Atacama Large Millimeter / submillimeter Array

ALMA Helpdesk: Staff Guide

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Table of Contents

1 Supporting Material

1.1 Acronyms

ALMA	Atacama Large (sub)Millimeter Array
AOP	ALMA Operations Plan
ARC	ALMA Regional Center
CASA	Common Astronomy Software Applications
DSO	Department of Science Operations
EA	East Asia
ESA	European Space Agency
ESO	European Organization for Astronomical Research in the Southern Hemisphere
EU	Europe
EURO-VO	European Virtual Observatory
EVLA	Expanded Very Large Array
JAO	Joint ALMA Observatory
JIRA	From Wikipedia: “Rather than an acronym, JIRA is a truncation of Gojira (the Japanese name for Godzilla)”
KB	Knowledgebase
MOU	Memo of Understanding
NRAO	National Radio Astronomy Observatory
NA	North America

PHT	Proposal Handling Team
USS	User Support Specialist
VAO	Virtual Astronomical Observatory

1.2 Related Documents

No.	Title	Authors	Version & Date	AEDM ID or document name
RD1	ALMA Helpdesk: Requirements	Various	Version B0, 2011-07-27	AEDM# TBD
RD2	Kayako SupportSuite	Various	V3.6, revision 13	http://www.kayako.com/manuals/

2 Introduction and Concepts

The ALMA helpdesk provides a mechanism for keeping track of user queries, thus ensuring that user queries are answered in a timely and professional manner. The helpdesk also provides a Knowledgebase, which can be used to find answers to common queries without the need to send in a helpdesk ticket or without the user actually logging into the helpdesk system.

The helpdesk system is accessed for users under the ALMA Single sign-on mechanism. Staff with responsibility for answering tickets (User Support Specialists [USS]) will have separate "staff" helpdesk accounts to log into the helpdesk.

The helpdesk setup consists of a single instance of Kayako, but staff at each ARC sees only their own ARC's departments and tickets. There is a mechanism for transferring tickets between ARCs as well as submitting tickets to the Proposal Handling Team (PHT). However, it is the goal of the helpdesk to "transfer knowledge and not tickets". So, the transfer of tickets between ARCs should be done sparingly and be contained to only those tickets that require specialized expertise from a particular USS from another ARC.

The helpdesk software (SupportSuite) is a product of Kayako Infotech Ltd., and is in use in a number of other astronomical environments such as Spitzer, Herschel, ESA, Euro-VO and NRAO. It is highly configurable and customizable, and a detailed description of what is available is given in the Kayako manual. This guide is intended as a reference for ALMA staff, providing an overview of key features of our particular implementation of the Kayako helpdesk.

2.1 User and Staff Roles

Kayako keeps user and staff roles separate. USS should not usually need to submit tickets as users except under special circumstances. To submit a ticket as a user, a staff member would login to the user portal using their ALMA user ID and password (obtained through self-registration on the science portal) and click on the "Helpdesk" tab to obtain the user interface to the helpdesk.

Note that there is currently no relation between the ALMA user ID and the Kayako staff ID. A staff member is free to set up the same username and password for both, but any change in the accounts (for example, a password change) will not be transferred to the other account.

Staff can either request an individualized username and password through their helpdesk manager or helpdesk administrator or they will be assigned a generic username (commonly first initial and lastname) and password as well as default alerts specific to their helpdesk role. The password for the staff role can be changed under the preferences tab (Section 6.2) in the Kayako environment. Recovery of the username and password for USER accounts are to be handled by the ALMA Science Portal support team.

A USS may sometimes have to submit a ticket on behalf of a user. This may happen in the case where a ticket concerns more than one staff member (e.g. question on OT and Simulator in one ticket) or the user is having problems logging into the helpdesk via the Science Portal. In order to do this properly, under the “Tickets” tab, select “New Ticket”, “Send email” and then choose the correct department in which to open the new ticket. If it is necessary to open a new ticket for those questions on behalf of the user, it is important to use the “Lookup” option (click on the small binoculars) to find the correct user and email address when entering in the “User E-mail Address” field.

2.2 Workflow

We have a specific workflow in mind based on feedback from other US observatories such as Spitzer and HST (Figure 1). Full details are given below:

2.2.1 Triage Role

Triage will usually be performed by a USS or the helpdesk Manager or other designated individuals identified by each individual ARC. Triage can perform one of four tasks when a helpdesk ticket is submitted (See Figure 1). Triage can:

1. Assign the ticket to themselves, post a reply and resolve the ticket.
2. Assign the ticket to another USS if they do not have the requisite expertise or to properly distribute the workflow across the ARC staff.
3. Assign the ticket to another ARC or to the Proposal Handling Team (PHT) through the Proposal Handling Department specific to their ARC as described in Section 4.
4. Request more information from the user who submitted the ticket and change the status of the ticket to “Pending” (Sections 2.2.4.2 and 7.1.3)

Triage can see all departments within the ARC in their view; in addition they can see the “Transfer to XX ARC” departments and a Proposal Handling Department specific for their ARC, which enable them to transfer tickets between ARCs and to the PHT, respectively. However, as the goal is to “transfer knowledge and not tickets”, the transfer of tickets between ARCs should be done sparingly (Section 4).

2.2.2 USS Role

A USS will, in general, be able to answer any ticket based on his/her expertise. A USS can perform one of four tasks when assigned a ticket (See Figure 1). They may:

1. Post a reply that resolves the ticket and set the ticket status to "Resolved".
2. Request more information from the user who submitted the ticket and change the status of the ticket to "Pending" (Sections 2.2.4.2 and 7.1.3)
3. Return a ticket to triage if they are (Section 7.2):
   a. unavailable to answer the ticket in a timely fashion
   b. believe it should be assigned to another ARC
   c. find that the ticket requires a level of expertise that they themselves do not possess.
4. File a JIRA ticket based on the submitted helpdesk ticket and change the status of the ticket to "Resolved" (Section 2.2.4.3)

As such, USSs are set up to see all of the departments to which users can submit tickets, and an additional "Return to Triage" department. They cannot see the "Transfer to XX ARC" or Proposal Handling departments, which are only visible to triage and managers.

2.2.3 Manager Role

We have also included a description of the role of helpdesk manager (Section 5.3). The manager will have oversight of the helpdesk, and overall responsibility for tracking tickets. In addition, the helpdesk manager will be responsible for ensuring adequate coverage from all USS in their ARC to guarantee a timely response of all submissions to that ARC from the user community. The manner in which this coverage is recorded and tracked is left to the manager of each ARC.

2.2.4 Ticket life-cycle

Our instance of Kayako allows the ticket to be assigned a particular status. The description of each status is below and illustrated in Figure 1.

2.2.4.1. Open

A ticket is considered "Open" while work is being performed on it. In this status, if no action is taken by either Triage or the assigned USS within 2 working days, the ticket status becomes "Response Overdue" (Section 2.2.4.4).

2.2.4.2. Pending

Resolution is awaiting response to a follow-up question addressed to the user. A ticket in the pending status will never default to a status of "Response Overdue".

2.2.4.3. Resolved

A reply to the ticket has been posted by a USS, which they believe solves the problem. Also, if the user has submitted either a bug report or enhancement request to a software subsystem, e.g. a new feature in SIMDATA or new VAO access to Splatalogue, that ticket should also be posted as "Resolved" and the appropriate ticket should be filed to the corresponding JIRA system (Appendix C). The reply will include a request to the user to close the ticket if they are satisfied with the response. This will be generated automatically when the ticket status is set to “Resolved”. If no action is taken by the user, the ticket is “Closed” after 14 days. The user will then be informed that their ticket has been closed.

NOTE: Following standard commercial helpdesk practice, a USS does not close tickets. This is left to the user. The resolved status is necessary so that tickets are not constantly closed and re-opened by users or a USS in the process of answering the ticket. As such, the ticket remains in the “Resolved” status until the user is satisfied with the response.

It is also possible that a user can reply to a “Closed” ticket. This action will automatically re-open the ticket and dialog in the helpdesk. It is appropriate if the user is not happy with the resolution but in this rare case, triage should see the reply to this ticket which has been automatically re-opened and then request from the user that they open a new ticket if this is a new issue or clarify the response to the ticket if the initial reply did not adequately resolve their issue (Figure 1).

2.2.4.4. Response Overdue

If there has been no action taken on a ticket by either triage or a USS within the 2 working day time window described in Section 2.2.4.1, the status of the ticket will change automatically to “Response Overdue”. (See Figure 1).

Also, if a USS replies to a ticket but does NOT set the status to “Resolved” the ticket will remain “Open” indefinitely if no reply is posted by the user or the user changes the status of the ticket. Because of this, it is important for the USS to set the ticket status to “Resolved” after posting a reply (Section 2.2.4.3).

2.2.4.5. Closed

A ticket will be set to the “Closed” status if:

1) The user has reviewed the response to the resolved ticket, has agreed the answer is satisfactory and closed the ticket
2) The ticket is closed implicitly through the user not responding within 14 days of the ticket entering the “Resolved” status
3) The ticket subject is inappropriate for resolution by ARC staff (such tickets may be closed directly by Triage or another USS).

Note that “Closed” tickets do not show up in the default ticket views; to view them, change the view to “all tickets” or create a new view (Section 6.4.1). A ticket in the “Closed” status will never default to a status of “Response Overdue”.

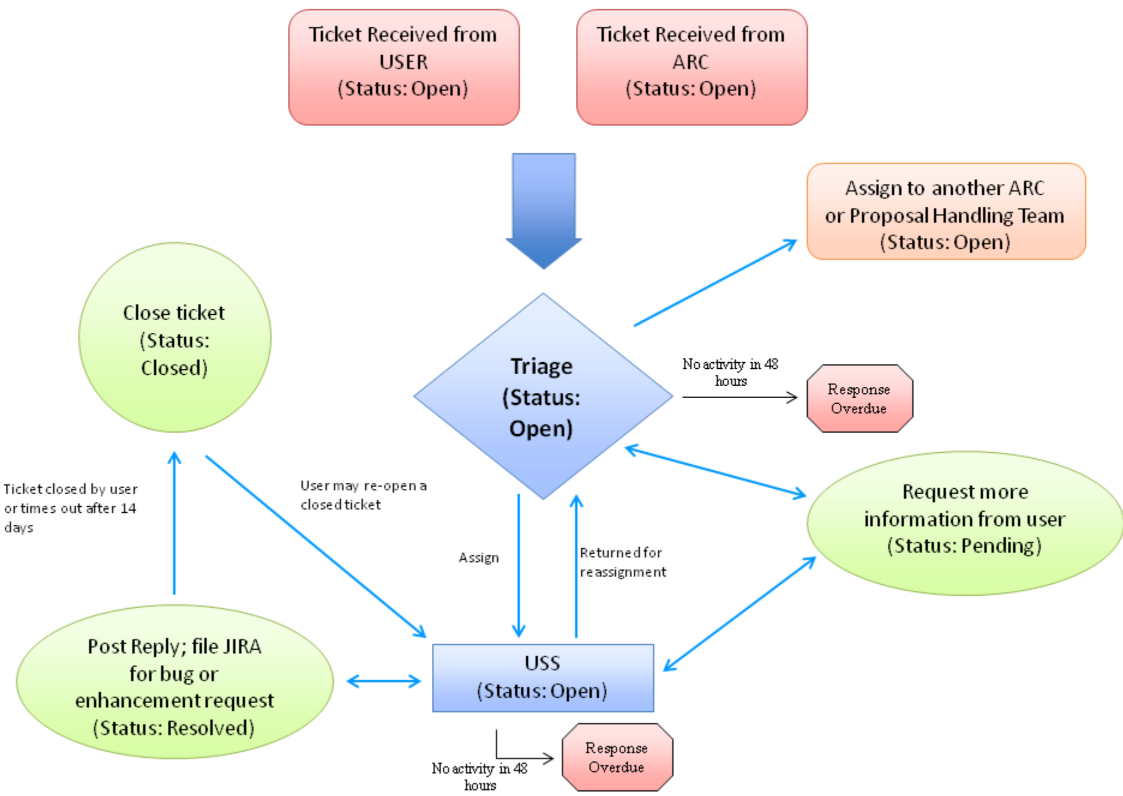

Figure 1: Helpdesk workflow

2.3. Relevant Documentation

Much of the relevant helpdesk documentation can be found at:

https://safe.nrao.edu/wiki/bin/view/ALMA/HelpdeskWG

Additional locations for supplemental helpdesk documentation include:

- ALMA Helpdesk: Requirements, Version B0, AEDM# TBD; Author: Various.
- The Kayako SupportSuite manual (http://www.kayako.com/manuals/)

3 ALMA Helpdesk Arrangement

The ALMA helpdesk has the following departments set up to send tickets to the user's affiliated ARC:

- General Queries (Science Portal/Registration, Documentation, Webpages, Proposal reviews and assessment, Project tracking, other)
- Project Planning (Available Capabilities, Call for Proposals, Sensitivity Calculator, Simulators, Splatalogue, other)
- Observing Tool (Proposal Preparation, Proposal Submission (general), Phase 2 process)
- Data Reduction (CASA, pipeline processing, etc...)
- Archive and Data Retrieval (archive access and queries, obtaining your ALMA data)
- Face to Face Support (Data reduction, sabbatical, science, short term, other)

All three ARCs share a single database, so departments can be set up such that all tickets get sent to a single ARC or to all three ARCs. The single database also allows transfer of tickets between ARCs whilst retaining the ticket ID and work logged on that ticket. A JIRA system will be set up so that ARC personnel can submit tickets to the DSO in cases where a user ticket finds a bug or requests an enhancement to one of the ALMA software tools, systems or subsystems. Similarly, access will be given to the JIRA system at NRAO or ALMA for reporting bugs and enhancement requests to CASA (including simdata and Pipeline), Splatalogue and Archive. The Knowledgebase is also common to all three ARCs and will be described in more detail in Sections 7.5 and 9.

