

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).

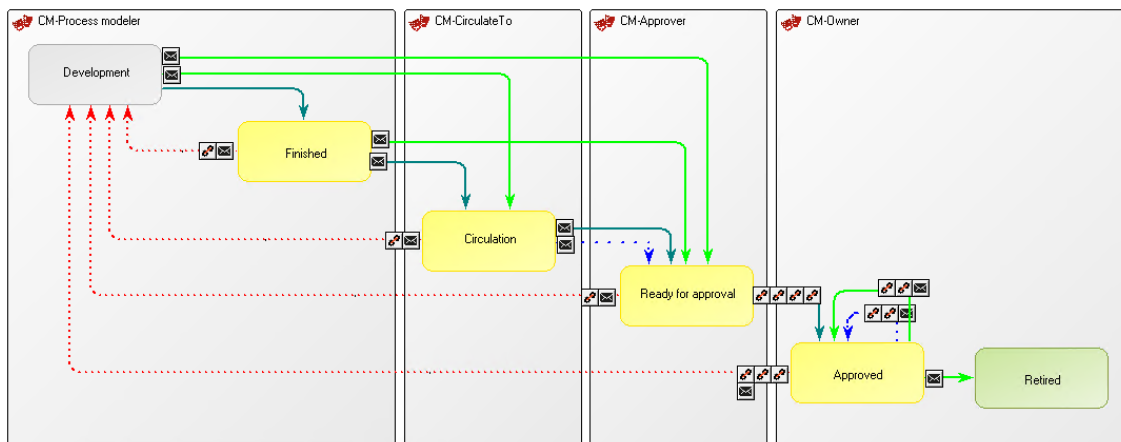
The "ChangeManagement.exp" is located in Models/Collaboration/Export Files and the export file consist of:

- 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 | <p>The object is approved and frozen.</p> <p>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.</p> |
| Retired | <p>The object is retired</p> |

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.

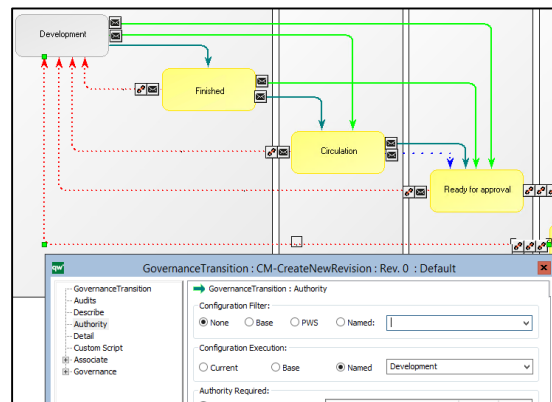
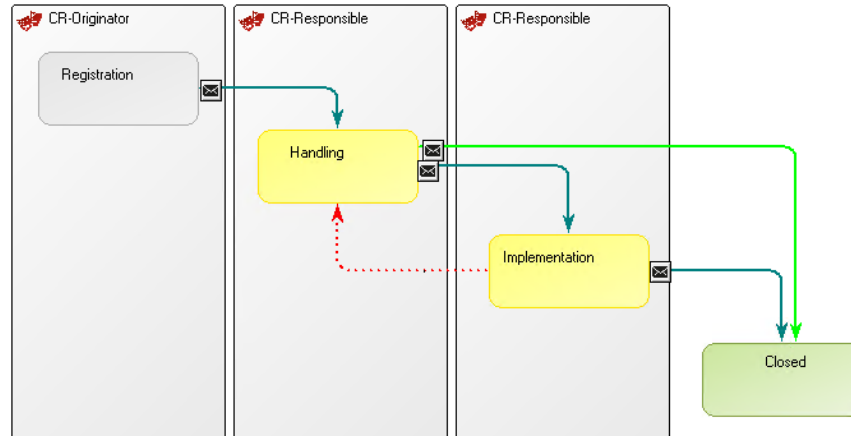


Figure 1: Change CM-CreateNewRevision action to be executed in Named configuration Development (private workspace)

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 | <p>The change request is sent to responsible.</p> <p>Email:</p> <div data-bbox="721 949 1015 1241" data-label="Image"> </div> |
| Implementation | <p>The change request is implemented, and an email is sent to responsible (can be the same responsible as in handling).</p> <p>Email:</p> <div data-bbox="721 1493 1015 1766" data-label="Image"> </div> |
| 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.

User: QualiWare Administrator
Role: Default

CR-0015: Change XYZ

Change Request | Governance History

Information

Created by: QualiWare Administrator
Creation date: 2015-10-30 11:10:07
Modified By: QualiWare Administrator
Last Modified: 2015-10-30 11:10:40

Status: Registration
Sequence ID: CR-0015
Last Modified: 2015-10-30 11:10:40
Short Description:
Concerns:
Originated By: QualiWare Administrator
Originated Date: 2015-10-30 11:10:07
Responsible: QualiWare Administrator
Recommended Action:
Estimated Resource Requirement:
Recommended By:
Recommended Date:
Corrective Action:
Executed By:
Start Date:
End Date:
Resources Spent:

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.

Change Requests

Create Edit

| Name | Sequence ID | Concerns | Responsible | Short Description | Originated By | Originated Date | Status |
|------|-------------|----------|-------------|-------------------|---------------|-----------------|--------|
| | | | | | | | |

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

[CR-0014]: Change the following

Resource Requirement (estimated):

Recommended By:

Recommended Date:

Recommended Action: **B** *I* U

OK Cancel Apply

Figure 7: ChangeRequest in Handling state

[CR-0014]: Change the following

Recommended Action

Resource Requirement (estimated):

Recommended By:

Recommended Date:

Recommended Action: **B** *I* U

Actual Action

Executed By:

Start Date:

End Date:

Resources Spent:

Corrective Action: **B** *I* U

OK Cancel Apply

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.

| Permission | Grant |
|----------------------------|-------------------------------------|
| Delete objects permanently | <input checked="" type="checkbox"/> |
| Read objects | <input checked="" type="checkbox"/> |
| Modify objects | <input checked="" type="checkbox"/> |
| Manage configurations | <input checked="" type="checkbox"/> |
| Create objects | <input checked="" type="checkbox"/> |
| Read object ACLs | <input checked="" type="checkbox"/> |
| Edit object ACLs | <input checked="" type="checkbox"/> |
| Change object owner | <input checked="" type="checkbox"/> |
| Connect to repository | <input checked="" type="checkbox"/> |
| View objects by owner | <input checked="" type="checkbox"/> |
| Import data | <input checked="" type="checkbox"/> |
| Remove object reservations | <input checked="" type="checkbox"/> |

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

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

| All Users [group] | |
|----------------------------|-------------------------------------|
| Permission | Grant |
| Delete objects permanently | <input checked="" type="checkbox"/> |
| Read objects | <input checked="" type="checkbox"/> |
| Edit objects | <input type="checkbox"/> |
| Manage configurations | <input checked="" type="checkbox"/> |
| Create objects | <input checked="" type="checkbox"/> |
| Read object ACLs | <input checked="" type="checkbox"/> |
| Edit object ACLs | <input checked="" type="checkbox"/> |
| Change object owner | <input checked="" type="checkbox"/> |
| Connect to repository | <input checked="" type="checkbox"/> |
| View objects by owner | <input checked="" type="checkbox"/> |
| Import data | <input checked="" type="checkbox"/> |
| Remove object reservations | <input checked="" type="checkbox"/> |

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.

