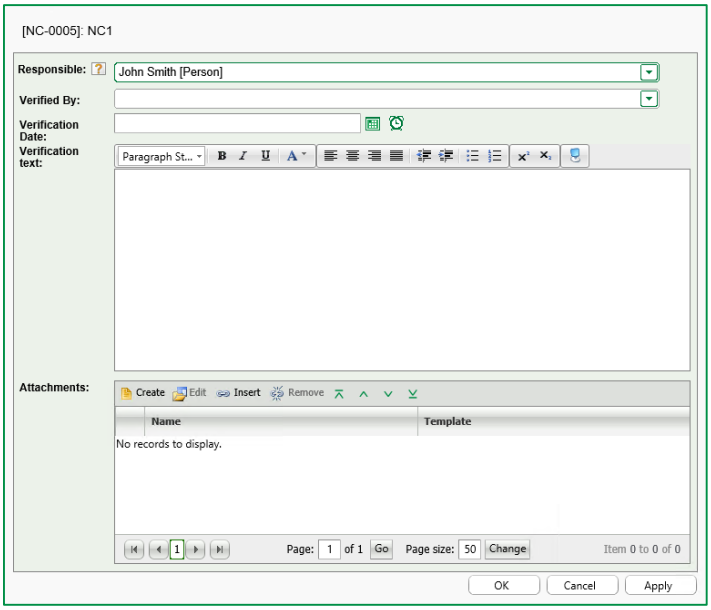


Figure 37: Non-Conformance in Verification state

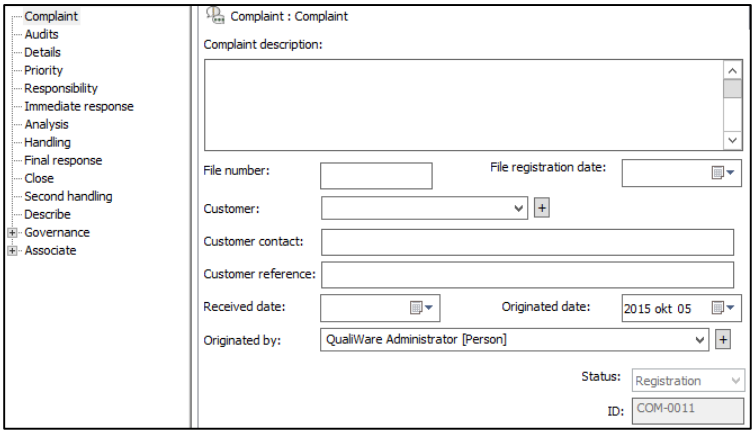
8 Complaint Module

The overall purpose of the complaint module is a way to govern the handling of a complaints.

The "ComplaintManagement.exp" export file consist of:

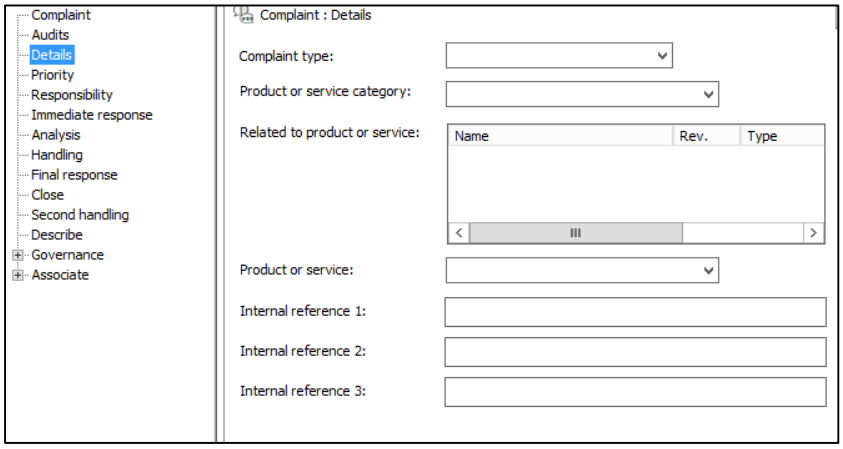
- GovernanceWorkFlow
  - Complaint Managment
- HTMLDialogLayout
  - COM-Creation
  - COM-Registration
  - COM-Acceptance
  - COM-Finished
  - COM-Handling
  - COM-SecondHandling
  - COM-Subtab-Announcement
  - COM-Subtab-AssociatedDocuments
  - COM-Subtab-Responsibility
  - COM-ExternalDocument-Creation
- HTMLQueryResultView
  - Complaints
  - COM-Documents
- HTMLTemplateDefinition
  - Complaint

8.1 Complaint metamodel



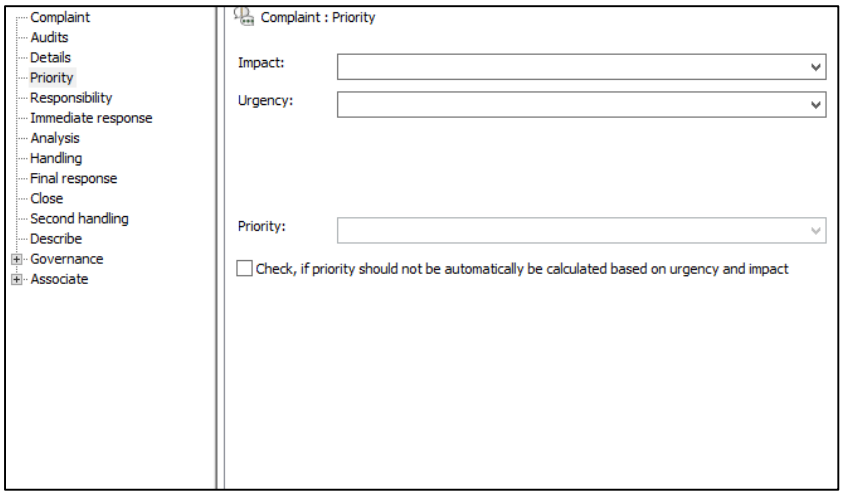
Name	Attribute	Description
Complaint description	ShortDescription	Describing the complaint
File number	FileNumber	A file number for the complaint
File Registration date:	FileRegistrationDate	The date for when the file is registered for the complaint

Customer	Customer	Which customer reported the complaint
Customer contact	CustomerContact	Contact information about the customer
Customer reference	CustomerReference	Reference to ExternalEntity or BusinessConnection
Received date	ReceivedDate	Date for the complaint was received from the customer
Originated by	OriginatedBy	Who registered the complaint
Originated date	OriginatedDate	When was the complaint registered
Status	Status	This is used for displaying the status in QRVs and legacy control of the status of the object
ID	SequenceID	Incremental ID count for each incident created



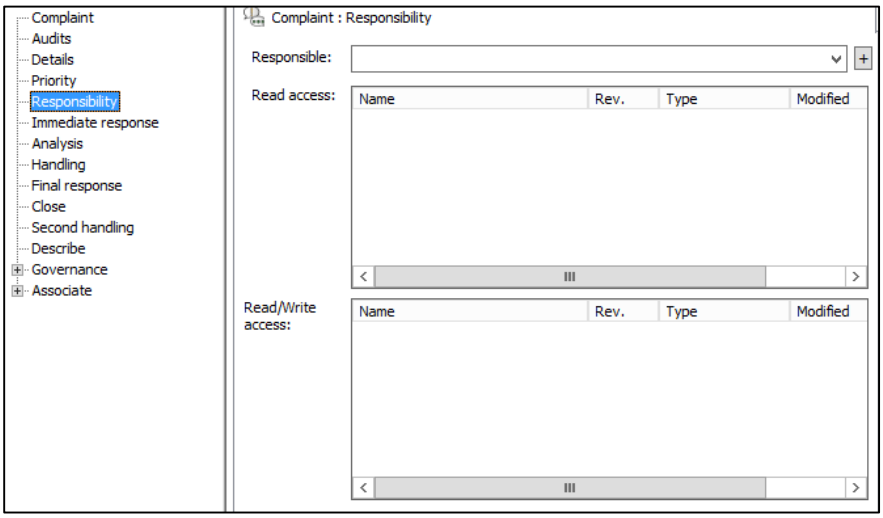
Name	Attribute	Description
Complaint type	Type	Type of the complaint. Predefined values: complaint, claim, customer feedback.
Product or service category	ProductOrServiceCategory	Category of the product/service – only generic predefined values

Related to product or service	RelatedToProductOrService	BusinessObject can be inserted here.
Product or service	ProductOrService	Related product/service has predefined values: hardware, software, service and training or other.
Internal reference 1	InternalReference1	
Internal reference 2	InternalReference2	
Internal reference 3	InternalReference3	

