Overview

Bugs may apply to multiple branches, however, currently we only have a single bug that tracks the fixes for all affected branches. We do this with a collection of custom fields that may or may not be consistently updated. In addition, the status of the bug does not always reflect the status of the bug on a given branch. We need to be able to track the status of bugs across the various branches that are affected by this. In order to meet this need, we will be adding Sightings into Bugzilla.

A sighting represents the instance of a bug occurring on a specific branch. Each sighting will track the various values and state of the bug for its branch. A bug that contains one or more sightings is known as a Master Bug; the Master Bug's status reflects the overall status of the bug based on the current status of the sightings.

Terminology

- **Sighting**: A Sighting is an occurrence of a bug for a given branch.
- **Master Bug**: A Master Bug is a bug that has one or more sightings.
- **Branch**: A Branch typically refers to a version of a Product and Component, however, there may be sightings across Products or Components.

How Sightings are Stored

We've decided the design that gives us the most versatility and functionality re-use is to have sightings be bugs. We will be adding a new column to the bugs table which will allow us to say what master bug the sighting belongs to. This means that if a bug is a sighting then it will have its master bug filled out. If it is a master bug, then it will not have a master bug associated with it. Sightings can only go one deep, so there is no hierarchy in this relationship; there may be many sightings to one master bug, but no master bugs as sightings of another master bug.
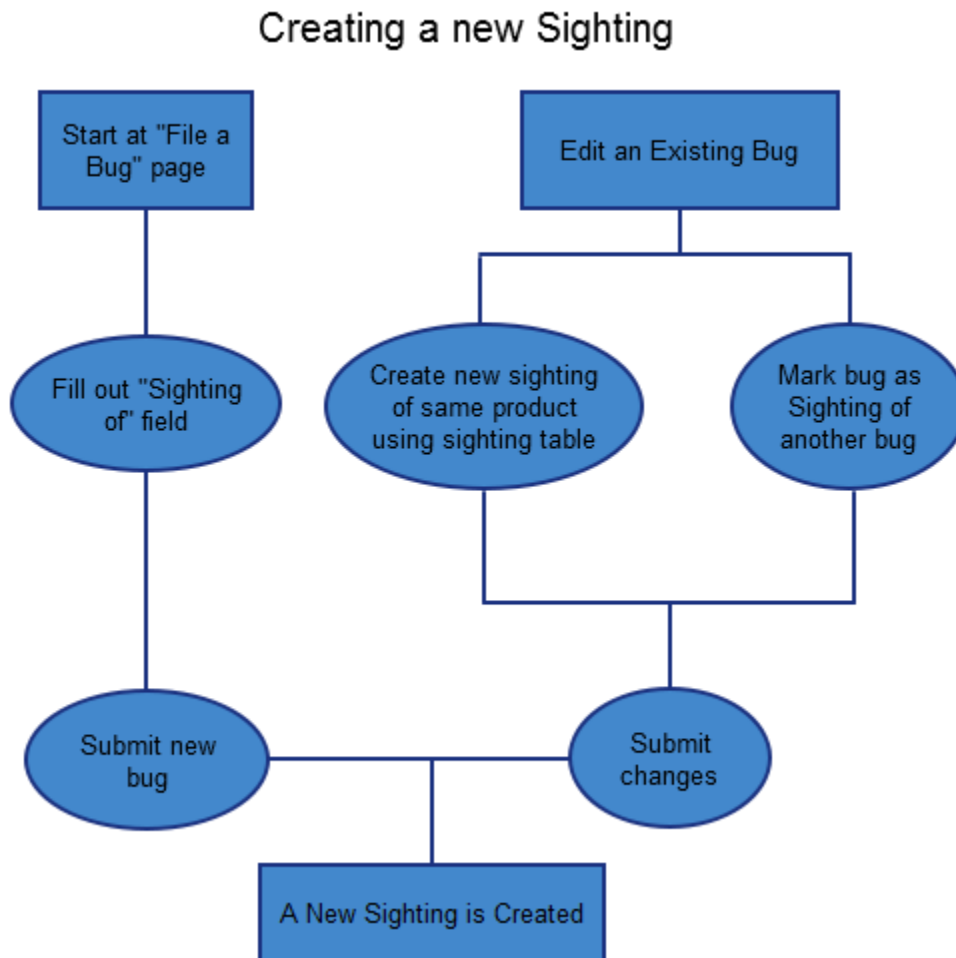
In this implementation even sightings will have their own bug ids associated with them. You can think of each of these sightings as individual bugs that tracks the occurrence of the master bug in a specific branch. This gives each sighting a unique identifier that we can use to track and modify it. This also allows us to have differing values for any field, including custom fields, for each sighting. We can also have per-sighting comments, attachments and basically anything else that can be done on a per-bug basis.

