Chapter 7

7 Change Requests and Issue Tracking

In this chapter you will learn about the various fields in a change request form, how to create change requests, assign change requests to an individual for work, manage change requests, and use change requests to manage the work of a development effort. You will also learn how to customize change request attributes for each project.

7.1 Change Requests (CRs)

Change Requests are the glue that binds the SpectrumSCM system together.

- Releases are composed of units of work that are defined by CRs
- Users are required to make all changes to the system through one or more CRs.
- CRs are the only mechanism that allows management to track the history, activity, and status of particular units of work or issues.

Similar acronyms are MR (modification request) and WR (work request).

A change request is usually created by an authoritative source on a project and assigned for work to be done in a particular phase, by a particular developer. Once the requested work for the current life-cycle phase has been completed, the CR is "progressed" to the next phase by that developer. Additional notes or other work requirements can then be added to the CR as it continues through the project's life-cycle towards completion. At any point, the generic engineer can re-assign the CR for work in the next phase or any other defined phase. In essence, the management of CRs is workflow management, with the work being the development of software and related products and services.

A Change Request can be created at any time by any project team member who has permission to create change requests *(see Chapter 4, User Management)*. Creating CRs is a means of reporting new tasks, bugs, issues, and defects in the current release. These CRs could then become part of the current or subsequent releases.

From a **management perspective**, CRs allow for the easy tracking and resolution of problems as well as the progress of feature sets and or releases. Ownership and status of each work product is clear and easily obtained by any member of the project team.

From the **developer perspective, SpectrumSCM** provides workflow management without hindering the natural flow of work. The assignment of CRs to specific individuals clarifies "who's doing what" and the progression of a CR clearly marks the work as ready for the next life-cycle phase (for example, from development to testing) with no need for additional communication or the chance that a component was overlooked.

Testers can easily communicate problems by adding a CR to describe a problem or by sending a CR and its components back to the previous phase for correction.

7.2 Creating and Managing Change Request Attributes

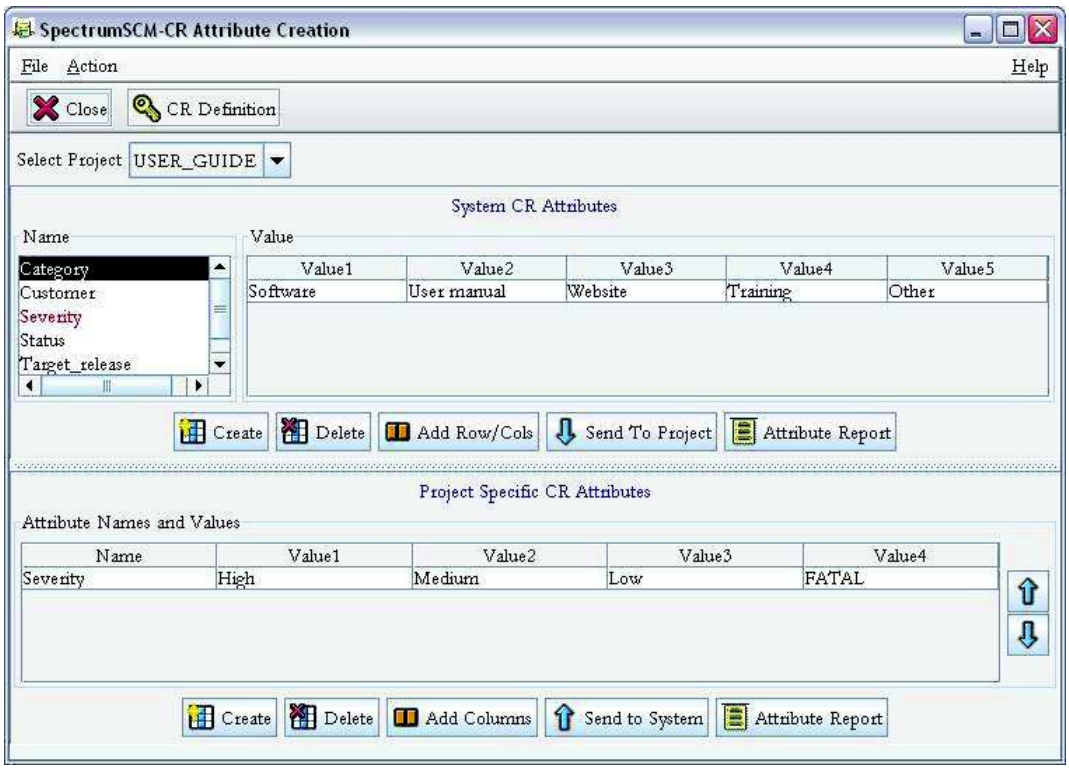
CR attribute-value pairs should be added before the very first CR is created for a project. This typically is undertaken when the project environment is set up *(See Chapter 5)*. Attributes can be added later, but once a CR is using an attribute, that attribute value will not be deleted from the CR even if the attribute itself is deleted from the attribute management screen (otherwise traceability will be lost).

SpectrumSCM allows for a completely customizable Change Request, just as it provides for the customization of project life cycles and change request attributes at the project level. Most software development shops have their own ideas on what fields or attributes should be found on a Change Request form. Even within a shop, project teams with different needs might disagree. SpectrumSCM gives each project team the freedom to set up SCM for large projects with a complex life cycle and CR support, but also to support and manage very simple systems with minimal CR and life cycle support.

7.2.1 Define a project's CR Attributes

When setting up a project, the CR attributes need to be defined. The project engineer should define these during project start-up. This is done via the CR Attribute Creation screen, accessible from the main screen via the Administration menu.

The CR Attribute Creation screen is used to maintain Change Request Attributes.



On the top of the screen are the system-wide attributes; on the bottom are the attributes assigned to the selected project. In the far left panel in the top pane is the list of all the system attribute names that have been defined. When one of these is selected, its attribute value set(s) are displayed. Note that an attribute name can have more than one set of values at the system level. When an attribute is assigned to a project, a value set must be chosen. This means that Project A can have a Location value set of "Atlanta", "Boston" etc, while Project B could use the values "Houston", "Orlando" etc.

7.2.2 Creating an attribute

To create an attribute, select the **Create** button. If you want this attribute only in a specific project then select the project side **Create** button, otherwise select the system side **Create** button.

A panel is presented requesting the attribute name, a brief description of its purpose (used for tooltips), and the number of values the attribute can have.

The **Editable** check-box allows the attribute creator to specify whether this particular attribute can be manually edited by the CR creator. As an example,

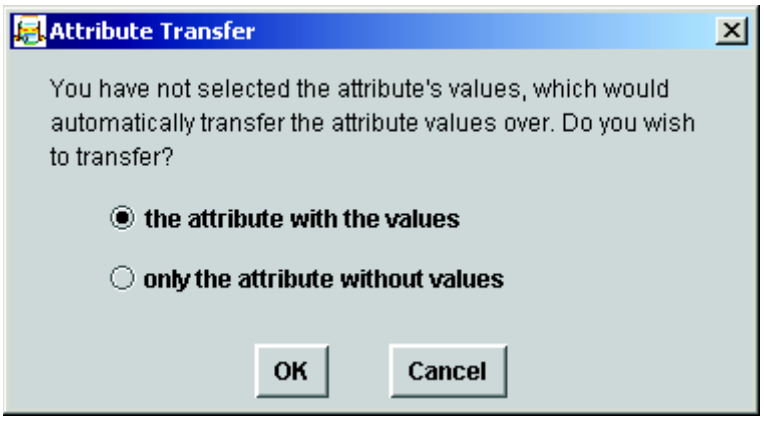
when the CR creator selects the **Location** attribute, they can either use one of the pre-defined values provided, or they can manually enter a completely new attribute value. The editable property of any CR attribute can be changed by using the pull down menu system located on the CR Attribute Creation Screen:

When the attribute creator presses the **Next** button, a second panel is presented which allows the user to enter the default values for this attribute.

The **Force User Selection** check-box sets the mandatory status of the item to be turned on. An attribute with mandatory status means that the user is not allowed to finish the creation of a new CR without picking a value for the selected attribute. The default value for a mandatory attribute is always the string "Select A Value", which can be seen when creating a new value set for a mandatory attribute.

7.2.3 Assigning attributes to a project

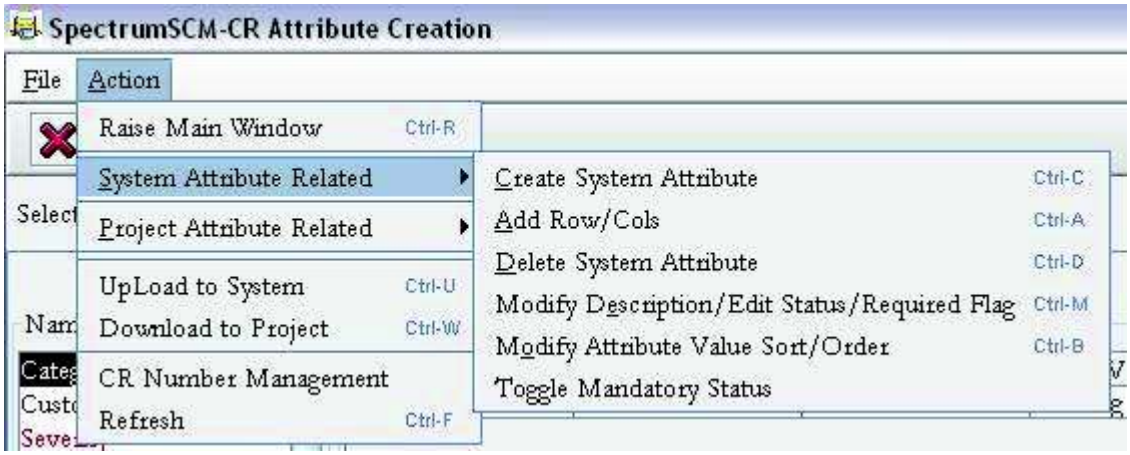
If attributes have been created at the system level, they can be assigned to a project simply by selecting the appropriate attribute name and value set, and then selecting the down (Send to Project) arrow button. Attributes can similarly be copied from a project to the system level (for use in other projects) by selecting the appropriate attribute and the up (Send to System) arrow button. If only the attribute is selected, the user is presented with a choice to include a value set or create one specific for the project.