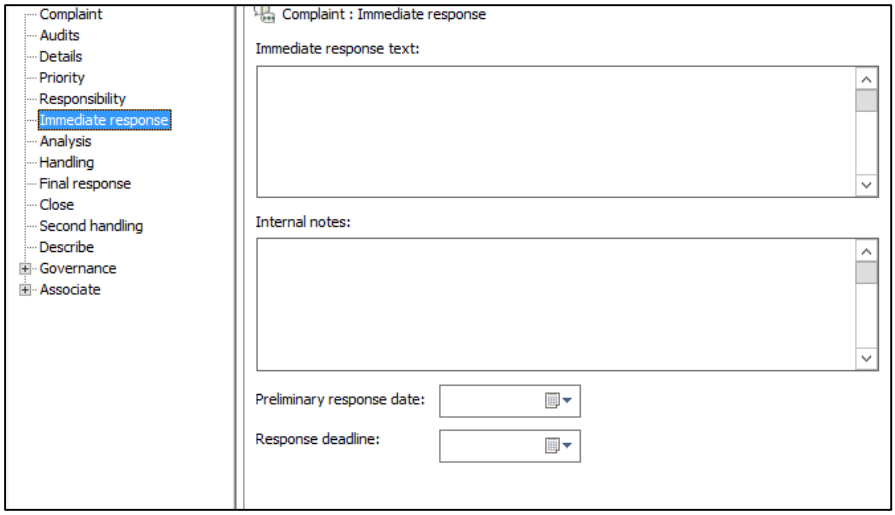


Name	Attribute	Description
Urgency	Urgency	How urgent/how quickly is action required for this incident
Impact	Impact	What is the impact of the incident, how many people are effected
Priority	Priority	The priority going from critical, high, medium, low and very low are a combination of urgency and impact Priority is set by adding impact and urgency, and then depending on the value the priority is set (see the table below

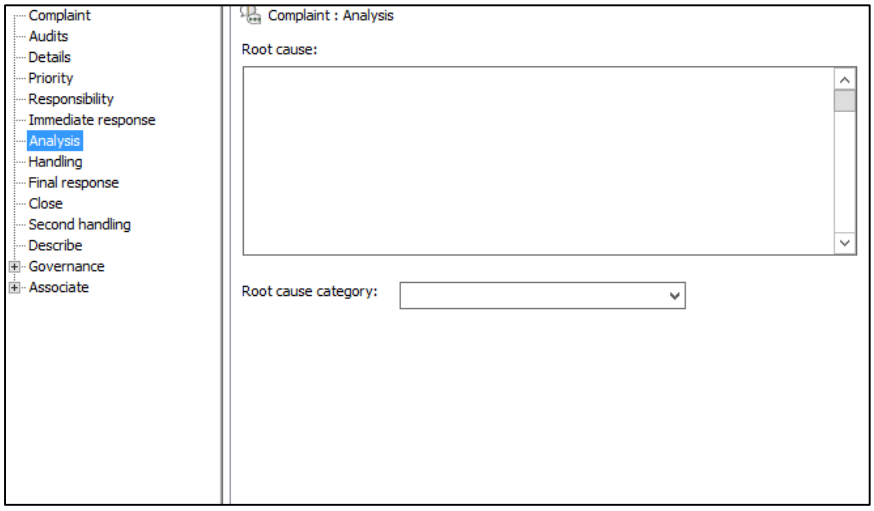
		showing all the possible values and its priority).
Check, if priority (...)	CheckboxForPriorityAutomation	If for a specific incident priority should not automatically be set based on urgency and impact this should be checked, and the dialog reloaded to make the priority field enabled



Name	Attribute	Description
Responsible	HasResponsible	Who is responsible for handling the complaint
Read access	ReadAccess	Who is allowed to read the complaint (if empty all can read)
Read/write access	WriteAccess	Who is allowed to read and write to the object (if empty all can write)

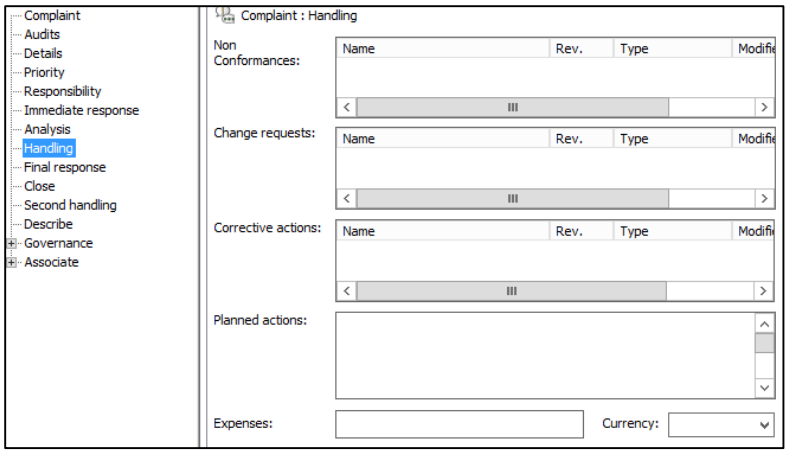


Name	Attribute	Description
Immediate response text	ImmediateResponseText	What is the immediate response to the complaint
Internal notes	InternalNotes	Internal notes about the complaint
Preliminary response date	PreliminaryResponseDate	The date for the immediate response
Response date	ResponseDeadline	Deadline for the actual response to the complaint

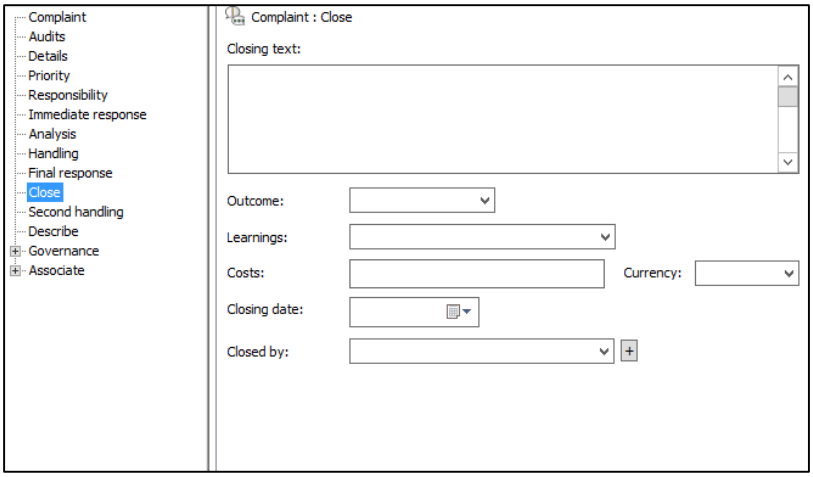


Name	Attribute	Description
Root cause	RootCause	What was the root cause of the complaint

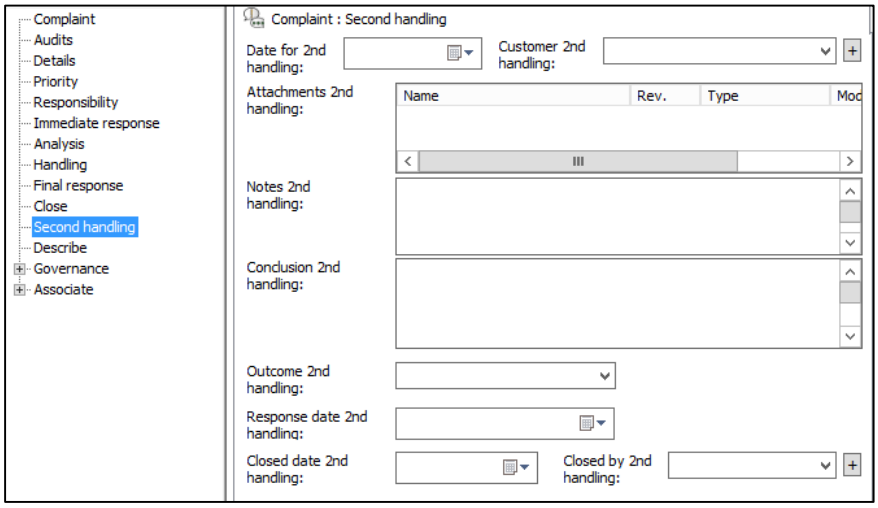
Root cause category	RootCauseCategory	Category for the root cause: Product application Tooling Documentation External transport Packing Handling error Internal transport Design Materiel Human Storing Communication failure Delay Training Other



Name	Attribute	Description
Non Conformances	RelatedNonConformance	Related non conformance(s) to the complaint
Change requests	RelatedChangeRequest	Related change request(s) to the complaint
Corrective actions	CorrectiveActions	Related corrective action(s) to the complaint
Planned actions	PlannedAction	Description of the planned action
Expenses	Expenses	Expenses for handling the complaint
Currency	ExpenseCurrency	Currency for the expenses