3.1 Proposal Submission Emergency Department

During the last week before the Call for Proposals, a single department called "Proposal Submission Emergency" across ARCs will be set up that will answer urgent tickets concerning proposal submission. Triage for this department will start 36 hours before the deadline with 24 hour coverage by EU, NA and EA. EA will open and EU will close the dept at 15UT according to the following schedule:

- EA - 03 - 09 UT (12PM - 6PM Local Time)
- EU - 09 - 15 UT (11AM - 5PM Local Time)
- NA - 15 - 00 UT (11AM - 8PM Local Time)
- EA - 00 - 08 UT (9AM - 5PM Local Time)
- EU - 08 - 15 UT (10AM - 5PM Local Time) - 15UT - Proposal Deadline

A manual handoff from one ARC to another will take place when the appropriate time is reached. In addition, a representative from the JAO will also be "on call" 24 hours per day starting 36 hours before the proposal submission deadline. Triage will have the appropriate information available (phone numbers and email addresses) via:

http://wikis.alma.cl/bin/view/DSO/JAO_On_Call_wiki

of who to contact at the JAO to immediately solve urgent problems with proposal submission. After the JAO has resolved the problem they will report back to the Triage who reported the problem and the solution. Finally, Triage will contact the users directly by posting replies to the submitted tickets.

4 Policy for the Transfer of Tickets between ARCs or to the Proposal Handling Team (PHT)

As discussed in Section 2.2.1, Triage has the ability to transfer tickets between ARCs. This mechanism is intended to allow the helpdesk to leverage the worldwide expertise available to ALMA. However, this process should not be done lightly and the mechanism should be used only in the following circumstance:

- A ticket is submitted and assigned to a USS at one ARC. The USS knows specific expertise exists in another ARC. In general, we prefer that the USS contact the person with expertise at the other ARC directly (on the basis that exchanging knowledge is preferable to exchanging tickets). The solution sent by this other USS should then be contained in the ticket response and in these cases especially, a Knowledgebase article should be published. Failing this, however (for example, if the query is unusually complicated), the ticket can be returned to Triage with a note (Section 6.3) from the USS in the originating ARC explaining the reassignment.

When a request for a ticket to be transferred is sent by a USS back to triage:

- The USS must include a note (Section 7.3) in the ticket as to explain why the ticket is better suited to be reassigned to another ARC instead of the USS contacting the relevant expert themselves.
- Triage should send a reply to the ticket user explaining that it has been transferred to another ARC.
- Upon receipt by the receiving ARC, the ticket should be treated as a new ticket and assigned to the appropriate USS.

For those tickets that require assistance from the Proposal Handling Team (PHT), Triage will follow the workflow listed below:

- Triage will assign the ticket to themselves.
- They then transfer the ticket to one of 3 separate private departments of the helpdesk (Proposal Handling – NA, EA, EU).
- When a ticket is assigned to this department, the PHT account alerts have been set up so that the PHT will get an email alert that a new ticket has been submitted. A PHT account for the helpdesk will include an email exploder to the entire PHT.
- However, in order for that ARC not to lose control of the ticket, triage does NOT assign the ticket to the PHT.
- The PHT will add a note(s) to the ticket with the resolution.
- The ARC triage then replies to the user.

This workflow ensures that only members from the ARCs interact with their users.

5 Service Rules and Management

5.1 Service Rules

The ALMA helpdesk will need to have a uniform service level between the ARCs (so far as practical). In general, replies should be courteous and professional in tone. In addition, direct emails between the USS and the user (not through the helpdesk) should be avoided so far as possible.

1) Users will receive a customized reply to their ticket within 2 working days of receipt by the ARC. Ideally, this would be a resolution of the ticket, but could simply be a statement that the ticket is being worked on and, if possible, with an anticipated timescale for resolution. Ticket replies will be “signed” by the sender of the reply, but any updates to the tickets will be through the helpdesk rather than in the form of a personal email (Kayako facilitates this by sending out emails with staff names, but a “no-reply” address).

2) If a helpdesk ticket is assigned to a USS by triage, the USS should make sure that “due diligence” is done in order to find the correct resolution to the ticket. In many cases this may mean that a USS may need to review and revise the existing documentation or consult with other experts to resolve the ticket.

3) When a ticket is passed to another ARC, the triage at the initial ARC will send a reply to the user through Kayako stating that the ticket has been transferred. When the ticket is received by the recipient ARC, it is treated as a new ticket, with a customized reply being sent within two working days. Responsibility for that ticket is considered to have been transferred to the receiving ARC.

4) Open tickets that require clarification or technical details from the user will be set to “Pending” until the appropriate information is received by either Triage or a USS from the user. At the same time, a reply will be posted to the user stating the ticket status and giving a reason why the ticket has not been resolved.

5) All helpdesk tickets reporting a software problem must be verified by a USS to establish that they are not due to user error, improper documentation, or something other than a true software bug. The USS should use a system (operating system, software version, etc.) as close as possible to that used by the submitter, provided it is within supported specification for the software in question in order to properly examine the issue.

6) If a ticket is a confirmed request (see item 5) for an enhancement or reports a bug to one of the existing ALMA software tools, systems or subsystems, then the appropriate USS at each ARC designated as the cognizant lead (or a USS certified by the cognizant lead – see Appendix C.) of that subsystem should submit a JIRA ticket or similar to the appropriate agency (typically JAO/DSO or obsCIPT), and “Resolve” the helpdesk ticket stating that a JIRA ticket has been filed. There will be a 'known issues' page for all software subsystems that can track bug and enhancement requests (CASA and the ALMA-OT already have said pages) managed by the subsystem scientist that will be linked to from the helpdesk Knowledgebase. This will ensure that the helpdesk does not have to constantly have to update Knowledgebase articles on the status of bug or enhancement requests. The workflow in this case for bug or enhancement requests is:

   a. Before triage replies to the user who reported the bug report, triage first checks the “known issues” page to see if the bug has already been posted and before assigning the ticket to a USS for confirmation.
   b. Following the service rule in item 5, triage or a USS confirms the bug reported in the ticket using a supported platform as close to user’s as possible.
   c. Once the bug has been confirmed, triage assigns the ticket to the cognizant lead or a certified representative as given in Appendix C. If the ticket was assigned to a USS, they send it back to triage for reassignment to the lead. A reply is sent to the user stating that their bug report has been sent to the “bug reporting system” (users don’t need to know what JIRA is) and that they can track the progress of the problem off the “known issues” page which will be posted to the ticket and the KB article.

d. The ticket is then set to "Resolved" because the issue is already being tracked in JIRA and the user's helpdesk request should be accommodated. This workflow eliminates the need for any ticket to go to "On Hold". Users can then track the progress of the ticket off the "known issues" page or re-open the ticket if they don't see their issue reported.

e. Ticket resolutions that are likely to be of interest to more users than the ticket submitter alone, and which are not already in the Knowledgebase, should be added to the Knowledgebase by the USS as a "Draft" when they resolve the ticket. Specific information which could identify the ticket submitter and any information which could be considered proprietary (such as target coordinates) should be removed from the article prior to publication in the Knowledgebase (Section 9). This draft article will then be submitted for publication after it has been given the appropriate review.

Action item for all (including SciOps IPT and ARC Managers) - Please ask the subsystem scientists to maintain their known issues pages or create a known issues page if not yet generated for the users to search on. If the subsystem scientist changes the URL of the page, please inform the helpdesk. Because the subsystem scientist would be the best person to keep up with the known issues, it makes more sense for them to maintain it then having a USS generate and regenerate Knowledgebase articles of the issues.

5.2 Ethics in USS Support

Given the nature of support provided by the helpdesk system, it is possible that an extensive amount of correspondence is required to resolve a particular helpdesk issue between a USS and ALMA user. It is not ethical for a USS to ask to take part in a project in exchange for the additional help provided by that USS in the helpdesk. In other words, USS should not try to become collaborators on projects using the helpdesk.

If the ALMA user asks the USS to take part in the project given the expertise they have provided, the USS may join the project if there are no conflicts of interest. The request from the ALMA user to the USS to join the project must be captured in the helpdesk.

If there is any question as to the ethical nature of the user request for a USS to join the project, the USS should discuss the issue with either the Helpdesk or ARC manager before making a decision.

5.3 Management

The Helpdesk manager at each ARC is responsible for ensuring that the agreed to service expectations are met, and for scheduling triage personnel to ensure service coverage. He/she is also responsible for providing reports to the ARC management on Helpdesk usage and statistics on the response times and distribution of tickets by status (“Open”, “Pending”, “Resolved”, “Closed”).

6 Staff interface details

6.1 Staff view: logging in

To login and access tickets as a staff member, staff should visit the following site appropriate to their ARC:

https://alma-help.nrao.edu/staff/ (NA)
https://alma-help.eso.org/staff/ (EU)
https://alma-help.nao.ac.jp/staff/ (EA)

and login with their staff account provided to them by their local helpdesk administrator (Section 2.1). The login window for staff is shown in Figure 2. Upon login, staff will be directed to the helpdesk staff dashboard appropriate for their parent ARC. This will show the departments of which the staff is a member, and notifications of new, updated and overdue tickets (see Figure 3).

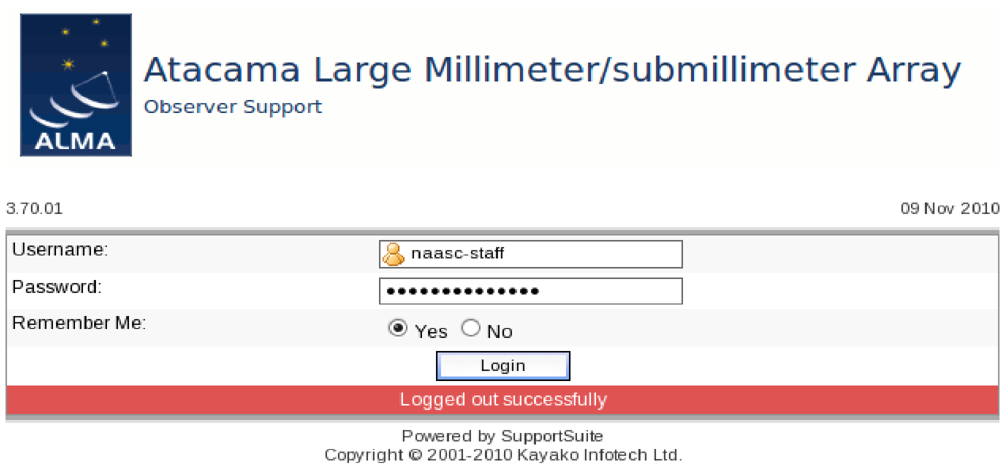

Figure 2: The staff login view

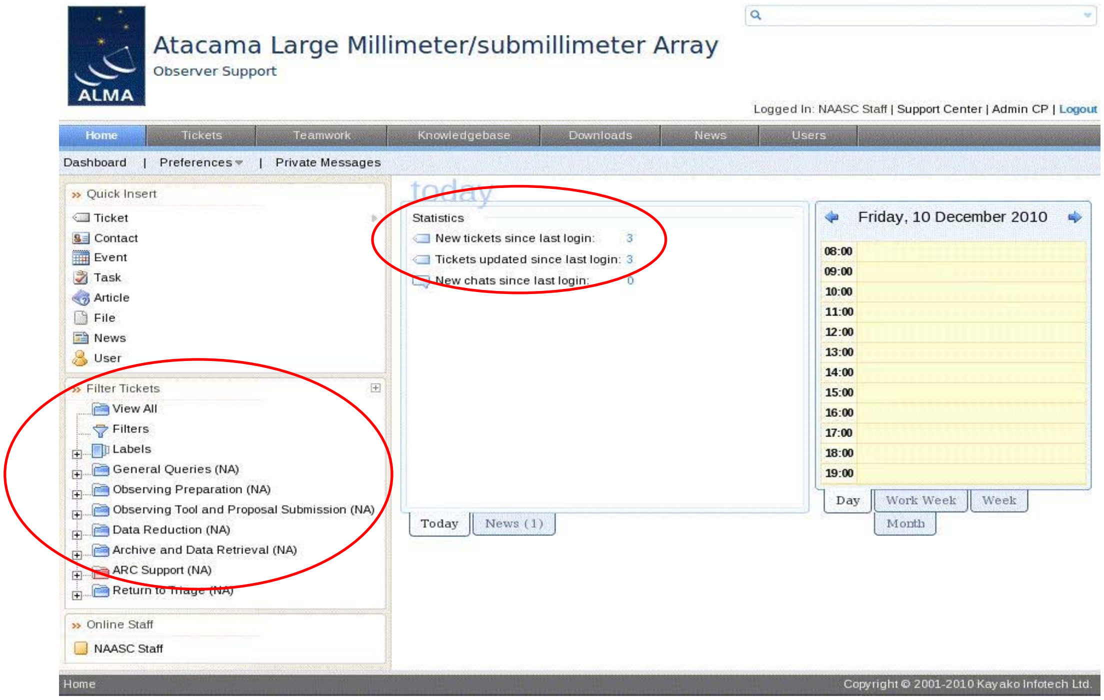

Figure 3: Default dashboard view under the "Home" tab showing all departments associated with that ARC and recent helpdesk activity.

6.2 "Home" Tab

The view under the "Home" tab is illustrated in Figure 3. In the staff view, you can see all the departments in that ARC (bottom left) as well as the status of any new tickets or updates to resolved tickets (middle). From this tab, staff may also use the "Preferences" menu to control settings, set their calendar view(s) and change their password. For example to change your notification email, follow: **Home -> Preferences -> Settings -> <*change email address*> -> Update Details** (Figure 4).