7.2.4 Adding and Deleting Attributes and Values

An attribute can be deleted from the system or project by selecting it and the appropriate **Delete** button. Values can be added to an attribute value set by selecting it and the system-side **Add Row/Cols button**  (adding rows adds a new value set; adding columns adds values to the existing value set) or the project-side **Add Cols** button, via the **Action** Menu for either System or Project Attributes, or using the Add Rows/Cols menu option.
Specify the number of columns that are to be added (either to this row or in the new row (if that option was chosen)). The system then prompts for new values.
To change a value in an attribute set simply select the value in the table cell and edit it. Use the TAB or Enter keys to complete the change. To delete a value from an attribute set simply select the value and edit it to be blank.

For our example Genesis project, we chose **Action / System Attribute Related / Create System Attribute** to add the location attribute and its initial value set.



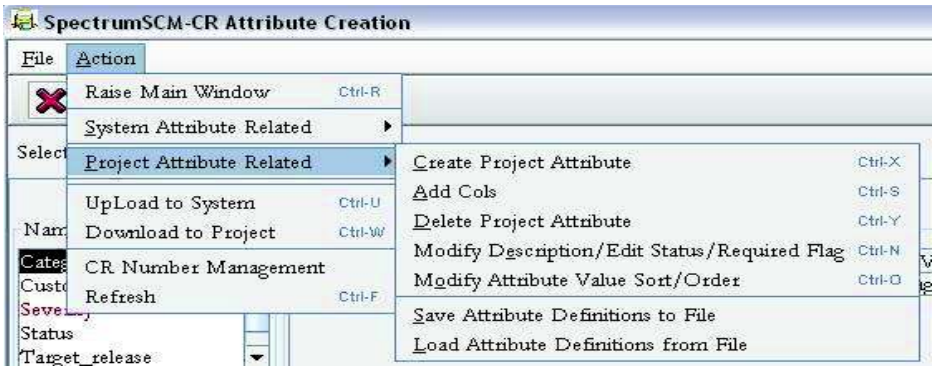
The **Add Rows/Cols** feature is used to add a row (a new value set) to a system attribute or to add a column or columns (additional value(s)) to a value set.

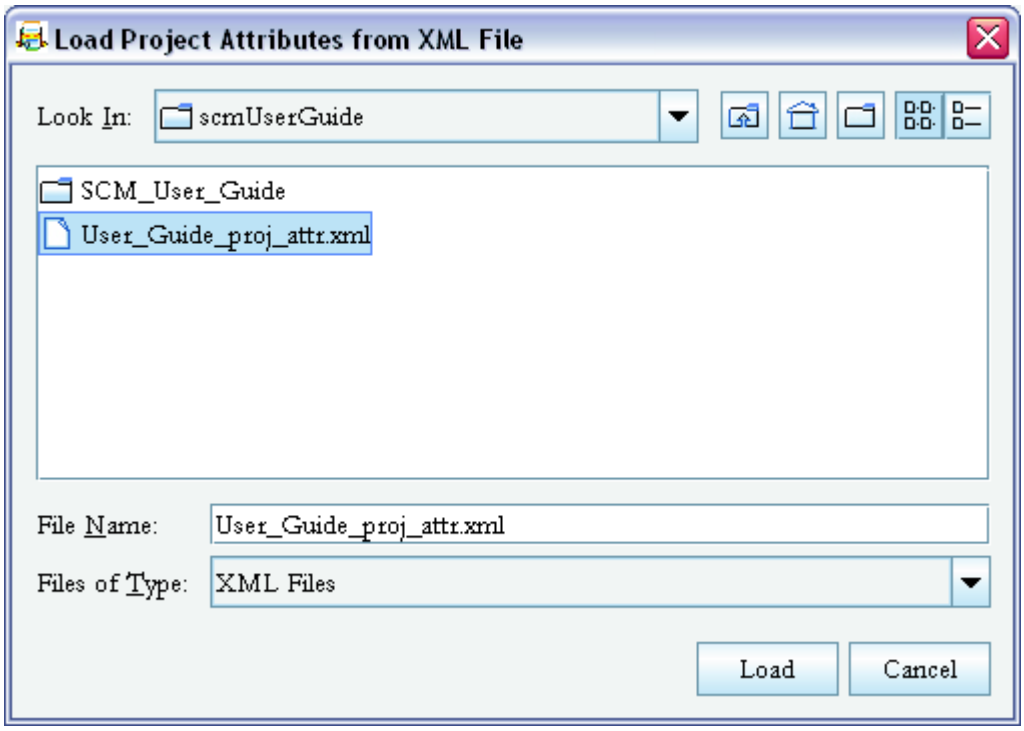
As an example, one could use the **Add Row** feature to create a new value set for the Severity attribute containing the values "bad" and "real bad". The **Add Column** feature could then be used to add two more values ("worse" and "worst") to that value set. This value set might be useful for a project that is only correcting problems. Projects would be able to choose which of the value sets they want to use.

For Genesis, we chose to use the Severity attribute and the value set (High, Medium, Low) to move to the project side. We also selected the Location attribute and its value set to move over. The result is that Genesis CRs will have two attributes, Severity (using the value set = High, Medium, Low) and Location (using the value set = Atlanta, Chicago, Boston, Miami). Additional locations can be added at any time using the **Add Cols** feature.

7.2.5 Saving and Loading Project Attribute Definitions

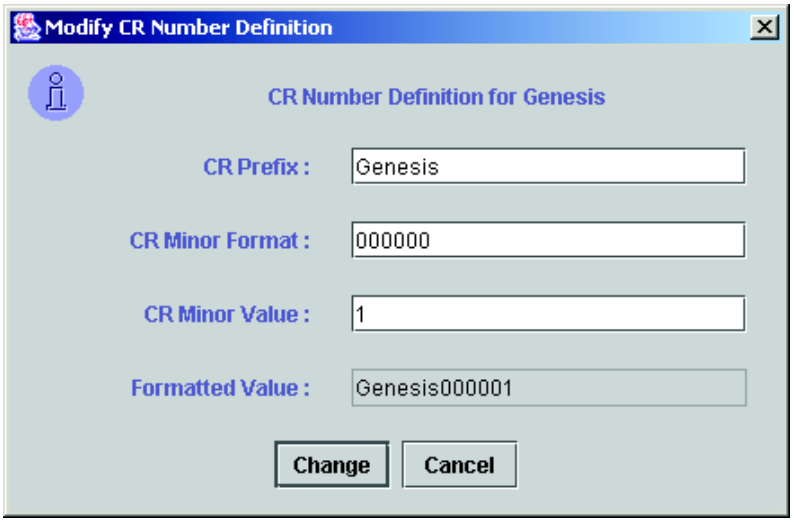
Project attributes can be saved to a file by selecting "**Save Attribute Definitions to File**" option from "**Project Attribute Related**" option on CR Attribute Creation window. Saved project attributes can be applied to new projects by selecting "**Load Attribute Definitions from file**".





7.3 Change Request Number Definition

It is very important that the CR numbers be unique. The CR number is made up of a string followed by a number; by default, this is the project name and a 6-digit number. The string, the numbering scheme, and/or the "minor" value (the starting number for the CRs) can be changed on the **CR Attribute Creation Screen, via** the **Toolbar** or via **CR Number Management** from the **Action** menu. Using this facility, you can select any string prefix to be followed by any number format.
For our example project Genesis, we choose to take the default prefix and numbering scheme.
Now that our project CR attributes and value sets have been established, we can begin to add CRs.