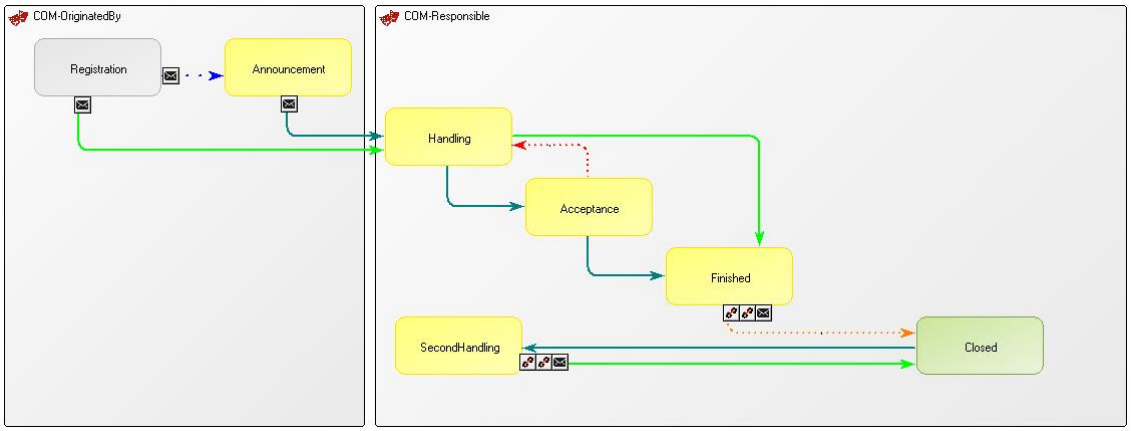


Name	Attribute	Description
Closing text	ClosingText	Closing comments
Outcome	Outcome	Outcome of the complaint predfined; accept, reject, pending
Learnings	Laernings	Learning from the complaint
Costs	Costs	The cost of the complaint
Currency	CostCurrency	Currency of the cost
Closing date	ClosingDate	When is the complaint closed
Closed by	ClosedBy	By whom is the complaint closed



Name	Attribute	Description
Date for 2nd handling	DateFor2ndHandling	When was the complaint opened again
Customer 2nd handling	Customer2ndHandling	Customer for 2nd handling
Attachments 2nd handling	Attachments2ndHandling	New attachments for handling the complaint
Notes 2nd handling	Comment2ndHandling	New notes/comments for handling the complaint again
Conclusion 2nd handling	Conclusion2ndHandling	Conclusion of the 2nd handling
Outcome 2nd handling	Outcome2ndHandling	Outcome of the 2nd handling
Response date 2nd handling	ResponseDate2ndHandling	When was a response given to the customer
Closing date 2nd handling	ClosedBy2ndHandling	Who closed it
Closed by 2nd handling	ClosedDate2ndHandling	When was it closed again

8.2 The governance workflow

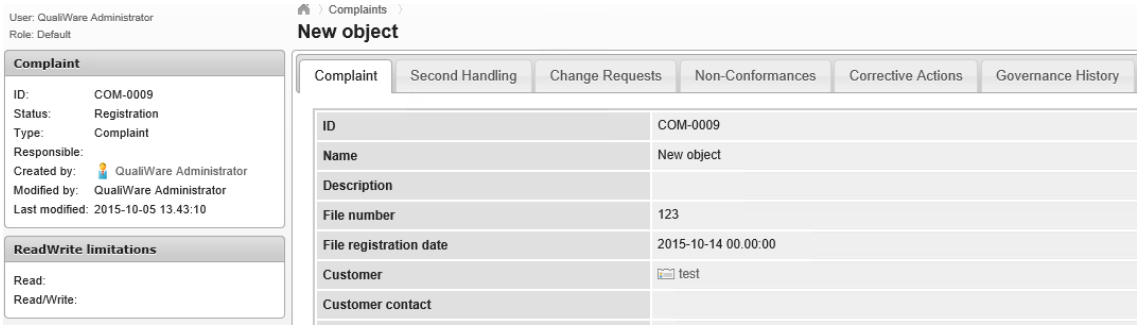


State	Description
Registered	The complaint gets registered
Announcement	If there is a need to send out an email to the originator of the complaint then the announcement

	is sent to the responsible (HasReponsible) of the complaint.
Handling	Handling of the complaint. Possible Change Requests, Non-Conformances and Corrective actions might be created here as actions.
Acceptance	Acceptance of the handling
Finished	Final remarks regarding the complaint.
Second handling	If needed the complaint can be opened again.

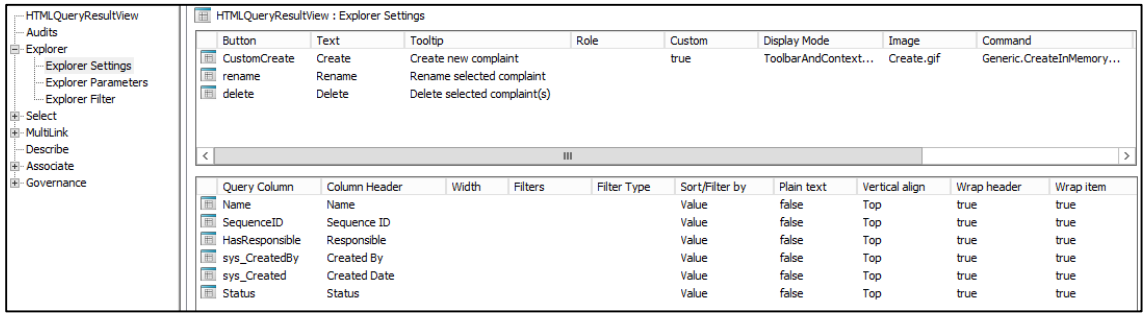
8.3 Web presentation of Complaints

8.3.1 The template definition



8.3.2 The QueryResultViews

The create button is a custom create that opens the HTMLDialogLayout with CreateInMemoryObject customization. The HTMLDialogLayout called "COM-Creation".

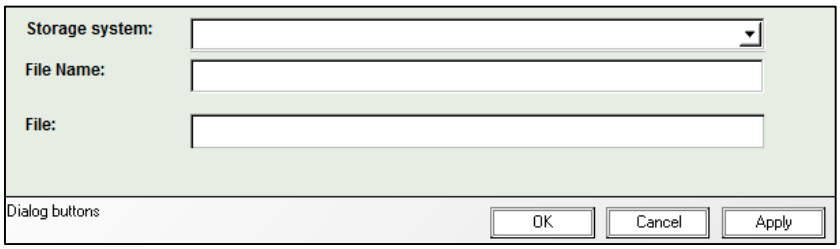


8.3.3 Possible ExternalDocument customization

Use Case

1. **You want the external document dialog to open immediately, when clicking the create button in the associated documents multilink.**
2. **And you want the name of the external document to be name of the attached document.**

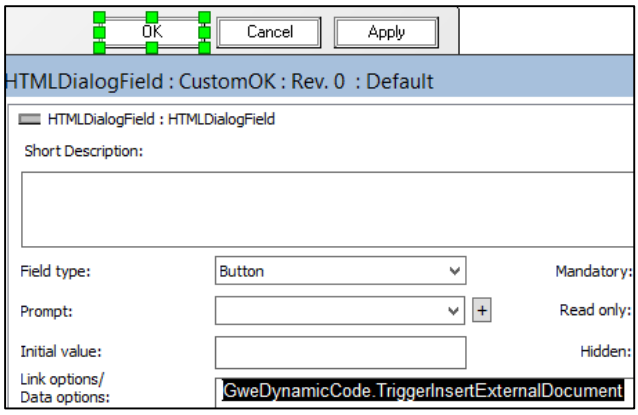
With the import of ComplaintManagement.exp you get a custom dialog for external document *'COM-ExternalDocument-Creation'*.



If storage system is "5 QIS based QDM" you will get the Select button, where you can browse your way to the document.

If storage system is "1 File System" you can write a path to the document – N.B. the path should begin with the servername and shared folder – otherwise others cannot download/see the document. E.g. \\QWServer\SharedDocuments\test.docx.

This dialog for ExternalDocument contains a custom OK button calling the following script:




```
/* On the ExternalDocument dialog a custom button is created */
```

```
<qlm:Button ID="customOK" Text="OK" AssociatedControlIDs=""
OnClick="GweDynamicCode.TriggerInsertExternalDocument"
runat="server" width="75px" />
```

In order to call the custom create dialog for ExternalDocument you have to change/add a custom create button in the HTMLQueryResultView called COM-Documents in MultiLink Settings.

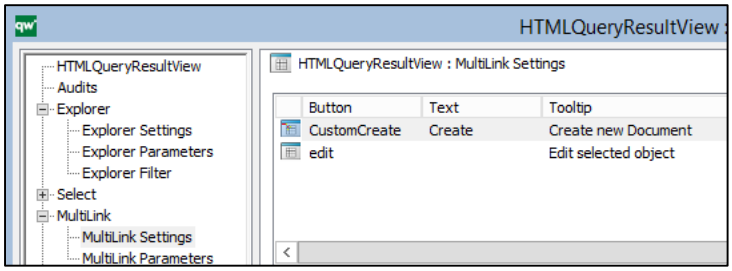


Figure 38: QRV for Documents with MultiLink custom create button

Copy-paste the following code into the Button area:

```
<item><Icon>QRVCustomButtonIcon</Icon><tooltip>Create new
Document</tooltip><Role></Role><custombutton>true</custombutton><id>Custo
mCreate</id><text>Create</text><displayMode>ToolbarAndContextMenu</display
Mode><image>Create.gif</image><command>Generic.CreateInMemoryObjectFromQ
RV</command><commandArg>ExternalDocument;ComplaintCustomCreate</comma
ndArg></item>
```

8.3.3.1 Manual change to the Complaint dialog

N.B. IF you GenerateHTML for any of the Complaint dialogs then you will have to add the following code again.