Repositories

Metamodels

Roles

Scripts

+

Create Role

All Roles

+

Default

-

General

Initial Object ACL

Audit

Default > Initial Object ACL

+

Add User or Group

Save

Discard

User or group

▼

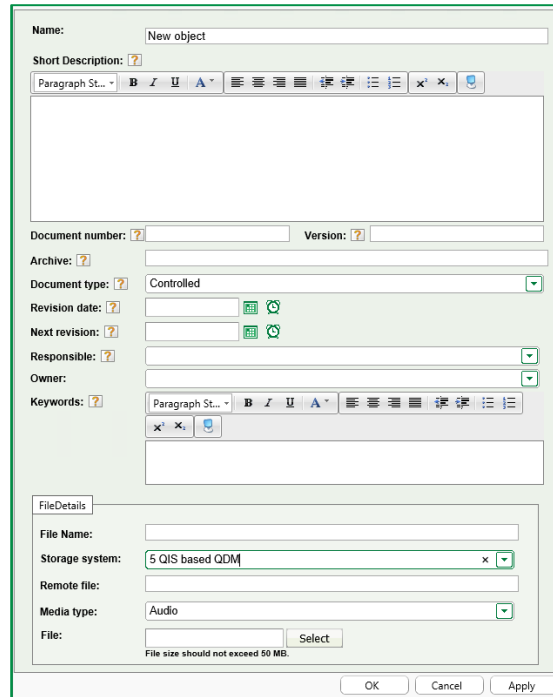
All Users [group]

| Permission | Grant |
|-------------------|-------------------------------------|
| Read object data | <input checked="" type="checkbox"/> |
| Write object data | <input checked="" type="checkbox"/> |
| Read object ACL | <input type="checkbox"/> |
| Edit object ACL | <input type="checkbox"/> |

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.



The dialog box is titled 'New object'. It contains several input fields and sections:

- Name:** A text field with 'New object' entered.
- Short Description:** A text area with a rich text editor toolbar (Paragraph St..., Bold, Italic, Underline, Bulleted List, Numbered List, Indent, Outdent, Link, Unlink, Image, etc.).
- Document number:** A text field.
- Version:** A text field.
- Archive:** A text field.
- Document type:** A dropdown menu set to 'Controlled'.
- Revision date:** A date picker.
- Next revision:** A date picker.
- Responsible:** A dropdown menu.
- Owner:** A dropdown menu.
- Keywords:** A text area with a rich text editor toolbar.
- FileDetails:** A section with:
 - File Name:** A text field.
 - Storage system:** A dropdown menu set to '5 QIS based QDM'.
 - Remote file:** A text field.
 - Media type:** A dropdown menu set to 'Audio'.
 - File:** A text field with a 'Select' button.
 - File size should not exceed 50 MB.

At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

Figure 12: Dialog for ExternalDocument at creation time

6.2 The Governance workflow

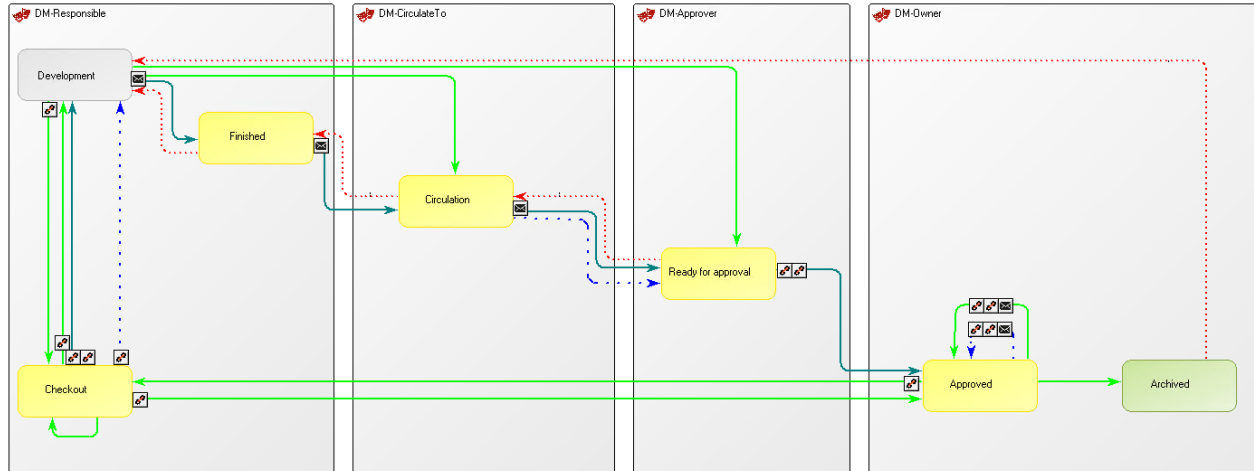


Figure 13: Document Management GovernanceWorkflow

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

GovernanceWorkflow : Detail

Calendar: Default [Calendar] +

Actions on New Object: DM-Remove-WriteAccess [GovernanceActionList] +

Actions on New Revision: +

Actions on Error: +

Check events at workflow level:

| Name | Rev. | Type |
|------|------|------|
| III | | |

Apply Condition: DM-IsQDMDoc [GovernanceBoolMethod] +

Template List: ^

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:

GovernanceBoolMethod : Advanced

Actual Name: VerifyAttributeList ?

| Parameter | Value | Comment |
|--------------|------------------|------------------------------|
| {FileOrigin} | 5 QIS based QDM | Add Attribute to be Verified |
| {Template} | ExternalDocument | Add Attribute to be Verified |

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.

| Name | Rev. | Type | Modified | |
|--------------------|------|------------------|---------------------|---|
| UpdateResponsible | 0 | GovernanceAction | 2015 02 04 11:08:20 | Q |
| UpdateParticipants | 0 | GovernanceAction | 2015 02 04 11:46:31 | Q |
| UpdateWriteAccess | 0 | GovernanceAction | 2015 02 04 10:58:32 | Q |

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 *Cancels* 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.


```

2015 04 13 09:25: Checked in by QualiWare Administrator
I've changed the structure.
*****

2015 04 13 09:25: Revision 4 created from 3 (en-US) by QualiWare Administrator
*****

2015 04 13 09:25: Checked out by QualiWare Administrator
*****

2015 04 13 09:24: Checked in by QualiWare Administrator
No message.
*****

```

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.

```

2015 06 04 10:20: Revision 4 (en-US) approved by QualiWare Administrator
*****

```

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

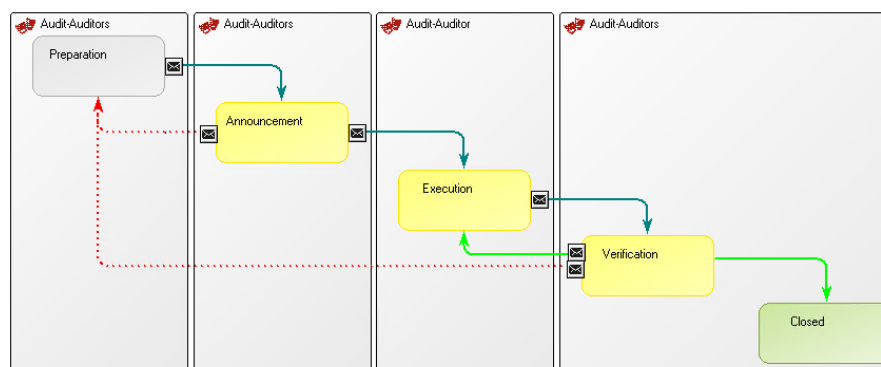
The Audit module contains the handling of quality audits, corrective actions and non-conformances.

