How to assure quality and reliability for Spatial Data Infrastructures of Mapping, Cadastral and Land Registry organizations

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SUMMARY

Methodologies and tools to assure quality and reliability of spatial web services in a cost-effective way for organizations responsible for national and regional Spatial Data Infrastructures (SDIs).

National Mapping, Cadaster and Land Registry Agencies and their SDIs are good example of environments where up-to-date high volume of spatial data need to be reliably available all the time. Today, inhabitants are more and more using applications, that are spatial information based. These applications often require real-time updated data readily available, as well as fast response time.

Not rarely National Mapping, Cadaster and Land Registry Agencies host hundreds of services with thousands of data offerings, making the task of managing the performance and the utilization of those extremely challenging. Some organizations attempt to develop in-house solutions for monitoring the quality of the services. However, they quite often suffer when it comes to analyze the real usage of the spatial elements in the services. This may take a long and expensive process until a satisfactory solution is established, and with frequently limited budget assigned for those tasks, this may never be accomplished.

To establish a reliable SDI, criteria for Quality of Service (QoS) is one of the key success factors. The criteria include availability, performance and capacity of the individual SDI components. Currently, there is little to no support for a standardized way of measuring and communicating the benefits and the impact of improvements at QoS for spatial web services to the end users.

With a solution specifically developed for spatial services, new information can be revealed regarding the usage of the services, which show the challenges and issues faced by the users. The

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case exhibited here* aim to solve the issues above by:

• Testing the capacity of services by generating realistic & relevant loads, so services can meet capacity requirements;

• Keeping track of uptime and identifying trends affecting service level and availability;

• Establishing thresholds for key indicators and setting up alerts and warnings;

• Analyzing the usage level and their trends;

• Identifying the most popular services and data sets, and driving resources to increase the robustness of the infrastructure for those, then making more effective use of the resources;

• Showing the actual economic impact of improvements in service performance to users.

*This presentation will show a real case-study about the benefits and the impact of improving the quality of service and analyzing the usage of spatial web services.