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Abstract:

This deliverable, D4.4 M33, concerns the helpdesk functions and mailing list that have been set up to provide user support for the CMIP5 Questionnaire. The CMIP5 Questionnaire support team handled 30 helpdesk queries in the first 3 months of operation.

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Introduction

Originally, the Metafor project anticipated that a help desk and mailing list would be deployed to support the governance of the various CIM schema and documentation. A help desk and mailing list have indeed been deployed (and are therefore the subject of this deliverable) but they are in support of a specific CIM schema and CIM creation tool that Metafor developed for CMIP5[1]. This report reflects that change in emphasis and concerns the helpdesk functions and mailing list that have been set up to provide user support for the CMIP5 Questionnaire.

The CMIP5 questionnaire http://q.cmip5.ceda.ac.uk/cmip5/ is web based interactive tool for creating CIM documents about the climate models that contribute to CMIP5. The CMIP5 Questionnaire also captures information about how those climate models were set up to run simulations for CMIP5 experiments.

The helpdesk and mailing list support infrastructure that will be used to support the governance of various CIM schema and documentation will use the same technology and apply the same workflow as the support infrastructure that we have put in place for the CMIP5 Questionnaire. In this respect the helpdesk functionality described in this report applies to both CMIP5 Questionnaire support and to the more general requirement of support for CIM schema and documentation. The significant difference between the two helpdesks being what is in and out of scope.

The helpdesk for the CMIP5 Questionnaire will handle all queries relating to the metadata requirements for CMIP5. Questions about the CIM will be forwarded to the Metafor mailing list. Questions about the logistics of setting up experiments for CMIP5 will be forwarded to the CMIP5 team at PCMDI[2]. Questions about the upload and download of data will be forwarded to the ESG federation[3].

Help Desk

Building on the helpdesk experience at the BADC a dedicated CMIP5 Questionnaire helpdesk service has been set up within the Numera Footprints software package that is used to run the BADC helpdesk. The utilisation of existing helpdesk software used within CEDA to run the BADC and NEODC helpdesks has lead to a well structured and supported helpdesk to be established with minimal effort by the METAFOR project members within CEDA. Numera Footprints (hereafter Footprints) has proved to be a robust and efficient method of organising help desk and science support queries at the BADC. Users interact with the system directly through email and this straight forward interaction combined with the in-house expertise at BADC made Footprints the obvious choice of technology for the CMIP5 questionnaire helpdesk.

Another advantage of using the BADC helpdesk technology for CMIP5 questionnaire support is that it allows us to take advantage of the BADC user database to automatically capture information about users. The CMIP5 questionnaire is secured using OPEN-ID

[1] The Fifth Coupled Model Intercomparison Project http://cmip-pcmdi.llnl.gov/cmip5/
[2] Program For Climate Model Diagnosis and Intercomparison http://cmip-pcmdi.llnl.gov/cmip5/
[3] The Earth System Grid Federation http://esg-pcmdi.llnl.gov/esgf

certification and the main issuer of these OPEN-ID certificates is the BADC. Therefore the vast majority of queries we receive at the helpdesk are from users who are registered with the BADC. When an email arrives from a registered BADC user their contact details (name, institution etc) are automatically entered into the helpdesk. Our user base is global and we expect to receive queries from users in 15 countries across the globe. The convention for writing names is not the same for all countries and it is not always possible to distinguish a person's first name from their family name in an email correspondence. Therefore it is of particular benefit to have user information delivered directly from the BADC database. Notwithstanding that, the auto-completion of user information also saves time.

Figure 1: Screenshot of the footprints helpdesk – Queries that have High and Urgent priority settings are highlighted in red. The Title field also displays the last message that was posted to a query, this not only provides useful context but also allows the support team to distinguish queries that have the same name e.g. query 38 and query 42.

Help Desk Work Flow

The helpdesk technology gives a consistent structure to the way the support team handle user queries. This structure covers the interaction with users and the interaction between members of the support team; it also provides a facility to communicate the progress of queries to external parties. The life-cycle of a user query will progress along the following lines:

- A user initiates a query by sending an email to the dedicated helpdesk email address: cmip5qhelp@stfc.ac.uk
- The user receives an automated response from the helpdesk to assure them that their email has been received.
- The helpdesk software creates a query
- The query is assigned to the help desk manager
- The help desk manager re-assigns the query to the support team member(s) (assignee(s)) with the most relevant expertise
- The assignee uses the footprints helpdesk to report progress on the query
- The helpdesk emails this report to the user
- The user responds to the helpdesk via email
- The assignees receive an email from the helpdesk when the user responds
- The assignee will close the query when the issue is resolved
- The user may re-open the query, if required, by replying to the helpdesk email.