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 |
|-------|-------------|
| GWE | |

| | |
|---------------------|---|
| 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 property sheet 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.

| Name | Sequence ID | Audit Date | Lead auditor | Auditor | Auditee | Short Description | Status |
|------|-------------|------------|--------------|---------|---------|-------------------|--------|
| | | | | | | | |

Figure 20: The HTMLQueryResultView for quality audits

7.1.3 Dialogs

New object

New Quality Audit

Name:

Short Description: **B** **I** **U** **A**

Lead Auditor:

Auditor:

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: of Page size: Item 0 to 0 of 0

Auditee:

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: of Page size: Item 0 to 0 of 0

Audit Date: **Audit type:**

Originator: **Audit category:**

Figure 21: Quality audit at creation time

QA-0001 : New QualityAudit

Subject

Target object: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Target regulation: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Questions: ?

Paragraph St... B I U A

Audit Documents

Associated Documents:

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Short Description:

Paragraph St... B I U A

Lead Auditor: ? John Smith [Person]

Figure 22: Quality audit in preparation

Auditor: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Auditee: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Audit Date:

Audit type: 1. party - Internal

Originator: QualiWare Administrator

Audit category: Process Audit

OK Cancel Apply

Figure 23: Quality audit in preparation continued

QA-0002 : Audit 1

Non-Conformance: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Change Request: ?

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Conclusion: ?

Paragraph St... B I U A

Approval

Lead Auditor: ? **Process Owner:** ? **Auditee:** ?

Audit Documents

Associated Documents:

Create Edit Insert Remove ↑ ↓

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

OK Cancel Apply

Figure 24: QualityAudit in execution state

QA-0002 : Audit 1

Verification text:

Verified By:

Verification Date:

Audit Documents

Associated Documents:

Create Edit Insert Remove

| Name | Template |
|------------------------|----------|
| No records to display. | |

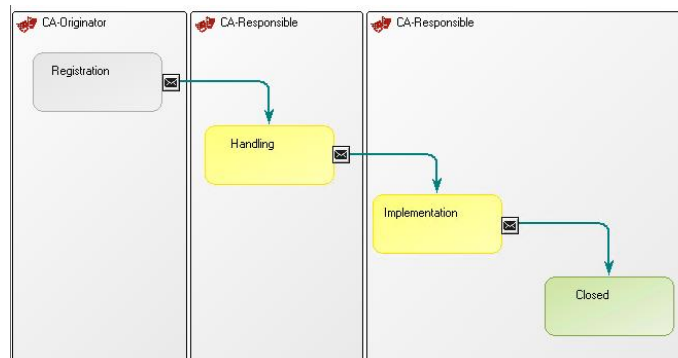
Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

OK Cancel Apply

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 property sheet for the corrective action with all its data, and the other shows the governance history.

User: QualiWare Administrator
Role: Default

CA 4

Corrective Action Governance History

Information

Created by: QualiWare Administrator
Creation date: 2015-10-30 11:45:38
Modified By: QualiWare Administrator
Last Modified: 2015-10-30 11:45:46

Status: Registration
ID: CA-0006
Last modified: 2015-10-30 11:45:46
Related Non-conformance:
Short Description:
Responsible:
Goal:
Recommended Action:
Recommended By:
Recommended Date:
Estimated Cost:
Estimated Resource Requirement:
Due Date:
Corrective Action:
Action Taken By:
Start Date:
End Date:
Cost of Non-conformance:
Resources Spent:
Closing Date:

Figure 26: HTMLTemplateDefinition CorrectiveAction

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

| Corrective Actions | | | | | | | |
|--------------------|-------------|------------|-------------|-------------------|------------|--------------|--------|
| Create | Edit | | | | | | |
| Name | Sequence ID | Related To | Responsible | Short Description | Created By | Created Date | Status |
| | | | | | | | |

Figure 27:HTMLQueryResultView CorrectiveAction

7.2.3 Dialogs

The 'New object' dialog for a 'New Corrective Action' contains the following fields and sections:

- Name:** A text field containing 'New object'.
- Responsible:** A dropdown menu.
- Description:** A rich text editor with a toolbar (Paragraph St..., Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Link, Unlink, Print) and a large text area.
- Related NC:** A section with a toolbar (Create, Edit, Insert, Remove, Up, Down) and a table with columns 'Name' and 'Template'. Below the table, it says 'No records to display.' Below the table is a pagination bar: 'Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0'.
- Goals:** A section with a toolbar (Create, Edit, Insert, Remove, Up, Down) and a table with columns 'Name' and 'Template'. Below the table, it says 'No records to display.' Below the table is a pagination bar: 'Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0'.

At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

Figure 28: Corrective action at creation time and registration

The 'Corrective action dialog at handling state' for '[CA-0006]: CA 4' contains the following fields and sections:

- Responsible:** A dropdown menu showing 'John Smith [Person]'.
- Due date:** A text field with a calendar icon and a clock icon.
- Rec. Date:** A text field with a calendar icon and a clock icon.
- Estimated cost for CA:** A text field.
- Estimated Resource Requirement:** A text field.
- Recommended By:** A dropdown menu.
- Recommended Action:** A rich text editor with a toolbar (Paragraph St..., Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Link, Unlink, Print) and a large text area.



At the bottom are 'OK', 'Cancel', and 'Apply' buttons.



Figure 29: Corrective action dialog at handling state

CA-0006] CA 4

*** Responsible:** John Smith [Person]

Recommended Actions

Due date:  

Rec. Date:  

Estimated cost for CA:

Estimated Resource

Requirement:

Recommended By:











































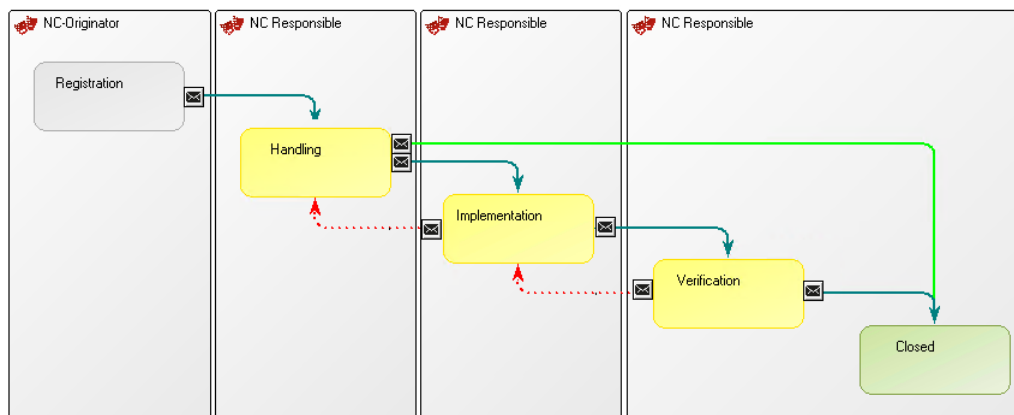
Recommended Action: Paragraph Style **B** **I** **U** **A**                                          

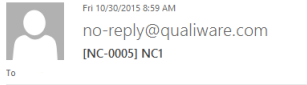
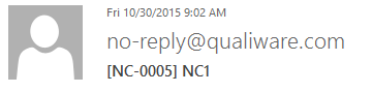
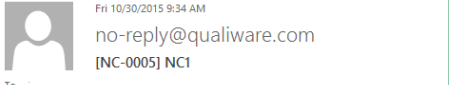
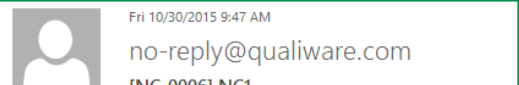
Figure 30: Corrective action dialog at implementation state