You can make the HTML field editable by calling this QCL code on the object:

CurrInst->DlgField("HTML", "en");

Inorder to call the custom create button for the documents multilink you will have to add the following code manually (the bold font).

```
/* Calling the QRV to handle multilink for custom create button in the
Complaint dialog*/
<div class="attribute listview">
        <qlm:MultiLink DataKey="AssociatedDocument"
queryname="COM-Documents"  readOnly="false"
```

```
AssociatedControlIDs="SubDocumentsId1" runat="server"
width="777px" height="535px">
        <Templates><Template name="ExternalDocument"
/></Templates>
        </qlm:MultiLink>
</div>
```

The subtab "COM-Subtab-AssociatedDocuments" contains a hidden textfield and edit-button with a specific name and a button that calls a script.

```
/* An invisible button and textfield is added to the Complaint dialog */
<div runat="server" ID="SubDocumentsId2" style="position:absolute;
left:90px; top:700px; width:300px; height:24px; "  data-
objid="bf0d8ff8-4a56-45d0-8b15-006c1b318a4a" data-prompt="" data-
mandatory="0" data-hidden="1" data-tooltip="" >
    <div class="attribute editline">
    <qlm:TextBox DataKey="CreateExternalDocumentId"
    readOnly="false" AssociatedControlIDs="SubDocumentsId2"
    runat="server" width="300px" /></div>
</div><div runat="server" ID="SubDocumentsId3"
style="position:absolute; left:430px; top:700px; width:156px;
height:20px; "  data-objid="bd66965c-6184-4604-b5b8-d6b3798e1f64"
data-prompt="" data-mandatory="0" data-hidden="1" data-tooltip=""
>
     <div class="attribute button">
     <qlm:Button ID="CreateExternalDocumentButton9310" Text=""
     AssociatedControlIDs="SubDocumentsId3"
     OnClick="GweDynamicCode.IncludeExternalDocument"
     runat="server" width="156px" /></div></div>
```

The subtab is only added to the Create and Registration dialog – if you want to add it to the other complaint dialogs (in other states) then you have to remember to generate the HTML again and manually change the MultiLink for associated documents again to contain queryname (as explained above).

8.4 The read/write access for complaint objects

The read/write access is changed by adding persons to the fields read access to narrow the people who can read the object (**N.B.** you should always have a responsible if narrowing the read access otherwise no one will be able to write to the object – *but* there is a condition (GovernanceBoolMethod) that will check that the responsible is not empty and then run the read/write update action).

The write access can be limited as well – people in the write access list will also be able to read the object. Therefore you do not have to add people both to read and write access list.

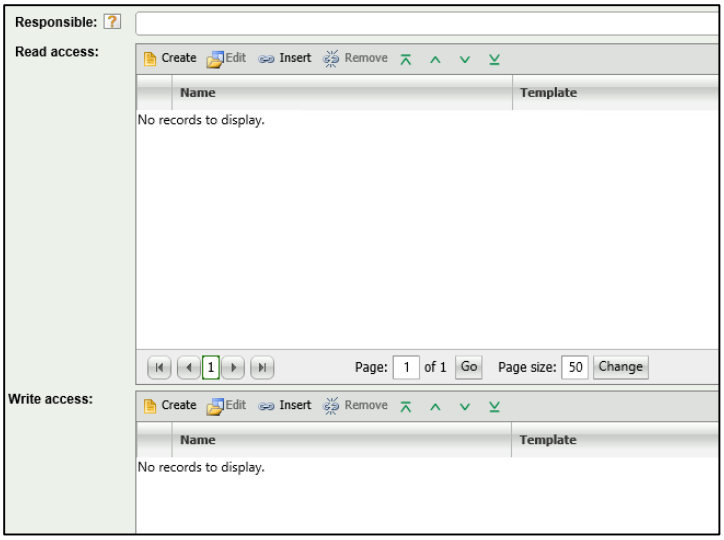


Figure 39: The read and write access multilinks on Complaint

8.4.1 Relevant C# method overview

```
/* Every time the object is changed the read/write ACLs are updated */
public static string UpdateReadWriteAccess(MessageBlock message)
```

```
/* Remove ACL permission for All_Users */
private static void RemoveACLForAll(ObjPid permission,
RepositoryObject obj)
```

```
/* Add ACL permission for All_Users */
private static void AddACL(ObjPid permission, RepositoryObject obj)
```

```
/* Finds the Person objects equivalent QEF user object */
private static IUser QefUserLogin(RepositoryObject item,
RepositoryObject obj)
```

```
/* Gets the list of persons on the WriteAccess list */
private static RepositoryObjectList
GetWriteAccesPersons(RepositoryObject obj)
```

```
/* Gets the list of persons on the ReadAccess list */
private static RepositoryObjectList
GetReadAccesPersons(RepositoryObject obj)
```

9 Incident Module

The overall purpose of the incident module is to be able to create incidents, and then having the possible to change the incident to a complaint, non conformance, change request or accident. This is due to the possibility for the end user to just register an incident and then the handler can afterwards "re-categorize" it.

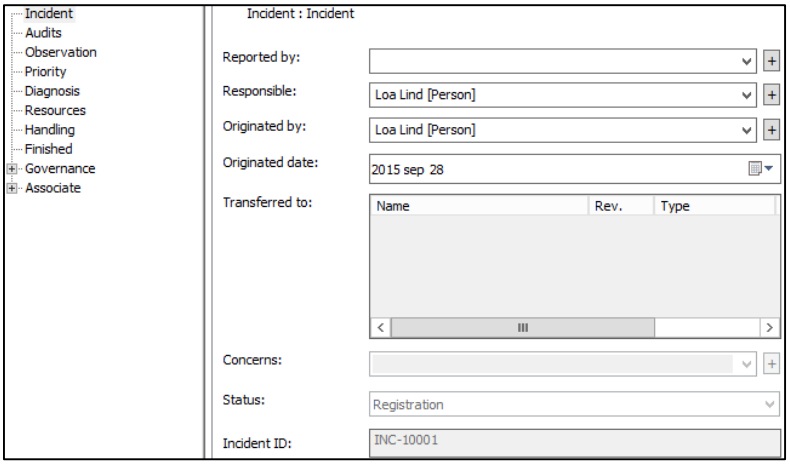
ITIL incident definition: "*An unplanned interruption to an IT Service or reduction in the quality of an IT service.*"[1]

The "IncidentManagement.exp" export file consist of:

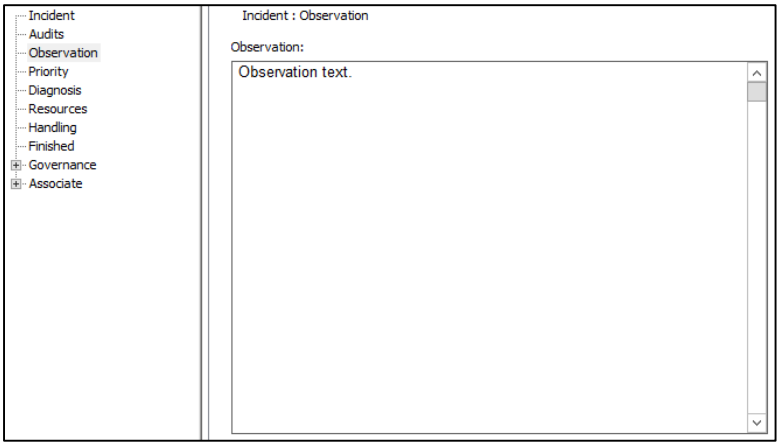
- GovernanceWorkFlow
  - Incident Managment
- HTMLDialogLayout
  - INC-Creation
  - INC-Registration
  - INC-Investigation
  - INC-Handling
  - INC-Finished
  - INC-Subtab-Attachments
  - INC-Subtab-Category
  - INC-Subtab-Handling-Diagnosis
  - INC-Subtab-Investigation-Actions
  - INC-Subtab-Resources
- HTMLQueryResultView
  - Incidents
- HTMLTemplateDefinition
  - Incident

9.1 The incident metamodel

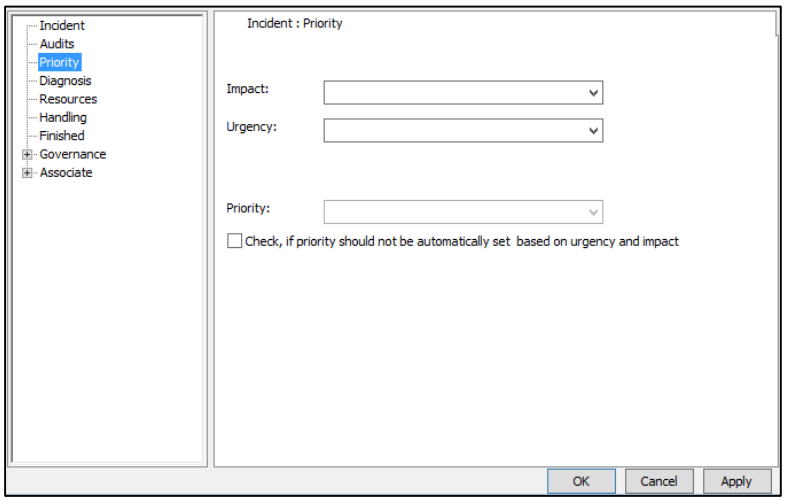
[1] https://en.wikipedia.org/wiki/Incident_management_(ITSM)