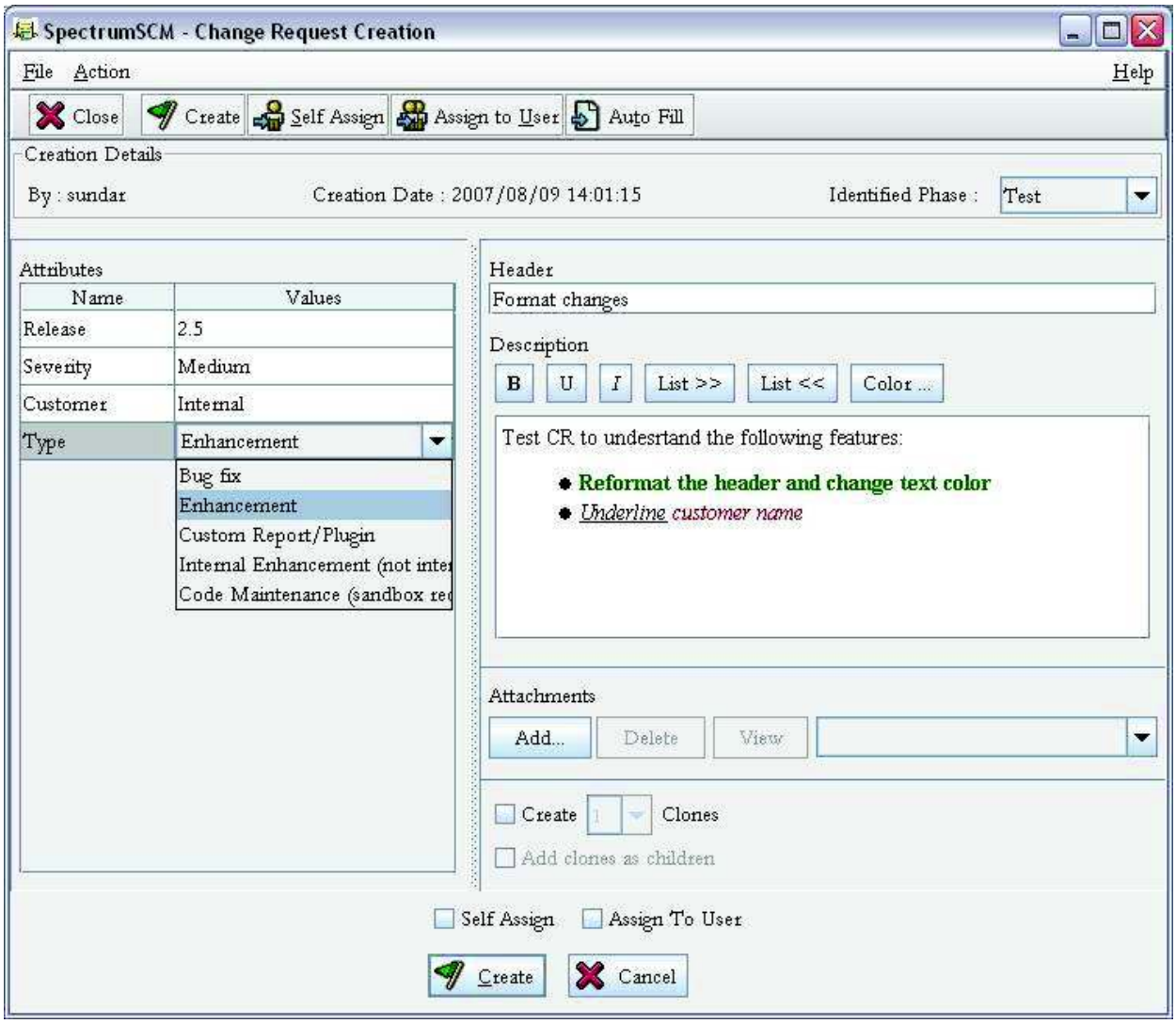


7.4 Creating and Managing Change Requests for a Project

Creating and managing CRs is typically the work of the generic engineer.

7.4.1 Creating a Change Request

The CR Creation screen is used to create a new CR for the project and assign that CR to a member of the project team. CRs can only be created by users whose roles allow them "Create New CRs" permission *(see Chapter 5 User Management - where user roles and permissions were defined and assigned to users).*



On the left are four attributes for this CR and their possible values. The value fields are actually pull-down choice-boxes(double-click to activate the pulldown), which contain all the possible values for these attributes. Editable CR attribute values are shown in blue can be manually entered or the default pull down values can be chosen. Mandatory attributes are shown in red, an appropriate value selection must be made before the CR can be created.

On the right is the header field for entering a single line description and below that the description area for entering larger amounts of information pertaining to the CR. The options provided by buttons in CR description section (shown below) enables the CR description to have color, bold, underline, italics and list formatting.

Attachments can also be added to the CR at this point, attachments are supporting documents such as screen snapshots, test plans and/or requirements snippets. Any form of supporting information can be added.. Simply select the "Add…" button in the Attachments area and the system will respond with a file selection dialog box. Select the item to add as an attachment and press OK. The attachment can be viewed immediately by selecting the "View" button or the attachment can be deleted from the system by selecting the "Delete" button. The "View" option uses the editor selections to open the appropriate viewer for binary files (see Custom Editor preference settings under Chapter 5). Text files can be viewed using SpectrumSCM's editor, or using a custom viewer as desired. Attachments are not version controlled but updates are recorded against the Change Request in terms of who performed the update and when. If full version control of these items is desired, then check the items in to the repository against this change request instead of using the attachment mechanism.

Drag-N-Drop functionality can also be used to directly add external files such as requirements documents or e-mails, as attachments. Textual information/files can also be added to the CR description field. Note, drag-N-drop works best with files in to CR attachments, there are a wide variety of drag-N-drop sources and it is therefore difficult to guarantee the correct processing of all forms of drag operations. If your drag operation does not work as desired, save the item as a file and drag that into the CR attachment field.

In the upper right-hand corner of the screen, the CR is being marked as being identified in the *Test* phase i.e. where in your life-cycle is this issue coming from, is the issue coming from production, test, development etc. By default the "**Identified Phase**" selector lists all of your life-cycle phases in order. If this is not appropriate or you other wish to customize this list, you can do so by defining a CR Attribute called "Identified Phase" (case sensitive) and giving it the values you desire. You can also make this attribute (and hence the "Identified Phase") a forced/mandatory item or give it a default value.

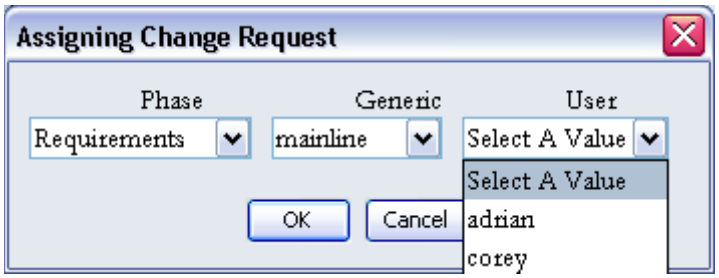
Clones of a CR can be immediately created using the CR cloning feature. The cloning feature allows a user to create a set of related CRs that can be tied together in a parent child relationship. All of the original CRs attributes, header, description and initial phase information will be transferred to the clones upon creation. *See section 7.5 in this document for additional information on CR Work Breakdown Structures and how to create and manage parent/child and peer/peer relationships.*

If you want to create a "clone" of an already existing CR, use the **Auto-Fill** button off of the toolbar. This lets you select the base CR you wish to clone from, and when you hit the "Create" button will copy in the original CRs information (header, description, attributes etc) into the new

CR. Note, both cloning and auto-fill annotate the CRs in their respective description sections as to the origin of any cloned information i.e. yyyy/mm/dd HH:MM:SS: Auto filled using cr00123.

Finally, depending on the users roles (and therefore permissions) the user performing the CR creation can decide whether this issue needs to be assigned to someone directly for work, or not. Select "Self Assign", "Assign To User" or leave them un-selected as appropriate. If the user does not have the appropriate permissions, the respective option(s) will be grayed out.
If **Self Assign** has been chosen, selecting the Create button will present the Assigning Change Request window but with only the target phase and generic choices available. When the CR is created it will be immediately assigned to you the user creating the CR.

If **Assign To User** had been chosen, selecting the Create button will present the Assigning Change Request window but with the additional list of project team members. One needs be chosen to receive the assignment. If in doubt, assign the CR to the generic engineer; it is his or her responsibility to examine and assign "To Be Assigned" (TBA) CRs.



The first Genesis CR has been created and assigned:

If a workflow has been defined for this project with a "START" phase to constrain/control CR creation assignments, then the above dialog options will be appropriately restricted. For example, if a newly created CR should only be assigned either directly to developers or to the review board for acceptance, then only those options will be presented (and only the valid users for those phases will

be presented in the "Assign To User" dialog). See Chapter 6 on process management and defining workflows for more details.

7.5 Automatic Notification of CRs needing Attention

When each member of the project team logs into the SpectrumSCM system, he or she is presented with the CRs that require their attention.
In our example team, both the generic engineer (Gene) and the senior developer (Corey) have generic engineer authority. Corey is also a developer, so he sees CRs assigned to him for work as well.

For example, when user "corey" logs into the SpectrumSCM system, he sees that one CR has been assigned to him. The CR is shown on the screen when he logs to alert him that it requires his attention. The user also sees a CR in the TBA state, meaning that it needs to be assigned.

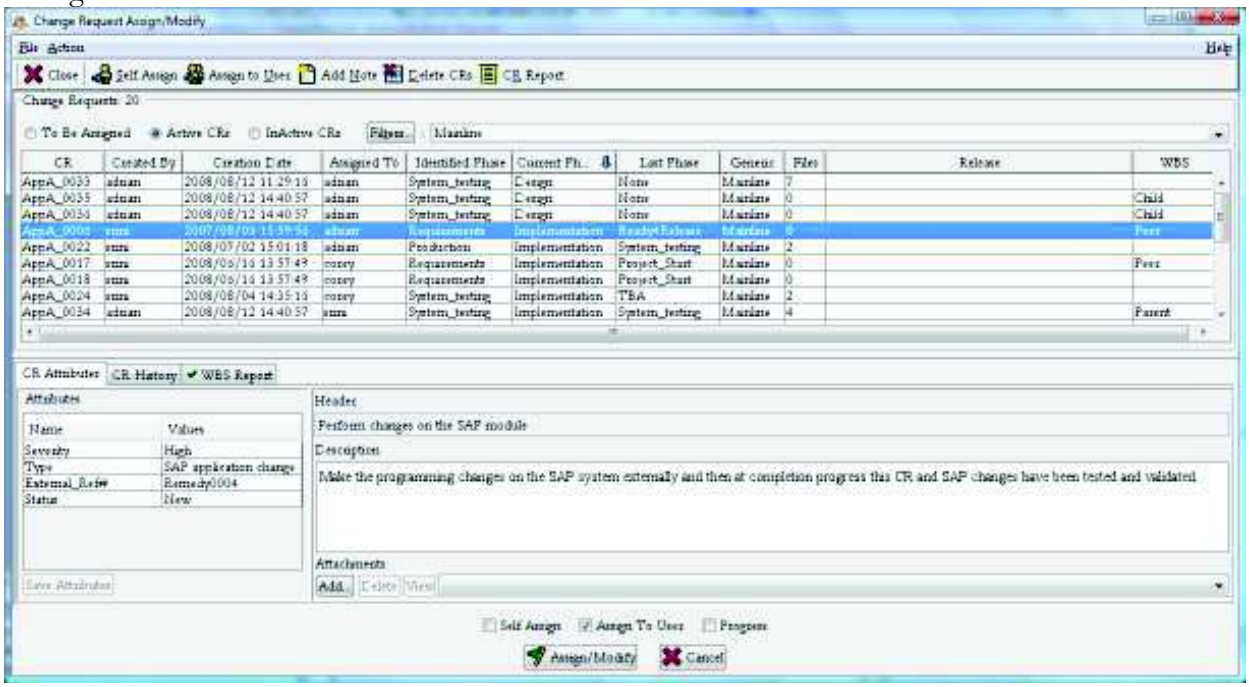
- The (green A) indicates that the CR has been assigned to him.
- A (yellow-T) indicates that the CR is in the TBA state and that someone with the Generic Engineer role or assignment privileges needs to assign it onto the appropriate team member for the next phase in your life-cycle. All users who have permissions to assign CRs will see TBA CRs displayed on their main screen. This allows all appropriate project leaders to be made aware of TBA tasks so they can re-assigned/managed expeditiously.
- A paper clip next to either of the icons indicates that attachments are associated with the CR. The user can "Right Click" the CR to see a listing of the available attachments and select one for viewing or to save the image to the local disk.