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: |

| | |
|------------------------------|--|
| |  <p>Dear John Smith</p> <p>You are responsible for handling the non conformance:</p> <p>NC1</p> <p>Observation:</p> <p>I observed the following aspect I did not expect.</p> <p>Regards,</p> <p>QualiWare Lifecycle Manager</p> |
| <p>Implementation</p> | <p>The corrective actions are implemented – either as a description or creating an actual corrective action object.</p> <p>Email sent to responsible:</p>  <p>Action Items</p> <p>Dear John Smith</p> <p>You need to implement the non-conformance NC1.</p> <p>Regrads,</p> <p>QualiWare Lifecycle Manager</p> |
| <p>Verification</p> | <p>Verify the implementation and handling of the non-conformance.</p> <p>Email to responsible:</p>  <p>Dear John Smith</p> <p>You need to verify the implementation of the non conformance NC1.</p> <p>Regards,</p> <p>QualiWare Lifecycle Manager</p> |
| <p>Closed</p> | <p>The non-conformance is closed.</p> <p>The register gets an email:</p>  <p>Dear John Smith</p> <p>The handling of the non conformance NC1 has been closed.</p> <p>Regards,</p> <p>QualiWare Lifecycle Manager</p> |

7.3.2 Web

The non-conformance is portrayed in the form of three tabs one with the property sheet 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.

| Non Conformances | | | | | | | | |
|------------------|-------------|---------|-------------|-------------------|---------------|-----------------|--------|--|
| Create Edit | | | | | | | | |
| Name | Sequence ID | Against | Responsible | Short Description | Originated By | Originated Date | Status | |
| | | | | | | | | |

Figure 33: Non-Conformance HTMLQueryResultView

7.3.3 Dialogs

New object

New Non Conformance

Name: New object

Priority: [dropdown]

Responsible: [dropdown]

Observation: [Rich Text Editor]

Explanation: [Rich Text Editor]

Attachments:

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

Against:

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

OK Cancel Apply

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

[NC-0005]: NC1

Responsible: John Smith [Person]

Immediate Action executed by: [dropdown]

Immediate Action executed date: [dropdown]

Immediate action: [Rich Text Editor]

Attachments:

| Name | Template |
|------------------------|----------|
| No records to display. | |

Page: 1 of 1 Go Page size: 50 Change Item 0 to 0 of 0

OK Cancel Apply

Figure 35: Non-Conformance in Handling 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:

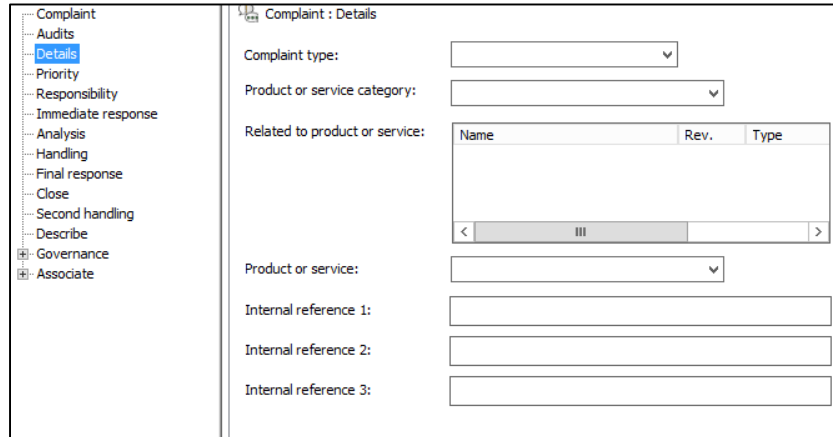
- GovernanceWorkflow
 - Complaint Managment
- HTMLDialogLayout
 - COM-Creation
 - COM-Registration
 - COM-Acceptance
 - COM-Finished
 - COM-Handling
 - COM-SecondHandling
 - COM-Subtab-Announcement
 - COM-Subtab-AssociatedDocuments
 - COM-Subtab-Responsibility
 - COM-ExternalDocument-Creation
- HTMLQueryResultView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

8.1 Complaint metamodel

The screenshot shows a web-based form for creating a new complaint. On the left is a navigation tree with items like Complaint, Audits, Details, Priority, Responsibility, Immediate response, Analysis, Handling, Final response, Close, Second handling, Describe, Governance, and Associate. The main area is titled 'Complaint : Complaint' and contains a 'Complaint description' text area. Below this are several input fields: 'File number' (text box), 'File registration date' (calendar icon), 'Customer' (dropdown with a plus icon), 'Customer contact' (text box), 'Customer reference' (text box), 'Received date' (calendar icon), 'Originated date' (calendar icon showing '2015 okt 05'), 'Originated by' (dropdown showing 'QualiWare Administrator [Person]'), 'Status' (dropdown showing 'Registration'), and 'ID' (text box showing 'COM-0011').

| 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 |



Complaint : Details

Complaint type:

Product or service category:

Related to product or service:

| Name | Rev. | Type |
|------|------|------|
| III | | |

Product or service:

Internal reference 1:

Internal reference 2:

Internal reference 3:

| 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 | |

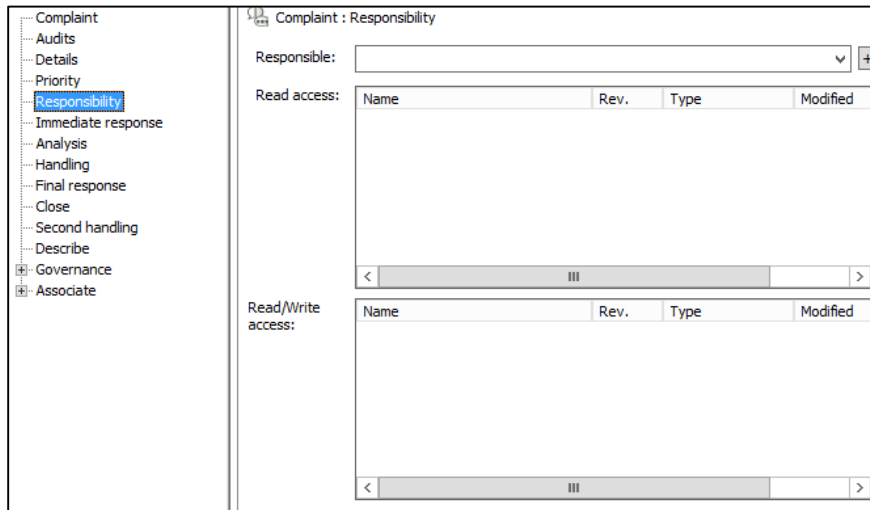
Complaint
Audits
Details
Priority
Responsibility
Immediate response
Analysis
Handling
Final response
Close
Second handling
Describe
Governance
Associate

Complaint : Priority
Impact:
Urgency:

Priority:
☐ Check, if priority should not be automatically be calculated based on urgency and impact

| 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 | <p>The priority going from critical, high, medium, low and very low are a combination of urgency and impact</p> <p>Priority is set by adding impact and urgency, and then depending on the value the priority is set (see the table below</p> |

| | | |
|---------------------------------|-------------------------------|--|
| | | 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 |



Complaint : Responsibility

Responsible: +

Read access:

| Name | Rev. | Type | Modified |
|------|------|------|----------|
| | | | |
| | | | |
| | | | |

Read/Write access:

| Name | Rev. | Type | Modified |
|------|------|------|----------|
| | | | |
| | | | |
| | | | |

| 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) |

Complaint : Immediate response

Complaint

- Audits
- Details
- Priority
- Responsibility
- Immediate response**
- Analysis
- Handling
- Final response
- Close
- Second handling
- Describe
- Governance
- Associate