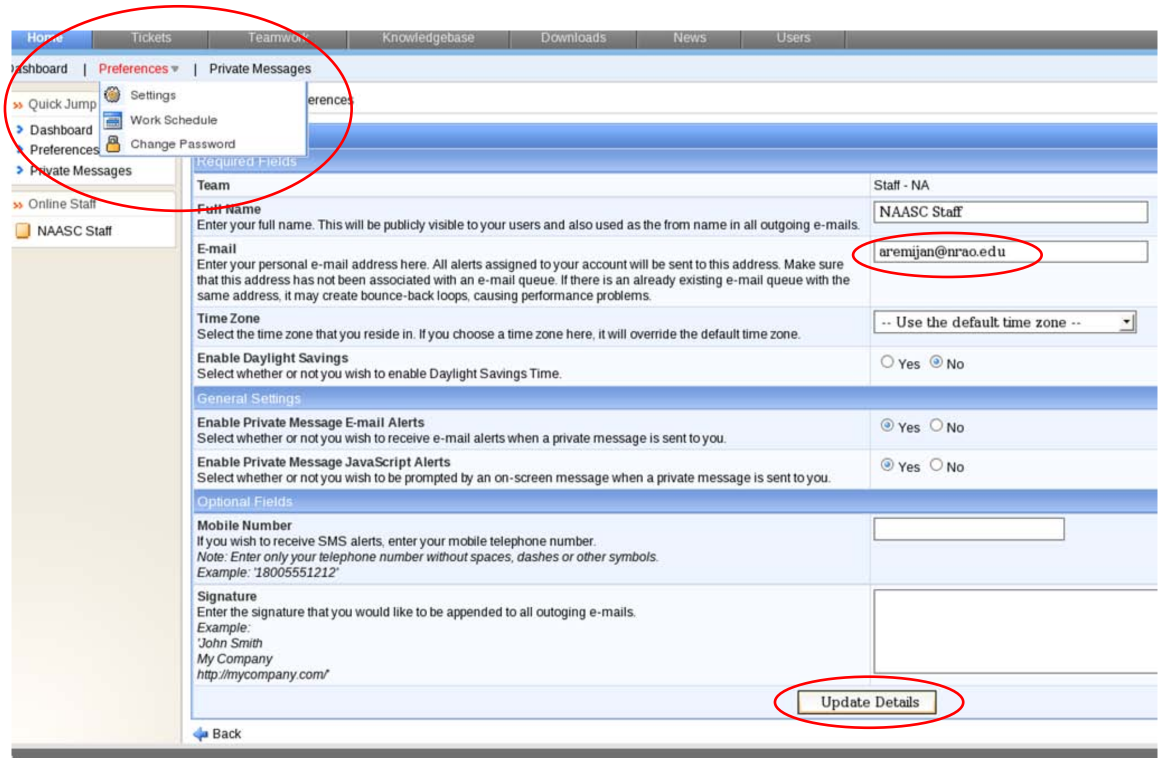

Figure 4: Changing your notification email address

6.3 Alerts

An alert is sent as an email (or Short Message Service - SMS) so a staff member gets notified of changes in a ticket status or if a new ticket has been submitted and assigned to them. By default, a staff account is set up by the helpdesk administrator to receive email alerts as specified by their helpdesk role. (triage, USS, or manager). Figure 5 shows the Alert Events that can be selected.

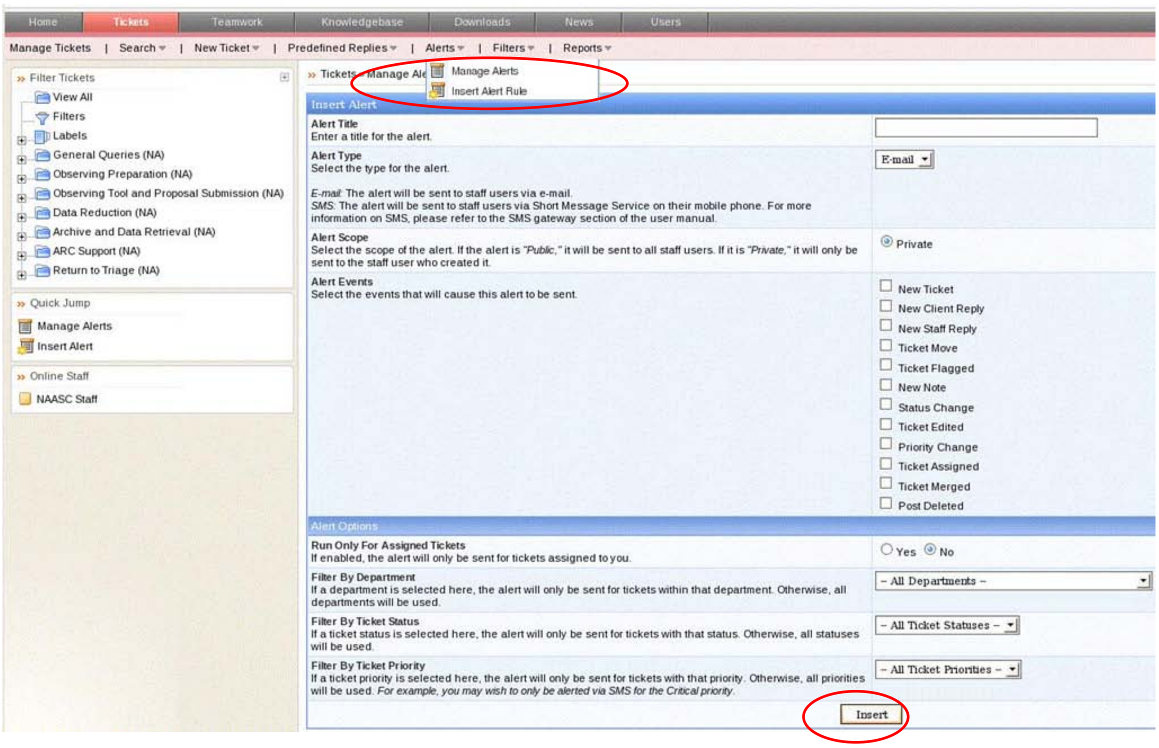

Figure 5. Alert events that can be set up by a user via email or SMS notification.

To set up an alert, login to the helpdesk (Section 6.1) and hit the "Tickets" tab on the top row of tabs, then the "Alerts" tab on the second row down, and select "Manage Alerts" from the drop-down menu to see which alerts are currently set up. To set up new alerts, hit the "Alerts" tab and select "Insert Alert Rule" (see Figure 5). To finish inserting the rule hit the "Insert" button at the bottom of the page.

The default email alerts for the following roles should be:

USS:

- New Client Reply
- New Note
- Status Change
- Ticket Assigned

Triage:

- New Ticket
- New Client Reply

- Ticket Move – will get notification if the ticket is transferred, moved or returned to triage
- New Note
- Status change – will get notification if the response is overdue
- Ticket Assigned

Manager:

- Same as triage but add Ticket Closed.

In general, for the USS, the alert options should be set to run only for those tickets assigned to the USS, for all departments, all ticket statuses and all ticket priorities (See "Alert Options" in Figure 5). Also note that changes made by you to a ticket will not activate an alert. Alerts are only activated for ticket changes not made by you.

For Triage, the alert options for Ticket Assigned, New Client Reply and New Note should be set only to run for those tickets already assigned to Triage, for all departments, all ticket statuses and all ticket priorities. However, for New Tickets, Ticket Move and Status Change, the Triage should view all tickets, not just those assigned. That is, "Run Only for Assigned Tickets" should be "No" in the Alert Options menu (Figure 5). Finally, the manager should track all tickets so the "Run Only for Assigned Tickets" alert option should be set to "No" for the manager for all ticket alerts.

6.4 "Tickets" Tab

Under the "Tickets" tab are the options for servicing tickets, including viewing them, and setting up alerts (section 6.3) and filters.

6.4.1 Viewing Tickets

To view tickets: **Tickets -> Manage Tickets -> Views.**

From "Views" a staff member may choose from one of the pre-defined "public" views (Figure 6), or define their own "private" view. By default, there are a limited number of public views that have been set up for USS. The "Default View" shows all "Open" tickets assigned to the staff member; the "Staff" view shows only those tickets that are assigned to the staff member. A USS has the ability to set up any number of "private" views including viewing "Closed" tickets. As a rule, "public" views should not be edited except by the helpdesk administrator.

To create a new private view: **Tickets -> Manage Tickets -> Views -> New View**

Once a list of tickets is shown, clicking on either the ticket ID or the subject will allow the ticket text to be viewed.

It is also important to follow the “department breadcrumbs” when viewing tickets (Figure 7). If you are in a helpdesk department and change your view, it will display that view for that department ***ONLY***. Therefore, if you are actively searching for a ticket using views, it is best to return to “View All” tickets to test that view.

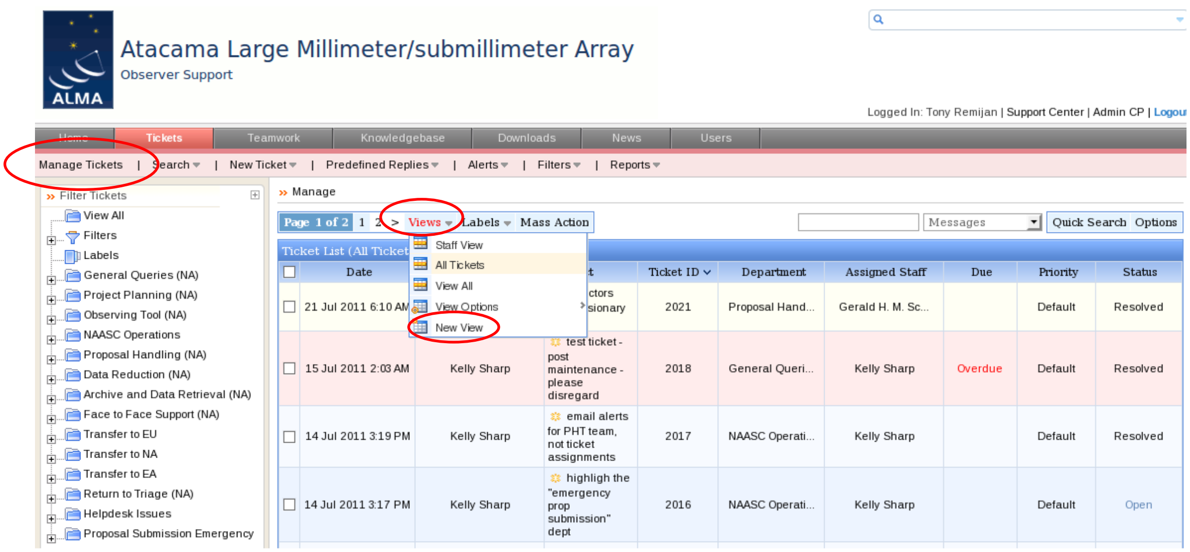

Figure 6: Selecting a view – USS can create new private views but should avoid editing the public views.

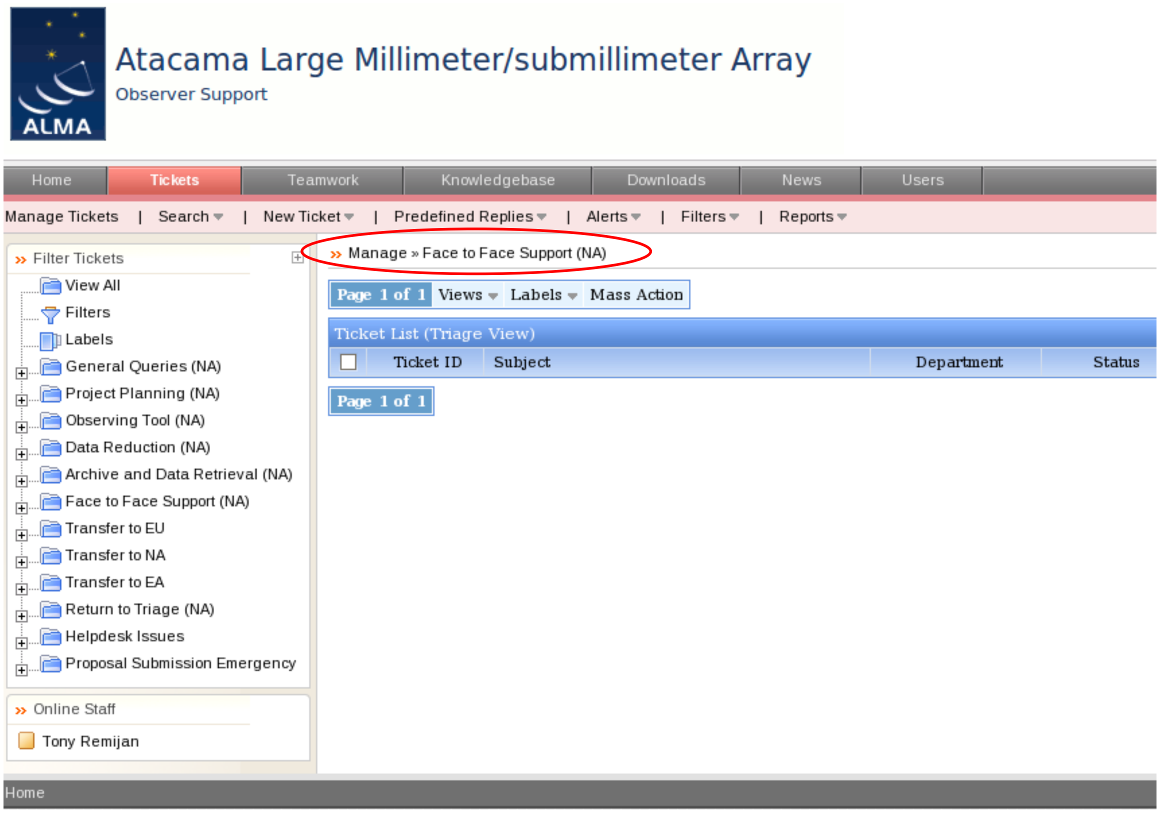

Figure 7. Illustration of the Department "breadcrumbs". If you are switching views, the view will only change for the department you are currently viewing.

