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Interim Report

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# **Project Narrative**

Most of the work that has taken place on this project so far has been on GeoTools, the underlying programming toolkit that is being improved to be able to handle the full set of framework data in a reliable and scalable way. This phase of the project has necessarily moved a bit more slowly, since the work needed to take place in collaboration with other participants on the open source project, in order to ensure that it becomes a core part of the toolkit.

We are pleased to report solid success with the first phase of the project, having achieved successful integration of a new 'feature model' on to the main development stream of GeoTools. This will enable to handle the whole host of structures that make up the framework data schemas. The work culminated with a successful 'code sprint' in Victoria after the FOSS4G conference, where a number of community participants helped to integrate the new code.

Having the code in the main development stream will ensure that there are a number of users and testers right from the beginning. The one downside with this approach is it's forced us to hold off on getting direct user input from GISCorps and testing from CIESIN, as we wanted to be sure that their suggestions could be incorporated in a timely fashion.

Up next will be the completion of the WFS 1.1 reader, as well as hooking up the GML 3 reader to the new feature model. Then we will embark on the collaboration activities, bringing in testing and user feedback.

## Status of your data access activities

What Framework data theme(s) will be accessed under this project?

It will be possible to access all framework data themes with the WFS 1.1 parser being built for this project

What is the data volume of Framework data anticipated for access (geographic coverage, dataset size, feature count)?

Most of the testing will be done against New York and country wide datasets served from CIESIN and The Open Planning Project. These datasets contain millions of features and gigabytes of information. Accessing these in a 'live' way may initially just be more of a proof of concept, since refreshing data every time will mean that any responses that take more than a few seconds will feel very slow. And there is no way to send millions of features over the Internet that quickly.

But we also intend to investigate leveraging some of the 'geo-synchronization' work that will be done as part of OWS-5 for the OGC to help with better performing access to large datasets, using a local cache of data that updates once and then on demand.

Who are the primary organizations providing data for this project?

The primary organizations provding data are CIESIN and The Open Planning Project. But Greg Yetman from CIESIN plans on testing against all available framework services that are still live from past years.

# **Status of Framework Client Development**

What is the status of software development?

The software development is proceeding nicely. As reported above it has been proceeding at a slower pace in order to ensure that it makes it in to the mainstream development of the open source GeoTools project. This was accomplished with a 'code sprint' a few weeks ago. Work has started on the WFS 1.1 datastore, as well as the GML 3.1.1 reader. These need to be hooked up to the new feature model. But everything is proceeding as planned.

How will the client software be evaluated and quality-assured?

Relatively soon we will be involving both CIESIN and GISCorps to perform evaluation of the software thusfar and to help inform on what directions to take next. They will provide quality assurance by testing against a variety of different framework servers. They will also be creating user manuals, which will be another valuable quality assurance mechanism, by not just checking to make sure things work, but documenting each step for new users.

Describe your experience and purpose in accessing the data services?

We have not yet started accessing the data services, that will begin in the next phase.

Describe any internal or external users that are using this client.

Though our WFS 1.1 work has not been incorporated there is already an active community of users of the uDig client platform we are developing on. These include the British Columbia Ministry of Forest, Souwhat.com, the Open University of the UK, forest inventory in Finland, the International Potato Center, and a Populations @ Risk prototype for the US State department. When our version rolls out all of those will have the WFS 1.1 capability when they upgrade.

*Identify plans for the promotion and distribution of this software.* 

The work is being completely integrated into uDig, so it will take advantage of all promotion and distribution that is done around it. This includes extensive coverage at FOSS4G, the major open source conference, as well as various articles and blog posts. When the WFS 1.1 Framework data is integrated The Open Planning Project will do promotion and outreach with this piece, recommending it on the GeoServer website and other venues we have access to. Further, since it is an integrated part of the uDig toolkit anyone who builds on top of that will also get access to the work.

#### **Project management**

Will this project's activities continue in the future?

Yes, uDig is a healthy open source project, so its activities will continue in the future.

Describe the next phase in your project.

The next phase will be completing the WFS 1.1 datastore and hooking up the GML parser to the new feature model. After that testing and Quality Assurance will begin, in conjunction with GISCorps and CIESIN.

Requirements (more technical assistance, software, other?) none

What areas need work?

The targets of the next phase need work, namely the WFS 1.1 datastore and the QA and documentation. The one potential risk right now is that Refractions Research, the maintainers of uDig, have not been putting a lot of work in to its stability. This potentially leaves us doing a lot more bug fixes than we hoped to do, instead of focusing on new features. The project should still complete just fine, but we may not be able to do as much improvement suggested by GISCorps and CIESIN as we had been hoping. And the release of the fully stable uDig may take longer than the duration of this project. Though we will help out in the future.

# Feedback on Cooperative Agreements Program

What are the program strengths and weaknesses?

The program's strength is that it can focus on cross cutting geospatial objectives, instead of being limited to a particular implementation or program. This also hints at a weakness, which seems to be that the funding gets a bit scattered, not honing in on a particular use case and improving it year after year, but instead having new projects that don't build on themselves as much as they could.

Where does the program make a difference?

The program makes a difference in pushing the federal geospatial objectives, demonstrating what is possible and helping get working implementations out there.

Was the assistance you received sufficient or effective? So far, yes.

What would you recommend doing differently?

Though we are admittedly biased, the strongest recommendation would be to fund open source projects. Not just projects that will release their code with an open source license, but those that have a real community around them. And each year should directly build upon what was actually accomplished in the previous years. This can lead to huge network effects, and get the aims of the FGDC spread far further than the direct funded effort, since people will make use of the open source software for entirely different purposes, but it will still be compatible with framework data.

Are there factors that are missing or need to consider that were missed?

Perhaps making sure the previous year was successful, and if it's not then trying again. There are supposed to be a number of framework data servers for clients to access, but in reality there are very few. This seems to be no longer funded, since it's supposed to be complete. Things are better now, especially with the big NSDI WFS, but there could be a lot more services for clients to hit.

Are there program management concerns that need to be addressed? Time frame? No.

If you were to do this again, what would you do differently?

Get more of a commitment from Refractions that they were going to continue to push on uDig. The community is strong enough and we are committed enough that it will be fine. But it would be nice to have more support from them.