Additionally, if the e-mail notification option is configured, users will be automatically notified when CRs are assigned to them to work. If the user is assigned the Generic Engineer role (or has assignment privileges), he/she will also receive e-mails for CRs as they transition into the TBA state.

7.6 Assign / Modify a Change request

The Change Request Assign/Modify screen is accessed via the main screen **ChangeRequest / Assign/Modify** menu option. This screen is most often used by the Generic Engineer or other project leads with the authority to assign work. The screen is also accessible off the the main screen active CRs list by right-clicking a Change Request.

The display is controlled by the three radio buttons to the top left and then the filter selections to the right.



The initial selection is related to how the screen is activated. If the screen is accessed off of the menu system then the default activation mode will be **Active CR**s for the current **Generic**. If accessed off of the Active CRs list, then only that CR will be presented (under the "**selected CR**" filter).

Those CRs that need Generic Engineer input are presented under the **To Be Assigned** selection. Those CRs currently assigned for work are shown under the **Active CR**s selection. CRs that have finished their active life in SpectrumSCM are archived under the **InActive CR**s selection, specifically these are the CRs in the **Completed** and **Killed** states.

The arrow indication shows the current sort key and direction. If you select on a different column, that column will become the sort key. If you select a second time, the sort order will be reversed as will the arrow displayed in the header.

Users with the appropriate permissions can assign single, or multiple CRs simultaneously, simply by selecting those CRs and then self-assigning or assigning to another user.

In the bottom half of the screen, in **the CR History tab**, each of the state transitions that the CR has been through is shown (CR History). This includes who made those changes and when. If an entry here is selected any notes associated with that transition will be displayed in the lower panel. If required, the value of the CRs attributes can also be modified. This is done by selecting the attribute value displayed (choosing the **CR Attributes tab**) and selecting the new value from the presented choice box. Once the change has been made the "Save Attributes" button will be enabled. Please press this button to save the previously selected changes.

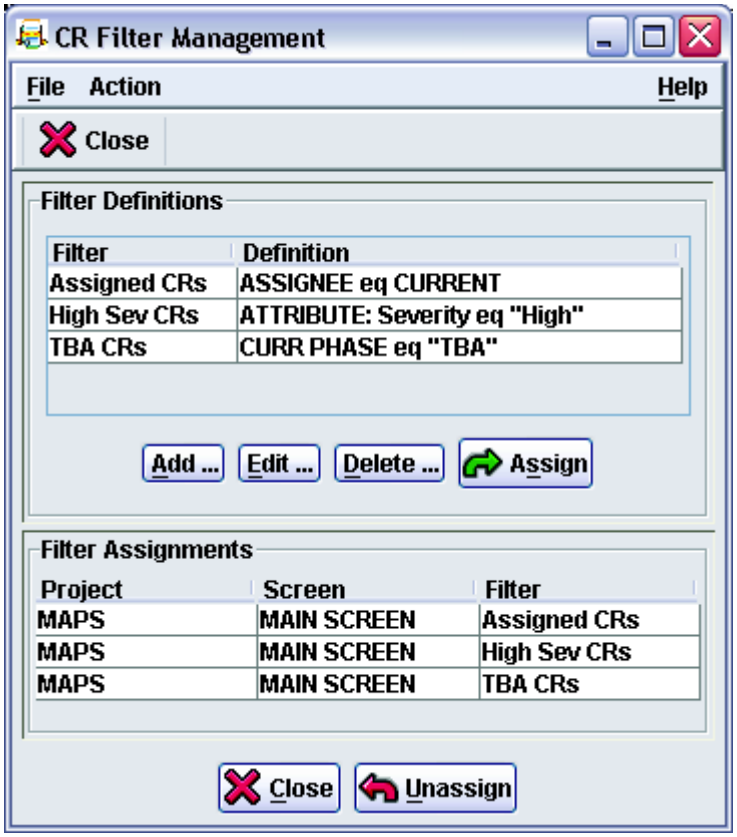
WBS tab added to Assign/Mod – so the full details of the work-breakdown-structure can be viewed in report form. In addition, a **WBS column** indicates whether a CR has WBS

relationship(s) or not. Further, in the main screen message area – a simple single click on a Change Request will display whether it has any WBS dependencies.

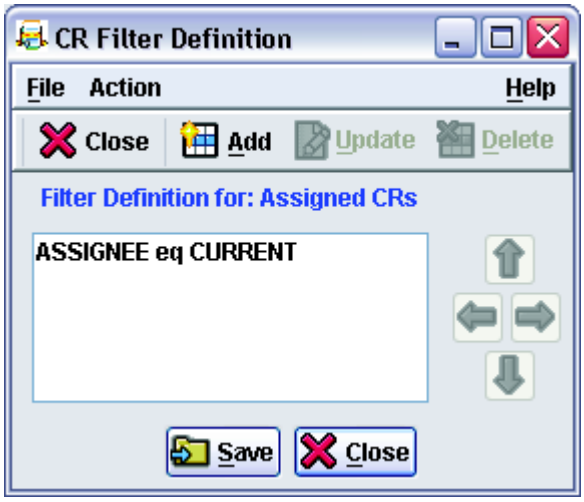
The user can switch back and forth between **CR Attributes, CR History and WBS Report Tab** by choosing the appropriate tabbed pane at the bottom of the screen.
Note that at this point, CR attachments for the selected CR can be added, deleted or viewed.

7.7 CR Filtering

To help in managing large numbers of issues you can define CR filters. When selected, a filter will then apply to the TBA, Active or InActive CR selection and only those CRs that match will be displayed. By default the system will present "**All**", "**Selected CR**" and a list of the current generics, in the filter choice box.
Selected CR will restrict the view to the single CR selected in the main screen assigned CRs list.
To define a filter (or modify an existing one), select the "**Filters…**" button, or select "**CR Filters**" off of the main screen Change Request menu.

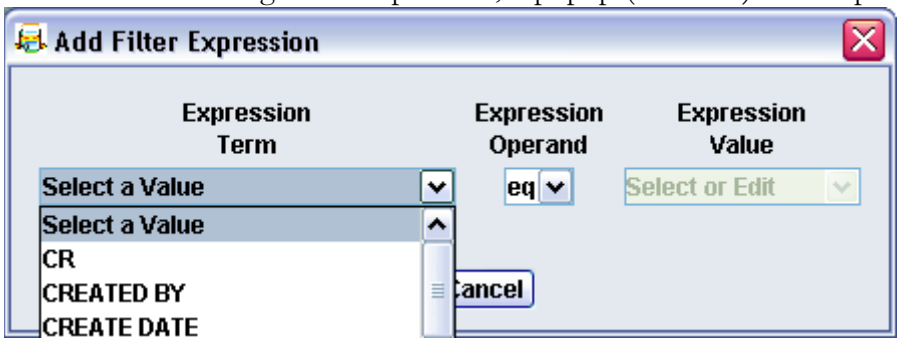


You can add, edit or delete a particular filter definition. You can also assign a particular filter definition to a project/screen combination. In this way, you can define a filter once and use it many times, in a quick, easy but controllable fashion.

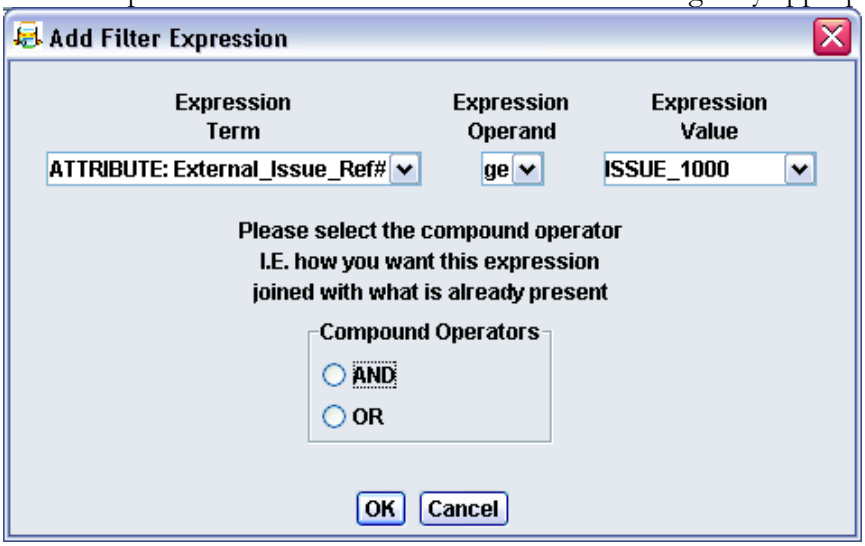


To create a new filter, select the "**Add…**" button, enter the desired filter name. The screen will come upblank for a new filter, or will show the existing filter definition if one exists. From here you can **Add** new rows to the definition, **Update** existing rows, or **Delete** unneeded rows.