6.4.2 Filters and Ticket Searches

On the left-hand side of the Kayako interface web page is an area headed "Filter tickets". This allows the user to display tickets by department and status (Figure 8). In addition, under the "Tickets" tab is an option to search tickets via a quick or advanced search. Filters can be created publicly or privately. A private ticket filter is only accessible by the staff user who created it, meaning that staff members can create and manage their own ticket filters.

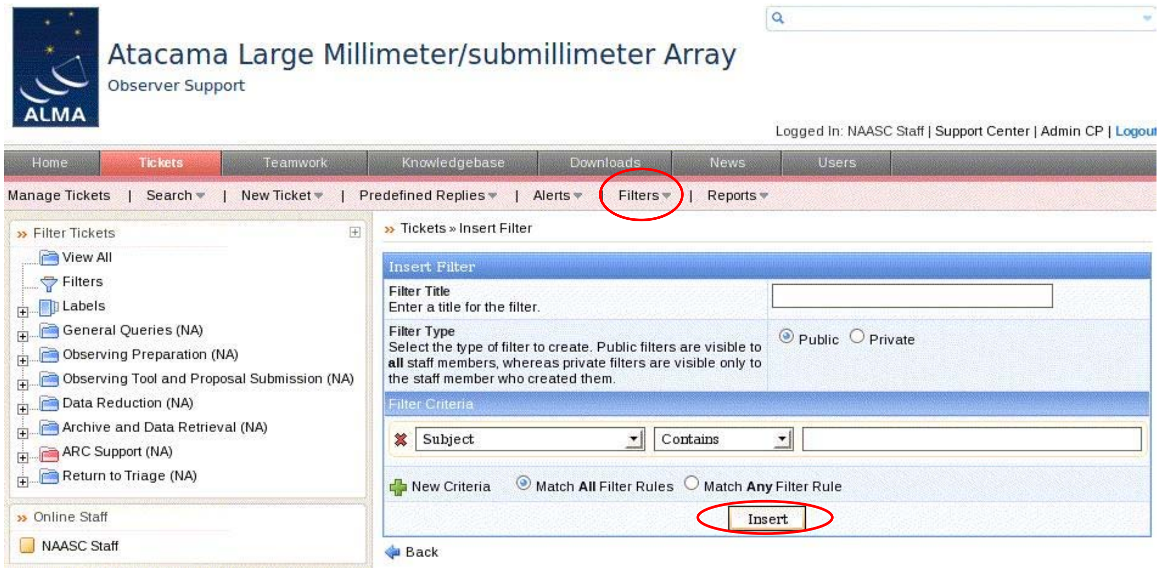

Figure 8: Managing and setting up a search filter.

6.4.2.1 User Created Filters

To add a filter: **Tickets -> Filters -> Insert Filter.** (Figure 8). Tickets can be filtered on many properties such as subject, status, owner, time since creation, last activity etc. In particular, a filter selecting “pending”, “on hold” or “closed” tickets can be useful as the “views” display only open tickets. The new filters appear on the left-hand “filter” area of the interface and may be applied simply by clicking on them. For more information about how to set up a specific filter using all the available logic inside the Kayako system, see pages 132-136 of the Kayako manual (Version 3.6, revision 13).

7 Procedures for Responding to tickets – Triage

By default, as described in setting up the alerts in section 6.3, Triage personnel at the ARC will receive email notification that:

- a new ticket has been received
- a ticket has been assigned from another ARC, or
- a ticket has been returned to triage

NOTE: If in your role as Triage, you do NOT get an email notification; your alerts may not have been set up properly or may have returned to their default values. In this case, refer to section 6.3 on what alerts should be set up for a triage staff member.

The on-duty triage USS will then login to the helpdesk (Section 6.1) view tickets to find the ticket in question (Section 6.4.1) (or click on the “new tickets since last login” link on the dashboard).

7.1 Examining a Ticket

Once the USS has located the ticket they wish to work on, clicking on the ticket ID or Subject will open the ticket (Figure 9). Tickets opened in this window may have a number of actions performed, including assignment, change of status and posting a reply.

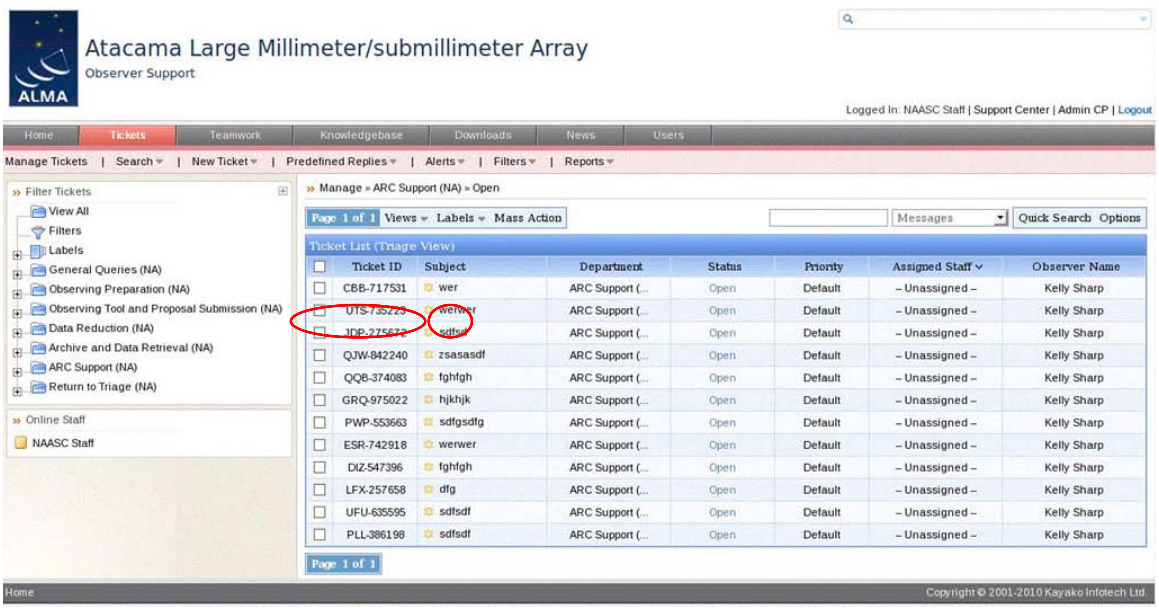

Figure 9: Selecting a Ticket. Click on either the ticket ID or Subject to open a ticket.

7.1.1 Assigning a Ticket

If Triage believes this ticket requires USS expertise, they will assign the ticket to the appropriate USS. The “General” tab allows (re)assignment of a ticket through clicking on “-Unassigned-” in the “Assigned Staff” field in the ticket header (Figures 10 and 11).

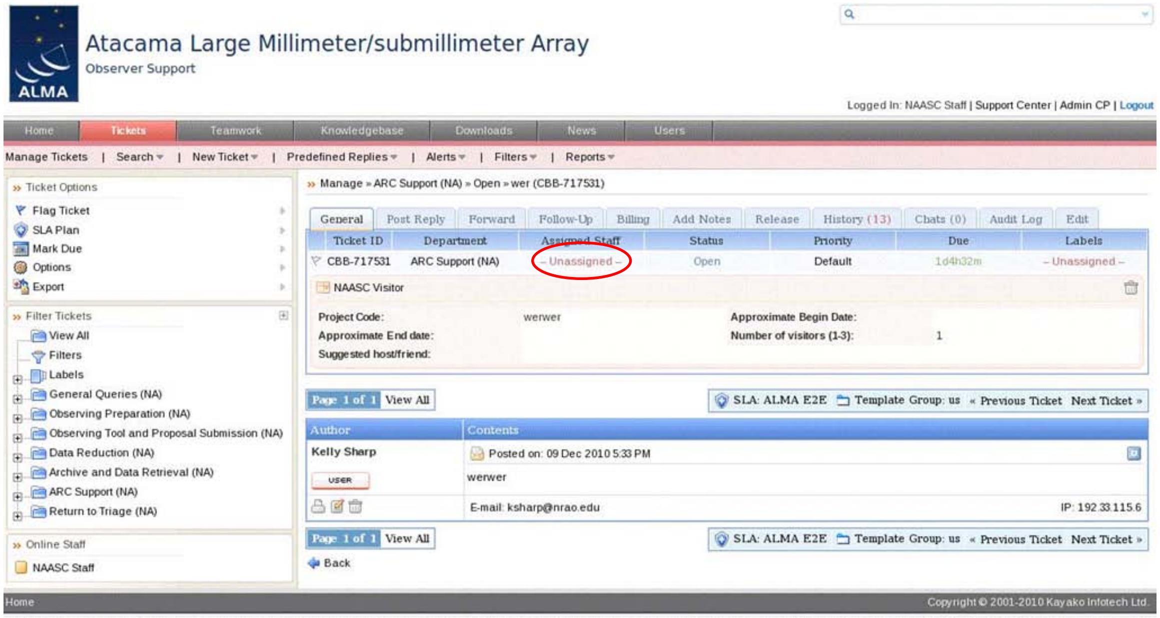

Figure 10: The "General" tab after a ticket has been opened. Click on -Unassigned- to (re)assign that ticket to a USS

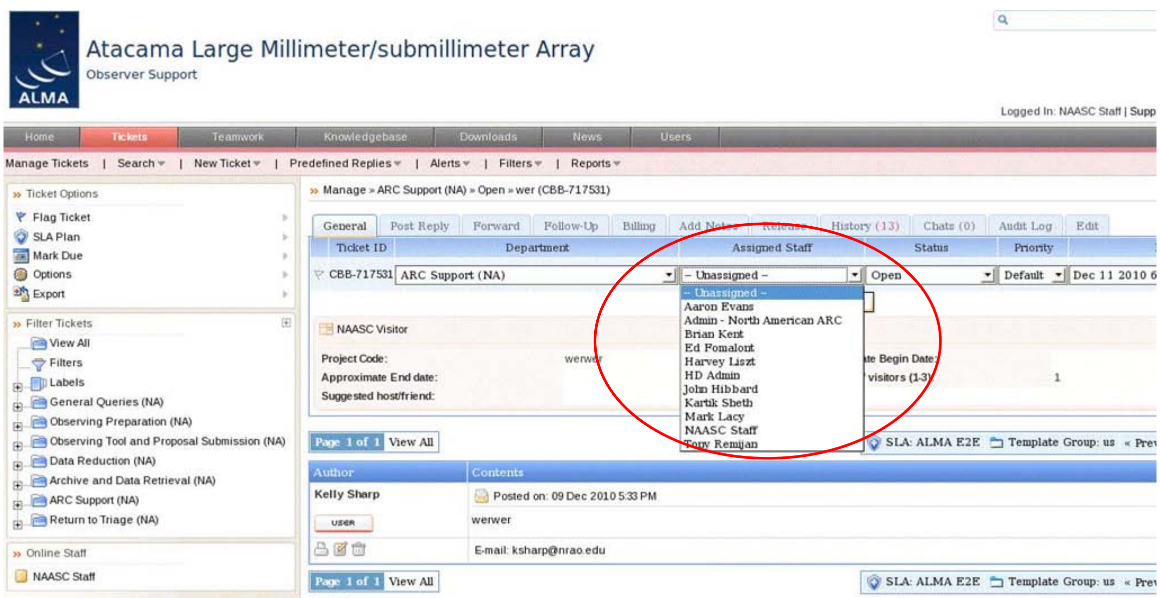

Figure 11: View after -Unassigned- has been selected. Triage can now select an owner for that ticket.

NOTE: While it is possible for a USS to reassign a ticket to another USS, this is not the recommended workflow (See Section 8) and should be avoided.

7.1.2 Posting a Reply to a Ticket

If Triage believes they can answer the ticket or requests more input from the user or a USS, the “Post Reply” tab allows a reply to be made to the ticket. In this case, Triage should assign the ticket to themselves before posting a reply or requesting more information from the user. In addition to the large text box where a reply can be written (Figure 12), there are also options to place pre-defined replies or knowledgebase articles into the reply by clicking on the “+Predefined Reply” or “+Knowledgebase” menus above the reply box (Figure 12). Hit “Send” to send the reply to the user.

If you want to capture the resolution of the ticket into the knowledgebase, check the “+Knowledgebase” box to the lower right before hitting “Send” (Section 7.5).

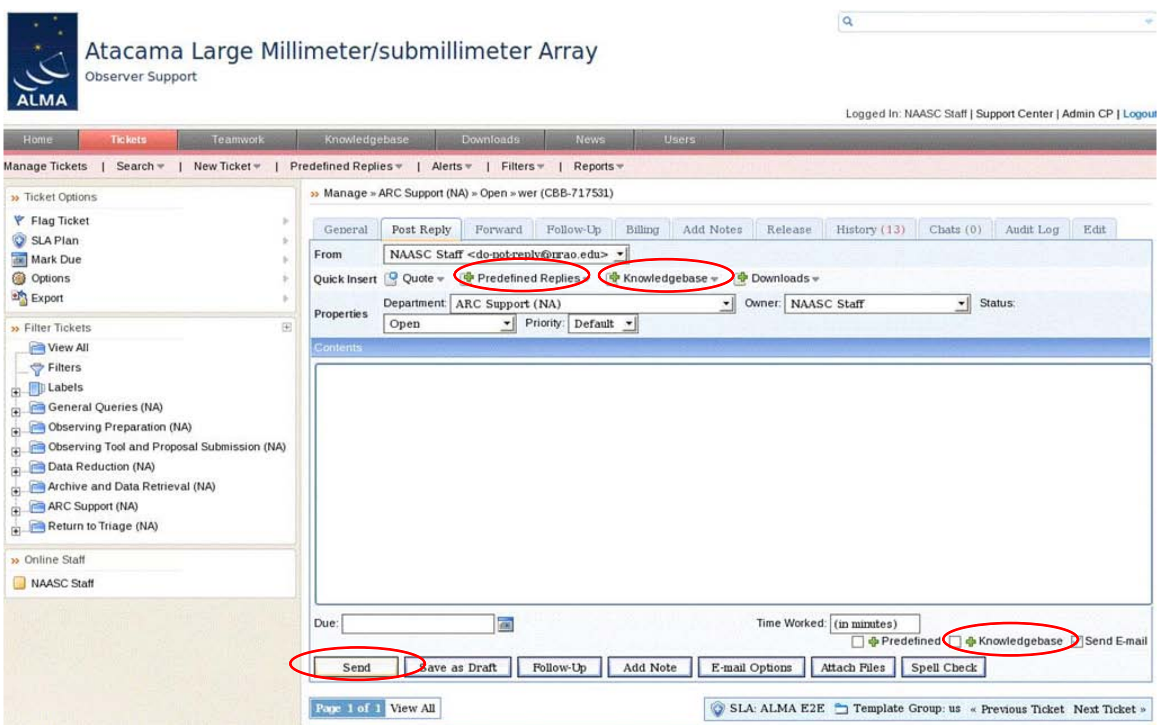

Figure 12: The “Post Reply” tab view. A USS can either select from a predefined set of replies or knowledgebase articles. In addition, it is possible to capture the reply to the KB by selecting the “+Knowledgebase” checkbox.

