

2 operate



**2013 European Operations Support System Solution (OSS)
for Network Management
New Product Innovation Award**



FROST & SULLIVAN



50 Years of Growth, Innovation & Leadership

New Product Innovation Award Operations Support System Solution (OSS) for Network Management Europe, 2013

Frost & Sullivan's Global Research Platform

Frost & Sullivan is in its 50th year in business with a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies. The company's research philosophy originates with the CEO's 360-Degree Perspective™, which serves as the foundation of its TEAM Research™ methodology. This unique approach enables us to determine how best-in-class companies worldwide manage growth, innovation and leadership. Based on the findings of this Best Practices research, Frost & Sullivan is proud to present the 2013 European New Product Innovation Award in OSS for Network Management to 2operate.

Significance of the New Product Innovation Award

Key Industry Challenges Addressed by Superior Product Innovations

Frost & Sullivan notes that network intelligence is a key factor in enabling optimization of resources utilized in maintenance of a network system.

Service providers report to Frost & Sullivan the following challenges when procuring network intelligence:

1G Operation Support System Solutions (OSS)

The existing OSS solutions are designed predominantly the same way as they were 15 years ago. It appears that innovation mainly happens in network access technology and not in supportive management technology. The solutions fail in crucial factors of network intelligence procurement and network diagnostics when applied in 2G, 3G and 4G networks, and modern software engineering principles are not utilized. This results in service providers spending additional resources to offer network support when maintenance issues arise.

Lack of End-to-End Solution

The OSS solutions in the industry now are created and operated for separate issues such as network diagnostics, visualization and locator modules. Such separate modules complicate the integration of the entire OSS in the network. Service providers are looking for a solution which will provide all the requisite modules of an OSS in a single package. This will ensure to effectively handle the associated integration and cost issues.

Key Benchmarking Criteria for New Product Innovation Award

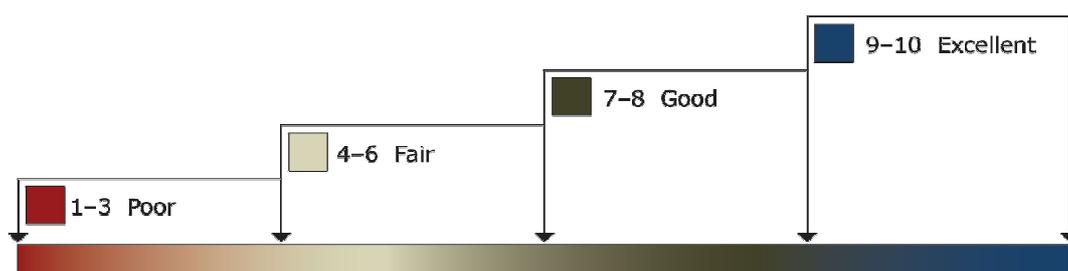
For the New Product Innovation Award, the following criteria were used to benchmark 2operate's performance against key competitors:

- **Innovative Element of the Product**
- **Leverage of Leading-Edge Technologies in Product**
- **Value Added Features/Benefits**
- **Increased Customer ROI**
- **Customer Acquisition/Penetration Potential**

Decision Support Matrix and Measurement Criteria

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Matrix (DSM). The DSM is an analytical tool that compares companies' performance relative to each other with an integration of quantitative and qualitative metrics. The DSM features criteria unique to each Award category and ranks importance by assigning weights to each criterion. The relative weighting reflects current market conditions and illustrates the associated importance of each criterion according to Frost & Sullivan. Fundamentally, each DSM is distinct for each market and Award category. The DSM allows our research and consulting teams to objectively analyze each company's performance on each criterion relative to its top competitors and assign performance ratings on that basis. The DSM follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are shown in Chart 2.