Immediate response text:

Internal notes:

Preliminary response date:

Response deadline:

| 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 |

Complaint : Analysis

Complaint

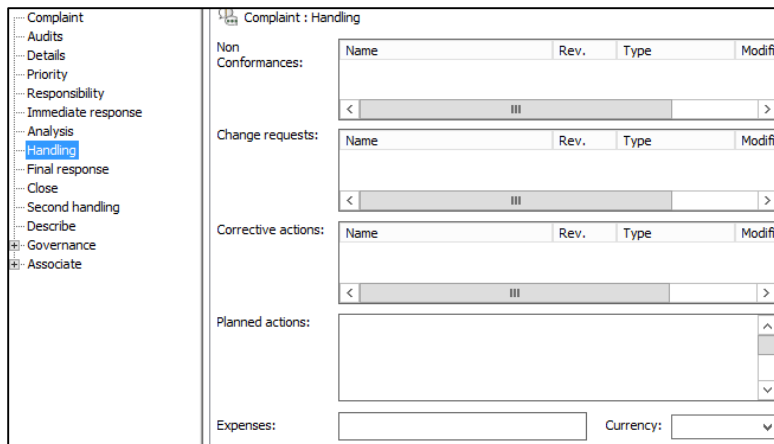
- Audits
- Details
- Priority
- Responsibility
- Immediate response
- Analysis**
- Handling
- Final response
- Close
- Second handling
- Describe
- Governance
- Associate

Root cause:

Root cause category:

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

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



| 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 |

Complaint : Close

Closing text:

Outcome:

Learnings:

Costs: Currency:

Closing date:

Closed by:

| Name | Attribute | Description |
|---------------------|--------------|--|
| Closing text | ClosingText | Closing comments |
| Outcome | Outcome | Outcome of the complaint predifined; 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 |

Complaint : Second handling

Date for 2nd handling: Customer 2nd handling:

Attachments 2nd handling:

| Name | Rev. | Type | Mod |
|------|------|------|-----|
| III | | | |

Notes 2nd handling:

Conclusion 2nd handling:

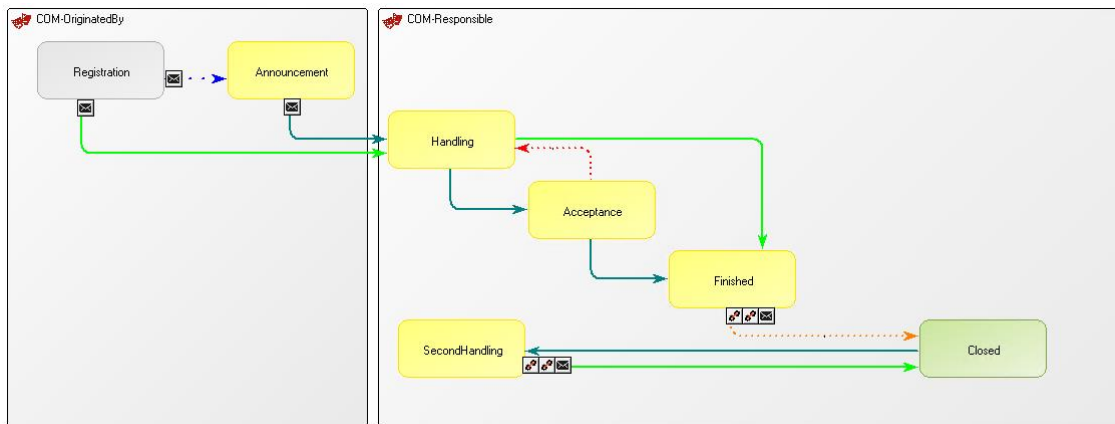
Outcome 2nd handling:

Response date 2nd handling:

Closed date 2nd handling: Closed by 2nd handling:

| Name | Attribute | Description |
|--|-------------------------|---|
| Date for 2nd handling | DateFor2ndHandling | When was the complaint opened again |
| Customer 2nd handling | Customer2ndHandling | Customer for 2 nd 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 2 nd handling |
| Outcome 2nd handling | Outcome2ndHandling | Outcome of the 2 nd 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

User: QualiWare Administrator
Role: Default

Complaints > **New object**

| Complaint | Second Handling | Change Requests | Non-Conformances | Corrective Actions | Governance History | | | | | | | | | | | | | | |
|--|--|-----------------|------------------|--------------------|--------------------|----|----------|------|------------|-------------|--|-------------|-----|------------------------|---------------------|----------|------|------------------|--|
| Complaint ID: COM-0009 Status: Registration Type: Complaint Responsible: Created by: QualiWare Administrator Modified by: QualiWare Administrator Last modified: 2015-10-05 13:43:10 ReadWrite limitations Read: Read/Write: | <table border="1"> <tr> <td>ID</td> <td>COM-0009</td> </tr> <tr> <td>Name</td> <td>New object</td> </tr> <tr> <td>Description</td> <td></td> </tr> <tr> <td>File number</td> <td>123</td> </tr> <tr> <td>File registration date</td> <td>2015-10-14 00:00:00</td> </tr> <tr> <td>Customer</td> <td>test</td> </tr> <tr> <td>Customer contact</td> <td></td> </tr> </table> | | | | | ID | COM-0009 | Name | New object | Description | | File number | 123 | File registration date | 2015-10-14 00:00:00 | Customer | test | Customer contact | |
| ID | COM-0009 | | | | | | | | | | | | | | | | | | |
| Name | New object | | | | | | | | | | | | | | | | | | |
| Description | | | | | | | | | | | | | | | | | | | |
| File number | 123 | | | | | | | | | | | | | | | | | | |
| File registration date | 2015-10-14 00:00:00 | | | | | | | | | | | | | | | | | | |
| Customer | test | | | | | | | | | | | | | | | | | | |
| Customer contact | | | | | | | | | | | | | | | | | | | |

8.3.2 The QueryResultViews

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

HTMLQueryResultView

Audits

Explorer

Explorer Settings

Explorer Parameters

Explorer Filter

Select

MultiLink

Describe

Associate

Governance

HTMLQueryResultView : Explorer Settings

| Button | Text | Tooltip | Role | Custom | Display Mode | Image | Command |
|--------|--------------|---------|------------------------------|--------|----------------------|------------|---------------------------|
| | CustomCreate | Create | Create new complaint | true | ToolbarAndContext... | Create.gif | Generic.CreateInMemory... |
| | rename | Rename | Rename selected complaint | | | | |
| | delete | Delete | Delete selected complaint(s) | | | | |

< |||

| Query Column | Column Header | Width | Filters | Filter Type | Sort/Filter by | Plain text | Vertical align | Wrap header | Wrap item |
|--------------|----------------|--------------|---------|-------------|----------------|------------|----------------|-------------|-----------|
| | Name | Name | | | Value | false | Top | true | true |
| | SequenceID | Sequence ID | | | Value | false | Top | true | true |
| | HasResponsible | Responsible | | | Value | false | Top | true | true |
| | sys_CreatedBy | Created By | | | Value | false | Top | true | true |
| | sys_Created | Created Date | | | Value | false | Top | true | true |
| | Status | Status | | | Value | false | Top | true | true |

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.