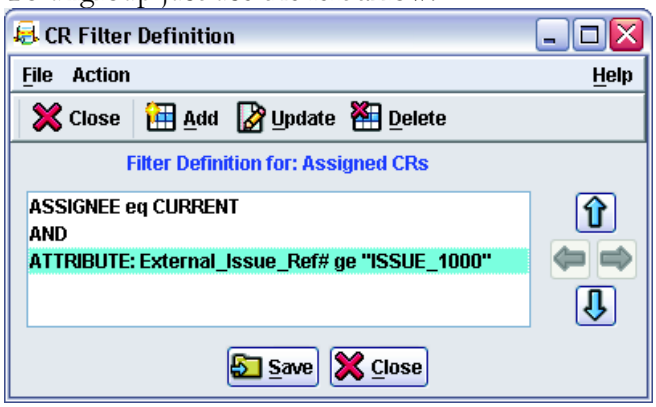
To add or edit a single row expression, a popup (as below) will be presented. Select the expression term (the attribute to be compared). The value (what to compare the attribute against). And the operand i.e. how to do the comparison.

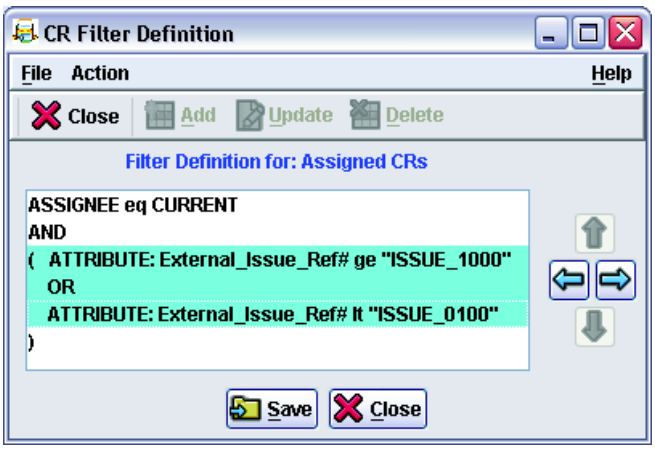


If this is a second or subsequent row you will also be asked how this expression is to be joined to the first expression row. Select either **AND** or **OR** as logically appropriate.

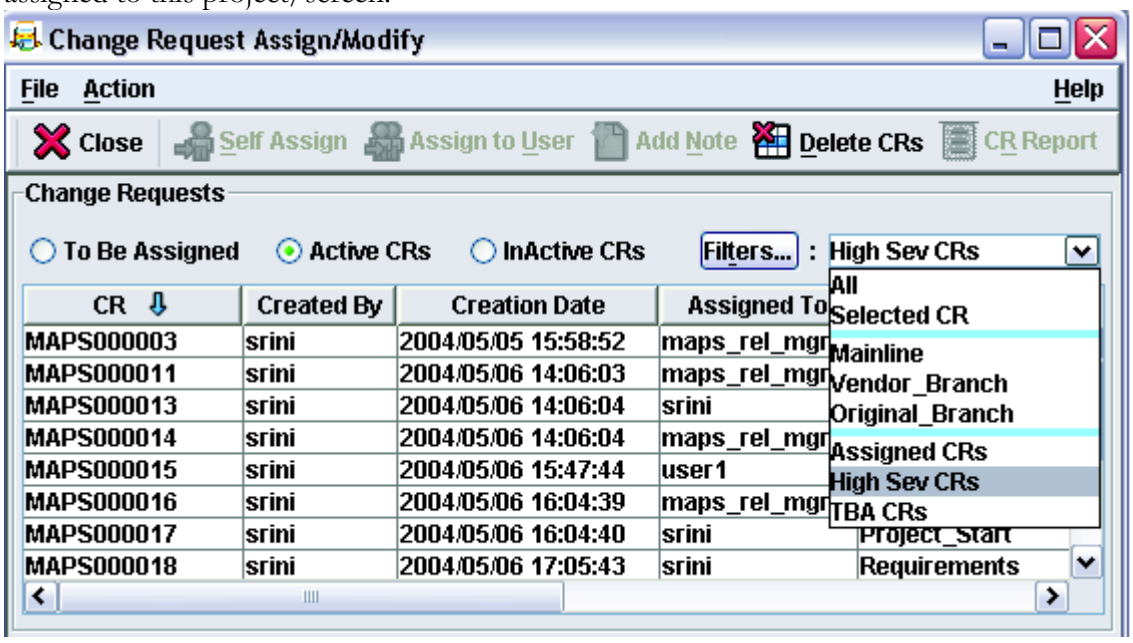


If you have multiple rows defined in your expression you can also re-order the rows by simply selecting the appropriate row and then the up or down arrow. If you want to group certain parts of your expression you can do so by selecting those rows to be grouped and selecting the right arrow. To ungroup just use the left arrow.





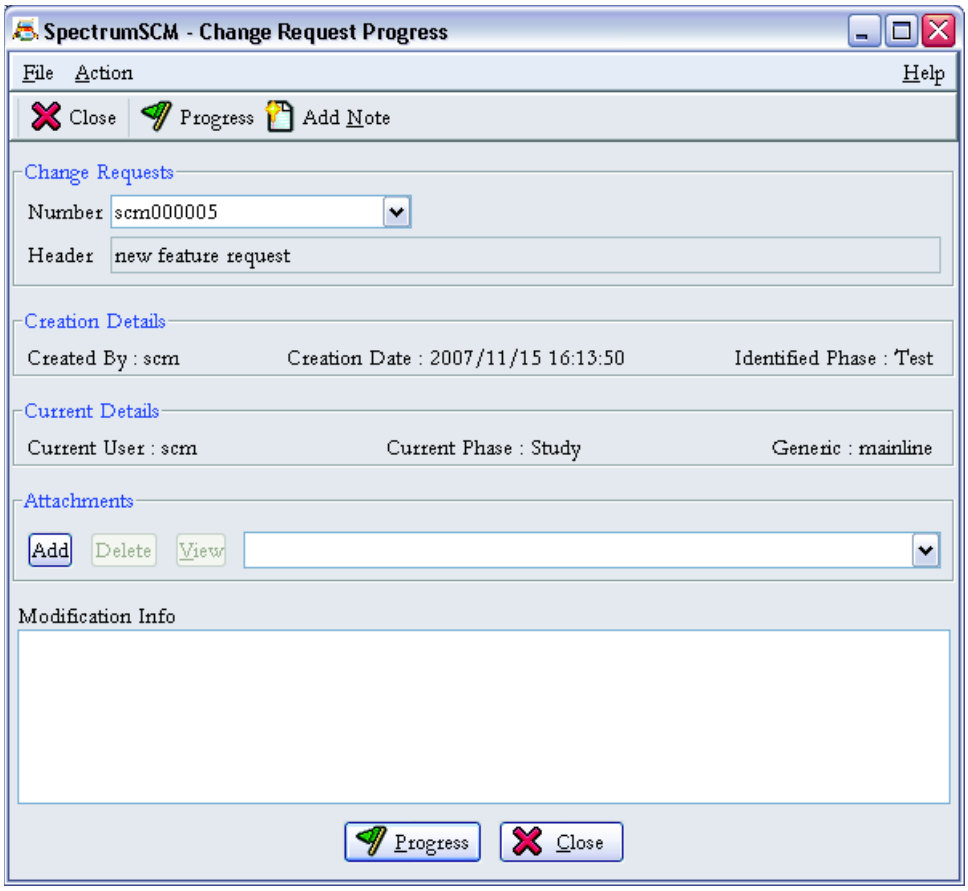
When your edits are complete save them, or you can cancel out and not save them if you so desire. Remember that you also need to assign this filter to a project/screen before you will be able to use it. Currently the CR Filters are supported on the CR Assign/Modify screen and the main screen Active CRs list. On the CR Assign/Modify screen, in the filters choice box there are three sections delimited by a light-blue line. The first section is the pre-defined filters, "All" and "Selected CR", the next section is the list of generics for this project, and the third section is the list of filters assigned to this project/screen.



7.8 Progressing Change Requests

The power of SpectrumSCM in managing workflow is in the Change Requests and the ability to move, manage, and monitor them through the defined process phases. When a user has finished with an assigned task, he or she will ***progress*** the CR to notify the generic engineer (or the system, if an automatic workflow has been set up) that the CR is ready to be assigned to the person responsible for handling the next life-cycle phase (for example, when development is complete, the CR is progressed to testing and assigned to a tester).

When a CR is progressed, information or notes can be added to describe what has happened during the phase. For example, if the CR was in a study state then the notes should include the results of that study, what action is recommended, and what documentation was produced. If the CR was in a development state then the notes could include some description of what has been changed and any areas of specific interest or difficulty. Any new or updated attachments can also be recorded (test reports, screen snapshots for user guide updates etc).