Any team member can reassign a query to someone else and queries can also have multiple assignees. The facility to have more than one person dealing with a query ensures that when it is important for information on a topic to be known to multiple members of the support team this can be achieved. The assignees can also correspond with each other about technical issues related to a query via the internal comments section on the helpdesk interface. This allows the helpdesk team to share sensitive internal information relating to a query in a way that is invisible to the external user.

Additional recipients can be added to a query using the cc list. When the support team member responds to a query they are able to specify which parties receive email notification – assignees, user, the cc-list or indeed no recipient.

Query Management

The footprints software gives great control over how queries are managed. In this section we describe those aspects of the footprints query management tool that are used to manage queries for the CMIP5 Questionnaire helpdesk.

The title of a helpdesk query is governed by the user. When the helpdesk first receives an email query from a user the title field in the email is used to generate the title of the query on the helpdesk. All emails from the user that contain the same title field will automatically update the query on the helpdesk.

Queries are given a priority level which rates them by importance or impact. The CMIP5 questionnaire helpdesk has 4 priority levels, Low, Normal, High and Urgent. When a query is created by the helpdesk software it is given a “Normal” priority setting. The priority level can then be reset by the help desk team to ensure that effort is focused on the most appropriate queries. Only High and Urgent priority queries are highlighted on the

helpdesk interface – this naturally draws attention to the issues that are most pressing see figure 1.

There are five status options for queries: Action, Open, On-hold, Closed and Spam but in practice the help desk team make most use of Closed, Open and Action categories. Closed status is given to queries that have been resolved. Open status is given to queries that are waiting for a response from the user. Action status is given to queries that require some kind of response from the help desk team.

If an "Action" query remains unattended by one of the help desk members for more than two days then an escalation procedure is enacted. The escalation increases the priority of the query and sends an email reminder to the assignee(s) prompting them to revisit the user's query. In this way the footprints system ensures that user queries are dealt with in a timely fashion.

We also make use of the ability to tag queries according to the type of issue they raise. This feature means that we can easily find similar queries which we have dealt with previously and so maintain consistency when responding to users and avoid the duplication of effort on the part of the help desk team. The helpdesk for CMIP5 support has been configured with seven categories which are listed below:

- Bug – something that is broken
- Access – an application for access to the questionnaire
- Controlled vocabulary – comment on the content of drop down lists
- Question – a question about something
- Unclear – extra explanatory text is required
- Usability – functionality could be better
- Other – something else

The categories used on the support helpdesk use the same issue categories that we came up with when beta testing the questionnaire. This ensures compatibility and consistency of issue reporting throughout the CMIP5 questionnaire life cycle. If additional types of query become apparent and/or old issue types become redundant then the helpdesk can be re-configured accordingly. This type-tagging of queries helps us to target improvements to the questionnaire.

The template facility on the footprints help desk allows us to further streamline the questionnaire support. We have created help desk templates for each query category. The templates are used to auto-fill required help desk fields and to draft pro-forma responses to our users. This ensures that our user queries are addressed efficiently and consistently.

The Helpdesk also contains a prominent link to the questionnaire. The support team can access the live questionnaire by clicking on the Metafor logo at the top of the interface (see figure 1). The direct link to the CMIP5 questionnaire means that the helpdesk team can easily assess queries and replicate a problem that a user has experienced.

The title, priority level, status and type-tagging of queries are mandatory elements that must be completed for all helpdesk queries. These mandatory fields are labeled in red on the helpdesk (see figure 2). Forcing the completion of mandatory fields from specified controlled vocabularies ensures that all queries are able to be coordinated by the helpdesk.