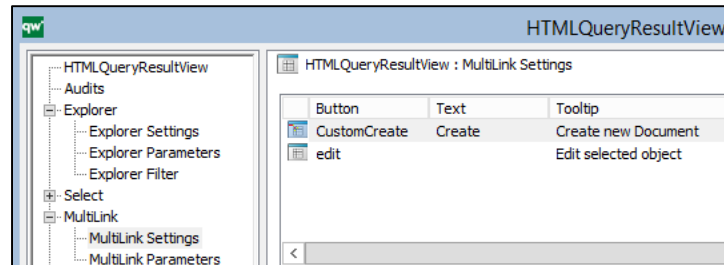


Figure 38: QRV for Documents with MultiLink custom create button

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</comm  
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");
```

In order 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.

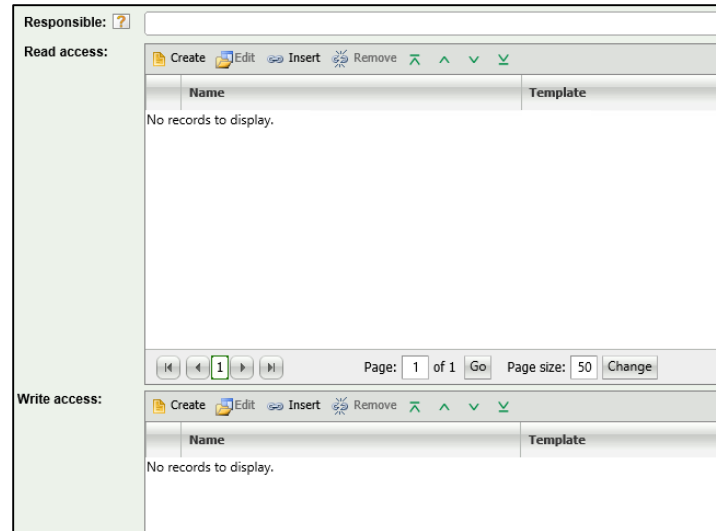


Figure 39: The read and write access multilinks on Complaint

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:

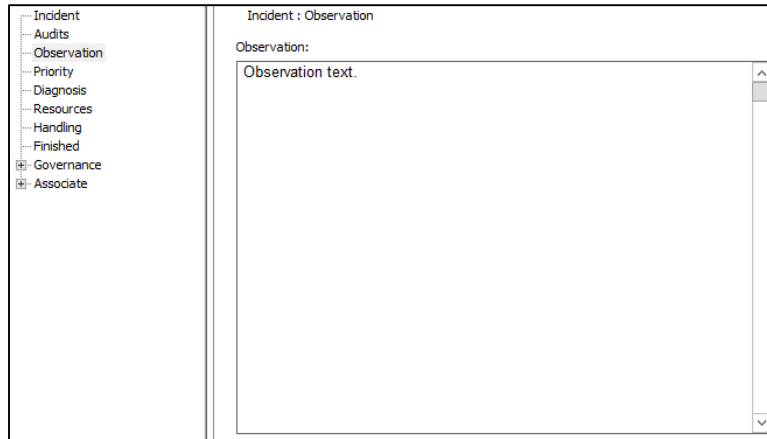
- GovernanceWorkflow
 - Incident Managment
- HTMLDialogLayout
 - INC-Creation
 - INC-Registration
 - INC-Investigation
 - INC-Handling
 - INC-Finished
 - INC-Subtab-Attachments
 - INC-Subtab-Category
 - INC-Subtab-Handling-Diagnosis
 - INC-Subtab-Investigation-Actions
 - INC-Subtab-Resources
- HTMLQueryResultView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

9.1 The incident metamodel

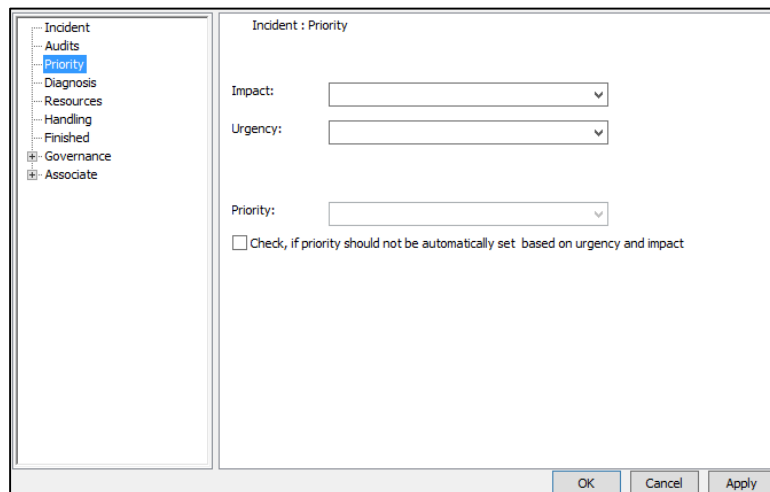
¹ [https://en.wikipedia.org/wiki/Incident_management_\(ITSM\)](https://en.wikipedia.org/wiki/Incident_management_(ITSM))
GWE

| Incident | Incident : Incident | | | | | | |
|-------------|--|------|------|------|--|--|--|
| Audits | Reported by: <input type="text"/> | | | | | | |
| Observation | Responsible: <input type="text" value="Loa Lind [Person]"/> | | | | | | |
| Priority | Originated by: <input type="text" value="Loa Lind [Person]"/> | | | | | | |
| Diagnosis | Originated date: <input type="text" value="2015 sep 28"/> | | | | | | |
| Resources | Transferred to: | | | | | | |
| Handling | <table border="1"> <thead> <tr> <th>Name</th> <th>Rev.</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="height: 100px;"></td> </tr> </tbody> </table> | Name | Rev. | Type | | | |
| Name | Rev. | Type | | | | | |
| | | | | | | | |
| Finished | Concerns: <input type="text"/> | | | | | | |
| Governance | Status: <input type="text" value="Registration"/> | | | | | | |
| Associate | Incident ID: <input type="text" value="INC-10001"/> | | | | | | |

| 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 observed. |



| 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 | 4 | 6 |
| | L | 3 | 6 | 9 |

| 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 |
| 6 | Low | 4 Hours | 24 Hours |
| 9 | 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.

Incident
Audits
Observation
Priority
Diagnosis
Resources
Handling
Finished
Governance
Associate

Incident : Diagnosis
Diagnosis:

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

| <ul style="list-style-type: none"> Incident Audits Observation Priority Diagnosis Resources Handling Finished Governance Associate | <p>Incident : Resources</p> <p>Estimated time: <input type="text" value="12"/> Actual time used: <input type="text" value="12"/></p> <p>Estimated solution delivery: <input type="text" value="2015 sep 24"/> Actual solution delivery: <input type="text" value="2015 sep 16"/></p> <p>Estimated cost: <input type="text" value="123"/> Actual cost: <input type="text" value="150"/></p> <p>Currency: <input type="text" value="DKKDenmark Krone"/> Currency: <input type="text" value="DKKDenmark Krone"/></p> <p>Resources:</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Rev.</th> <th>Type</th> <th>Modi</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> | Name | Rev. | Type | Modi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------|------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Name | Rev. | Type | Modi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 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 |

| | |
|--|--|
| <ul style="list-style-type: none"> Incident Audits Observation Priority Diagnosis Resources Handling Finished Governance Associate | <p>Incident : Handling</p> <p>Immediate actions:</p> <div></div> <p>Recommended actions:</p> <div></div> <p>Actual actions</p> <div></div> |
|--|--|

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

| | |
|--|--|
| <ul style="list-style-type: none"> Incident Audits Observation Priority Diagnosis Resources Handling Finished Governance Associate | <p>Incident : Finished</p> <p>Closing remarks:</p> <div></div> |
|--|--|

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

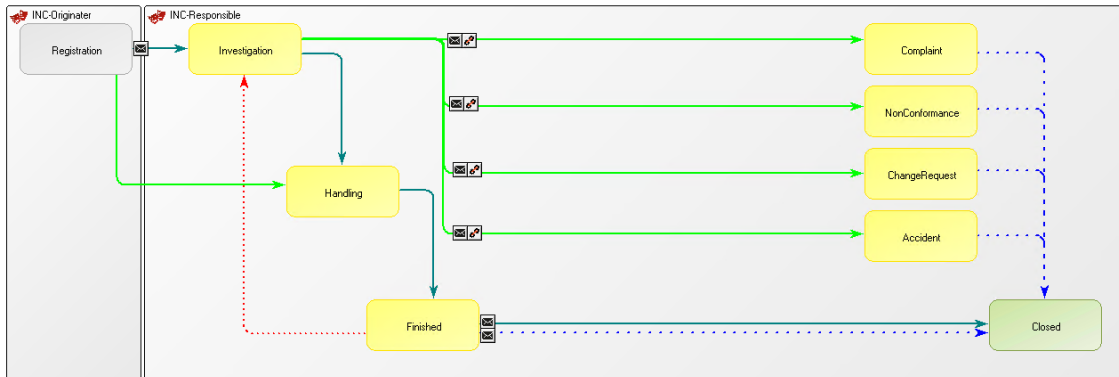
| Incident : Documents | | | | |
