



# Predictive Analytics to Improve the Quality of Service of Telecom Equipment

## The Client

One of the top 3 telecom operators in the US, that provides fixed line and mobile telephone systems across the country.

## Business Challenges

The client was experiencing frequent failures in their telecom network due to faulty components such as routers, switches, and servers. This was leading to a dip in the quality of service offered by the client, and could directly impact their business by causing customer dissatisfaction and churn.

The client needed a solution which could:

- Identify faulty components
- Identify a pattern of the failures
- Help minimize and reduce the production downtime
- Improve and maintain service levels



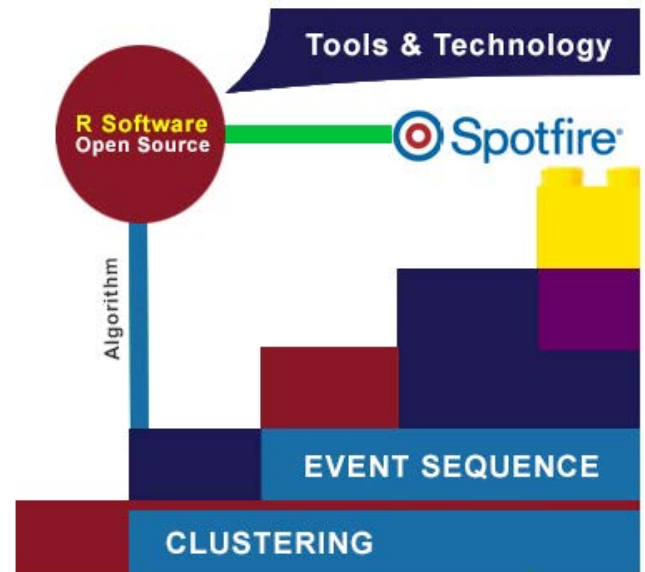
## Beyond possible

Our solution helped the client maintain their business continuity and customer satisfaction by reducing and minimizing production downtime. Additionally, we cut down on high costs associated with frequent repairs.



## Technosoft's Solution

- Utilized a combination of R and Spotfire
- Standard telecom equipment log files were used to extract unique keywords related to the events ( faults or normal ) before failure
- Extracted details of three types of failures from the logs (server, firewall and router)
- Performed frequent subsequence pattern mining and event sequence analysis to identify recurring instances prior to failure



## Business Benefits

Our predictive analytics-based solution helped the client enhance the quality of service offered to their customers. By cutting down on frequent network shortages, we helped our client avoid high costs associated with frequent repairs and replacements.

## Tools & Technology

- Open source R Software
- Spotfire

The algorithms applied include:

- Event sequence
- Clustering (euclidian distance)

## About Technosoft

Technosoft Corp. (Technosoft) combines strategy, technology and creativity to help companies accelerate their digital transformation journeys. We help our customers gain insights from data that others can't see and we provide bold ideas for innovation. Technosoft offers solutions for digital transformation, data science, robotic process automation, artificial intelligence, Blockchain, cloud computing, application lifecycle management, quality assurance and testing, CRM-ERP (Salesforce, SAP, Oracle), and IT infrastructure management. Technosoft has extensive domain knowledge of the banking and financial services, healthcare, manufacturing, retail, and high tech industries. Headquartered in Southfield, Michigan, Technosoft has 4,400+ global employees and is trusted by more than 35+ Fortune 1000 customers in North America and India. Learn more at [www.technosoftcorp.com](http://www.technosoftcorp.com)

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