**NRAO-ALMA Integrated Helpdesk Requirements**

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**Summary**

The NRAO currently operates two independent helpdesk systems, one for NRAO facilities (excluding ALMA) user support and one for ALMA user support. Both helpdesk systems use software sold by Kayako. The helpdesk system provides bi-directional, private user correspondence through *tickets* and one-directional, “broadcast” user support through a *KnowledgeBase* (KB). The ALMA helpdesk is used by the 3 ALMA Regional Centers (ARCs) to support their users. Although the ALMA helpdesk software and hardware is maintained by NRAO, great care has been taken to remove from the European- and East Asian-user experience any indication that the helpdesk system is a North American product. To maximize observatory efficiency, NRAO desires to operate a single integrated helpdesk system that can service all NRAO and ALMA users.

Dark red text requires stakeholder input.

**1. User Definition**

There are several categories of users relevant to integrated helpdesk operations. (see Venn diagram, below)

1. **ALMA users**. These are users of ALMA who have never used other NRAO instruments
	1. **NA support.** These ALMA users are supported by the NA ARC.
	2. **EA/EU support.** These ALMA users are supported by the EA or EU ARCs.
2. **NRAO users**. These are users of instruments operated exclusively by NRAO (i.e. VLA, GBT, VLBA) who have never used ALMA.
3. **ALMA and NRAO users**. These are users of both ALMA and NRAO facilities.

The integrated helpdesk should support all 3 categories of users equally. An ALMA user is defined by an account in the ALMA Science Portal. An NRAO user is defined by an account in the NRAO user portal (my.nrao.edu).

The helpdesk interface presented to its users by the NRAO and the NA ARC should make it obvious that all its instruments (ALMA, GBT, VLA, and VLBA) are supported equally by the observatory: NRAO and ALMA NA users should receive the same user support experience regardless of the instrument involved. ALMA users who are not also NRAO users, on the other hand, will not have access to ticket departments and KB article categories that pertain to NRAO facilities.

**2. Helpdesk Service Definition**

The integrated helpdesk system will provide for direct and private correspondence between users and staff via “tickets”. Tickets will be organized by “departments.” Department visibility will be customizable for both staff and users. ALMA departments of the same name will be created for each ARC. (For example, there will be separate ALMA Data Reduction departments for NA, EA, and EU.)

The system will also provide a public KB of articles written by staff that can be viewed by all users. KB articles will be organized by “categories”. Category visibility will be customizable for both staff and users.

**3. Integrated Helpdesk Requirements**

1. User access to the helpdesk system occurs through 2 Internet domains: **help.almascience.org** for ALMA users and **help.nrao.edu** for NRAO users. ALMA-and-NRAO (category 3) users may access the helpdesk through either domain equally.
2. NRAO users who do not have an ALMA account will be assigned or required to select an ALMA ARC for support using the same rules that apply to ALMA science portal account creation.
3. Users will be categorized automatically by comparing accounts in the NRAO and ALMA user portals. The user email address will be considered a unique identifier so that an ALMA user account and an NRAO user account that have the same email address will be considered to have the same owner. (Should allow for the possibility that a user may use different email addresses for the NRAO and ALMA user portals or should we require the same address for account integration?)
4. Knowledgebase categories will be divided into two groups: those that pertain to ALMA users, and those that do not.
5. For ALMA departments, only the departments for one ARC will be visible to any user or staff person (excluding administrator accounts). Every user will see ALMA departments serviced by their assigned or selected ARC for support.
6. ALMA users with EA/EU support (category 1.b.) will see only departments for their ARC and only categories pertaining to ALMA. ALMA users with NA support (category 1.a.), NRAO users (categories 2), and ALMA-and-NRAO users (catagory 3) will see NA ARC and NRAO departments and all categories including those pertaining to ALMA.
7. EA and EU ARC staff will have the appropriate read and write permissions only to KB categories that pertain to ALMA. All other staff (NRAO and NA ARC) will have read and write permissions to all KB categories.

