Overview

Over time, the RFC Editor's list of statistics and report products have grown, and maintaining them requires significant manual effort. This project will automate the generation of these statistics and reports. This includes the monthly production of reports at https://www.rfc-editor.org/reports/, and episodic creations of presentations for meetings with the community.

The current production process involves manual transcription of reports from a database into an Excel spreadsheet and production of graphics using that tool. This project will automate maintenance of the necessary information in the database, and on-demand production of the reports without involving Excel. It will also make extraction of the data into a form similar to the current spreadsheet easy, to facilitate ad-hoc reporting. This project will additionally automate the production of two new report artifacts.

Deliverables/Tasks

The developer will work with the RFC production center staff to:

1. Identify any changes to the database needed to facilitate report production without the current manual transcription, and implement those changes.
2. Identify changes in the look of the needed reports, particularly those needed to indicate the current month information is 'to-date'.
3. Design the format for two new reports artifacts.
4. Design and implement a mechanism to produce the needed reports on-demand.
5. Provide a mechanism to export the data used for the reports for use with programs like Excel to facilitate ad-hoc reporting.
6. Integrate the report generation mechanism with http://www.rfc-editor.org/reports.
7. Provide a set of tests appropriate for regression testing for all software created by this project demonstrating correct operation.
8. Provide documentation and training for the production center staff.

Detailed Description

There are three artifacts at http://www.rfc-editor.org/reports/ which are currently manually produced that this project will automate:

1. The SLA table
2. The Monthly Submissions and Publications bar graph
3. The Queue Statistics bar graph

It is expected that the produced artifacts will be very similar in look and form to what is currently produced, except for any changes needed to convey that the start and end of the graph may not reflect whole months. In particular, results ending at the current time, need to convey that the report is 'to-date'.

In addition, the project will create two new report artifacts

1. Monthly Errata statistics
2. Annual Submission and Publication rates

It must be possible to produce reports starting and ending on given days in the past. When such a report is generated, it will reflect the database contents at the time of the report generation. That is, it is not a requirement to reproduce a historic report exactly when the data in the database has changed. This mechanism will make it easy to produce whole-month results for result. For example, in any day in April, it will be possible to ask for the report that ends March 31.

It is acceptable to produce the report artifacts on-demand by running a program that produces the reports as files. The preferred output format is PDF. It would be nice to optionally also produce PNG. This program should be easy to integrate with a web-server so that the reports can be accessed on-demand through a webpage.

The mechanism for exporting data for use with programs like Excel should be similar. The preferred output format for this export is CSV. It should be easy to integrate the export mechanism with a web-server as above.

It is anticipated that the RFC Editor will use the program internally, either directly or through the web-server mentioned above, internally when preparing reports. The mechanisms for exporting data will initially be limited to that internal access. Externally visible pages, in particular http://www.rfc-editor.org/reports/ will show only the produced report artifacts. The developer will work with the RFC Editor staff to design when and how that page invokes the new tool to produce the needed artifacts.