Name	Attribute	Description
Reported by	ReportedBy	Who reported the incident (BusinessConnection, Person or ExternalEntity)
Responsible	HasResponsible	Who is responsible for handling the incident
Originated by	OriginatedBy	Who registered the incident
Originated date	OriginatedDate	When was it registered
Transferred to	TransferredTo	If the incident is transferred to a different type (see chapter 9.2, page 51) the new object will be automaticcaly inserted here
Concerns	Concerns	If incident is created from e.g. a BusinessProcessNetwork the concerns field is used for the reference to the diagram
Status	Status	This is used for displaying the status in QRVs and legacy control of the status of the object
Incident ID	SequenceID	Incremental ID count for each incident created



Name	Attribute	Description
Observation	Observation	Description of the incident – what was observered.



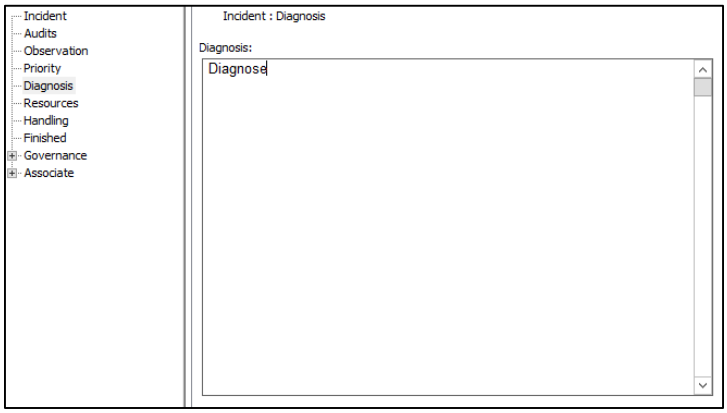
Name	Attribute	Description
Urgency	Urgency	How urgent/how quickly is action required for this incident
Impact	Impact	What is the impact of the incident, how many people are effected
Priority	Priority	The priority going from critical, high, medium, low and very low are a combination of urgency and impact

		Priority is set by adding impact and urgency, and then depending on the value the priority is set (see the table below showing all the possible values and its priority).
Check, if priority (...)	CheckboxForPriorityAutomation	If for a specific incident priority should not automatically be set based on urgency and impact this should be checked, and the dialog reloaded to make the priority field enabled

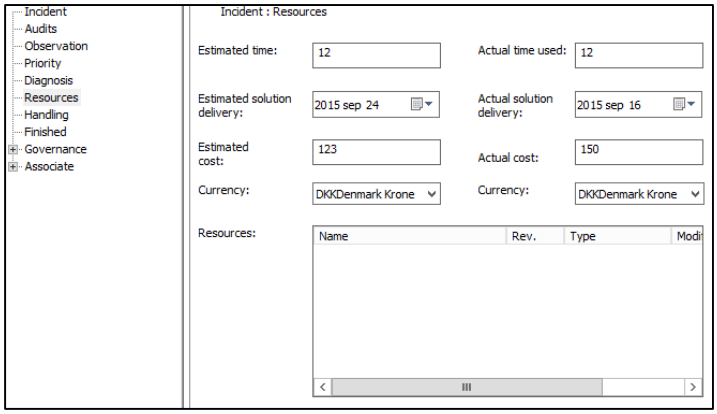
		Impact		
		H	M	N
Urgency	H	1	2	3
	M	2	3,4	4
	L	3	4	5

Priority Code	Description	Target Response Time	Target Resolution Time
1	Critical	Immediate	1 Hour
2	High	10 Minutes	4 Hours
3,4	Medium	1 Hour	8 Hours
4	Low	4 Hours	24 Hours
5	Very low	1 Day	1 Week

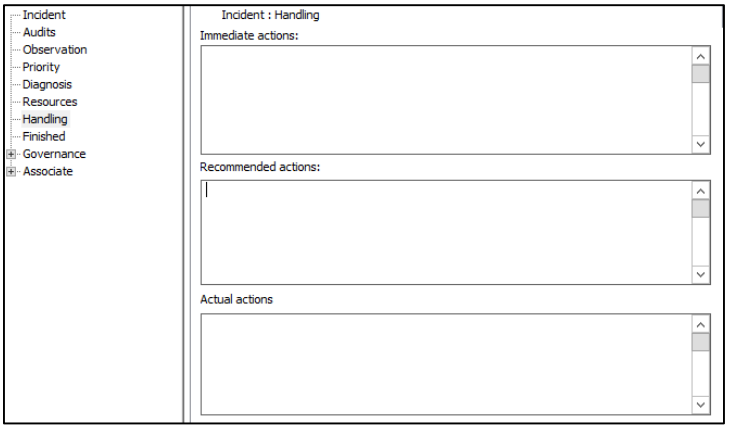
The table showing the "target response time" and "target resolution time" are values that should be part of each customer (BusinessConnection/ExternalEntity) due to it can have different values depending on who reports the incident.



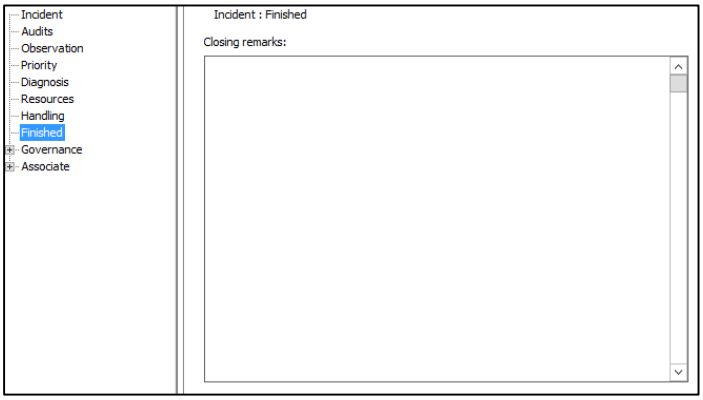
Name	Attribute	Description
Diagnosis	Diagnosis	The diagnosis of the incident, why did it happen. The initial step in handling the incident.



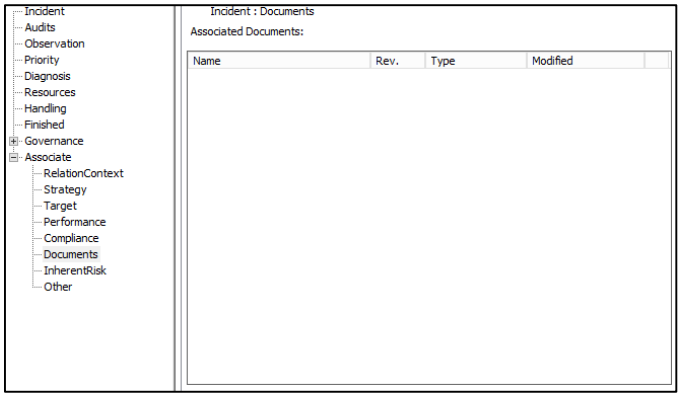
Name	Attribute	Description
Estimated time	EstimatedTime	How many hours is estimated to solve the incident
Estimated solution delivery	EstiamtedSolutionDelivery	When is the solution estimated to be delivered
Estimated cost	EstimatedCost	What is the estimate cost (hardware, upgrades etc.)
Currency	CurrencyEstimated	What is the currency of the cost
Actual time used	ActualTimeUsed	How many hours is actual used to solve the incident
Actual solution delivery	ActualSolutionDelivery	When was the solution actually delivered
Actual cost	ActualCost	What was the cost (hardware, upgrades etc.)
Currency	CurrencyActual	What was the currency of the cost
Resources	Resources	Resources used to solve the incident



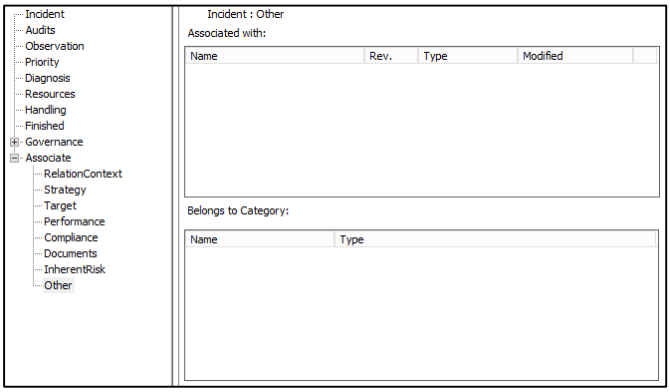
Name	Attribute	Description
Immediate actions	ImmediateActions	Description of the immediate action
Recommended actions	RecommenedActions	Description of the recommended action
Actual actions	ActualActions	Description of the actual actions to solve the incident