We will also include a table that contains a sighting ID and a field ID. This table represents what sightings have specific fields varied on them. The general concept is that all sightings will have their values synched with the master bug unless that specific field is flagged as varied on that sighting. Once a field is flagged as varied on the sighting, that sighting will have its own value for that field and will have that field show up in the sightings table (see "Viewing a Sighting" below).

Creating a New Bug

When a new bug is created, it will have no sightings and be treated as a regular old bug. Sightings may be added to this bug which will cause it to become a Master Bug. In the initial version of this feature, there is no way to remove a sighting from a master bug or convert a master bug back into a regular bug with no sightings.

Creating a Sighting

Creating a new Sighting

```
Start at "File a              Edit an Existing Bug
  Bug" page


Fill out "Sighting    Create new sighting    Mark bug as
    of" field          of same product       Sighting of
                       using sighting table  another bug


  Submit new                          Submit
     bug                             changes


              A New Sighting is Created
```

There are three ways that a sighting may be created:

1. When filing a new bug, mark it as a sighting of an existing master bug. **[DEFERRED]**
2. Create a new sighting from an existing master bug.
3. Marking an existing bug as a duplicate of a sighting or master bug. **[DEFERRED]**

We are deferring the methods of creating a sighting anywhere other than the sightings table on the bug edit page. You will not be able to tag an existing bug as a sighting of another bug nor create a sighting from the new bug page.

Sighting	Status						
[38464](#)	NEW	Version:	3.0				Add Field
38466	ASSIGNED	Version:	1.0	Platform:	Macintosh Mac OS	Add Field
38465	RESOLVED FIXED	Version:	1.2	Target Milestone:	Q4	Add Field
38467	RESOLVED FIXED	Version:	2.0	Target Milestone:	Q1	Platform ▼ PC ▼ Add Field

Change several sightings at once.

Create a new sighting on field Version ▼ --- ▼ Create Sighting

Orig. Est.	Current Est.	Hours Worked	Hours Left	%Complete	Gain	Deadline

In order to create a new sighting for a bug, you need to choose what field the sighting is going to be based off of. This field can be any editable field on a bug including product, component, version, target milestone and many more. Once a field has been chosen, the user will be provided with an input where the new value for that field may be entered. There is also an "Edit Description" link that when clicked will provide a text box that can be used to edit the initial comment on the bug. If no description is provided, the sighting will be created with the same description as the master bug.

Upon pressing the "Create Sighting" button, the new sighting will be created and associated with the master bug. This sighting will now have the field it was created on marked as "varied" and will be displayed in the sightings table. For more information on these "varied" fields, see the "Viewing a Sighting" or "Editing a Sighting" sections below.

It is possible to create a sighting using the product field and choosing a product + component that differ from the master bug. In this scenario, you will be asked to provide a product and component. The field dependent upon the product (version, target milestone, etc) will them be implicitly treated as "varied" by Bugzilla and will not be synched over when changes are made to the master bug. This is also the case for any other fields that have other fields dependent upon their values.

Future Planned Features

In the future there may be more ways to create a sighting of a bug. We may allow for a one time conversion of a bug to a sighting of an existing bug. We may also allow for master bugs to be duped to one another providing a "transfer" of sightings from the dupe master to the non-dupe master.

Viewing a Sighting

When viewing a master bug it should be very obvious that the bug you are viewing is indeed a master bug; this can be done by changing the way the header of the bug is rendered or some other visual indication. All sightings associated with the master bug will be rendered in a table; even if a bug is a sighting of a master bug, it will have the same table rendered in it but will also include the master bug in the contents. The status and resolution of the sighting along with the fields that vary for the sightings will be included in the table. When a sighting is created, the user chooses a field that the sighting is based off of; in most common cases this would be version. Additional fields that vary between the sighting and master bug will show up in the sightings table and may be added by using the "Add Field" option. For more information on how these fields work, see "Editing a Sighting" below.