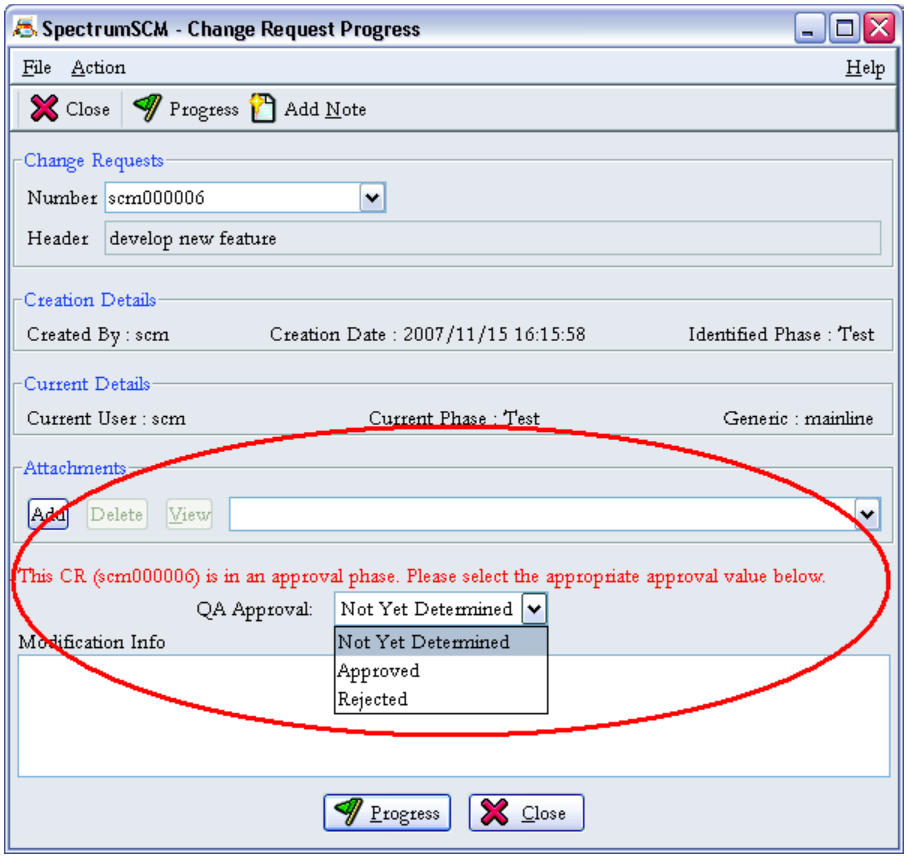


Once a CR has been progressed, what happens depends on whether an automatic workflow is in-place or not. By default the CR will be placed in the **To Be Assigned (TBA)** state and will show up on the Generic Engineer's screen with a yellow T indicator  . If an automatic action is specified for this transition the CR will skip the TBA state and be directly assigned to the user responsible for the next phase in the workflow i.e. the test team leader for testing CRs etc.

If the CR is in the TBA state the Generic Engineer will then assign the CR to the next phase and to the appropriate project team member. Depending on the roles and permissions, the project manager, project lead or lead developer might also have the ability to assign CRs. (*See Chapter 5 for details on user management, roles, and permissions).*

NOTE: If a CR is assigned in error, it can be reassigned and notes recorded about the error, but the erroneous assignment will remain in the history records for the CR. Start and Stop dates (from assignment to "progress the CR") are kept for workflow analysis. Dates will show if the error was quickly detected and corrected or if it caused a delay.

If the CR is being progressed from a phase that is marked as an Approval Phase (*see Chapter 6 for workflow definition and approval attributes*), the user will be prompted for the approval/rejection. This will then be recorded against the CR in the history section.

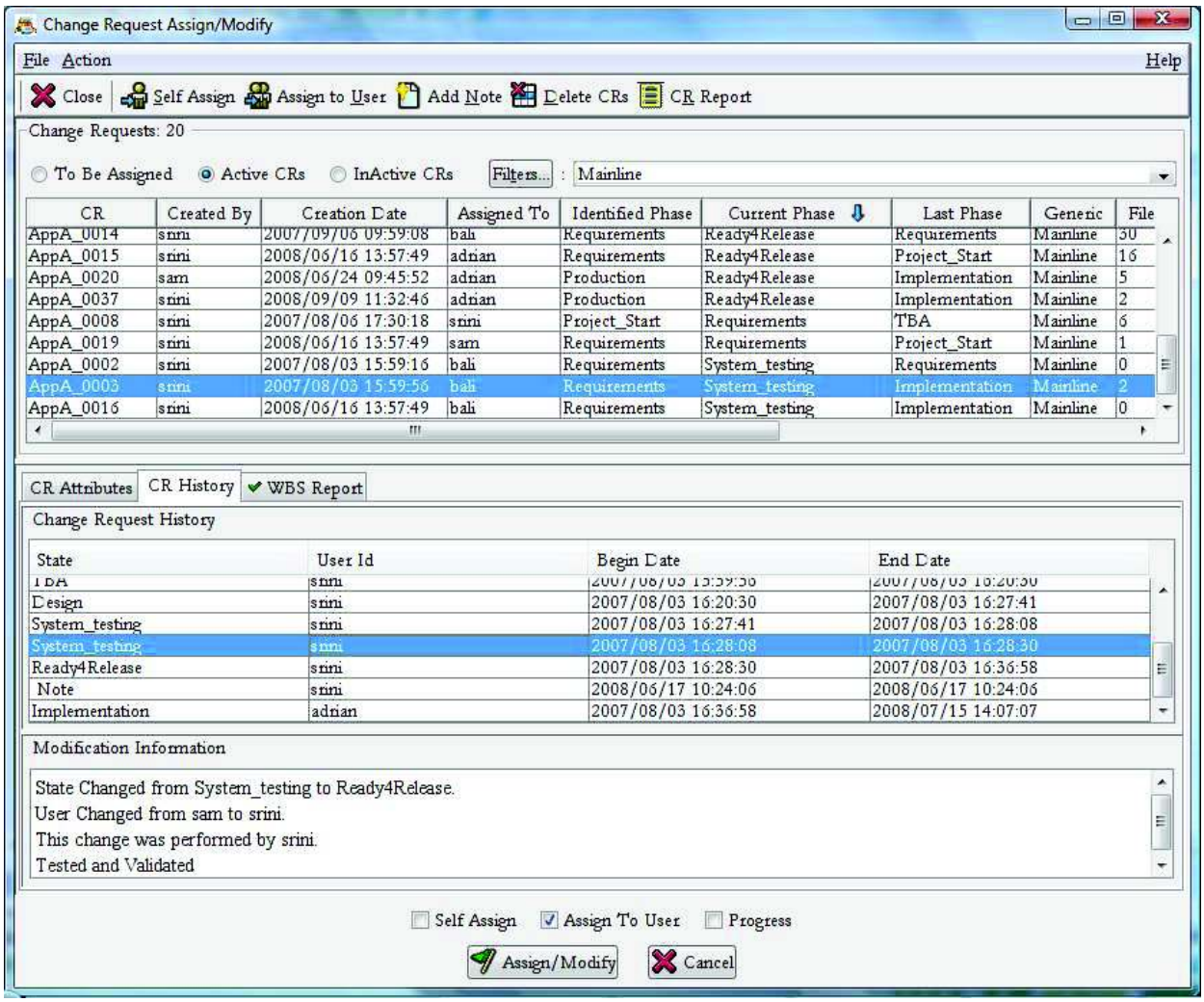


7.9 Display CR Details and History

The details and history of a CR can be displayed by running a Change Request Report by double-clicking on the CR or via the Main Screen Reports / All reports menu option or from the Change Request Assign/Modify screen.

Through the Assign/Modify screen details can be viewed interactively in the lower part of the screen. The attributes, header, description, and any attachments are available under the primary "CR

Attributes" tab. The state transitions and any notes made are available through the "CR History" tab.



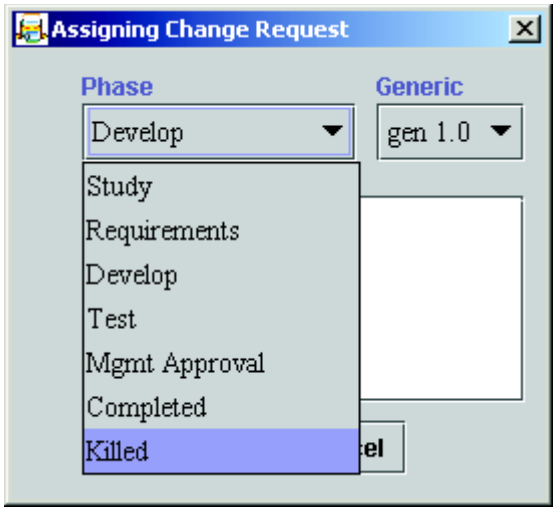
Reports can be run on TBA, Active, or inactive CRs. Reports can be viewed online, printed or saved to a file. *See Chapter 10 for details on Reports.*

7.10 Killing Change Requests

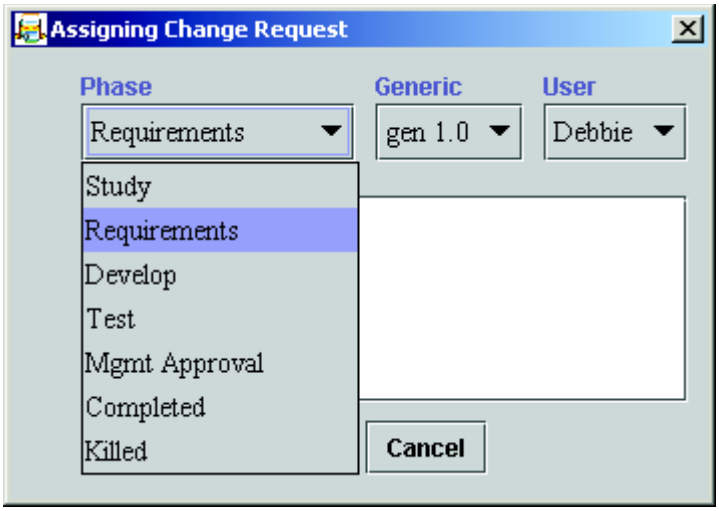
CRs that are added in error, duplicates, or those deemed to be inappropriate for any reason can be "killed". "Killed" is just a special state defined and aligned with the InActive category. Modification information or notes can be added to describe why the CR was killed.

A CR cannot be killed if there are any file level modifications associated with the CR. If the CR is really to be killed, those file modification would either have to be moved to another CR through the File Relocator (Main screen -> CR menu), or the file modifications would have to be deleted (if permissible, using the File Version History -> Rollback and Delete option).

Killed CRs are inactive and are therefore not assigned to a user. All killed CRs can still be viewed and modified via the Change Request Assign/Modify screen.