Name	Attribute	Description
Closing remarks	ClosingRemarks	If there are any closing remarks about the incident

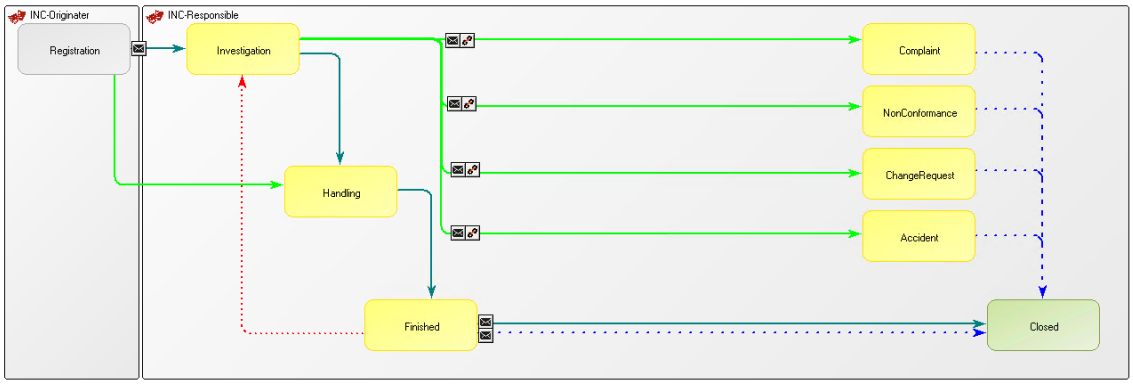


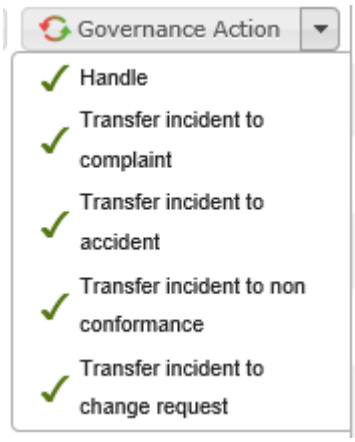
Name	Attribute	Description
Associated documents	AssociatedDocument	Possibility to attach a document (ExternalDocument) containing an email/description in word etc.



Name	Attribute	Description
Belongs to Category	BelongsToCategory	Multiple Category objects associated with the incident

9.2 The governance workflow



State	Description
Registration	The incident gets registered
Investigation	Diagnosis and immediate actions of the incident
Handling	Handling of the incident
Finished	Final description about the incident
Transfer incident to [TYPE] 	Based on the incident type of an object the corresponding type will be created where values already inserted into the incident will be transferred. The incident will automatically close when the correct type is created.

9.2.1 Transferring from incident to other template type

On the incident there will be a link to the new object in the field `TransferredTo` (SingleLink).

Incident	Complaint
Observation	ShortDescription
Diagnosis	ShortDescription
AssociatedDocuments	AssociatedDocuments
Urgency	Urgency

Impact	Impact
Priority	Priority
HasResponsible	HasResponsible
Immediate actions	PlannedActions
Recommended actions	PlannedActions
OriginatedBy	OriginatedBy
OriginatedDate	OriginatedDate
BelongsToCategory	BelongsToCategory

Incident	**Non Conformance**
Observation	Observation
Diagnose	Explanation
Associated Documents	AssociatedDocuments
Priority	Priority
HasResponsible	HasResponsible
Immediate actions	ImmediateActions
Recommended actions	RecommendedActions
OriginatedBy	OriginatedBy
OriginatedDate	OriginatedDate
BelongsToCategory	BelongsToCategory

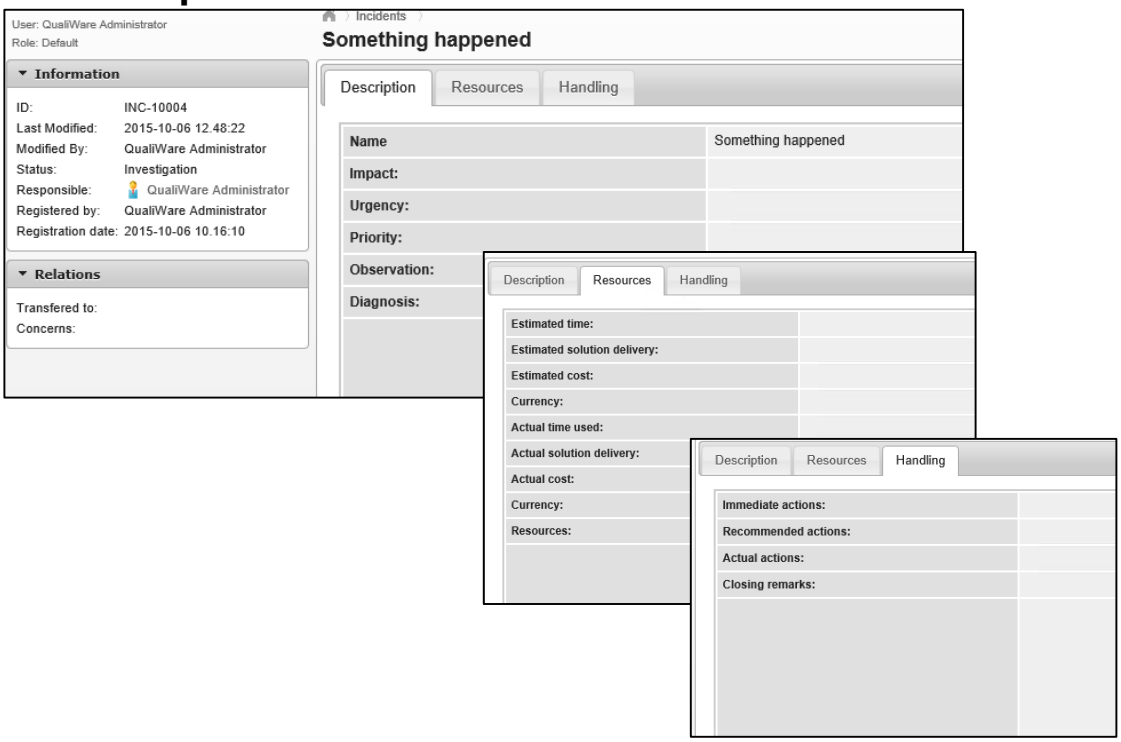
Incident	**Change Request**
Observation	ShortDescription
Diagnose	ShortDescription
Immediate Actions	ShortDescription
Associated Documents	AssociatedDocuments
Priority	Priority
HasResponsible	HasResponsible
Recommended actions	RecommenedActions
OriginatedBy	OriginatedBy
OriginatedDate	OriginatedDate
BelongsToCategory	BelongsToCategory

Incident	**Accident**
Observation	Cause
Diagnose	AccidentDetails
Immediate Actions	ImmediateActions
Associated Documents	AssociatedDocuments

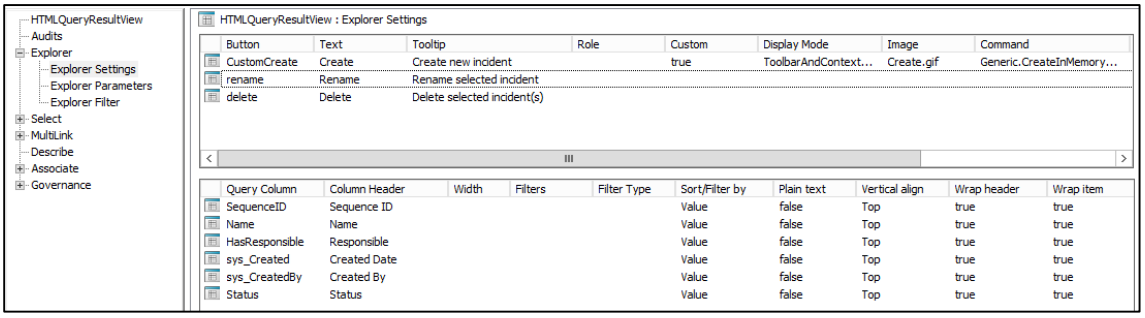
Priority	Priority
HasResponsible	HasResponsible
OriginatedBy	OriginatedBy
OriginatedDate	OriginatedDate
BelongsToCategory	BelongsToCategory

9.3 Web presentation of incident

9.3.1 Template definition



9.3.2 HTMLQueryResultView



10 Contract Module

The contract module consists of a metamodel extension of Contract and BusinessConnection. And a governance workflow to control the states and read/write access of the contract.