The user will receive an email that contains both a link to the ticket as well as the resolution submitted in the text of the email. It is also necessary that the USS change the status of ticket to "Resolved" (Section 7.1.3).

It is possible by changing the views, that a USS can see tickets that they have not been assigned. A USS should NOT reply to a ticket that they have been not assigned. However, a USS should feel free to add notes to a ticket that can be either viewed by everyone or a particular USS (Section 7.3).

In addition, it is also possible that triage may receive a reply from a user that is not directed to the USS assigned to their ticket. In this case, triage should post the contents from the user in a note attached to the ticket and in the future try to discourage this correspondence.

7.1.3 Changing the Status of a Ticket

All USS should remember to change the status of a ticket as necessary after posting a reply.

In addition, the status should be based on the action required/needed for that ticket (Section 2.2.4). To do this, hit the "General" tab, click on the status of the ticket and use the pull-down menu to select the new status OR change the status of the ticket while posting a reply in the "Post Reply" tab (Figures 13 & 14). **REMEMBER, a USS should not close a ticket (Section 2.2.4.3).**

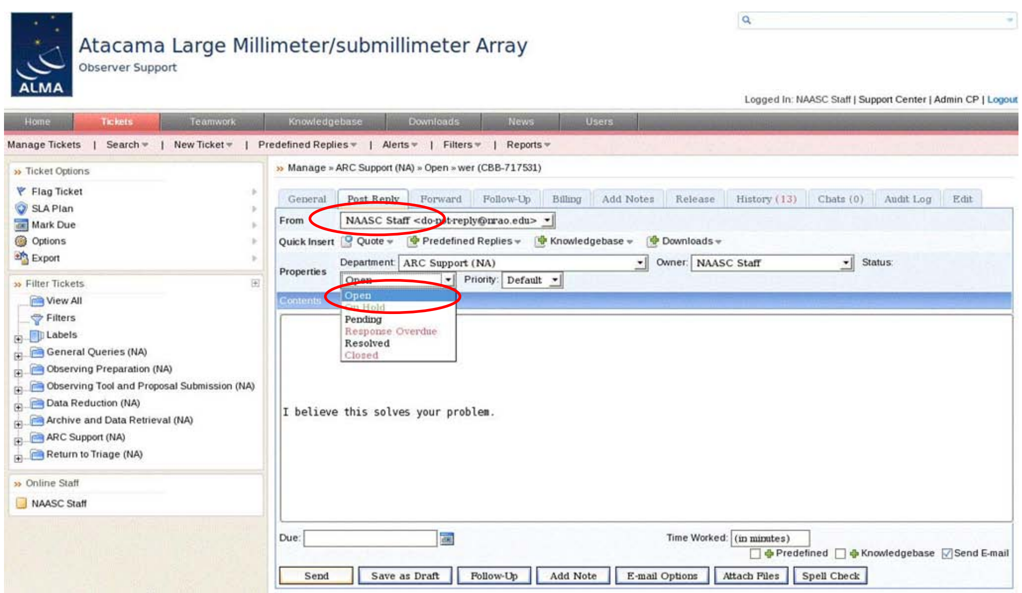

Figure 13: Changing the status of a ticket inside the "Post Reply" tab.

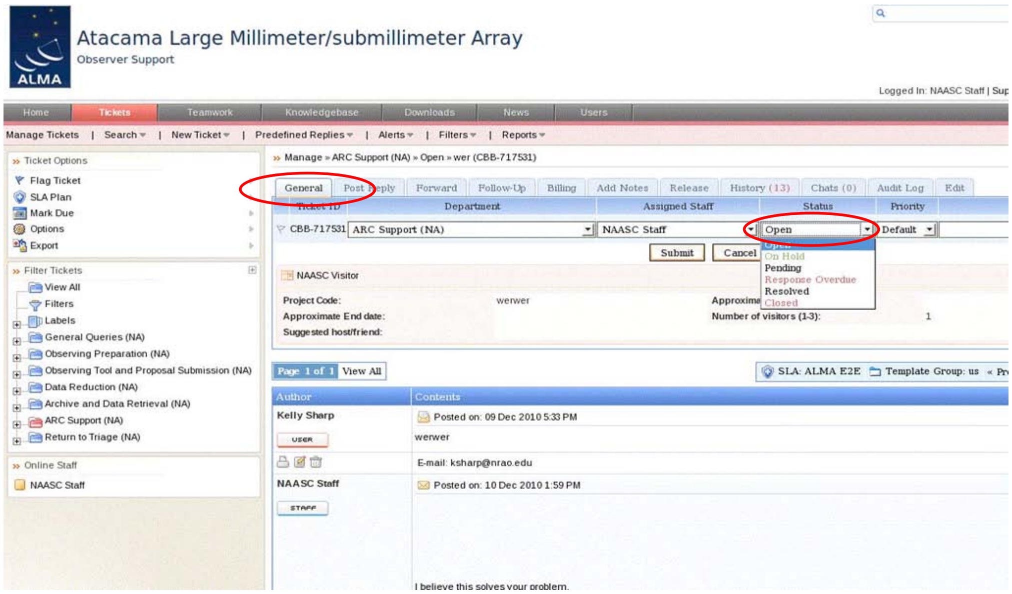

Figure 14: Changing the status of a ticket inside the "General" tab.

7.2 Changing the Department of a Ticket

Occasionally a USS will need to change the department of a ticket (for example, to Return to Triage). Clicking on the "General" tab allows the department of a ticket to be changed through clicking on the Department field in the ticket header (Figure 15).

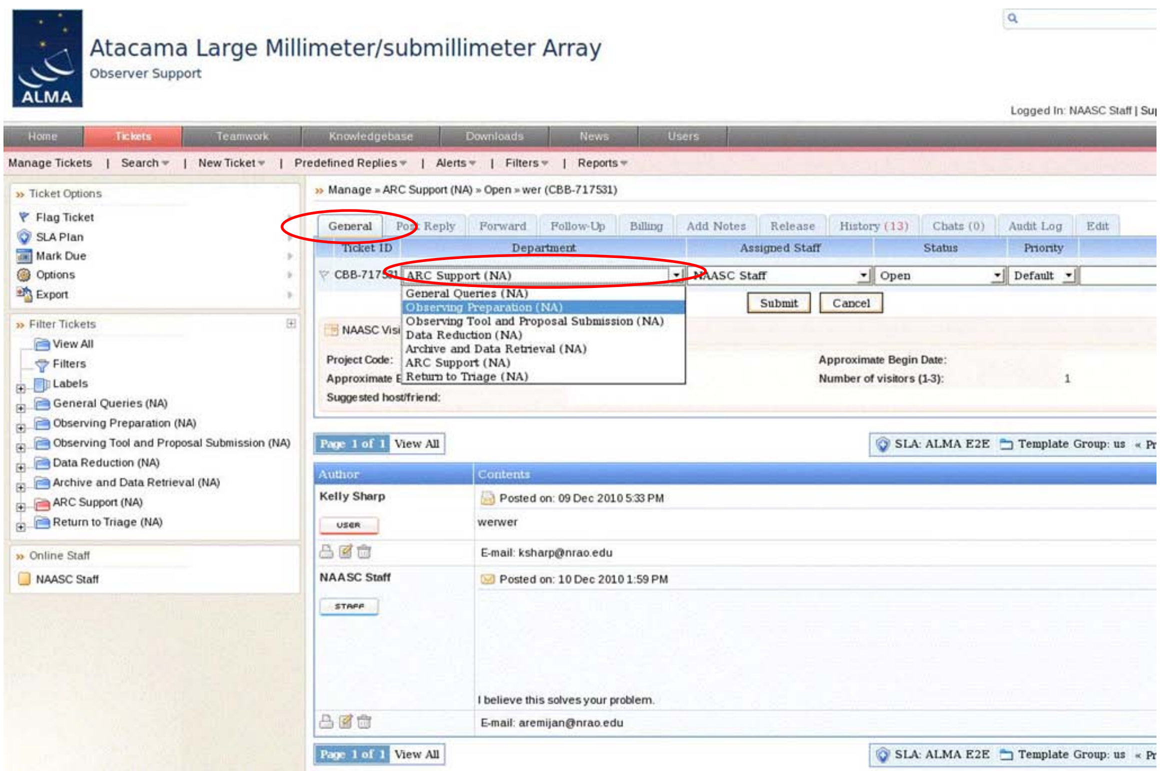

Figure 15: Changing the Department of a ticket inside the “General” tab.

7.3 Adding Notes to a Ticket

Tickets may be annotated by a USS without these notes being visible to the user. Notes can be applied on a per-ticket basis (for example, to request the Triage USS to transfer to another ARC), or on a User basis (for example, to inform USS about issues with a particular user, e.g. a poor internet connection). The USS can also control whether the note is visible to all USS, or only a specific USS (for example, the helpdesk manager). To add a note to a ticket, select the ticket and click the “Add Notes” tab above the ticket header (Figure 16).

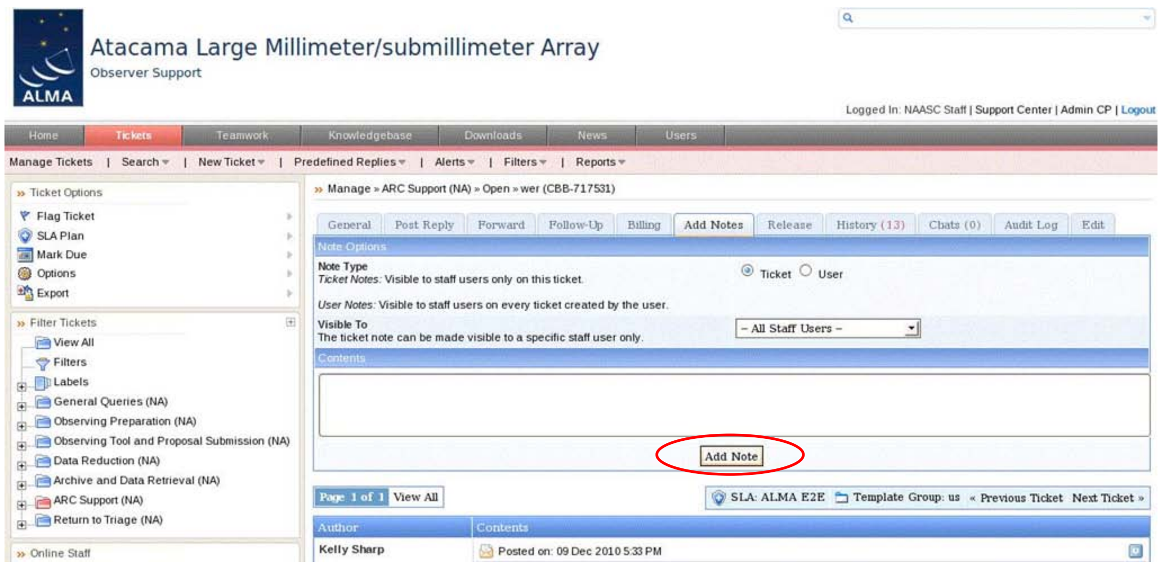

Figure 16: Adding a note to a ticket inside the "Add Notes" tab.

7.4 Forwarding Tickets

Sometimes it is useful to be able to forward a ticket via email out of the Kayako system, for example, to solicit the help of an expert who does not have a Kayako account. To do this:

- click on the ticket subject and hit "Forward"
- Enter the email address of the intended recipient.
- The USS will probably also want to change their email address from the "do-not-reply" default to their actual address, which can be achieved by selecting their address on the pull-down menu on the "From" line.
- To place the body of the ticket in the email, plus any subsequent correspondence, click "Quote" and select "Quote all posts".
- The USS can then add any of their own comments and then hit "Send" to forward the ticket (Figure 17).