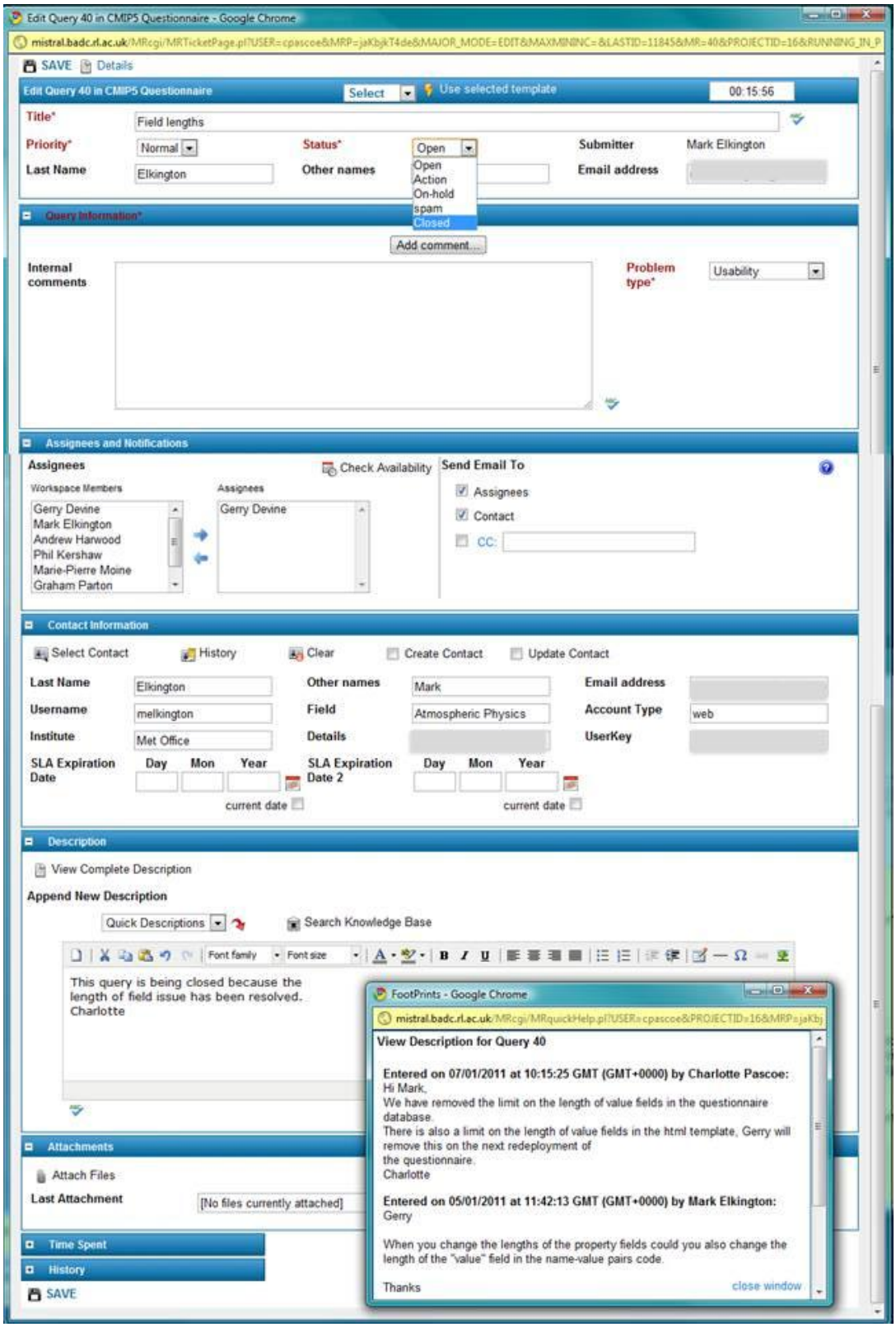

Figure 2: Screenshot showing the edit interface to a user query – fields containing email address and Open-ID information have been grayed out. The mandatory fields: title, priority, status and problem type are labeled with red text.

Security

Metafor is a distributed project and the people providing the user support to the cmip5q helpdesk are also distributed at locations across the UK and France so a web interface is an effective way of coordinating help desk activities. To secure the web interface the support team must log in with a username and password, access to the web interface is further restricted by incoming IP address.

Email Support

On occasion it is important for the questionnaire support team to communicate with each other outside of the scope of the helpdesk and an email alias was set up for this purpose cmip5qteam@badc.nerc.ac.uk. We have also set up a CMIP5 Questionnaire mailing list cmip5q@badc.nerc.ac.uk which users join when they register as questionnaire users.