This table will be sorted by status then bug id; this means that the closed sightings will appear at the bottom of the table where as currently open ones will appear at the top. The far left column includes the bug ID for each of the sighting; the master bug is rendered slightly different from the others so that it is easily recognizable. If a user doesn't have permissions to view the sighting bug, then they will only see the bug id and the status + resolution of the sighting.

Because sightings themselves are actually individual bugs, a user will be able to edit a sighting as if it were a bug. On a sighting's bug edit page, there will be the same table as was on the master bug's page. This time, however, it will display the master bug in the list of sightings instead of the sighting that is currently being viewed. This master bug will be rendered differently so that it is easily distinguishable as the master bug for the sightings. If a field is not varied for a sighting, it will remain read-only; only varied bug fields may be edited on the sighting.

Attachments will be on a per-sighting basis, but attachments made to the master bug will show up in the sighting's attachments table. They will be rendered differently so that it is easy to tell that these attachments are on the master bug and not the sighting. When viewing the master bug, the attachments in the individual sightings will show up as well, if the user has permissions to view them.

Comments on the master bug will also show up interwoven chronologically in the sighting's own comments. They will be rendered differently so that it is easy to identify comments that came from the master bug. When users wish to make references to comment ids in a master bug, they may use a comment id formatted as such #b[bug id]c[comment id] (an example for comment 0 on Bug 1234 would be #b1234c0). This allows for inter-bug comment linking. Comments on sightings will also show up on the master bug if the user has permissions to view them (permissions to view the bug and if the comments are private or not).

There will be additional "Collapse/Expand all sightings/master bug Comments" links next to the current collapse/expansion links.

Future Planned Features

We intend to make the sightings table fully editable, however, due to architecture restrictions we will not be able to initially do this. Once we are able to implement this, we will have editable fields for all of the varied fields on a sighting. If you lack permissions to edit the sighting, then you will get a read-only version of the row.

Editing a Master Bug (Synching Fields)

When a user edits a master bug, the values are populated to all of the sightings. We synch the values for almost all fields except for CCs, Time Tracking, Attachments, Flags, Status, Resolution, Dupe of and Comments. If a sighting has a field that is marked as "varied" then the master bug values for that field will not be synched.

Editing a Sighting

Sightings may be edited in several ways:

1. Adding a varied field from the sighting table.
2. Editing a sighting via the bug edit page.
3. From the 'Change several bugs at once' bug list.

When the user adds a new field on a sighting, thus making it "varied," they will be prompted for the new value for that field. When submitted, that field will now contain the provided value on the sighting. This field will also be flagged as "varied" and thus will not get overwritten when the master bug is edited. If the user wishes to edit the values in these "varied" fields, he/she will need to go to the bug edit page for that sighting and edit the field itself.

The bug edit page for sightings will work like any other bug edit page with one exception: users may only edit field values on the sighting that are marked as "varied" or are not synched over by the master bug (time reports, comments, attachments, etc. See "Editing a Master Bug" section for more info). If a user attempts to edit the value for one of these non-varied fields, then they will be confronted with an error notifying them of the problem. The sightings table mentioned in the "Viewing a Sighting" section is also present in sightings; the user may add new fields to sightings in this table regardless if they are viewing a specific sighting or the master bug. It is, in effect, the same table for every sighting as well as the master bug.

Under the sightings table will be included several other buttons:

1. Change Several Sightings at Once
2. Add a new sighting.

The "Change Several Sightings at Once" link will bring you to the "Change Several Bugs at Once" bug list that will contain all of the sightings in the list. This will allow more fined tuned mass editing of the sightings instead of what is just provided in the sightings table. This, however, will only be useful for mass editing of the "varied" fields on the sightings. If you attempt to mass edit non-varied fields on sightings, you will be prompted with an error notifying you that they must be marked as varied first. To do mass updates to non-varied fields on all the sightings of a master bug, it is advisable to just edit the master bugs as they will populate the values down to their sightings.

The "Add a new sighting" section allows users to create a new sighting that are initially varied off of the provided field. There will be a field list for the user to choose from and once selected, another input field will appear so they may provide an initial value for that field. Once submitted, the new sighting is created with the new varied field containing the provided value. The user will then be redirected back to the master bug's edit page (probably to the sightings table itself).

