

Cray Inc. Technical Publications Documentation Portal

Peggy Sanchez

Development Support, Technical Publications

Cray Inc.

St. Paul, USA

psanchez@cray.com

Abstract—The Cray Technical Publications team is designing a user experience where its consumers can find content on an ‘as needed’ basis as well as curate the content they are interested in consuming.

Keywords—component; technical publications; tech pubs; documentation; publication; CrayDocs; CrayPort

I. INTRODUCTION

This is a description of problems, needs, and solutions for users of Cray documentation. Content found on CrayPort or CrayDocs is difficult to identify, search, update, and publish. The infrastructure of the technical publications environment requires a complete overhaul. This includes the way content is developed, reviewed, and published. There are three differentiators of document development from the former technical writing setting; structured authoring, single source delivery, and topic based construction. These three tenants of the new infrastructure provide better search results, easier reviews, and multi-output publishing. But there are additional improvements such as providing inherent consistency, standardization, modular development, simple update options and faster production. This is a description of the new portal as well as how the tenants contribute to its success.

II. TECHNICAL WRITING ENVIRONMENT AND ITS EVOLUTION

The technical publications department at Cray is made up of highly experienced writers, many from engineering and software backgrounds. The newest members of team are trained writers learning in-depth detail about supercomputing. Eight members of the team combined have over 200 years technical writing experience in hardware and software. These writers have been with the same equipment and tools for 10 or more years. In Cray culture, “Crayons” can and do fix or customize applications without support. In fact, CrayPort and CrayDocs are home grown portals for content. Even the version control repository used by the pubs team was not designed for technical publications but rather for code development. Over the years, the applications used to write and build documentation have been tweaked beyond repair. The tools and processes for creating technical documentation had become buggy and prone to failure. The department had a full time engineer just to keep things up and running. Each

location used different authoring tools to produce content. Over time, unlimited customization prevents updates, lacks support, becomes unstable, and creates problems often unique to the specific document based on tool, destination, and timing. This creates employee development issues. Training a new writer was nearly impossible as each document became a process with problems and solutions unique for that day. In addition to the engineer, two other team members did no writing at all. One member was responsible for solving editing problems and the other for getting content to upload.

III. A NEW PARADIGM

The writing team had spent 5 years researching a solution to improve creation and delivery of technical publications. The conclusion is to use a new XML standard [DITA Darwin information type architecture] and a CCMS (component content management system) for developing content. While that sounds simple and eventually had full consensus, the changes and challenges the team faced were monumental. True to Cray culture the team attempted to build and implement the solution themselves but while the ability was there, the time and resources were not. To convert to a new system, the team had to learn a new standard (DITA), authoring tool, repository, and perspective for the new infrastructure as well as continue to deliver content for each release. Everything had to change. The technical understanding within the department is phenomenal but creating technical documentation was an entirely new experience.

A. Tenant 1: Structured Authoring

Structured authoring is defining content semantically and was a new concept for over 2/3s of the team. For example a heading must be defined or tagged (in XML) as a heading level not just formatted to look like a heading. Similarly, a paragraph, bulleted list, set of tasks, and all other content must all be defined as such and not just formatted to look a particular way. Structured authoring uses a CSS (cascading style sheet) to create the publication. Publications are the output of the technical content and are no longer designed to look like books. The CSS is defined and imported into the authoring system. The writer does not format the content as they work. The writer cannot alter the output for appearance. This frees the writer up to focus on content and reuse. This is

the first paradigm shift and it is very much like putting a new bridle on a horse. There is a lot of resistance but unlike a horse, the writer has agreed to embrace the restrictions. If output was problematic, the stylesheet had to be updated.

B. *Tenant 2: Single Source*

Single source as related to technical writing is content written once but used in multiple locations as well as multiple outputs. Again, this is a simple concept but it has powerful implications. There is a difference between single source and copying content and pasting it in a different location. If that content changes for any reason (new content is added, a correction or a typo) the content is updated in the original location and pushed out to all locations. In a copy and paste situation, each instance of reuse must be updated. Single source content can be used in different outputs by publishing to different stylesheets. Content can be output as html, pdf, help files, training content, ePubs, even nroff files - there are dozens of options. In a copy and paste situation, the content must be reformatted for every output and the source must be transformable.

C. *Tenant 3: Topic Based*

Topic based content is the process of writing content in stand-alone files. The files are combined to create a publication. Topics can be used anywhere and in any order and subordination. What might be a main topic in one publication can be a subtopic in another. Stand-alone content means the context of the topic is included as well as any pre or post requisites. And due to single sourcing, all the content needed for the topic is included. No more sending the reader to another publication to learn or do something.

IV. PROBLEMS OF THE PORTAL

CrayDocs and CrayPort are the longstanding locations for technical content. The difference between CrayPort (customer portal) and CrayDocs (public portal) is dependent on the user. CrayPort holds additional client specific content. Internal CrayPort users have access to hardware repair publications. CrayDocs holds content available to the public. The issues with these portals are addressed with the new infrastructure.