Chart 2: Performance-Based Ratings for Decision Support Matrix



This exercise encompasses all criteria, leading to a weighted average ranking of each company. Researchers can then easily identify the company with the highest ranking. As a final step, the research team confirms the veracity of the model by ensuring that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

Chart 3: Frost & Sullivan’s 10-Step Process for Identifying Award Recipients



Best Practice Award Analysis for 2operate

The Decision Support Matrix, shown in Chart 4, illustrates the relative importance of each criterion for the New Product Innovation Award and the ratings for each company under evaluation. To remain unbiased while also protecting the interests of the other organizations reviewed, we have chosen to refer to the other key players as Competitor 1 and Competitor 2.

Chart 4: Decision Support Matrix for New Product Innovation Award

<i>Measurement of 1-10 (1 = lowest; 10 = highest)</i>		Award Criteria					
		Innovative Element of the Product	Leverage of Leading-Edge Technologies in Product	Value Added Features/Benefits	Increased Customer ROI	Customer Acquisition/Penetration Potential	Weighted Rating
Relative Weight (%)		20%	20%	20%	20%	20%	100%
2operate		9	7	8	9	9	8.4
Competitor 1		8	7	8	8	8	7.8
Competitor 2		6	6	7	7	7	6.6

Criterion 1: Innovative Element of the Product

Towards equipping enterprises with superior Network Intelligence capabilities, Denmark based 2operate has launched the 2solve Troubleshooting Suite. This solution was designed to support network maintenance process during the course of network failure detection, rectification and validation activities.

Frost & Sullivan feels that the true uniqueness of this solution is the 'reasoning engine,' which enables the network operator to view the most likely errors in a network element. The network elements under question are labeled as 'No fault' or 'fault' by the OSS package. This completely encompasses the irregular cells with highest number of drops or lookup individual eNodeBs. The conventional OSS solutions provide operations data and alerts, while 2operate provides a complete analytical engine which can spot the network trouble spots.

2solve possesses a comprehensive knowledge base which maps the various trouble spots in the network to the exact solution by comparing and contrasting with previous incidents. In competing solutions, every error is referred to the technical team's concern, without prior concern for troubleshooting, while 2solve significantly reduces the number of cases marked under mainstream high critical technical concerns.

The mobile industry is heading towards more heterogeneous networks where a huge amount of small cells will be deployed to ensure sufficient capacity. The 2solve reasoning engine will help enabling effective management of such growing network element volume.

Criterion 2: Leverage of Leading-Edge Technologies in Product

The 2solve engine leverages an 'Automated diagnostic tool' for identifying and troubleshooting the network trouble spots. The diagnostic tool sits above the entire network layer and clearly maps the performance data with various knowledge bases and 2solve reasoning engine. This enables automatic deduction and labeling of the failed network entities. The automated diagnostic tool lets only the most critical technical glitches to be referred to the back end staff while completing the analysis of the major part of the technical bug.

The 2solve troubleshooting tool leverages a data visualization module for representing the technical bug to the operators. The data visualization engine is comprehensive and represents every aspect related to the network management, which includes look up address on map and dashboards for cell analysis. Frost & Sullivan independent benchmarking confirms that other competing solutions are mere alert based and representation of less comprehensive analysis when compared to the 2solve visualization methods.

Criterion 3: Value Added Features/Benefits

A significant characteristic for fault detection in 2solve is probing for worst performing cells. With this functionality, the user can grasp a quick report of the worst cells in the network in accordance with any KPI (key performance indicator) configured in 2solve.

When the technical team decides to act upon analyzing specific targeted technical glitch, 2solve will be able to populate a list of suffering cells from the specific issue. Such worst case reports can be used by technical departments and managers.

2solve allows uploading of relevant documents along with the trouble tickets issued to various network issues. Other solutions lack the ability to trace the various issues related to a particular ticket, while the 2solve solution efficiently performs the analysis with the support documents and provides continuous updates from various subscribers and stakeholders.