Emailing Changes

When a master bug is edited, its values will be synched to its sightings. People who are CCed on the master bug will get notifications for edits to the master bug, and people who are CCed on the sightings will get notifications on the sightings. If a user is only CCed on the sighting, they will only get email notifications for the sighting. If a user is CCed only on the master bug, they will only get notifications on that master bug.

We intend to add email aggregation and more email preferences, but wont until we get additional feedback on this feature.

Future Planned Features

We may aggregate email changes between sightings so that only one email is sent for mass edits of bugs. Additionally there may be some email preferences added so that users may choose not to be notified of changes to sightings.
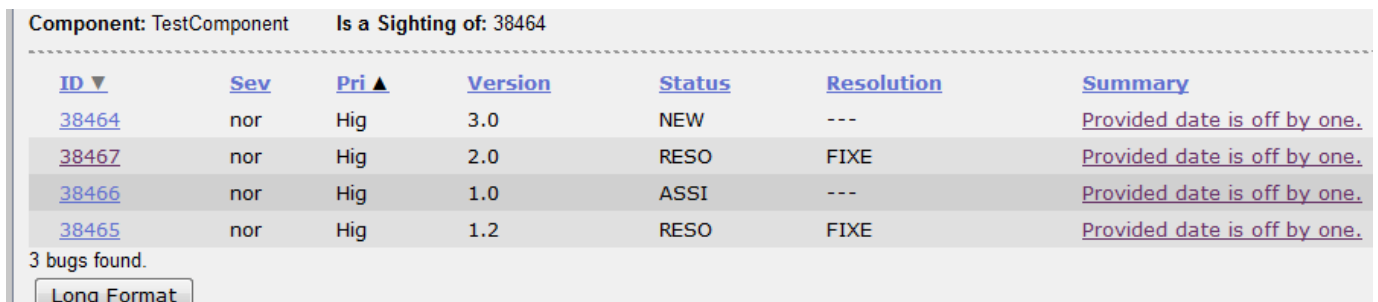
There may also be an addition to the mail header for bugs that will allow users to filter on master bugs and sightings. For now, however, there is not enough use cases that support the cost of implementation.

As mentioned previously in the "Viewing a Sighting" we intend to make the sightings table fully editable so that "varied" fields on sightings may all be changed through a single bug edit page.

Searching Sightings

Initially we will only be adding an additional condition to the custom search section containing an "is a sighting of" field. More complex searching that would allow you to find master bugs that have sightings with given conditions will be implemented later. There will also be a checkbox that will say "Display Master Bugs Only" which will only show master bugs in the result list.

Search Results

Component: TestComponent			Is a Sighting of: 38464			
ID ▼	Sev	Pri ▲	Version	Status	Resolution	Summary
38464	nor	Hig	3.0	NEW	---	Provided date is off by one.
38467	nor	Hig	2.0	RESO	FIXE	Provided date is off by one.
38466	nor	Hig	1.0	ASSI	---	Provided date is off by one.
38465	nor	Hig	1.2	RESO	FIXE	Provided date is off by one.

3 bugs found.

Long Format

When we render sightings in a bug list, we will render them under the master bug. The master bugs (or sightings) will be rendered slightly differently as to be easily recognizable in the list of bugs.

There will be a checkbox on the search page that is defaulted to checked that is "Display Master Bugs Only." This means that for any search, by default, you will only see master bugs in your results list. If a master bug has a sighting that matches your search criteria, the master bug will show up in the results. If the "Display Master Bugs Only" checkbox is unchecked then you will get sightings listed in the results as well.

Future Planned Features

We will be providing much more advanced searches for sightings and master bugs. These will include the ability to search for master bugs that have sightings closed in branch A but open in branch B. We will be adding the ability to perform these searches based on what feedback we get in how people are trying to find sightings.

Permissions and Sightings

There are several permissions that need to be observed when dealing with sightings:

- Users cannot add sightings to a bug they cannot edit.
- Permissions are maintained so if the user cannot edit any sighting, if they try to edit the master bug and it syncs the changes, it will fail.
- If a user doesn't have permissions for a specific component or product, they cannot add a sighting for that component/product.