|--|------|------|----------|--|
| Associated Documents: | | | | |
| Name | Rev. | Type | Modified | |
| <div> <div>Incident</div> <div> <div>Audits</div> <div>Observation</div> <div>Priority</div> <div>Diagnosis</div> <div>Resources</div> <div>Handling</div> <div>Finished</div> <div>Governance</div> <div>Associate</div> <div> <div>RelationContext</div> <div>Strategy</div> <div>Target</div> <div>Performance</div> <div>Compliance</div> <div>Documents</div> <div>InherentRisk</div> <div>Other</div> </div> </div> </div> | | | | |

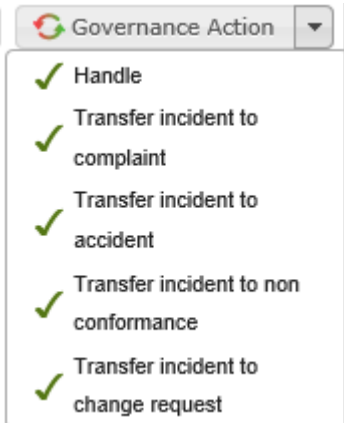
| Name | Attribute | Description |
|-----------------------------|--------------------|--|
| Associated documents | AssociatedDocument | Possibility to attach a document (ExternalDocument) containing an email/description in word etc. |

[illegible]

| 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]  | <p>Based on the incident type of an object the corresponding type will be created where values already inserted into the incident will be transferred.</p> <p>The incident will automatically close when the correct type is created.</p> |

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 | RecommendedActions |
| 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

User: QualiWare Administrator
Role: Default

Incidents

Something happened

Information

ID: INC-10004
Last Modified: 2015-10-06 12:48:22
Modified By: QualiWare Administrator
Status: Investigation
Responsible: QualiWare Administrator
Registered by: QualiWare Administrator
Registration date: 2015-10-06 10:16:10

Relations

Transferred to:
Concerns:

Description Resources Handling

Name: Something happened

Impact:

Urgency:

Priority:

Observation:

Diagnosis:

Description Resources Handling

Estimated time:

Estimated solution delivery:

Estimated cost:

Currency:

Actual time used:

Actual solution delivery:

Actual cost:

Currency:

Resources:

Description Resources Handling

Immediate actions:

Recommended actions:

Actual actions:

Closing remarks:

9.3.2 HTMLQueryResultView

HTMLQueryResultView

Audits

Explorer

- Explorer Settings
- Explorer Parameters
- Explorer Filter

Select

MultiLink

Describe

Associate

Governance

HTMLQueryResultView : Explorer Settings

| Button | Text | Tooltip | Role | Custom | Display Mode | Image | Command |
|--------|--------------|---------|-----------------------------|--------|----------------------|------------|---------------------------|
| | CustomCreate | Create | Create new incident | true | ToolBarAndContext... | Create.gif | Generic.CreateInMemory... |
| | rename | Rename | Rename selected incident | | | | |
| | delete | Delete | Delete selected incident(s) | | | | |

<

III

>

| Query Column | Column Header | Width | Filters | Filter Type | Sort/Filter by | Plain text | Vertical align | Wrap header | Wrap item |
|--------------|----------------|--------------|---------|-------------|----------------|------------|----------------|-------------|-----------|
| | SequenceID | Sequence ID | | | Value | false | Top | true | true |
| | Name | Name | | | Value | false | Top | true | true |
| | HasResponsible | Responsible | | | Value | false | Top | true | true |
| | sys_Created | Created Date | | | Value | false | Top | true | true |
| | sys_CreatedBy | Created By | | | Value | false | Top | true | true |
| | Status | Status | | | Value | false | Top | true | true |

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 Management

10.1 Metamodel extension of Contract and BusinessConnection

BusinessConnections metamodel is extended with the following:

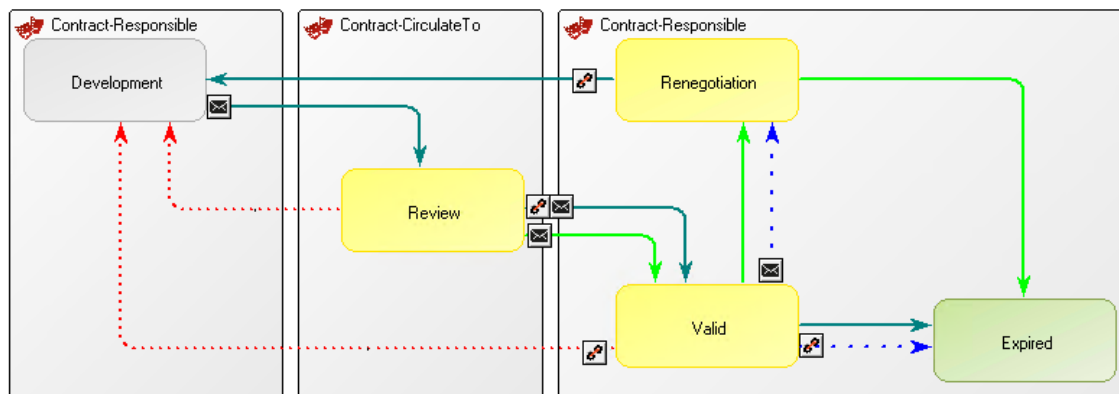
| Name | AttributeName | Type |
|-------------------------|------------------|----------|
| ExpiredContracts | ExpiredContracts | ListView |
| ValidContracts | ValidContracts | ListView |

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 (<i>not</i> frozen/approved) |
| Valid -> Development | A new revision of the contract is created |
| Valid -> Renegotiation | If the revisionValidTo is set an email is sent to contract responsible. |
| Renegotiation->Development | A new revision is created. |
| Valid -> Expired | The contract is moved from ValidContracts on BusinessConnection to ExpiredContracts. |