**4. Use Cases**

1. A user, call her Dr. Paris, affiliated with a European institution creates an ALMA account. Paris does not have an NRAO account. When Paris logs into the ALMA helpdesk , she will see **help.almascience.org** as the current domain in her browser address bar; she will see ticket departments that are serviced by ALMA EU ARC staff; she will see KnowledgeBase categories pertaining only to ALMA.
2. A user, call him Dr. Tokyo, is affiliated with a Japanese institution. He creates an NRAO user portal account, but does not have an ALMA account. When Tokyo logs into the NRAO helpdesk he will see **help.nrao.edu** as the current domain in his browser address bar; he will see ticket departments that are serviced by ALMA EA ARC staff and NRAO facility departments serviced by NRAO staff. He will see all Knowledgebase article categories.
3. A user, call her Dr. Puna, is affiliated with an Indian institution. She creates an ALMA science portal account but does not have an NRAO account. When Puna creates her ALMA account she selects the NA ARC for support. When Puna logs into the ALMA helpdesk , she will see **help.almascience.org** as the current domain in her browser address bar; she will see ALMA ticket departments that are serviced by ALMA NA ARC staff and NRAO departments (because she selected the NA ARC for support); she will see all KnowledgeBase categories.
4. A user, call him Dr. Sydney, is affiliated with an Australian institution. He creates an NRAO account but does not have an ALMA account. When Sydney creates his NRAO account, he is required to select an ARC for ALMA support, even if he has no intention of ever using ALMA. He selects the EA ARC for ALMA support. When Sydney logs into the NRAO helpdesk, he will see **help.nrao.edu** as the current domain in his browser address bar; he will see ALMA ticket departments that are serviced by EA ARC staff and NRAO-facility departments serviced by NRAO staff. He will see all Knowledgebase article categories.
5. A user who had both ALMA and NRAO accounts prior to helpdesk integration will, at the time of integration, see ALMA ticket departments serviced by her previously assigned/chosen ARC for support as well as NRAO ticket departments. She will see ALMA and NRAO categories in the KnowledgeBase. The user will access the same helpdesk through either **help.almascience.org** or **help.nrao.edu**.
6. A user who had an NRAO account prior to helpdesk integration but did not have an ALMA account will, on the next login after helpdesk integration, be assigned or required to select an ARC for ALMA support.

**5. View**

Helpdesk integration will require changes in the user view during selection of ticket departments and browsing of KnowledgeBase categories.

There are several options for the view during selection of ticket departments.

1. **Flat hierarchy.** We can simply list all the departments to which the user has access and let the department names differentiate between instruments. For example, we could have “ALMA Data Reduction” and “VLA Data Reduction”. There are currently 13 departments in NRAO helpdesk and 7 departments in the ALMA helpdesk (not including internal departments to which the user cannot submit tickets). With a flat hierarchy it will probably take the user longer to find the proper department.
2. **Instrument hierarchy**. We group departments by telescope, so that all VLA-relevant departments are listed together, and all ALMA-relevant departments are listed together, etc. This would be most convenient for users who can identify their question as pertaining to one instrument. Confusion could be created if a user’s question is relevant to multiple instruments.
3. **Functional hierarchy**. We group departments first by function and secondly by telescope. In this case a user would select “Data Reduction” and then select either “ALMA” or “VLA”. This hierarchy gives the helpdesk system the most highly integrated appearance.

The department view should make sense for all helpdesk users. For example, in a functional hierarchy, an ALMA-only user supported by the EA ARC should not have to select “Data Reduction” and then select “ALMA” from a list with only one option. Instead, the view should be designed to automatically choose the “ALMA Data Reduction” department for an ALMA-only user.

Knowledgebase categories will be divided into two groups: categories that pertain to ALMA and those that do not. ALMA categories will be visible to all users. Non-ALMA categories will be *invisible* for ALMA-only users supported by the EA and EU ARCs (user category 1.b). If the number of categories is large enough to benefit from an organizational structure, one should be applied in like manner to the ticket department structure.