Criterion 4: Increased Customer ROI

The solution offers an end-to-end troubleshooting system which is capable of reducing the work load placed on back end technicians. The competing solutions are capable of producing alerts and reports, but which require back end technicians for solving the issues. 2solve troubleshoots and analyses the solution and reduces the work load. This enables handling of the less critical issue by non-technicians as well. These factors favor reduction of time, cost and human effort, thus providing significant and attractive cost benefits for the operator.

The solution leverages trend graphs for troubleshooting and network optimization. These graphs serve as a feedback system and are used for root cause analysis, validation and remediation.

Criterion 5: Customer Acquisition/Penetration Potential

2solve acts as a cost control agent for the network service providers, which enables easy adoption and implementation. To facilitate the rapid acquisition of a large client base, 2operate leverages various marketing channels, including showcasing of the product in conferences and conventions.

Outside its home market in Scandinavia and the Baltic area, 2operate is primarily focusing on Central America and South Africa, because of a mix of growing network demand, experienced customer pull, and identified partnering opportunities. Moreover, Frost & Sullivan points out that these are the likely areas where a maximum number of incidents are expected to occur, due to the first hand implementations. Having rightly identified the necessary regions for potential growth, 2operate can expect to gain even more customers in the coming years.

Conclusion

Frost & Sullivan presents the 2013 New Product Innovation Award to 2operate for the game changing solution known as 2solve. Leveraging upon unique technologies and advanced graphic user interfaces, 2operate has properly designed 2solve to be an attractive and a more intuitive way of managing the network. 2operate has been able to build a product which can help save cost and resources. The functionalities of 2operate offer a unique way of making the network management both quite simple and effective.

The CEO 360-Degree Perspective™ - Visionary Platform for Growth Strategies

The CEO 360-Degree Perspective™ model provides a clear illustration of the complex business universe in which CEOs and their management teams live today. It represents the foundation of Frost & Sullivan's global research organization and provides the basis on which companies can gain a visionary and strategic understanding of the market. The CEO 360-Degree Perspective™ is also a “must-have” requirement for the identification and analysis of best-practice performance by industry leaders.

The CEO 360-Degree Perspective™ model enables our clients to gain a comprehensive, action-oriented understanding of market evolution and its implications for their companies' growth strategies. As illustrated in Chart 5 below, the following six-step process outlines how our researchers and consultants embed the CEO 360-Degree Perspective™ into their analyses and recommendations.

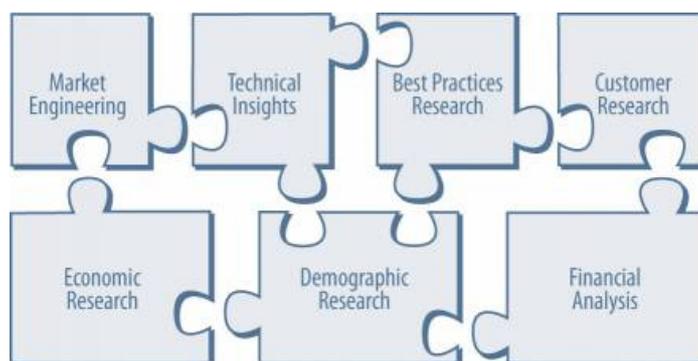
Chart 5: How the CEO's 360-Degree Perspective™ Model Directs Our Research



Critical Importance of TEAM Research

Frost & Sullivan's TEAM Research methodology represents the analytical rigor of our research process. It offers a 360-degree view of industry challenges, trends, and issues by integrating all seven of Frost & Sullivan's research methodologies. Our experience has shown over the years that companies too often make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Frost & Sullivan contends that successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. In that vein, the letters T, E, A and M reflect our core technical, economic, applied (financial and best practices) and market analyses. The integration of these research disciplines into the TEAM Research methodology provides an evaluation platform for benchmarking industry players and for creating high-potential growth strategies for our clients.

Chart 6: Benchmarking Performance with TEAM Research



About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best-practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from more than 40 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.