



I E T F[®]

Making the Internet work better

IETF Tools Support RFP

Support Software Tools for Standards Development Work

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Overview

The IETF Administration LLC (IETF LLC) is soliciting three proposals ("Proposals") for three separate contractors to support IETF tools for standards development work. Bidders may submit bids for one or more of these positions; however, no bidder will be awarded more than one of these positions. The positions are:

- Tools Maintenance;
- YANG Catalog Maintenance; and
- Minor Tools Enhancements.

Proposals from any commercial or non-commercial vendor are welcome.

Timeline

30 Aug 2019:	RFP Issued
09 Sep 2019:	Questions and Inquiries deadline
13 Sep 2019:	Answers to questions issued, RFP Addenda and Update issued
30 Sep 2019:	Proposals due
18 Oct 2019:	Selection made, negotiations begin
01 Nov 2019:	Contract execution
01 Jan 2020:	Work begins

Specifications

The services are described in the Statement of Work.

The closing date for submission of proposals is Friday, September 30, 2019 not later than 5:00 P.M. CT.

Term of Contract

The initial contract(s) term will be for two (2) years, commencing on January 1, 2020, with two renewal options on the part of the parties of up to two (2) additional years each, for a possible total of six years. IETF LLC may terminate the contract for any reason, in whole or in part, upon 90 days prior written notice.

Proposal Format

1. Executive Summary
2. Experience, Qualifications and Accomplishments in this area
3. Project Approach & Plan

4. Implementation and transition plan to assume responsibilities by January 1, 2020, including barriers and risks to Offeror achieving success.
5. References (Three references, where possible, attesting to performance in a similar function.)
6. Cost & Payment Schedule
7. Miscellaneous

Tools Support: Statement of Work

The Internet Engineering Task Force (IETF) is the premier Internet standards body and is a community-led organization that develops open standards through open processes. The IETF is vital to how the Internet works today and plays a critical role in the global infrastructure of the Internet.

The standards development work of the IETF is supported by a variety of software tools. This statement of work describes three positions related to the support of those tools. Bidders may submit bids for one or more of these positions; however, no bidder will be awarded more than one of these positions. The positions are:

- Tools Maintenance;
- YANG Catalog Maintenance; and
- Minor Tools Enhancements.

All contractors shall follow the software development instructions at <https://trac.tools.ietf.org/tools/ietfdb/wiki/ContractorInstructions?version=26>.

The IETF software tools serve a wide variety of people, including IETF participants who author and publish standards (called Requests for Comments or RFCs) and draft standards (called Internet-Drafts), participate in discussions on mail lists, and attend in-person meetings; consumers of RFCs and other information produced by the IETF; IETF leadership groups who provide technical and administrative oversight and management; and staff members who support the IETF and the RFC publication process. In-person IETF meetings occur three times per year at locations around the globe. Tools efforts are coordinated through the IETF Tools Team, which consists of both volunteers and contractors. Input from the IETF community is encouraged in general and often explicitly sought when major new tools projects are being considered.

Tools Maintenance

The IETF is seeking a contractor for Tools Maintenance. Due to the nature of the services requested, we expect that some components of the contractor's work will require a significant investment of time on a daily basis. Travel is required, including to the IETF meetings.

The IETF Datatracker is a bespoke Django-based web application that has been developed and maintained for more than a decade by IETF software development contractors as well as volunteers. It has become core to the management of the

IETF standards process. The size of the code base has grown considerably over the years.

In addition to the Datatracker, the IETF maintains a number of other software tools to facilitate the authoring and submission of Internet-Drafts, and communication among IETF participants. These tools include xml2rfc, IDnits, id2xml, RFClint, SVGcheck, XMLdiff, RFCdiff, postconfirm, and ghostlinkd. To perform this maintenance, familiarity with Python and Django is required, and familiarity with Docker is strongly desirable.

Tools Maintenance covers:

- design work and code development needed to close bug reports identified as defects against these tools;
- design work and code development needed to improve performance of these tools;
- code changes and testing needed for platform upgrades;
- merging, testing, release management, and secure development lifecycle evaluation for code from other contractors and volunteers;
- assistance to the IETF Secretariat in debugging issues with tools in production, and if needed, swift development of patches to handle urgent situations;
- clean up and refactoring of code and user-interfaces from volunteers; and
- migration of mission-critical tools from tools.ietf.org to www.ietf.org for operational support by the IETF Secretariat.

Large clean up efforts and refactoring projects are not covered in this task.

The contractor will be required to maintain the tools to a commercial standard of quality, with defined timeframes for correction of defects depending on severity. The contractor will be required to provide high uptime for the tools with a defined service-level agreement (SLA).

Datatracker

The IETF Datatracker has become critical to the working of the IETF. The Datatracker is used to upload Internet-Drafts, manage their review and approval, manage meeting materials, and manage working groups. The Datatracker tickets can be found at <https://trac.tools.ietf.org/tools/ietfdb/>, and the source code can be found at <https://trac.tools.ietf.org/tools/ietfdb/browser/>.

The IETF Codesprints allow interested community participants to donate code to the Datatracker, which has been very beneficial. However, there is a cost in the lack of code cohesion and consistency, which is unavoidable when people work on a large piece of software for a few hours every 4 months or so. This results in the need for clean up and refactoring work, which does not produce any new functionality, only cleaner code.

