Case Study

Telecom & GIS Case: Monitoring network
health through custom Geo-Dashboards

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Client Profile

The client is a global leader in the Telecom Software Industry and particularly in Network Planning, Analytics, Assurance and Optimization. They work with 300 Telecom service providers in over 100 countries.

Business Challange

The telecom industry is one of the first industries to adopt big data techniques because of the continual nature of the data being generated from the tens of thousands of links and sites that make up a countries telecom network.

Furthermore, utilization and uptime-based metrics need to be monitored not as isolated data events but also on a continual basis. Impact assessments need to be carried out using both temporal data and associated data from surrounding links & sites and relevant KPI's.

This is a very large amount of data for individuals to make decisions off of, share, discuss and navigate through without being empowered by the right tools. The client had a product suite with great KPI calculation procedures and simulation software for network planning but without a great interface these tools were at the risk of being under-utilized.

Our Solution

The client needed a tool that could be used to spot problems in the past, plan for capacity in the future and share data across the organization. ACIT helped the client deliver a solution with the following features.

Showcase: Effective Interface that lets Operators focus on the data that concerns them

The interface was designed with the Operators in mind. They were going to monitor, utilization and uptime-based metrics not as isolated data events but holistically and on a continual basis. Their job of carrying out Impact assessments using both temporal, geographical and associated data from surrounding links & sites and relevant KPI's needed to be made easier.

The tool needed to integrate the existing production analytics systems as a source in order to draw the data and make it available for quick retrieval based on location names, geo-location based radius queries, technology, system ID's, performance KPI data and many more metrics.
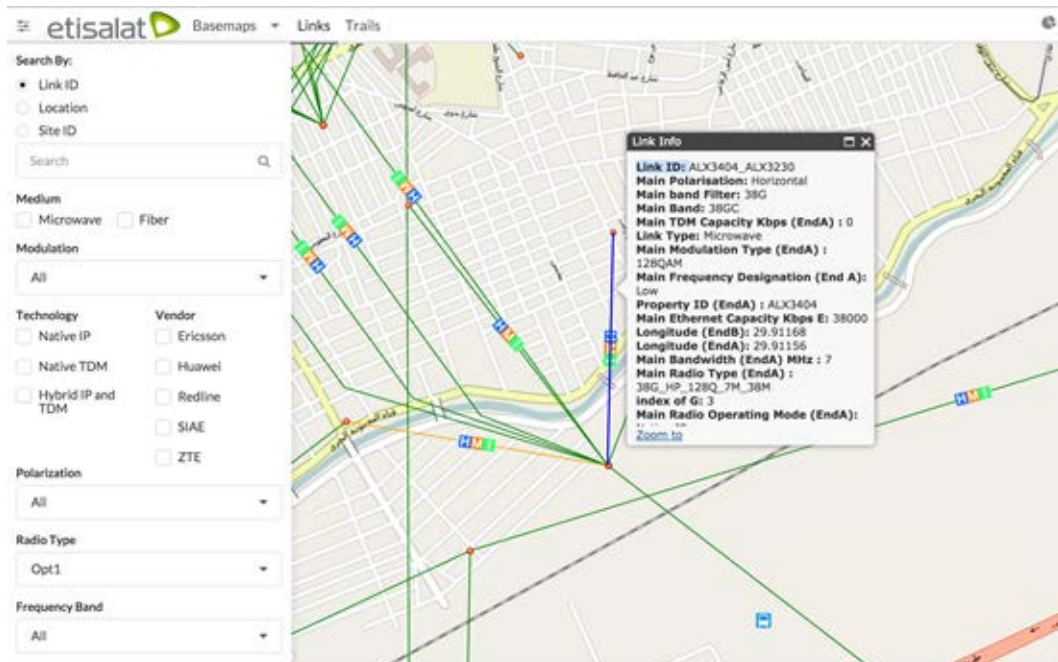
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Figure 1 Purpose built interface to identify and resolve problems

Showcase: Beyond Presenting

Weather forecasts were also made available within the same dashboard to keep operational teams ready to respond in the case of any severe upcoming weather events.

A Plan vs Live mode was introduced where, existing links could be enhanced with additional capacity, and by integrating the network map with simulation software, the KPI's would be recalculated to measure the impact of various up-gradations before going ahead with more expensive simulation / roll out activities.

Showcase: Integrate into existing technology infrastructure

The product needed to integrate into existing technology infrastructure. This was done via integration at the database level for the KPI information and by integrating with the ArcGIS api for consuming the map and the weather services. This setup allowed, data updates to propagate automatically at regular intervals or via operator configuration as per the configuration of the system.
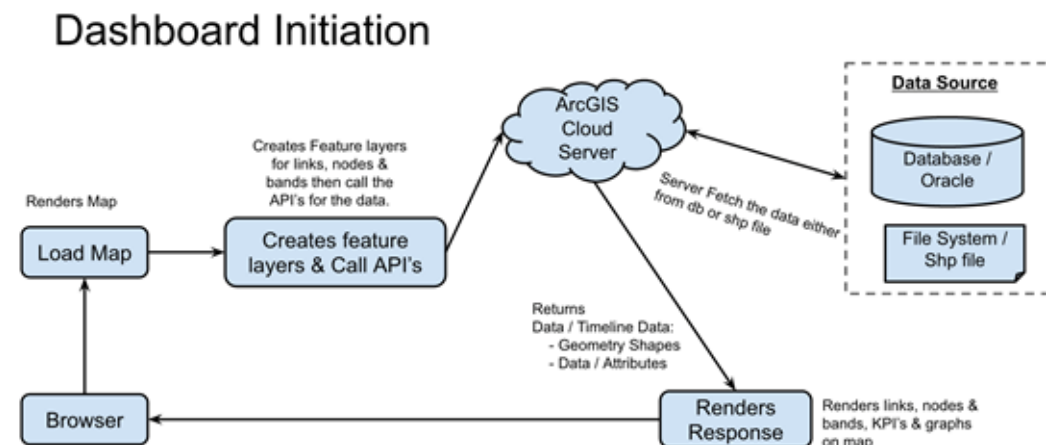
Figure 2 Integration into existing infrastructure

Technology Stack

The system is designed the following components: Node.JS, Python, ArcGIS, Optima, Oracle, Mongodb, Nginx and many other best in line tools. For a detailed technology overview please contact us at: *business@acit.com.*

About ACIT

Founded in 2008, Active Capital IT is a global innovation and business consultancy with two development offices in Karachi, Pakistan and Islamabad, Pakistan. ACIT defines, designs and delivers technology-enabled solutions those government agencies, corporations, institutions and non-profit organizations world-wide rely on every day. Its homepage is *http://www.acit.com.*

For more information about ACIT, our offerings and to explore business opportunities, please write to *business@acit.com.*