The "ContractManagement.exp" export file consist of:

- GovernanceWorkFlow
  - Contract Managment

10.1 Metamodel extension of Contract and BusinessConnection

BusinessConnections metamodel is extended with the following:

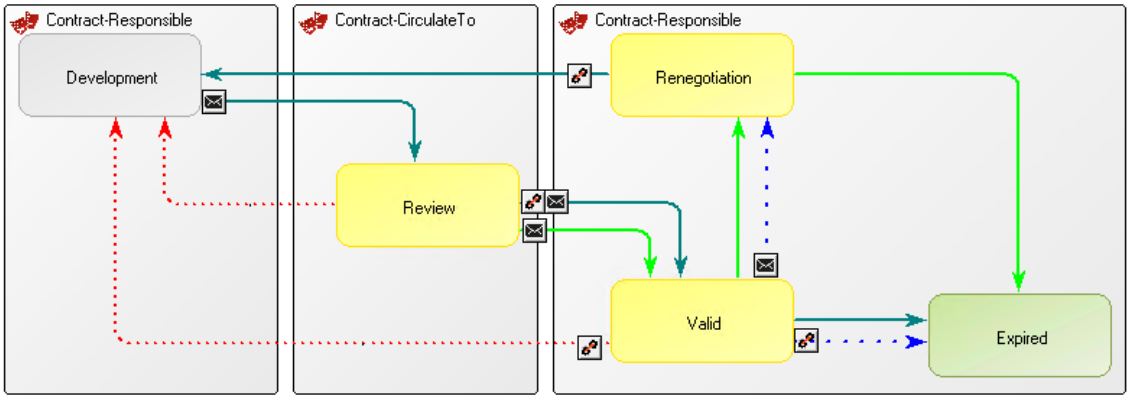
Name	AttributeName	Type
ExpiredContracts	ExpiredContracts	ListView
ValidContracts	ValidContracts	ListView

Contracts metamodel is extended with the following:

Name	AttributeName	Type
Type	ContractType	Combobox
Read	BusinessConnectionRead	ListView
Read/Write	BusinessConnectionReadWrite	ListView

Note: If the contract type is StandardContract then access rights will be everyone.

10.2 The governance workflow



State	Description
Development	The contract is under development
Development -> Review	A notification is sent to persons on the CirculateTo list.

	Persons on CirculateTo can write a comment to the contract
Review -> ValidAndApprove	the contract is approved (frozen/approved)
Review -> Valid	The contract is valid (*not* frozen/approved)
Valid -> Development	A new revision of the contract is created
Valid -> Renegotionation	If the revisionValidTo is set an email is sent to contract responsible.
Renegotiation->Development	A new revision is created.
Valid -> Expired	The contact is moved from ValidContracts on BusinessConnection to ExpiredContracts.

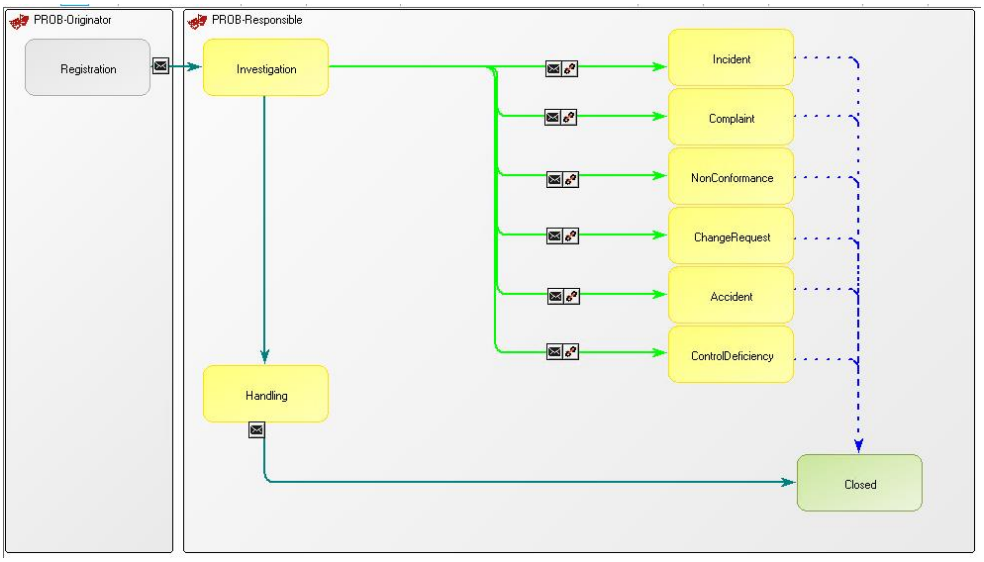
11 Problem Module

Problem module is similar in its structure to the incident module – there is a difference in what is information is transferred from the problem to the new type and there is the addition of also being able to transfer to a ControlDefiency.

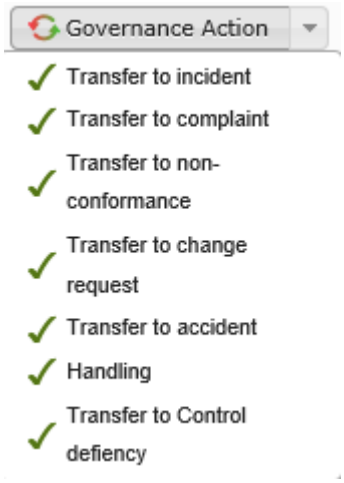
The "ProblemManagement.exp" export file consist of:

- GovernanceWorkFlow
  - Problem Managment
- HTMLDialogLayout
  - PROB-Creation
  - PROB-Registration-Investigation
  - PROB-Handling
- HTMLQueryResultView
  - Problems
- HTMLTemplateDefinition
  - Problem

11.1 The governance workflow



State	Description
Registration	The problem gets registered
Investigation	The problems description can be elaborated
Handling	Handling of the problem with recommended and actual actions
[TYPE] **(Transfer problem to correct type)**	Based on the problem type an object of the corresponding type will be created where the description of the problem

	(`ShortDescription`)already written will be transferred. The problem will automatically close when the correct type is created with a link to the new object.

11.1.1 Transferring from problem to other template type

On the problem there will be a link to the new object in the field `BreaksDownTo` (MultiLink).

For all *except* Accident and ControlDeficiency the OriginatedBy, OriginatedDate and HasResponsible is transferred to the new object.

The Problems ShortDescription is transferred to:

Incident	Observation
Complaint	ShortDescription
NonConformance	ShortDescription
ChangeRequest	ShortDescription
Accident	Cause
ControlDeficiency	Observation

11.2 Presentation of problems

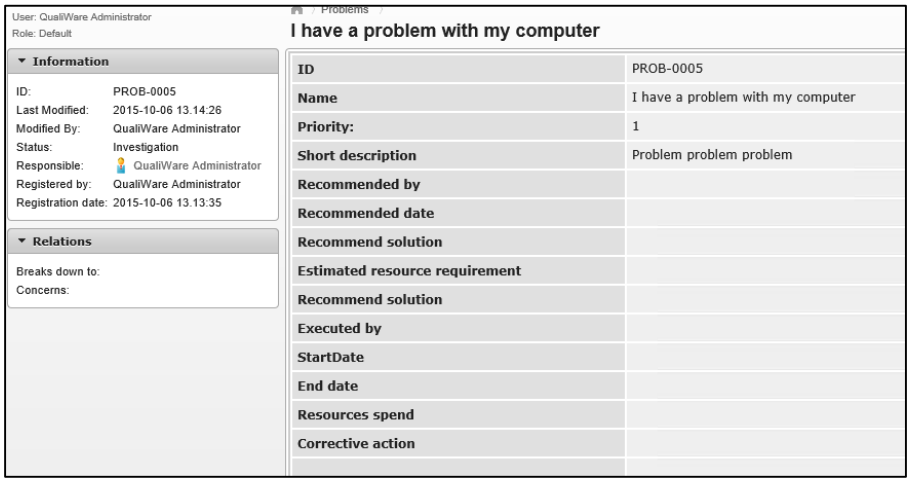


Figure 40: HTMLDefinition

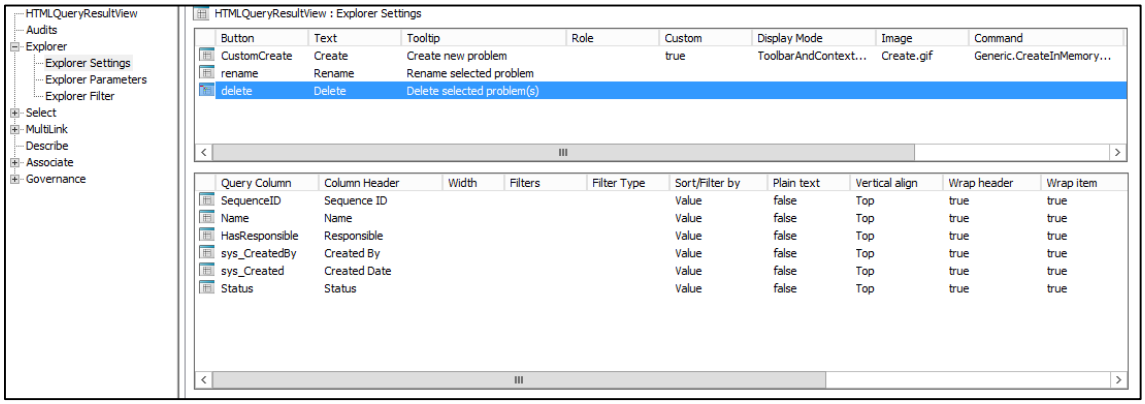


Figure 41: The QRV

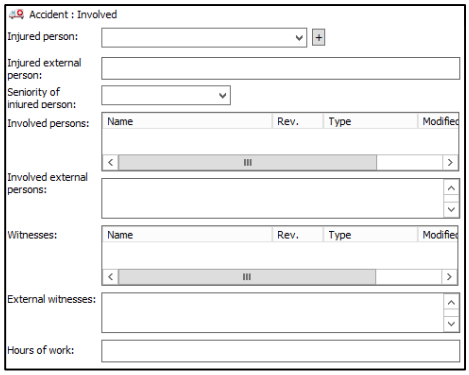
12 Accident Module

The purpose of the accident module is to govern accidents, and in 6.3 the metamodel has also been extended to contain more information.