- These repositories have not had a major update in years.
- The Pubs team does not manage the portals. Their contribution is one way – loading content to the sites. There are no parameters for removing or obsoleting content.
- Neither site has strong search capabilities. Typically, users will search Google for specific information in order to locate content on the portal. Pub numbers are an example of the kind of information necessary to locate specific

documents. Using the publication number was a more successful way to find specific content however, publication numbers had no meaning

- There was no uniform naming convention for publications so titles may not indicate the content.
- Publication formats were inconsistent. Some publications have html and pdfs others only have pdfs.
- The portals used very little metadata to identify content.
- Documents often required additional documents (due to the tools) in order to complete tasks

V. THE NEW PORTAL

The new portal was implemented a year after updating the Pubs infrastructure. The new portal is simple in its layout and easy to use. The rest of the paper will describe the functionality and the problems solved with the new portal.

VI. LAYOUT

The new portal has a simple layout with a left navigation column and large content viewing panel. When a user comes to the portal for the first time, the right navigation panel is hidden. The portal has additional features previously unavailable designed for the writers to receive feedback from the users.

A. *Contact Us*

In the upper right corner is a simple ‘Contact Us’ link. This link sends an email directly to the Pubs department. All feedback is welcomed whether looking for content that is believed to be available or identifying content that needs clarity or questions the user believes should be answered in the documentation. This is not a help desk resource but questions, suggestions, and feedback about content. This is a place to communicate directly with writers.

B. *Desktop Manager*

The desktop manager is a way to show or hide the panels on the portal. There are panels available here that are not shown by default.

C. *Sign In*

Creating an account on the portal allows the user additional features in the portal such as curating content within the Collections panel. In the future revisions of the portal the client will have a single sign on process. This means if you are signed into CrayPort, you are automatically signed into the portal and vice versa.

D. Left Navigation

The left navigation column is designed to drill down to content. The first panel Subject/Search is a faceted search allowing the user to choose software or hardware products, release numbers, or legacy publication numbers. The next panel down, Subject Publications, shows the results of the first selection. The Table of Contents panel shows the table of contents or hierarchy of the publication selected.

1) *Subject/Search Panel.* The Subject/Search Panel has three tabs, two are visible on the first visit. To see the third tab, which lists all publications in alphabetic order, use the orange widget in the right corner and select Titles. Scrolling through the Subjects tab shows Software products, Hardware products, Release IDs, and legacy publication numbers. Selecting any combination of these choices narrows the search. Results for this faceted search appear in the next panel Subject Publications. Under the Search tab, users enter the term or phrase to find specific content. The search bar allows the search in the current publication or all publications. The results are shown in the same panel. Selecting a topic will open the publication in the Content panel.

2) *Subject Publications.* The Subject Publications panel is the second level of information and shows the publications resulting from the search.

3) *Table of Contents.* The final panel on the left navigation column is the detail of the publication. Subject -> Publication -> Table of Contents. Choose a topic in the table of contents or page through the publication. The content is shown in the large Content panel.

E. Content Panel

The Content panel is the largest panel for viewing. Content can be scrolled if it does not fit on the screen. In the upper left corner of the panel are page icons as well as bookmark icons.

F. Related Links

This panel lists links that relate to the current content. The pubs team is in early stages of developing additional contributions to this panel.

G. Collections

The Collections panel allows the user to curate content specific to their interest. You must have an account to use the Collections panel. Content is designate via the bookmark icon in the Content panel. Bookmarking a topic will open the right navigation column and allow you to start curating content in a folder. Content can be reorganized and put together in any way the user deems appropriate. A click of the mouse and the user has the dynamic content currently in the form of a pdf.

VII. CURRENT STATE OF AFFAIRS

The new portal takes advantage of the features in DITA and in the tools available to the writers. All the writers using the portal are learning about all the additional functionality. Outside of Cray, the majority of adopters of the DITA standard implement the authoring tool and the repository but end up only producing content in pdfs. The portal is a working example of what can be done with DITA on the web. Cray is leading the technical writing community in its development of the portal based on the DITA infrastructure.

VIII. FUTURE PLANS FOR THE PORTAL

The new portal is in line for an update this year. The new version will be a responsive design. Responsive design allows the user to view the content on any device. The formatting will adjust to the device.

The dynamic features in the future will sort content based on audience or skill level as well by function. Additional content such as Knowledge base articles or video library will also be available.

Additional functionality may include allowing comments from users outside of Cray. There will also be an exercise to move some legacy content to the new portal. Content not migrated will be archived in the eventual shut down of CrayDocs.

ACKNOWLEDGMENT

Special thanks to the Publication team for their enthusiasm, dedication, and patience to work diligently on learning and implementing the DITA standard and the CCMS. Without their hard work, this project could not have occurred.