The cmip5q mailing list gives users of the CMIP5 questionnaire a facility to communicate with one another and to share day to day questionnaire queries. The cmip5qteam email alias is also registered with the mailing list, in this way the support team can monitor traffic on the mailing list and create helpdesk queries where appropriate.

The cmip5q mailing list is also used by the support team to broadcast messages to users of the questionnaire.

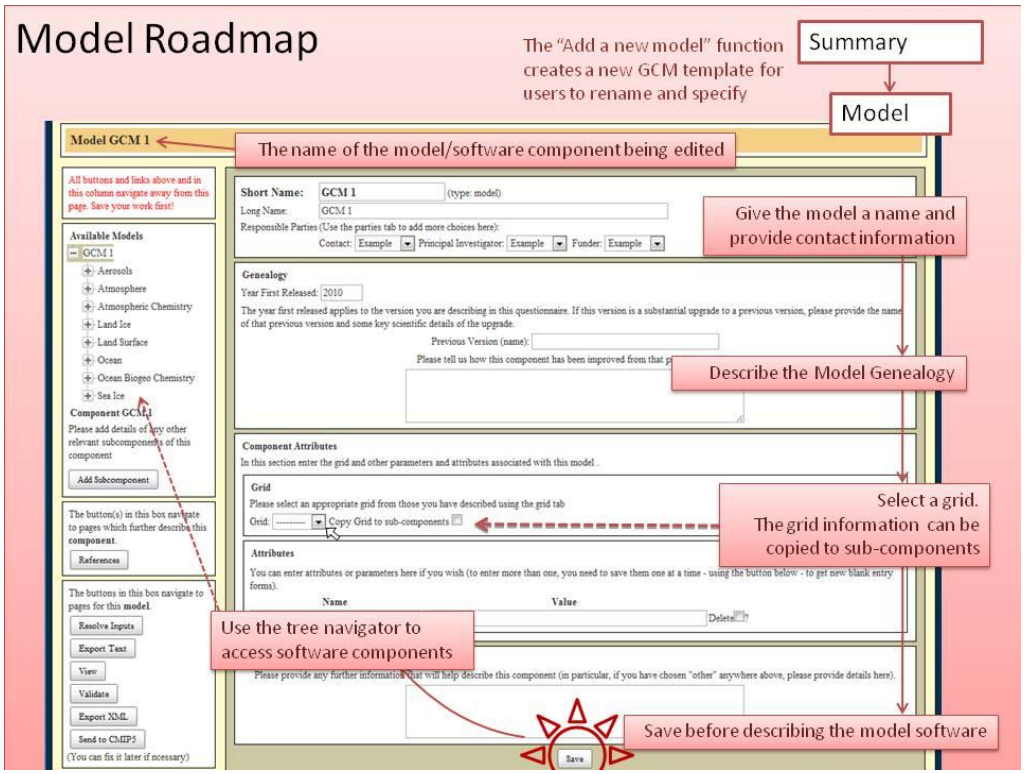

Figure 3: Annotated screenshot from the CMIP5 Questionnaire Roadmap demonstrating how to enter a new model description.

Other help Material

A roadmap to completing the questionnaire is also available on the CMIP5 Questionnaire help pages. The roadmap guides users along a typical path through the questionnaire with the use of annotated screen shots and flow diagrams (figure 3).

Conclusions

The great benefit of the Footprints helpdesk is that users are able to correspond with the help desk in just the same as they would use email yet the helpdesk staff have a sophisticated, bespoke tool to coordinate action stemming from those user queries.

The Footprints helpdesk is highly customizable, allowing us to configure the helpdesk to best support the requirements of CMIP5 Questionnaire user support. With increasing use of the helpdesk further customization will ensure that it continues to evolve to suit our needs - such as adding additional agents and issue categories or drafting new templates.

Any member of the support team can see the status of all queries – even when they are being handled by another member of the support team. This allows the team as a whole to view all correspondence on a query – permitting knowledge to be exchanged between the whole support team.

Escalation rules provide an in-built mechanism to ensure queries are dealt with in a prompt manner, thus, both users and CMIP5 can be assured that queries will receive due attention and swift issue resolution.

The CMIP5 Questionnaire support team handled 30 helpdesk queries in the first 3 months of operation and we expect usage to increase from February 1st 2011 when modelers begin to focus their attention on completing the metadata requirements of CMIP5. We are confident that the helpdesk infrastructure will be able to cope with the increase in demand.