A killed CR can be revived (in case it was a mistake or you change your mind). On the Change Request Assign/Modify screen, select inactive CRs. Select the CR to be revived and click Assign/Modify. Select an active phase and assign the CR to a generic and a member of the project team.
Click OK and the CR becomes active again.

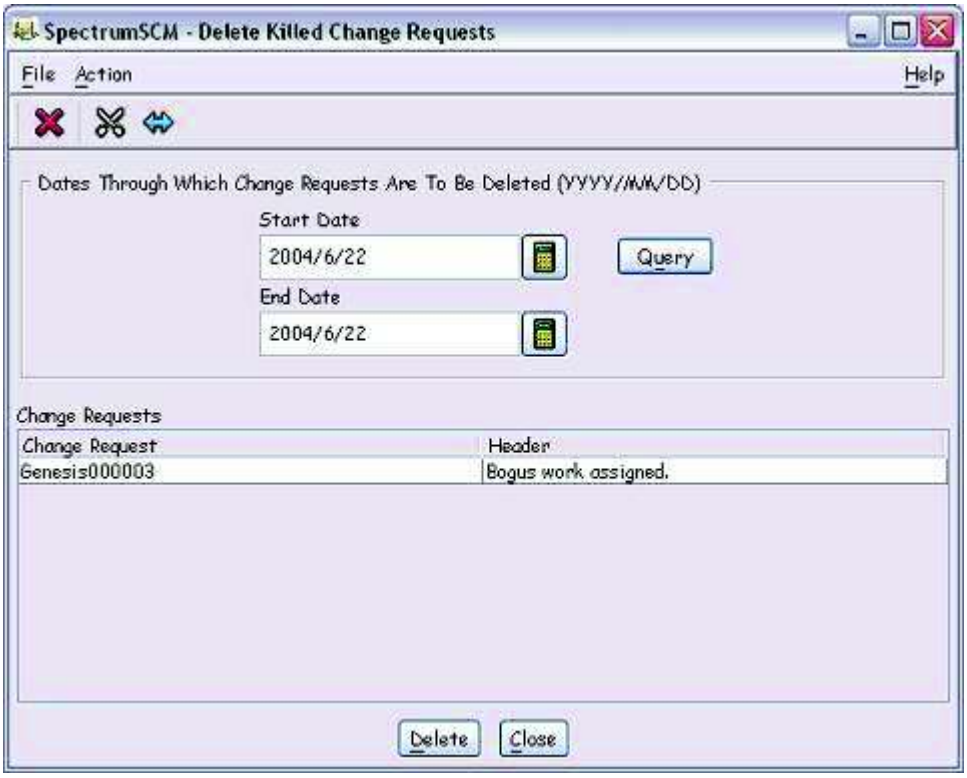


7.11 Deleting Killed CRs

Eventually, killed CRs pile up and you will want to clean them up.

Note: A CR cannot be killed if there are any modifications associated with the CR; therefore, a CR with modifications associated with it cannot be deleted.

To delete killed CRs, bring up the **Delete Killed Change Requests** screen using the ***Action -> Delete Killed Change Requests*** menu option off of the CR Assign/Modify Screen.



Select the date range for the Killed CRs that you want to delete (last year's for example). The specific date that is queried is the date that the CR was killed (inclusive). The format for the date is "YYYY/MM/DD" or it can be chosen from the calendar selector buttons.

Select a date range, and then use the **Query** button to display the killed CRs matching the date range. Then you can select specific Killed CRs to delete, multiple selections are allowed. Select the CR(s) to delete and press the **Delete** button. Be careful - this function permanently removes the CRs from the system and they cannot be re-activated.

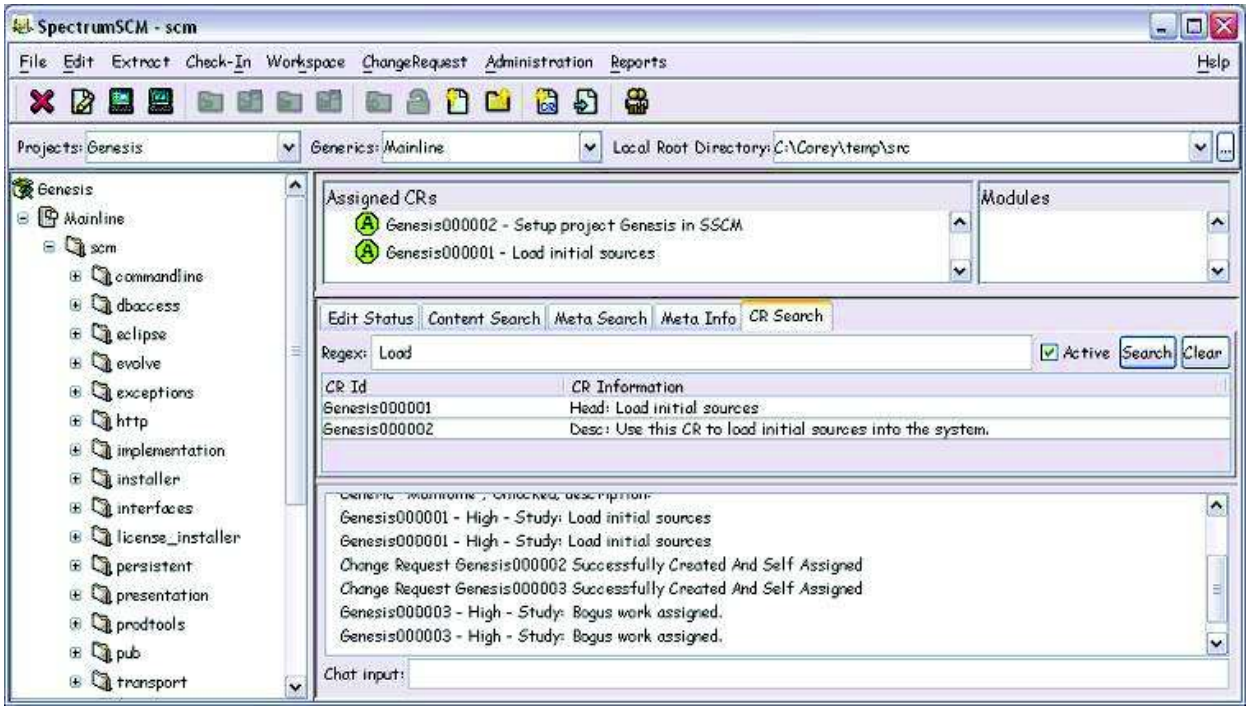
7.12 Searching Change Requests

In the Middle Panel of the SpectrumSCM main screen, the CR search tab can be used to search for CRs by either CR number or content.

CR Search provides the capability to search the change requests for any text matching the requested search pattern. Control is defaulted to only search for active CRs but can be expanded to search all CRs (active and inactive).

NOTE: On a large project, searching all CRs could involve a lot of work and therefore a response might take a while. Be patient!

Once a search has been run, you can select a result line and double-click to run the full CR report for that change request. Alternatively, you can right-click and bring up the Assign/Modify screen if you have the appropriate permissions.



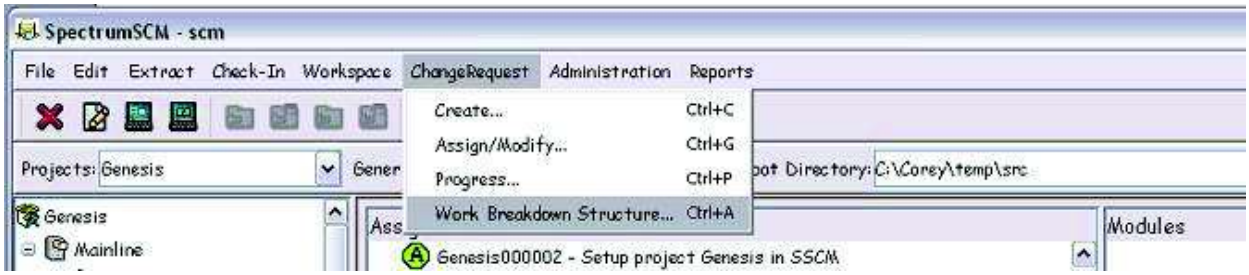
7.13 Change Request Work Breakdown Structures

Change Requests in SpectrumSCM can be grouped together in parent/child or peer/peer relationships. This allows project leaders to developer high level CRs as complete features, requirements or bug fixes that can then be broken down into a cascade of smaller specific CRs for assignment to individual users. The relationships between the CRs are enforced at the release level. This means that a high level CR in a parent/child relationship cannot be added to a release unless all of the CR's assigned children are either in the release or are ready to be placed in the release.

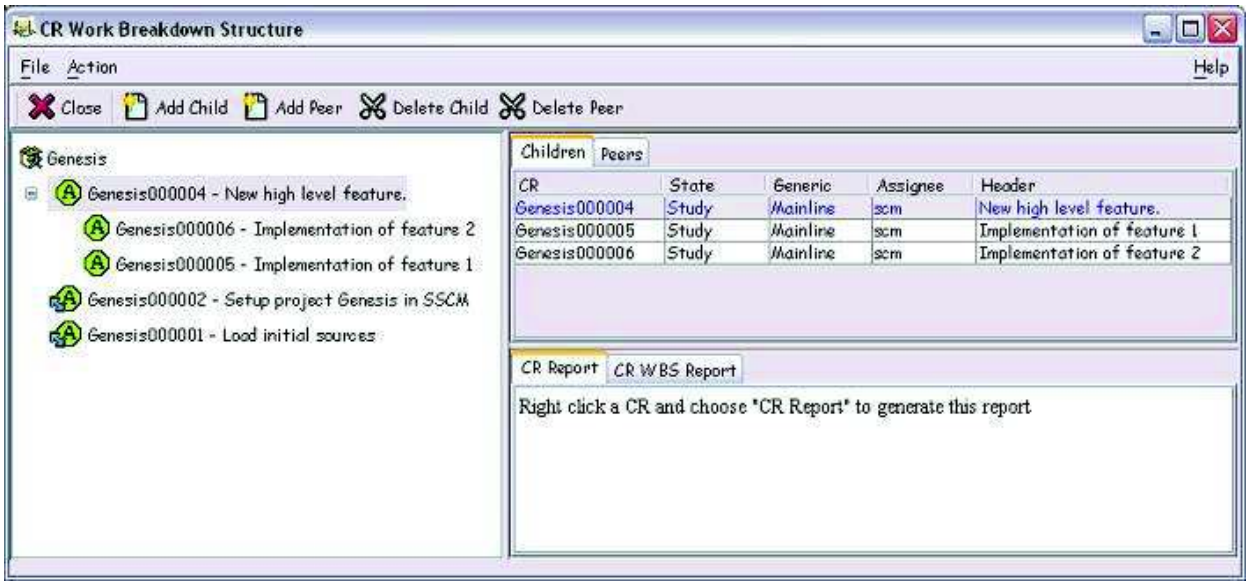
Peer to peer relationships are similar in nature. Peers are tied together so that any one of the CRs cannot be placed into a release without the others.