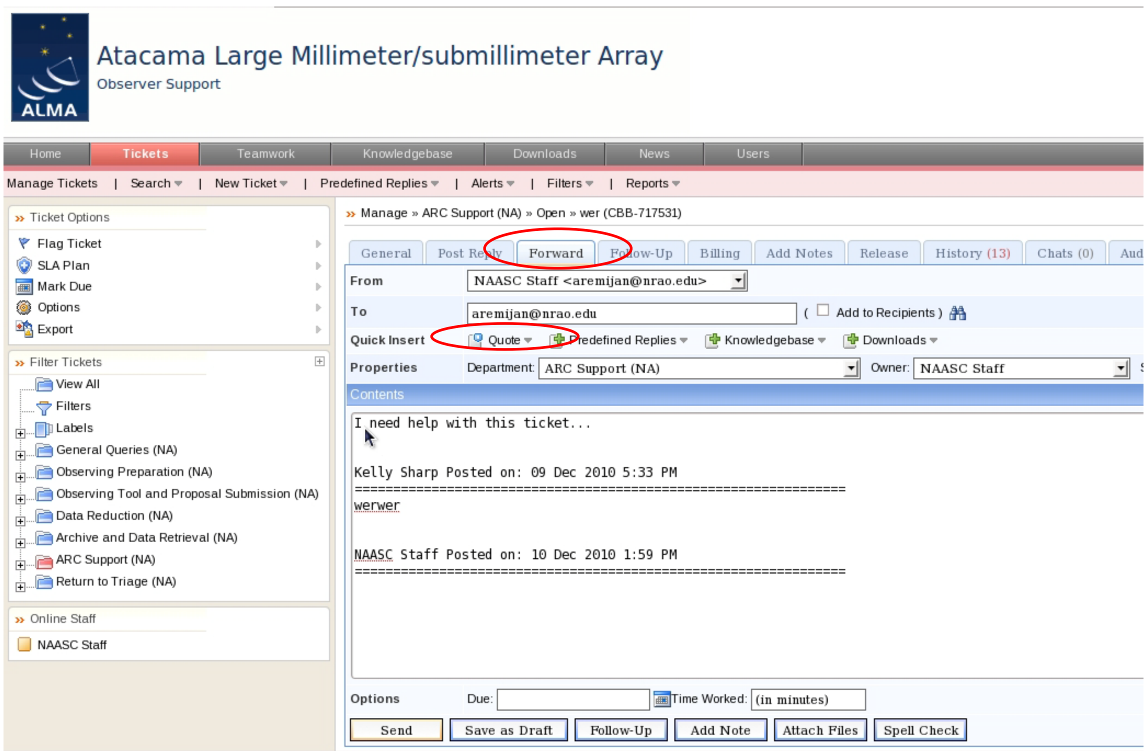

Figure 17: Forwarding a ticket to a user without a Kayako account inside the "Forward" tab.

7.5 Adding a Knowledgebase Article

If the resolution of a ticket is likely to be of general interest to the ALMA community, a knowledgebase article should be filed (Section 5.1, item 6e). To do this, check the "+Knowledgebase" box to the lower right of the reply box (Section 7.1.2) before sending the reply to the user. This will take the USS to the Knowledgebase article editor directly, with the body of the ticket reply included. The article should be edited to remove any information that would identify the user, and should not include any information that the user might consider proprietary (e.g. specific astronomical sources). The subject and category of the article should also be entered before the article is inserted and before submission.

The USS should set the "Article Status" to DRAFT (Figure 18). Designated representatives from each ARC will then review the draft KB articles before they are published.

A knowledgebase article may also be added independently of the ticket reply by hitting the "Knowledgebase" tab on the top row of tabs, then "Insert Article" on the second row. For more specifics on displaying the content of Knowledgebase articles, refer to Section 9.

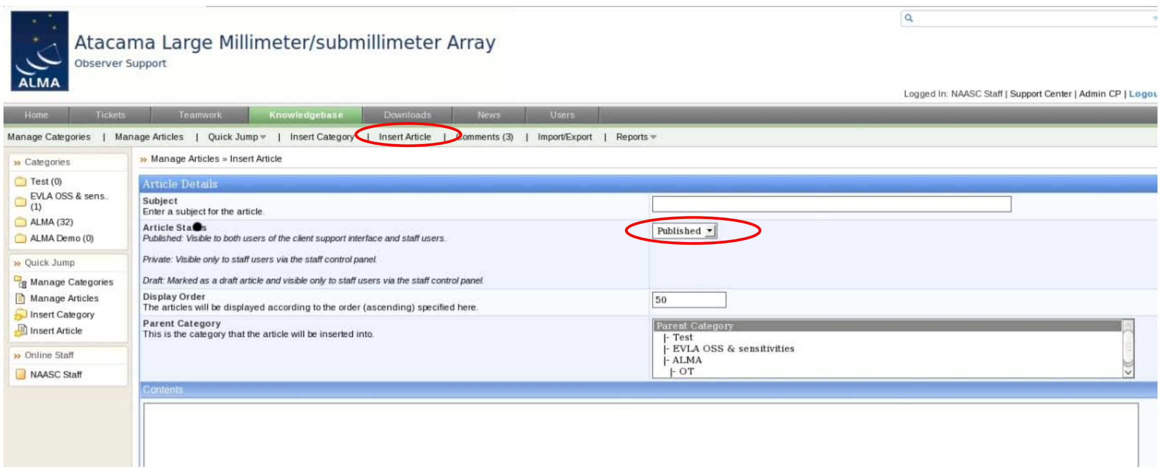

Figure 18: Adding a Knowledgebase article. The above view will be the same if you enter through the "Post Reply" tab and select the "+Knowledgebase" option.

7.6 Summary of Triage Workflow

In summary, the appropriate workflow for a Triage USS is the following:

1. Determine whether the ticket has been filed under the correct department and if not, change the department (Section 7.2).

2. Determine whether you are capable of resolving the ticket without further help from another USS or further input from the user. If so, assign the ticket to yourself (Section 7.1.2), respond to the user (Section 7.1.2) and change the ticket status to "Resolved" (Section 7.1.3). File a knowledgebase article if appropriate (Section 7.5).

3. If the ticket requires further information from the user (for example, operating system details), triage should assign the ticket to themselves, and send a response to the user requesting more details. The ticket status should be set to "Pending" while waiting for the reply from the user.

4. If triage does not believe they can resolve the ticket or to properly distribute the workflow among the support staff across the ARC, the ticket should be assigned to a USS. Triage should also assign tickets that report bug or enhancement requests to the cognizant lead or a certified USS for that software subsystem.

5. If the ticket is best suited to a Department belonging to another ARC (Section 4), or if the ticket is returned to triage by the USS with a note (Section 7.3) requesting that the ticket be sent to another ARC, triage USS should set the department to "Transfer to …." and send a reply to the user stating that the ticket is being forwarded to the new ARC in question. However, recall that the goal is to "transfer knowledge and not tickets", so the transfer of tickets between ARCs should be done sparingly and be contained to only tickets that require specialized expertise from a particular USS from another ARC (Section 2.2.2).

8 Procedure for Responding to Tickets – USS

By default, the USS will receive email notification of a ticket being assigned to them. NOTE: If you do NOT get an email notification, your alerts may not have been set up properly or may have returned to their default values. In this case, refer to Section 6.3 on what alerts should be set up for a USS.

The USS will login to the helpdesk (Section 6.1) (or click on the "new tickets since last login" link on the dashboard), view the ticket (Section 6.4.1), examine it (Section 7.1), and take the following actions:

1. Determine whether they are capable of resolving the ticket without further help from another ARC, or further input from the user. Respond to the user (Section 7.1.2) and change the ticket status to "resolved". They should file a knowledgebase article if appropriate (Section 7.5).

2. If the ticket requires further information from the user (for example, operating system details), a response should be sent to the user requesting this, and the ticket status set to "Pending" while awaiting a reply (Section 7.1.3).

3. If the USS believes the ticket needs to be sent to another ARC (Section 4), they should change the department to "Return to Triage" (Section 7.2) and add a note to the ticket (Section 7.3) describing which ARC it should be sent to and why.

4. If the USS is unable to respond to the ticket (for example, because they lack the specialized knowledge to do so, or because they are unavailable) the ticket should be returned to Triage (Section 7.2) with a note explaining why it was not answered, and recommending assignment to another USS. This should only happen in exceptional circumstances. In general, a USS should always attempt to answer the ticket themselves, if necessary by asking appropriate experts (Section 5.1).

5. If the USS is the cognizant lead or has been certified by the cognizant lead for a particular software subsystem, they should follow the workflow described in

Section 5.1 and change the ticket status to "Resolved" when an enhancement request or bug fix is submitted to their particular software subsystem. If not a certified USS, they should return the ticket to Triage once the bug has been confirmed and requests reassignment to the cognizant lead.

9 Drafting and Publishing Knowledgebase Articles

Solutions to individual tickets cannot be seen by other users. If a solution is potentially useful to other users, the solution should be published as a Knowledgebase (KB) article. KB articles can be searched by anyone at any time and do not require login to the helpdesk. The goal is that most queries will be answered if the KB articles are written appropriately.

In the process of typing their question in a helpdesk ticket, the user is also dynamically searching KB articles. Relevant KB articles will begin to appear in the page as a user types. As such, the subject line of the article should be indicative of the solution or in the form of a question and text of a KB article should be descriptive, including as many key words as possible that may be relevant to the article solution and include as many title words as possible because the automatic KB searched only the text of the KB articles and not the titles. The KB article also must be published in English and there should be no identifying information that a user may consider proprietary. Therefore, answers to tickets specific to individual sources may have to be made more general to be published as a KB article.

To ensure uniformity among KB articles, all USS should submit their KB articles with the "Article Status" option set to DRAFT (Section 7.5, Figure 18). This will post the article to the KB database but will NOT make it visible for general public viewing. These articles will be visible to other USS, Triage, the helpdesk manager and administrator. Each ARC is responsible for selecting a group of USS from their staff to moderate the submission of all KB articles before publication. These designated staff members will review the articles for clarity, scope and content ensuring that no proprietary or personal information is conveyed in the article. If there is any question about the proprietary nature of the information contained in the article, the USS should contact the initial user who submitted the ticket and confirm the requisite information may be posted for public viewing. Once the designated KB staff member(s) agree the article is ready for public viewing, the "Article Status" option should be set to PUBLISHED at which point it will appear in the general KB article search off the main helpdesk page.

Finally, the helpdesk is set up to make all Knowledgebase articles public and visible to all ARCs. This should not be changed except in exceptional circumstances. Should it be

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required, however, to have a knowledgebase category only visible to a single ARC (perhaps for language reasons), it is possible to make new categories **(Knowledgebase Insert Category)** and to adjust the visibility of this to the other ARCs by hitting “Customize” in the “Template Groups” item.

APPENDIX A: Helpdesk Entry Forms

In this section, we added screenshots for the user interface and entry forms for all departments in the ALMA helpdesk.

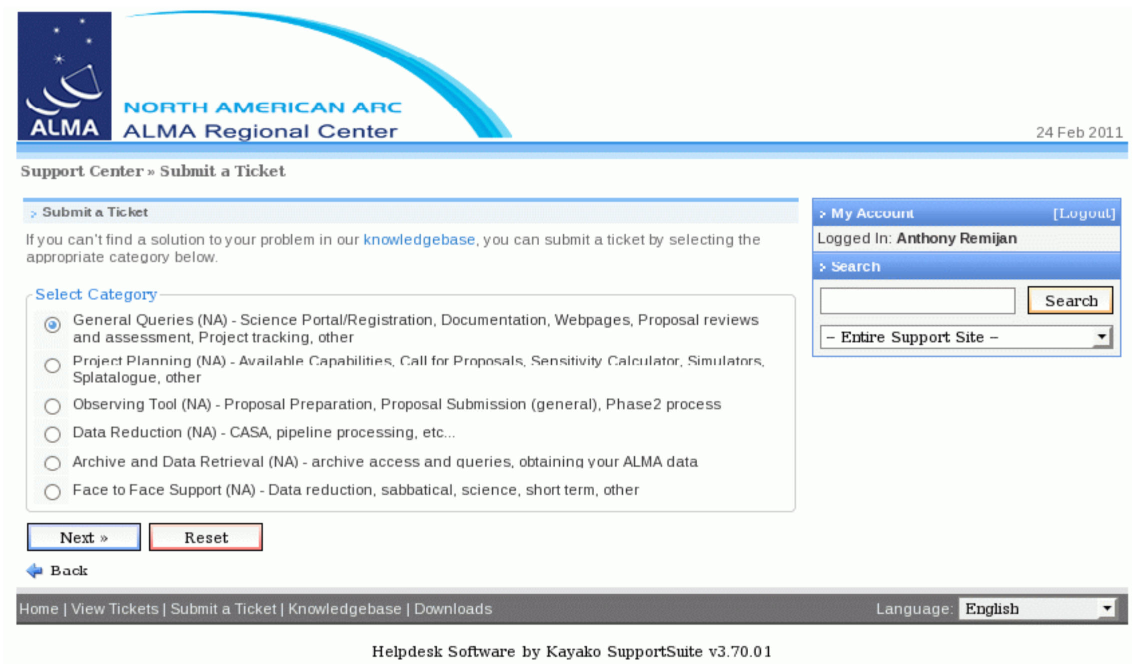

Figure A1. Logged in view of the departments of the helpdesk.