The Datatracker webpages (the Datatracker user interface) is suffering from a similar problem as the code, that is different people have been adding new parts to existing pages and whole new pages. As a result, there is no clear overall style and consistent way to do things. The adoption of the bootstrap framework has greatly helped, but clean up is regularly needed to add consistency and reduce page clutter and produce an overall harmonious user interface.

Datatracker projects that go beyond maintenance and minor enhancements are bid out separately, with 5-10 such projects in flight each year.

xml2rfc

The xml2rfc tool (see xml2rfc.tools.ietf.org) takes XML source as input and produces output in formats supported by the RFC Series (plain text, HTML, PDF, and so on). The xml2rfc code was recently rewritten to support both v2 (see [RFC 7749](#)) and v3 formats (see [RFC 7991](#)). Maintenance will certainly be needed as the IETF community begins using the v3 features. The xml2rfc tickets can be found at <http://wiki.tools.ietf.org/tools/xml2rfc/trac/>, and the source code can be found at <https://trac.tools.ietf.org/tools/xml2rfc/trac/browser/>.

The xml2rfc tool makes use of bibliographic information generated by a companion tool, called Bibtex. The source code for the Bibtex generator can be found at <https://trac.tools.ietf.org/tools/xml2rfc/trac/browser/website/rfc/>.

There are many open issues related to the v3 format. These are collected in the Internet-Draft [draft-levkowetz-xml2rfc-v3-implementation-notes](#), which is still being updated as new issues are found. As the IETF community reaches resolutions for these open issues, the xml2rfc code may need to be adjusted to match the resolution.

IDnits, id2xml, RFClint, SVGcheck, and XMLdiff

The IDnits, id2xml, RFClint, SVGcheck, and XMLdiff tools support the process of authoring and publishing RFCs. These tools were all recently rewritten or recently developed from scratch to support the new xml2rfc v3 format. Since these tools are relatively new Python code, maintenance is expected to be fairly straightforward; however, maintenance will certainly be needed as the IETF community begins using the v3 features. Given their supporting role to xml2rfc, the tickets for these tools can also be found at <http://wiki.tools.ietf.org/tools/xml2rfc/trac/>. The source code for IDnits and id2xml can be found at <https://trac.tools.ietf.org/tools/ietfdb/browser/branch/elft/>. The source code for RFClint, SVGcheck, and XMLdiff can be found at <https://trac.tools.ietf.org/tools/ietfdb/browser/branch/hawk/>.

RFCdiff

The RFCdiff tool takes two RFCs or Internet-Drafts in text form as input, and produces output to show the differences between them. The tickets for RFCdiff can be found at <https://trac.tools.ietf.org/group/tools/trac/>; although, there are not currently any open tickets. The source code for RFCdiff can be found at <https://tools.ietf.org/tools/rfcdiff/rfcdiff/>.

Postconfirm

The Postconfirm system employs a variety of verification methods to discard spam email. All postconfirm maintenance needs to be carefully coordinated with the program manager and the IETF Secretariat IT staff. The source code for postconfirm can be found at <https://svn.tools.ietf.org/svn/src/postconfirm>.

Ghostlinkd

Ghostlinkd monitors specified parts of the IETF server's file-system on disk, and maintains a parallel symlinked composite of all the indicated parts. This program is used to maintain one comprehensive directory of Internet-Drafts, such as that used by RFCdiff, based on various repositories that must to be kept separate for legal or other reasons. All ghostlinkd maintenance needs to be carefully coordinated with the program manager and the IETF Secretariat IT staff. The source code for ghostlinkd can be found at <http://svn.tools.ietf.org/svn/src/ghostlinkd>.

YANG Catalog Maintenance

The IETF is seeking a contractor for YANG Catalog Maintenance. This activity is expected to require roughly one day per week. Travel is required, to the IETF Hackathon at least once each year.

This task provides support for operating the YangCatalog.org web site. The IETF, other standards development organizations, and industry consortia contribute YANG modules and associated metadata to this site for public consumption. To perform this maintenance, familiarity with YANG is required, and familiarity with Docker is strongly desirable.

The source code and issue tracking for the YangCatalog.org web site can be found at <https://github.com/YangCatalog/>.

This task includes:

- answering all emails sent to yangcatalog-info@yangcatalog.org;
- performing mail list administration for yangcatalog-info@yangcatalog.org;
- ensuring that the databases and the metadata are consistent, available and with their integrity preserved;
- acting as a technical point of contact for all metadata for YANG modules;
- applying upgrades to all the tools used by the YangCatalog.org, including pyang, confd, yanglint, and yangdump-pro; and
- fixing yangcatalog github open issues, as populated by the community, following priorities set in coordination with the IETF Tools Team.

Minor Tools Enhancements

The IETF is seeking a contractor for Minor Tools Enhancements. This activity is expected to require roughly one week per month. Travel is required for the Codesprint at IETF meetings.

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In addition to the Datatracker, the IETF maintains a number of other software tools to facilitate the authoring, submission of Internet-Drafts, and communication among IETF participants. These tools include xml2rfc, IDnits, ix2xml, RFClint, SVGcheck, XMLdiff, RFCdiff, postconfirm, and ghostlinkd. To perform these enhancements, familiarity with Python and Django is required; familiarity with Docker is strongly desirable.

Each of these tools is discussed in the position description for Tools Maintenance, including a pointer to the location for tickets and source code. Some of these tickets are categorized as enhancements. The contractor filling this position will implement those enhancements, as prioritized by the Project Manager in cooperation with the Tools Team.