You can also establish **parent-as-peer WBS option** to further tighten work-breakdown structure definition. This relationship means that you get the strength of the **peer-to-peer** relationship and maintains the hierarchical organization of the **parent-child** relationship.

The Change Request Work Breakdown Structure screen provides a project level admin user the ability to make and break Change Request relationships. To access the WBS screen, use the ChangeRequest / Work Breakdown Structure… menu item.

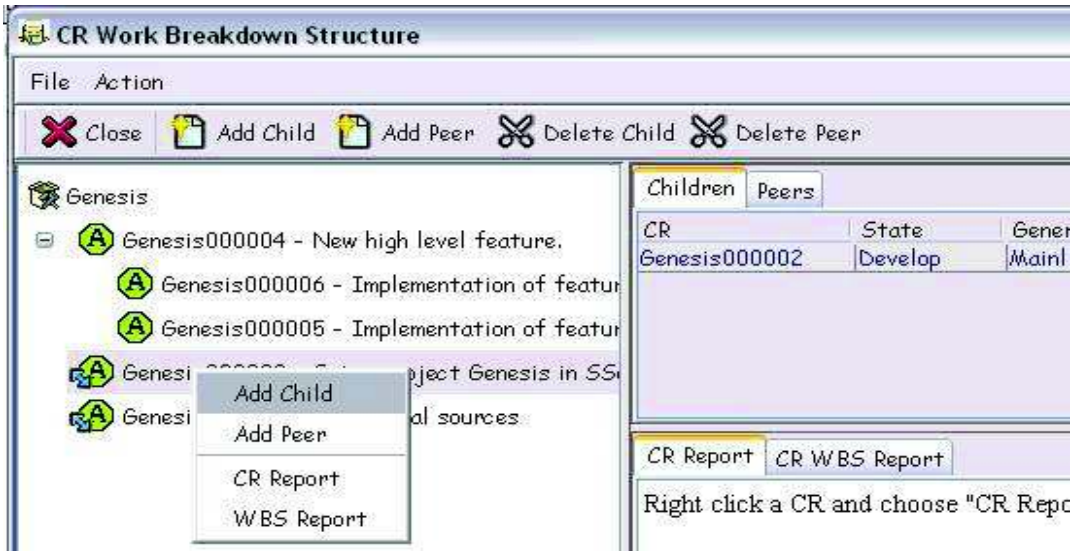


The WBS screen has three main sections. On the left is a tree view of the CRs and their relationships. On the right are two panes, one displays the WBS relationships for the selected CRs in a top-right table view. The lower-right portion of the screen displays CR reports output.



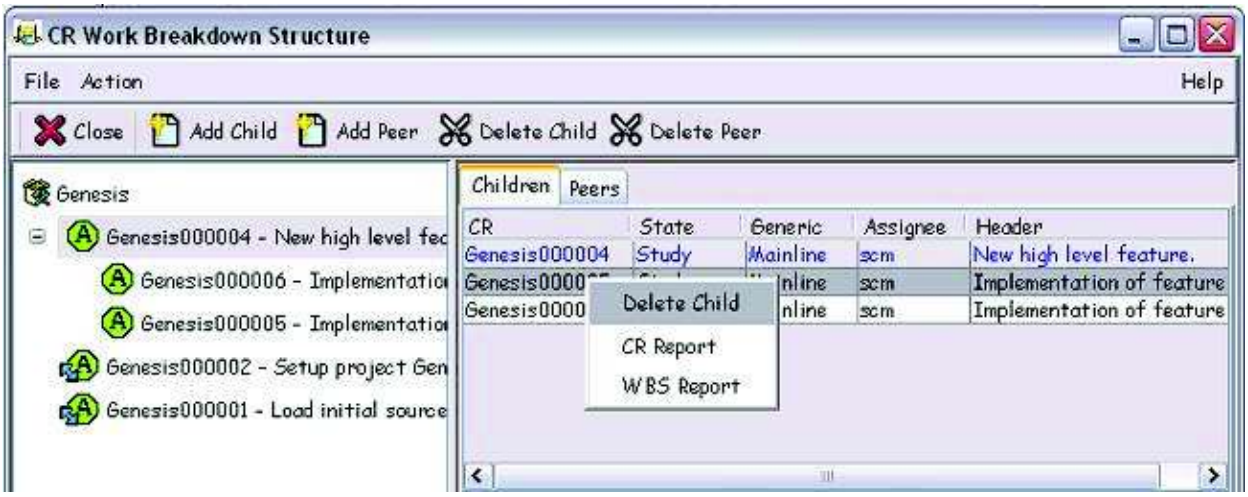
In this example, CR #4 is the parent of CRs #5 and #6. CRs #1 and #2 are tied together in a peer to peer relationships. CRs involved in peer to peer relationships have a small blue left right arrow icon associated with their normal icon. CRs involved in parent/child relationships will be displayed as a tree view with an expansion + or – sign. Peer CRs can only be defined at the top most level. That is, CRs already involved in a parent/child relationship cannot also be involved in peer/peer relationships.

To add children to a parent or to add a peer to another CR, right click on the parent or peer CR to bring up the context sensitive menu system.



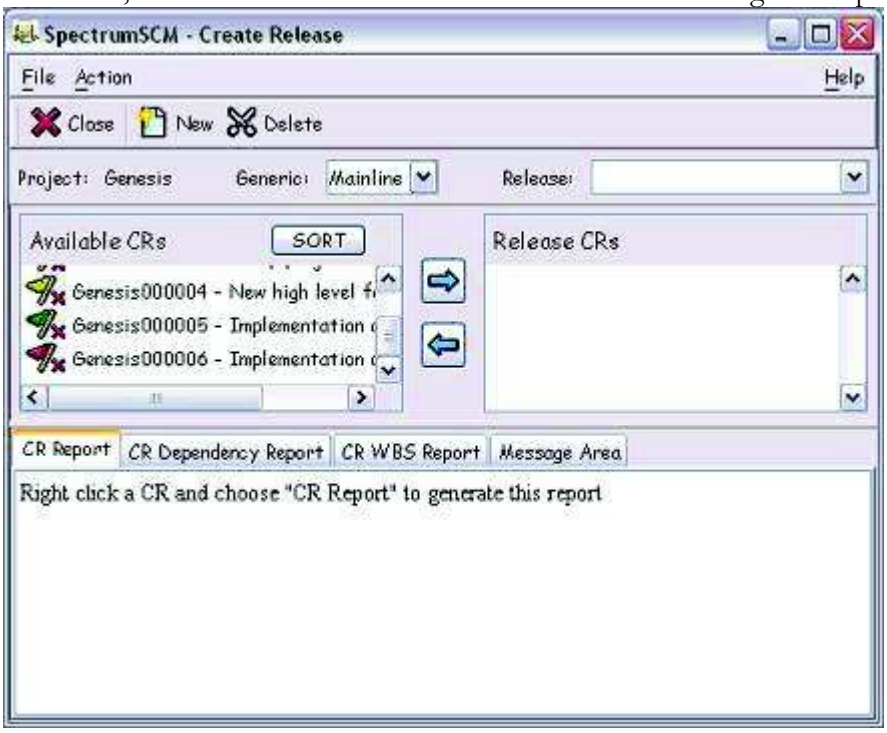
The CR and WBS reports can also be run from the context sensitive menu. When the reports are executed, the report output will show up in one of the two tabbed panes at the lower right of the screen. If a custom report viewer is defined (*See chapter 4 for details on user preferences*) the report output will be displayed in the custom report viewer instead.

Relationships between CRs can be broken at any time. To delete a child from a parent child releationship, select the parent CR in the tree view on the left and then click the "Children" tab on the right hand side of the screen. Now individually select the children to be removed from the relationship and then press the "Delete Child" button on the top of the screen, or right click to get the context sensitive menu.



Work Breakdown Structures are enforced in the release management screen (see Chapter 9 – Release Management). Just like file level dependency checking within CRs, the release management screen also does CR level dependency checking. The color coding is exactly the same for CRs regardless of whether a dependency is formed at the file level or at the CR level. However the tooltip will indicate which type of dependancy exists against a yellow flagged CR.

In this example CRs #4, 5 and 6 are involved in a WBS with CR #4 acting as the parent. CR #5 is



complete and ready to be assigned to a release while CR # 6 is red-flagged, because it is incomplete, and not ready for assignment. The parent CR has been marked as completed but is yellow flagged due to the CR level dependency between it and CR # 6. The parent CR #4, cannot be placed into the release until all of the children CRs are green-flagged. CR level dependencies can intermix with file level dependencies too. To distinguish between the two, run both the WBS report and the CR Dependency report against any yellow flagged CR to determine the reason why it is yellow flagged. The WBS and CR Dependency reports can be accessed by right clicking the CR to activate the context sensitive menu system.