

CASA Documentation plan (I)

Proposed changes to documentation structure

Motivation

Years ago, the CASA team decided to streamline CASA documentation by capturing the various sources of documentation (Cookbook, Toolkit, extensive inline help, etc) in one place: *CASA Docs*.

CASA Docs is written in plone. The transition to CASA Docs in plone has taken a tremendous amount of effort by the CASA team and colleagues at NRAO, much more than initially anticipated. In fact, this process is not yet completely finalized, as evident, e.g., by the still-to-be-added tool pages. It is important to recognize that over the past several years, this intensive transition period caused CASA Docs to be incomplete. *The incomplete state of CASA Docs over the recent transition period should not be taken as a measure when deciding how to move forward with CASA documentation!*

The CASA team firmly believes that we should proceed on the chosen path by making CASA Docs the primary reference for all CASA documentation. We foresee two important steps to be taken in this process:

- *completing and improving the CASA Docs content*
- *simplifying the overall documentation structure*

The first step is driven by stakeholder requirements. The CASA team is in the process of addressing how to move forward on CASA Docs content, and the current document does not discuss this.

The second step is driven by the realization that plone has been much more difficult to handle than initially thought, and by the fact that all inline help is provided in XML format, which has to go through a development process in order to be updated. This document will lay out our proposed solutions and reasons for simplifying the documentation structure, including inline help and plone. The goal is to improve the CASA product and free resources that can in turn be used more efficiently.

Current status of CASA documentation

The official CASA Docs documentation currently consists of three components:

1. **Online CASA Docs:** primary documentation, delivered as online reference with each CASA version: <https://casa.nrao.edu/casadocs/>
2. **Packaged CASA Docs:** exact copy of the online CASA Docs, packaged with each CASA version. The command `doc('task')` displays info from this packaged CASA Docs.
3. **Inline help:** XML information that displays tool/task information in the x-terminal through the `help('task')` command.

While we realize that in theory it would be ideal for users to have access to these three forms of documentation, we have encountered practical difficulties that seriously question whether the user is best off with this current situation of CASA documentation. These problems are as follows:

Online CASA Docs:

1. *Users currently do not have the most up-to-date documentation available.* All updates on CASA Docs currently go into the CASA Docs Development server. With every new CASA release, a permanent snap-shot of this development server is taken, and this version of CASA Docs will be publicized to the user community. Because the online version of CASA Docs is tied to the packaged version of CASA Docs, in principle no updates to a CASA Docs version are available to users until the next CASA release, which is often half a year later. With all new development going into the development server, there may not be an easy way around this, but some flexibility would be useful.
2. The plone infrastructure has caused many problems that were not foreseen. Many plone features, e.g. regarding the XML import or auto-linking of tasks/tools, were implemented by someone who is no longer working at NRAO. Moreover, the plone expert who has saved us from total disaster in the past, Elizabeth Sharp, is only available ‘in-kind’ for future cycles.
3. CASA Docs is not immediately visible as official CASA documentation on Google search
4. saving CASA Docs pages into useful pdf files never properly worked, making it impossible for users to make their own an off-line copies

Packaged CASA Docs:

1. The packaging of CASA Docs per definition has to be done at the very final stage of CASA packaging, given that final development changes require updates in the documentation. So far, this has always lead to a 1-2 day delay (and unnecessary frustration) in getting the CASA release packaged.
2. In CASA 5.3, the packaged documentation totaled ~1 Gb, or almost 50% of the total CASA 5.3 software distribution! (or, as Ryan nicely formulated it: “That is madness.”) While we have been improving on the total volume of the packaged CASA Docs in CASA 5.4, it still covers a considerable size of each CASA distribution.
3. The packaged CASA Docs never worked on NRAO Linux machines, because the default installation of internet browsers has not been compatible with the packaged CASA Docs. Interestingly, we have not received any complaint on this since the problem was discovered over a year ago, making us wonder whether the packaged CASA Docs is widely used at all.