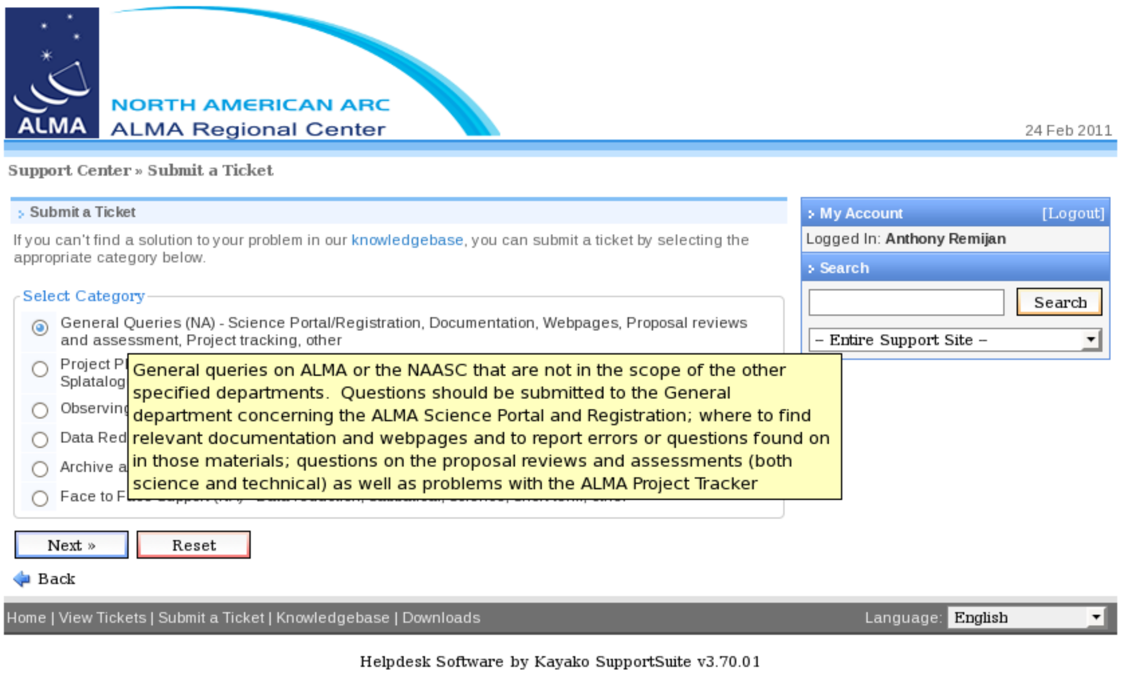

Figure A2. Mouseover “tool tip” view with the scope of the department.

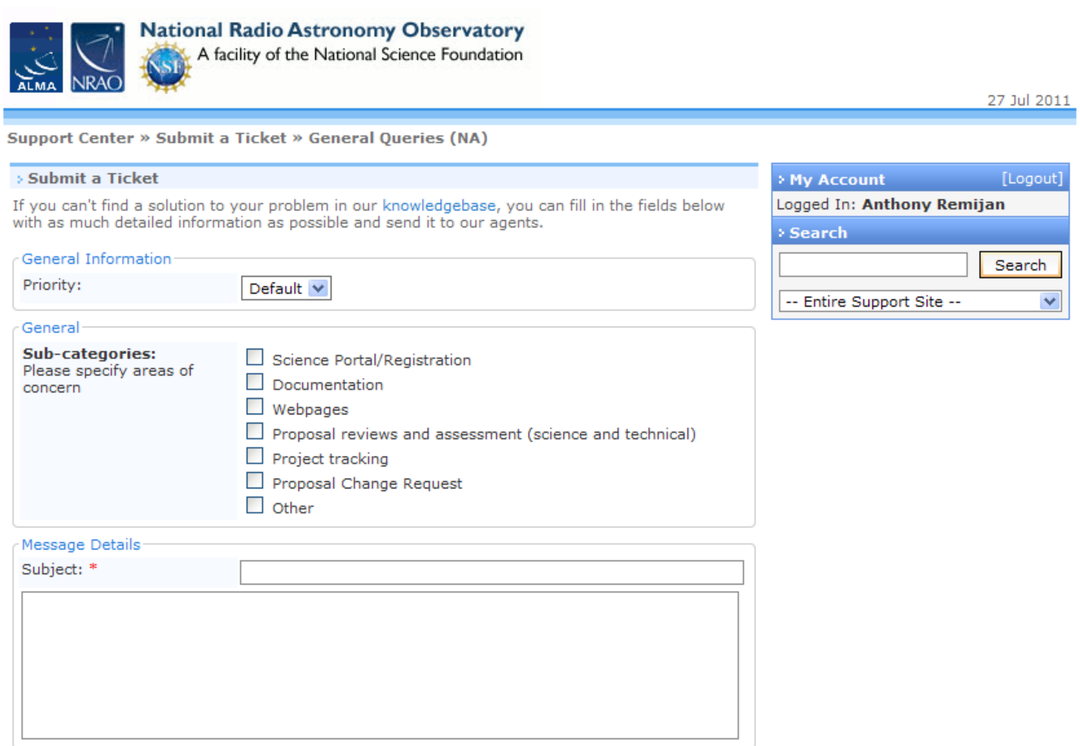

Figure A3. Entry form for the General Queries Department.

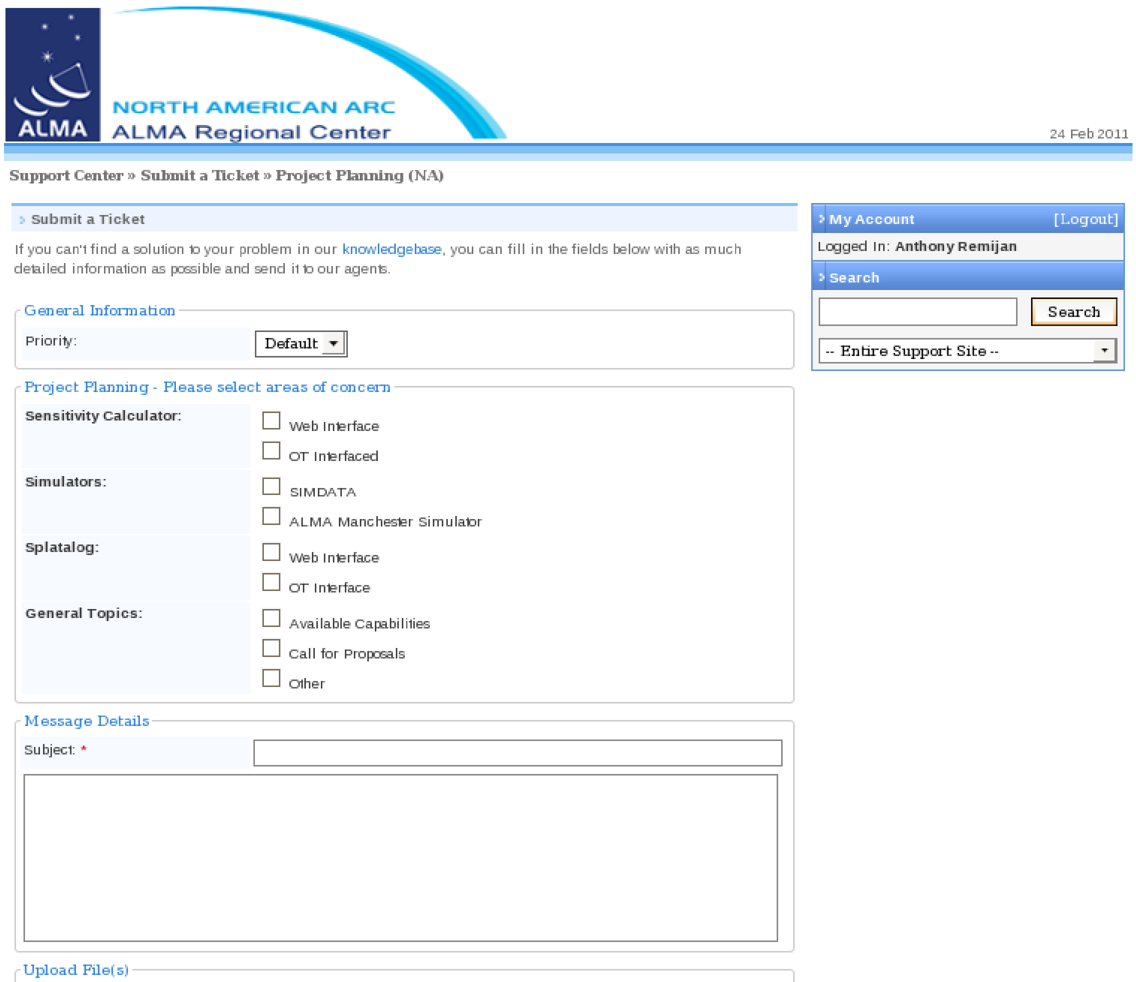

Figure A4. Entry form for the Project Planning Department.

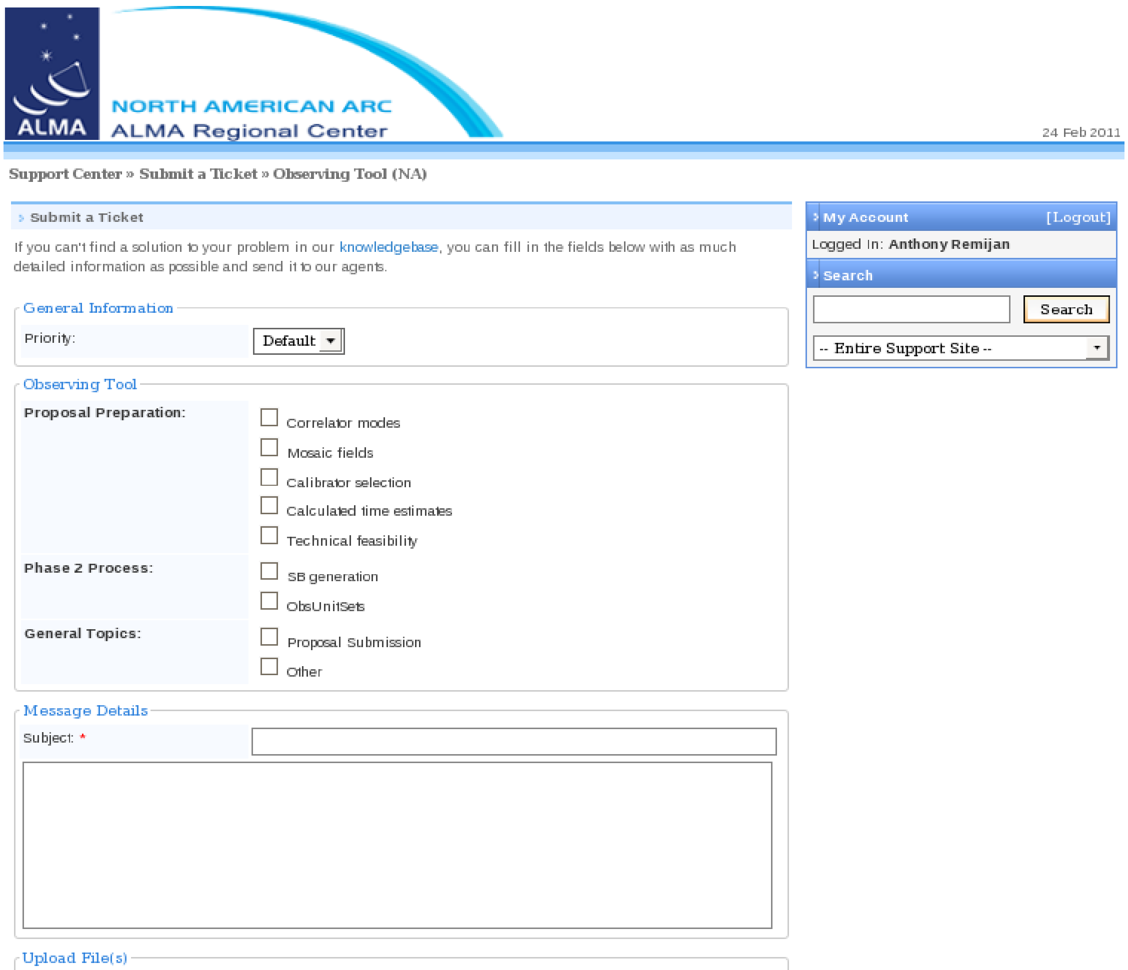

Figure A5. Entry form for the Observing Tool Department.

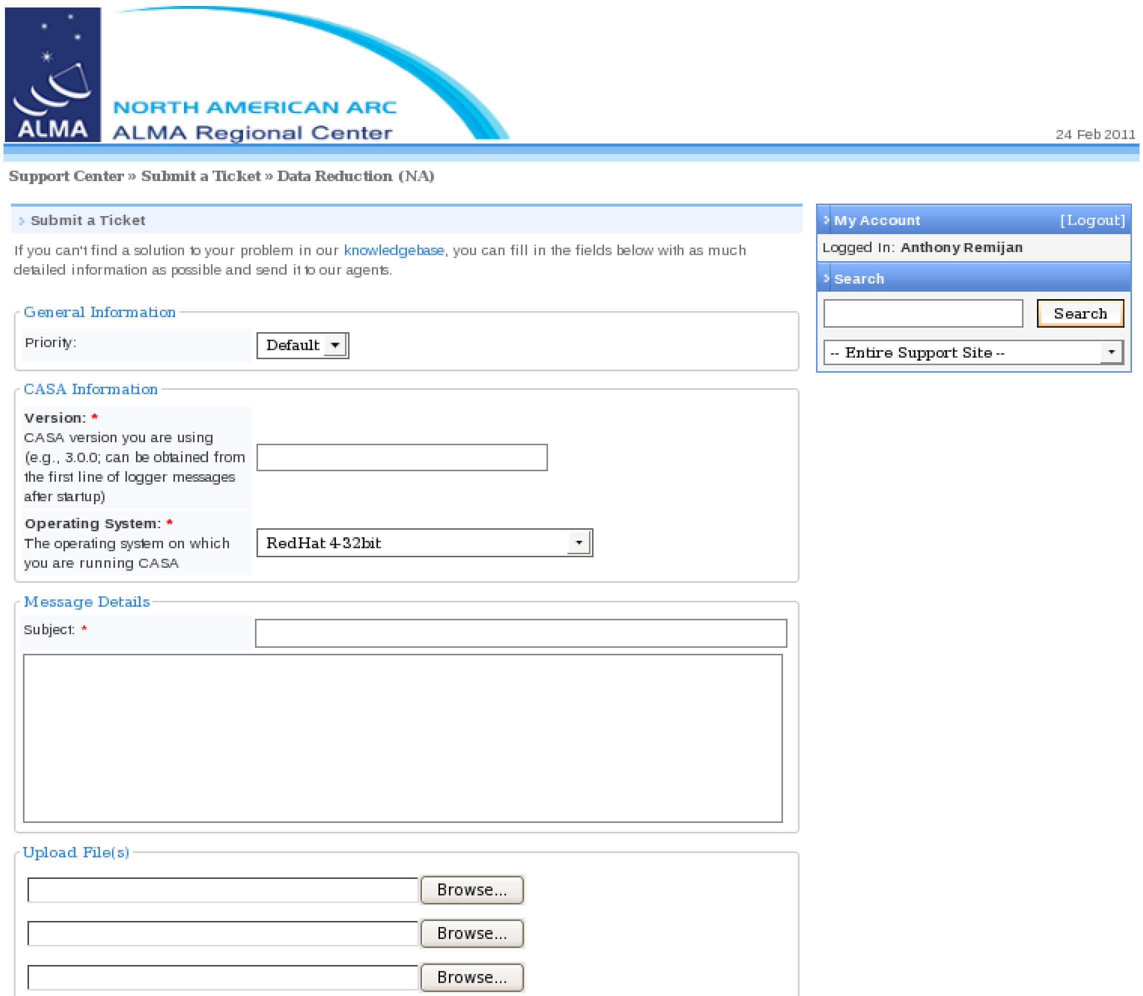

Figure A6. Entry form for the Data Reduction Department.