The "AccidentManagement.exp" export file consist of:

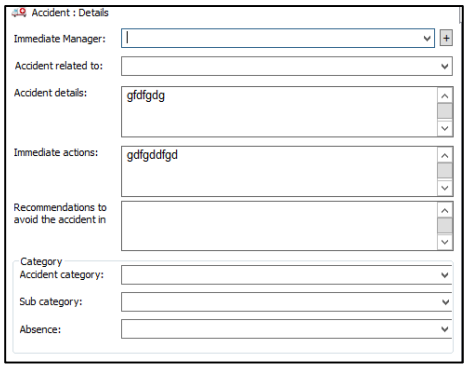
- GovernanceWorkFlow
  - Accident Managment
- HTMLDialogLayout
  - ACC-Accident
  - ACC-SubAccidentDetails
  - ACC-SubActions
  - ACC-SubCauses
  - ACC-SubConsequencesAndRisk
  - ACC-SubDescribe
  - ACC-SubDocuments
  - ACC-SubInvolved
- HTMLQueryResultView
  - Accidents
- HTMLTemplateDefinition
  - Accident

12.1 The accident metamodel extension

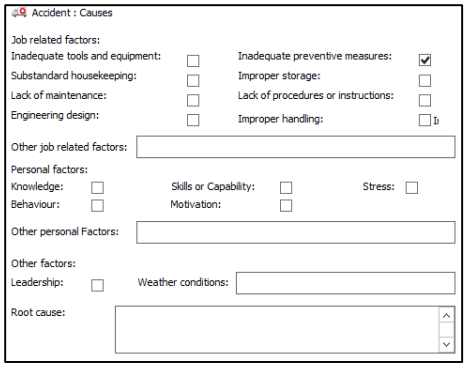


Name	Attribute	Description
Injured person	InjuredPerson	Who was the injured person – reference to the Person object (contains correct information with AD synchronization).
Injured external person	InjuredExternalPerson	Was the injured an external person – edit field for contact information

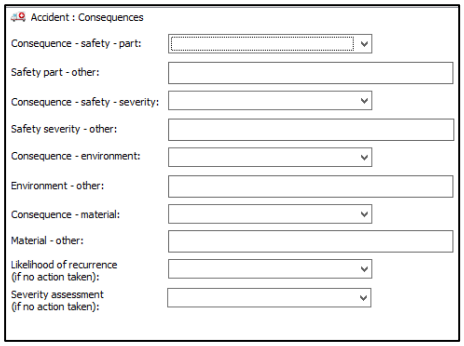
Seniority of injured person	SeniorityOfInjuredPerson	What is the seniority of the injured person
Involved persons	InvolvedPersons	Who were involved
Involved external persons	InvolvedExternalPersons	Where the external persons involved
Witnesses	Witnesses	Who witnessed the accident
External Witnesses	ExternalWitnesses	Did external persons witness the accident
Hours of work	HoursOfWork	When did the accident happen



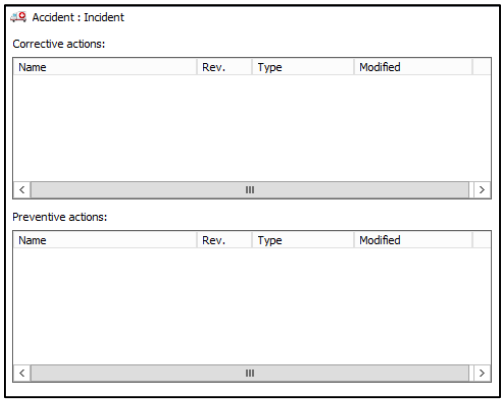
Name	Attribute	Description
Immediate Manager	ImmediateManager	Who is the immediate manager
Accident related to	AccidentRelatedTo	What is the accident related to
Accident details	AccidentDetails	Details about the accident
Immediate actions	ImmediateActions	The immediate actions taken
Recommendations to avoid the accident in (the future)	RecommendationsToAvoid	How to avoid the accident in the future
Accident category	AccidentCategory	The overall category
Sub category	SubCategory	The subcategory
Absence	Absence	Was something absent



Name	Attribute	Description
Inadequate tools and equipment	InadequateTools	True/false
Inadequate preventive measures	InadequatePreventiveMeasures	True/false
Substandard housekeeping	SubstandardHousekeeping	True/false
Improper storage	ImproperStorage	True/false
Lack of maintenance	LackOfMaintenance	True/false
Lack of procedures or instructions	LackOfProcedures	True/false
Engineering design	EngeneeringDesign	True/false
Improper handling	ImproperHandling	True/false
Other job related factors	OtherJobRelatedFactors	Extend job related factors with custom
Knowledge	Knowledge	True/false
Skills or Capability	Skills	True/false
Stress	Stress	True/false
Behaviour	Behaviour	True/false
Motivation	Motivation	True/false
Other personal factors	OtherPersonalFactors	Extend personal related factors with custom
Leadership	Leadership	True/false
Weather conditions	WeatherConditions	What were the weather conditions when the accident happend
Root cause	RootCause	Description of the root cause for the accident

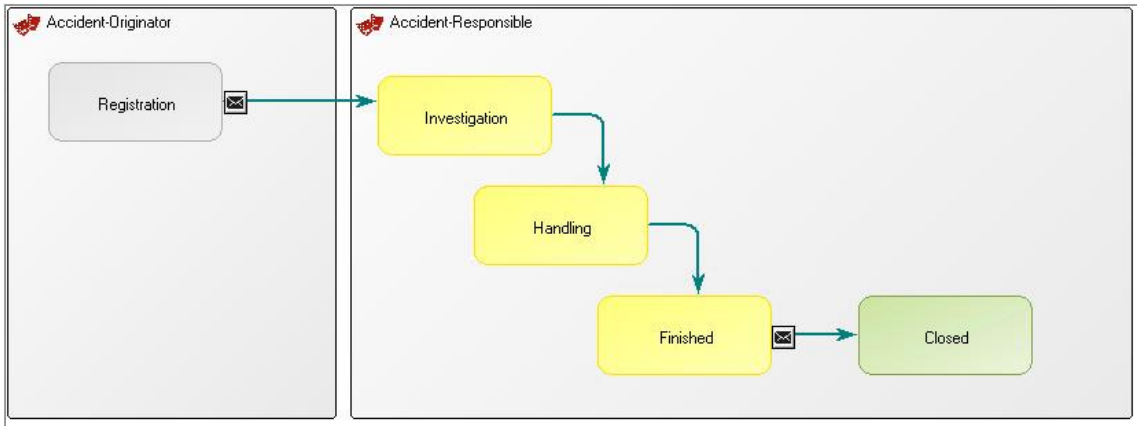


Name	Attribute	Description
Consequence – safety – part	ConsequenceSafetyPart	What is the consequence on the safety part
Safety part – other	SafetyPartOther	Custom edit field for additional consequence on the safety part
Consequence – safety – severity	ConsequenceSafetySeverity	What is the consequence of the severity of the safety
Safety severity – other	SafetySeverityOther	Custom edit field for additional consequence on the severity
Consequence – environment	ConsequenceEnvironment	
Enviroment - other		
Consequence – material	ConsequenceMaterial	What are the material consequences
Material – other	MaterialOther	Custom edit field for additional material consequences
Likelihood of recurrence (if no action taken)	LikelihoodOfRecurrence	What is the likelihood of the accident happening again if no action is taken
Severity of recurrence (if no action taken)	Severity	What is the severity of the accident happening again if no action is taken



Name	Attribute	Description
Corrective actions	CorrectiveActions	Related corrective actions objects
Preventive actions	PreventiveActions	Related preventive actions objects

12.2 The governance workflow



The accident goes through four stages before being closed. In registration and investigation the initial information about the accident is registered and investigated.

In handling information about the accident is further elaborated and possible corrective and preventive actions are registered. The accident is finalized and in the end closed.

After registration a notification is sent to the responsible for investigating the accident. After the accident is closed the originator (the person who registered the accident) get an email about the accident being closed.

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