BP's Brian Boulmay headed up the OneMap project.

OneMap for all

Lessons in bringing company-wide data together onto one platform

BRIAN BOULMAY

As BP's Global Geospatial Information Lead, Brian Boulmay has spent the past eight years building a sustainable organisational capability for geospatial data and analytics in BP Upstream, with a focus on people, process and technology. The result is OneMap, which brings company-wide geographical information together onto one platform. In this article, Brian describes how OneMap came into being.

When I started in 2011 in BP's onshore US business, it was a relatively dispersed organisation. We had assets in Oklahoma and Colorado, and Wyoming, and Texas, etc. At that time, each of the business units, and even different business functions within each of the business units, were all trying to tackle digital mapping differently.

A lot of it was already Esri technology, but we had a few other technologies. Also, even within the Esri stack, we had multiple versions. Therefore, it was really hard to share data just within this one business entity. I came in as the first person ever hired to be a business-facing GIS lead. The mandate I was given was to look at where we were, suggest where we should be, and then put together a plan to get there. And so, I spent my first month effectively interviewing and talking to the whole organisation, trying to get a feel for the organisation, the people in play and the data sets in play.

I want to see

At the end of the day, as a business we must be able to see all our assets. We should be able to see all our wells. We should be able to see all our people.

We mapped where we were. At that time, we had six different systems that were doing digital mapping - we should just have one. The focus wasn't necessarily centralisation, it was more integration; I should be able to see across all my systems. As we got into it, we realised that most of the tech was the same vendor already. Most of the workflows that we needed were supported by that core tech.

Why not just go ahead and standardise tech? I realised very quickly that even if I tied this tool and that tool to the same central version, I would still have two people following different processes. They'd be learning from different user manuals, learning different ways of doing it, because the tools were different. Whereas if I got them onto the same tool, all of a sudden, this worker and that worker, who are doing the same process, I can actually give them a single way to do it to help them.

By doing that, the rest became a lot easier, because now when trying to teach this exploration team and that exploration team and that exploration team, instead of writing three manuals, I would write one, and each of them could do their piece of work.

This was again onshore US, just that one business of BP, which at the time was one of 15 different regions. We did that for two years, with a very small team. It was so successful that one of the global managers said, "Hey, we want this everywhere else".

The platform is the foundation

We established a core platform, which back then was ArcGIS desktop. There were a few tools like SDE, RTS server and a portal, and that was the platform. Then there were a few other tools like FME and some other tools that plug into that, extensions, etc. Since then, it's grown to over 200 tools.

Every tool we bring in has to play with the core. We're very clear about having the integration conversation upfront. However, something that we did differently to others was that we did not mandate the data. We did not mandate the data models. We did not mandate data governance. All we mandated was the structure of the instances in Oracle, and then we let the businesses do whatever scheme they wanted. They had full freedom to make any scheme, and store and manage their data any way they wanted.

The premise behind this was that people were already using data. They were already making business decisions. It might be the right data, it might be the wrong data, it may be less efficient or more efficient, but they're already doing it. If I come in and try to tackle that on day one, we'll never even get off the ground. But if I give them a platform that they could put their data onto and start to use some of the tools, maybe that candy approach will pull them along: the carrot instead of the stick.

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And it worked effectively.

People who've been working in desktop on their C: drives or network drives found those very slow and couldn't find their data. We now gave them a home where they could put data into a database, which meant it was faster, it was backed up, it was accessible to more people. They could publish it as a service, which meant they could share a web map instead of a PDF or a PowerPoint.

Power to the citizens

OneMap was designed as a citizen platform from the beginning: it was a platform onto which anyone could build apps as they needed them.

The heavy users, the 'front runners' were pushing the envelope. If they didn't like exactly what was available, they built their own web apps, they built their own FME jobs, they built their own database tables. They could, literally, do whatever they wanted. They just couldn't change the core platform: they had to play within the core platform.

Furthermore, we have been able to upgrade seven times now with the users not even knowing. That's because we were not writing code, it's all low-code configuration. Those apps that we built are still working now - if I had to give it a percentage of apps that are out there, 95% go forward every time we upgrade without even the slightest problem. And, typically, the 5% that don't, they just get thrown away and someone makes something new on the new platform - they are citizen developer apps.

It was game-changing, because it allowed us to put simple mapping in the hands of 70,000 people, and modules to make advanced tools for the people who needed it. So from one platform I could serve all those use cases: in a big oil company, especially in the GIS teams, we all think everybody needs a full-fledged

BP Retail Australia's Fire Monitor and Alert System (built on OneMap).