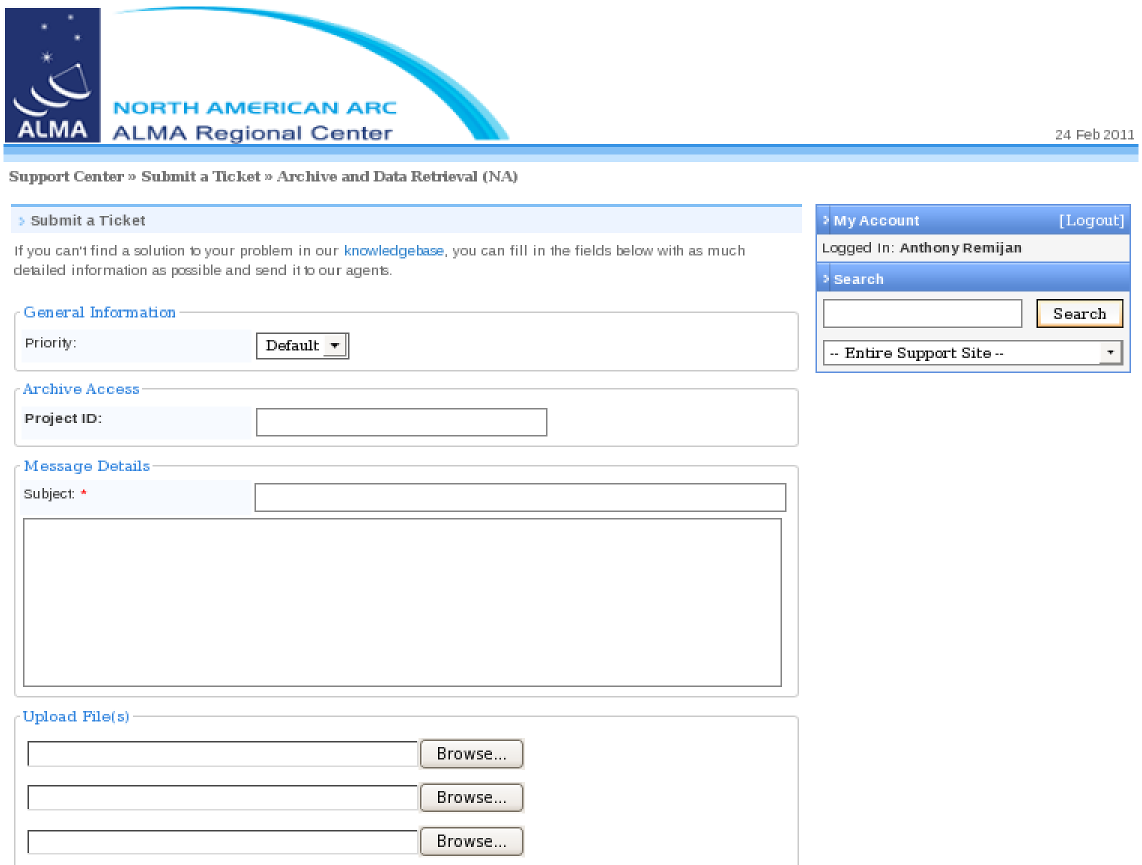

Figure A7. Entry form for the Archive and Data Retrival Department.

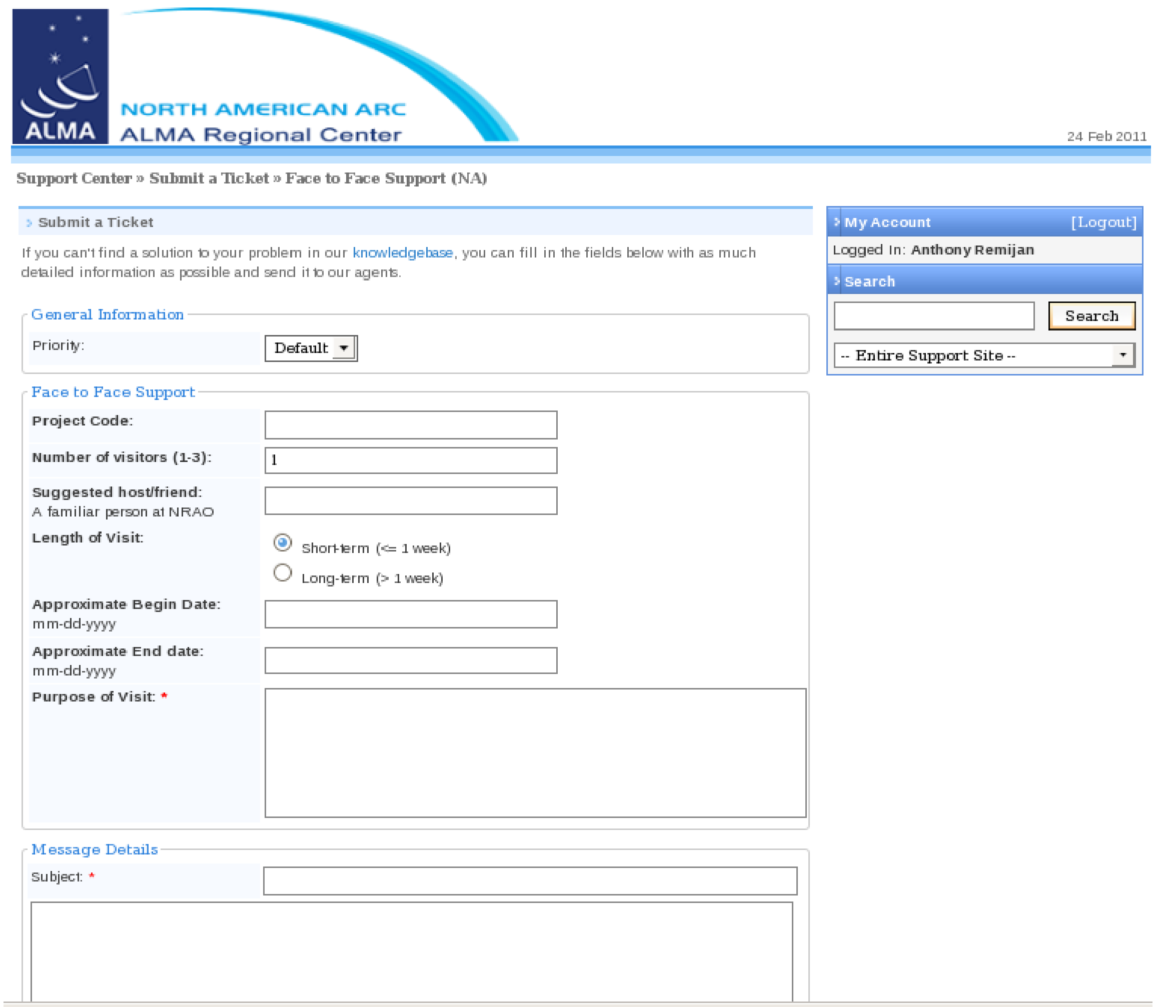

Figure A8. Entry form for the Face – to – Face Support Department.

APPENDIX B: USS Checklist for Answering Helpdesk Tickets

Checklist for USS in answering a submitted helpdesk ticket:

- ✓ Login to the helpdesk (Section 6.1) after you have received your email notification.
- ✓ View the ticket (Section 6.4.1)
- ✓ Examine it (Section 7.1) and take the following actions:
  - If you have enough information, "Post Reply" to the user (Section 7.1.2) and change the ticket status to "Resolved".
  - If you need more information from the user, change the ticket status to "Pending" when posting your reply (Section 7.1.3). Wait for the user to respond.
  - If you need to forward the ticket to someone outside the Kayako system, follow the procedure in Section 7.4 and make sure to "Quote" the ticket to send the contents of the correspondence.
  - If you believe the ticket needs to be sent to another ARC (Section 4), change the department to "Return to Triage" (Section 7.2) and add a note why.
  - If you are unable to respond to the ticket (for example, because you lack the specialized knowledge, or because you are unavailable) the ticket should be returned to Triage (Section 7.2) with a note explaining why.
- ✓ While posting a reply, determine if the ticket warrants a knowledgebase article (Section 9). If so, post the article with the "Article Status" option set to DRAFT (Section 7.5, Figure 18). DO NOT Publish the article.
- ✓ If you are the cognizant lead or a certified USS for a particular software subsystem, you should follow the workflow described in Section 5 and change the ticket status to "Resolved" after reporting the enhancement request or bug fix to the appropriate issue tracking system.
- ✓ Wash, Rinse, Repeat accordingly for all your tickets remembering that you have two working days to reply to an assigned ticket before the status changes to "Response Overdue".
- ✓ When you are finished, log out of the helpdesk and go do some science.

APPENDIX C: JIRA Systems

This appendix lists details of the various JIRA systems used across the project that Helpdesk support staff are supposed to use to file user-reported software bugs are enhancement requests.

The Helpdesk Staff Guide describes the workflow (section 5.1), which in general is to transfer the ticket to triage with a note to have it assigned to the relevant support staff (as listed in the "Who Submits JIRA" field in the tables below; Note - sometimes this involves first transferring the ticket to a specific ARC). These staff then opens a ticket for the software developers in the appropriate JIRA system.

CASA

Supported By:	NRAO
JIRA Location:	NRAO JIRA
Category:	-
Project:	CASA (CAS)
Component:	As appropriate
Who submits JIRA:	Regional CASA Cognizant leads and staff they "certify"; Use JIRA "Assignment" tab to assign JIRA ticket to to Regional CASA Cognizant lead (see notes)
Request Access from:	Cognizant leads send list of approved staff to Jeff Kern (list of CASA-certified staff maintained at CASAstaff)

Notes:
"Certified staff" are those with a good working knowledge of CASA, as vouched for by the regional CASA cognizant leads. (List of certified staff is maintained on the CASAstaff webpage)

Cognizant Leads are "gatekeepers" to make sure "due diligence" was performed on ticket before it gets to the CASA developers. As such, they are assigned and review every ticket that is submitted by ARC staff to the CASA JIRA system. If they believe more work needs to be done on ticket before being passed along to CASA developers, they communicate this to the submitter. Otherwise, they change assignee to the appropriate developer.

Observing Tool

Supported By:	CIPT
JIRA Location:	**JAO JIRA**
Category:	ALMA Test Facility (ATF)
Project:	Computing (COMP)
Component:	Observing Preparation and Support
Umbrella Ticket:	COMP-5023
Who submits JIRA:	Transfer to EU ARC; assign to ObsPrep SubsysSci or designee (Biggs/ Humphries)
Request Access from:	Max Simmons, after approval from Alan Bridger

Notes:
OT Cognizant Leads/deputies should be given permissions to read tickets and add notes.

Submitted bugs should be added by OT Developer to the OT "Known Issues" page.

ALMA Science Archive

Supported By:	CIPT
JIRA Location:	JAO JIRA
Category:	
Project:	ASA (CIPT) (NOT YET AVAILABLE)
Component:	
Umbrella Ticket:	
Who submits JIRA:	Regional ASA Subsystem Cognizant Leads.
Request Access from:	Max Simmons, after approval from Felix Stoehr

SPLATALOGUE

Supported By:	NRAO
JIRA Location:	NRAO JIRA
Category:	-
Project:	**Splatalog (SPLT)**
Component:	-
Who submits JIRA:	Transfer to NA ARC; Assign to Splat Subsystem Sci or designee (Remijan/Pulliam)
Request Access from:	**Stefan Witz**, after approval from Tony Remijan

SIMDATA

Supported By:	NRAO
JIRA Location:	NRAO JIRA
Category:	-
Project:	**CASA (CAS)**
Component:	Simulation
Who submits JIRA:	Transfer to NA ARC; Assign to Simdata Subsystem Sci or designee (Indebetouw)
Request Access from:	**Stefan Witz**, after approval from Remy Indebetouw

OST

Supported By:	NRAO
JIRA Location:	N/A
Category:	-
Project:	
Component:	
Who submits JIRA:	Transfer to EU ARC with note to transfer to UK ARC Node
Request Access from:	N/A

Ph1M

Supported By:	CIPT
JIRA Location:	JAO JIRA
Category:	ALMA Test Facility (ATF)
Project:	Computing (Comp)
Component:	Observatory Operations Support
Umbrella Ticket	COMP-5687
Who submits JIRA:	Transfer to PHT department in kayako; PHT transfers bug/enhancements to above JIRA system & relates this back to ARCs via notes in kayako.
Request Access from:	Not needed (only PHT submits JIRA tickets)

Project Tracker

Supported By:	CIPT
JIRA Location:	**JAO JIRA**
Category:	ALMA Test Facility (ATF)
Project:	**Computing (Comp)**
Component:	**Observatory Operations Support**
Umbrella Ticket	COMP-5688
Who submits JIRA:	Regional PT Subsystem Cognizant Leads
Request Access from:	Max Simmons, after approval from ....???