Inline help:

1. Updates to the inline help require making changes to the XML files. To implement those changes, builds have to be made for each of the four supported OS, these builds have to be validated and then merged to the trunk. Our current sensible policy is that such XML updates are made only by developers. Therefore, *each time the inline help needs to be re-written or tweaked, this will be at the cost CASA resources.*
2. Our goal for CASA Docs was to have all the crucial information in the task description pages, which would be too long for the inline help. Having a shortened description in the inline help goes against the main philosophy for CASA Docs, namely having all documentation in one place. Moreover, keeping two different “descriptions”, one the inline XML and the other in the online CAS Docs, is confusing for content creators (some of which

don't have access to the XML files) and *will lead to unwanted divergence of the inline and online information.*

Proposed changes to CASA documentation structure

To deal with all of the above mentioned issues, we here proposed a number of changes to the way that the CASA team present its documentation to the community. We stress that *many of these changes are the same as proposed years ago when the transition to CASA Docs started.* Moreover, *none of the proposed changes will influence the functionality of CASA in any significant way.*

Online CASA Docs: modernize the layout

This make-over is already underway on the CASA Docs development server, and will be visible to users starting CASA 5.5: <https://casa.nrao.edu/casadocs/>

(please logout to see a preview – not all links may work yet)

It will not affect the content currently available in CASA Docs, but will include:

1. Update of the plone theme, to add a more modern look
2. Simplify the plone theme by removing causes for errors (e.g., auto-linking), so that the site can be more easily maintained
3. Improve navigation by shortening the list of tabs in the navigation bar, and adding a third layer of tabs, to give the user a better overview of the content
4. Addition of an internal “Planning” page for tasks/tools, so that the CASA team can a priori document requirements that can later be copied to the public description pages. This Planning tab will not be visible to users.
5. Addition of CASA memo and Knowledgebase section, to capture free-floating information
6. Option to print content to nice-looking pdf-files (currently works for individual pages)

This will give CASA Docs a more modern look and hopefully let the user find information more easily.

Packaged CASA Docs: remove entirely

By removing the packaged CASA Docs, users typing doc('taskname') will instead be directed to the online CASA Docs version. Both online and packaged pages are currently identical (if any, the online version is more up-to-date), so the inconvenience is only to users that are off-line. There are several good reasons for considering this:

1. No more delays of CASA releases due to unavoidable final content updates, snap-shots and packaging
2. More flexibility in when to make the final snap-shot, resulting in more up-to-date content for users.
3. Decrease the size of CASA packages.

4. The option to make pdf-files from the online CASA Docs to some extent alleviates discontinuation of the packaged CASA Docs
5. The packaged documentation relies on browser setting that are known to not always work (e.g., within NRAO the packaged CASA Docs fails miserably). Not offering a feature is better, and looks more professional, than offering a feature that does not work...

Inline help: shorten to parameter listing

This goal has been set from the start of the transition to CASA Docs. The idea is to limit the inline help to a short parameters listing that are available with each task. This is similar to the “Parameter” pages in CASA Docs, which currently are filled directly from the inline XML files. This approach will get rid of the duplicate detailed description and examples, which can be found on CASA Docs.

While we realize that many users are used to having information readily available in their x-terminal, the modern computing era largely eliminates the need for a feature that was rather essential in the early days of AIPS. There are a number of very valid practical consideration for shortening the inline help:

1. Improve reliability by having primary documentation in a single place (CASA Docs)
2. Relieve developer effort by keeping XML updates to a minimum (i.e., avoid excessive build and validation steps each time the inline help is updated)
3. Avoids excessive in-terminal information (that should really be in a separate screen anyway).
4. Encourages users to start using CASA Docs
5. Gets in line with other modern software packages -- welcome to 2018!

Other old CASA Documentation: remove online content

To improve the Google search, we plan to remove all other online documentation that is currently at NRAO servers, in particular when the information is now captured in CASA Docs.

Conclusions

Currently, the complexity of plone, complexity of updating documentation and complexity for users to find the most up-to-date documentation forces us to consider simplify the documentation of CASA in order to deliver a better product. While completing and improving the content remains our number one priority, we believe that the proposed updates to the CASA documentation structure will aid in our overall goals of improving CASA documentation without compromising on functionality. These proposed changes will help promote the CASA product as a modern software package product, and eventually improve user experience.

While we feel that to a large degree it is the responsibility of the CASA team on how to present the CASA software and its documentation to the user community, we welcome any feedback by the stakeholder on the proposed changes formulated in this document.