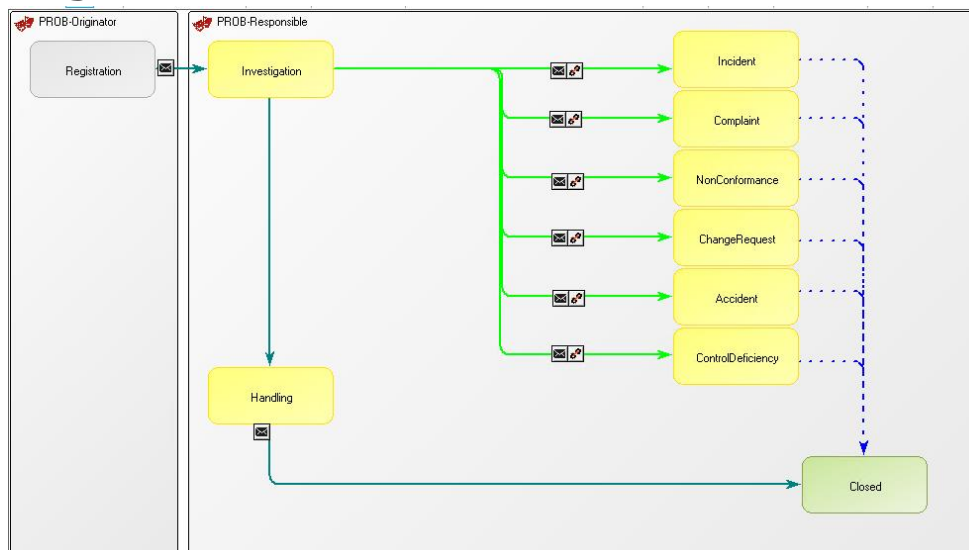
11 Problem Module

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

The “ProblemManagement.exp” export file consists of:

- GovernanceWorkflow
 - Problem Management
- 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 |

| | |
|---|--|
| <div>Governance Action ▼</div> <ul style="list-style-type: none"> ✓ Transfer to incident ✓ Transfer to complaint ✓ Transfer to non-conformance ✓ Transfer to change request ✓ Transfer to accident ✓ Handling ✓ Transfer to Control deficiency | <p>(ShortDescription) already written will be transferred.</p> <p>The problem will automatically close when the correct type is created with a link to the new object.</p> |
|---|--|

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

User: QualiWare Administrator
Role: Default

Information

ID: PROB-0005
Last Modified: 2015-10-06 13:14:26
Modified By: QualiWare Administrator
Status: Investigation
Responsible: QualiWare Administrator
Registered by: QualiWare Administrator
Registration date: 2015-10-06 13:13:35

Relations

Breaks down to:
Concerns:

I have a problem with my computer

| | |
|--------------------------------|-----------------------------------|
| ID | PROB-0005 |
| Name | I have a problem with my computer |
| Priority: | 1 |
| Short description | Problem problem problem |
| Recommended by | |
| Recommended date | |
| Recommend solution | |
| Estimated resource requirement | |
| Recommend solution | |
| Executed by | |
| StartDate | |
| End date | |
| Resources spend | |
| Corrective action | |

Figure 40: HTMLDefinition

HTMLQueryResultView : Explorer Settings

| Button | Text | Tooltip | Role | Custom | Display Mode | Image | Command |
|--------------|--------|----------------------------|------|--------|----------------------|------------|---------------------------|
| CustomCreate | Create | Create new problem | | true | ToolBarAndContext... | Create.gif | Generic.CreateInMemory... |
| rename | Rename | Rename selected problem | | | | | |
| delete | Delete | Delete selected problem(s) | | | | | |

| Query Column | Column Header | Width | Filters | Filter Type | Sort/Filter by | Plain text | Vertical align | Wrap header | Wrap item |
|----------------|---------------|-------|---------|-------------|----------------|------------|----------------|-------------|-----------|
| SequenceID | Sequence ID | | | | Value | false | Top | true | true |
| Name | Name | | | | Value | false | Top | true | true |
| HasResponsible | Responsible | | | | Value | false | Top | true | true |
| sys_CreatedBy | Created By | | | | Value | false | Top | true | true |
| sys_Created | Created Date | | | | Value | false | Top | true | true |
| Status | Status | | | | Value | false | Top | true | true |

Figure 41: The QRV

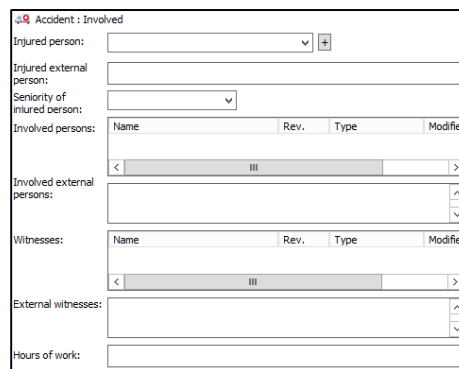
12 Accident Module

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 |


 Accident : Details

Immediate Manager:

Accident related to:

Accident details:

Immediate actions:

Recommendations to avoid the accident in:

Category
 Accident category:

Sub category:

Absence:

| 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 |

Accident : Causes

Job related factors:

Inadequate tools and equipment: ☐ Inadequate preventive measures: ☒

Substandard housekeeping: ☐ Improper storage: ☐

Lack of maintenance: ☐ Lack of procedures or instructions: ☐

Engineering design: ☐ Improper handling: ☐

Other job related factors:

Personal factors:

Knowledge: ☐ Skills or Capability: ☐ Stress: ☐

Behaviour: ☐ Motivation: ☐

Other personal Factors:

Other factors:

Leadership: ☐ Weather conditions:

Root cause:

| 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 |

🔍 Accident : Consequences

Consequence - safety - part:

Safety part - other:

Consequence - safety - severity:

Safety severity - other:

Consequence - environment:

Environment - other:

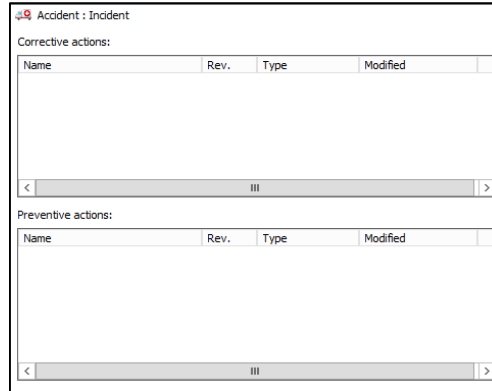
Consequence - material:

Material - other:

Likelihood of recurrence (if no action taken):

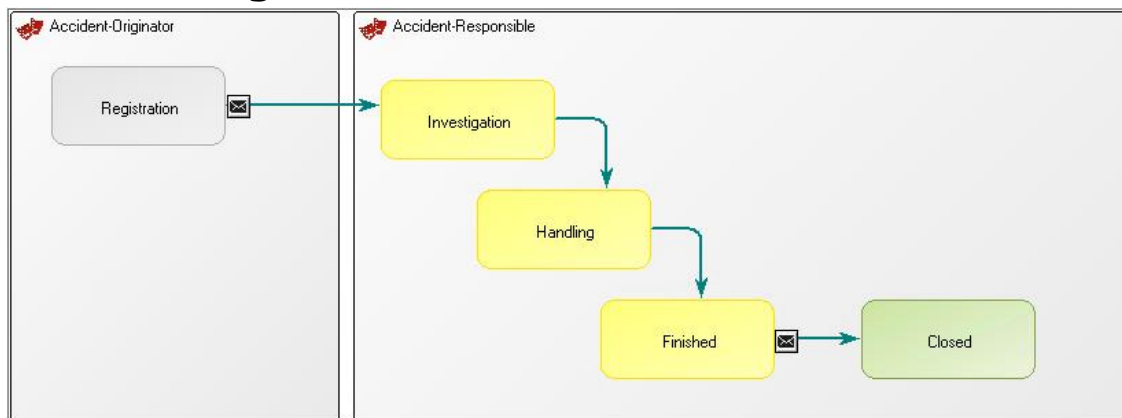
Severity assessment (if no action taken):

| 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 | |
| Environment - 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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