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Improvements in the Management of Structured and Unstructured Data

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Abstract

We describe business practices and IT tools that we deployed to reduce the time that Engineers and Geoscientists spend looking for, gaining access to, and manipulating data and information. Various sources have estimated that technical professionals spend up to 30% of their time searching for data and information. Less well measured, but estimated to be just as large, is the time spent gaining access to data, moving it into and between technical applications and dealing with data quality problems. We share our analyses and classification of how this time is being spent.

Others have described productivity gains from using one or more technologies to reduce the burden of unproductive time working to locate information. However, over the years our industry and others have been generally unable to sustain a significant reduction in this burden. The phenomenal growth rates in data and the need to work more globally are exacerbating this problem. This comes at a time when the industry can not afford to invest technical staff time in lower value activities.

Starting in 2003 we began an analysis of the state of this problem in our company that led to a program of projects to improve and manage the problem. We found no single "silver bullet" solution, but used an integrated approach that combined multiple information technologies and business practices to achieve significant improvement that we believe can be sustained. We outline the tools and practices that we used and share some analysis, results to date, and learnings. In particular, the experiences with the integration of searching structured and unstructured data from one tool and managing access via roles are described.

Introduction

Despite years of investment in information technologies and processes, it is estimated that Engineers and Geoscientists still spend a large part of their time "looking for data". In 2003 we began to investigate how this problem impacted our upstream technical professionals. This led to an integrated program of IT and business projects designed to reduce this time so that higher value work could take its place. The solution includes a combination of information technology tools and business practices that work together to make step change improvements. The solution also addresses maintaining and improving data quality over time. The core information technologies used include automated access management, search and integration of multiple applications and databases. The core processes that were worked addressed data ownership and data quality stewardship. While the program will continue for several more years, parts of it are in place and producing the desired results. We are able to share some analysis and experiences that may benefit others.

The Definition of the "looking for data" burden

Various sources[1,2] have estimated that technical professionals spend around 30% of their time looking for data and information. Some estimates go to 50% and above. This estimate of the burden has remained roughly the same for over 15 years. In our analysis, the burden of "looking for data" was actually composed of a number of activities that preceded using data or information in technical analysis. These included:

1) **Searching** for data or information in online and records management systems.
2) **Gaining access** to it which included requesting to have it loaded or retrieved from storage and securing permissions to work with the data.