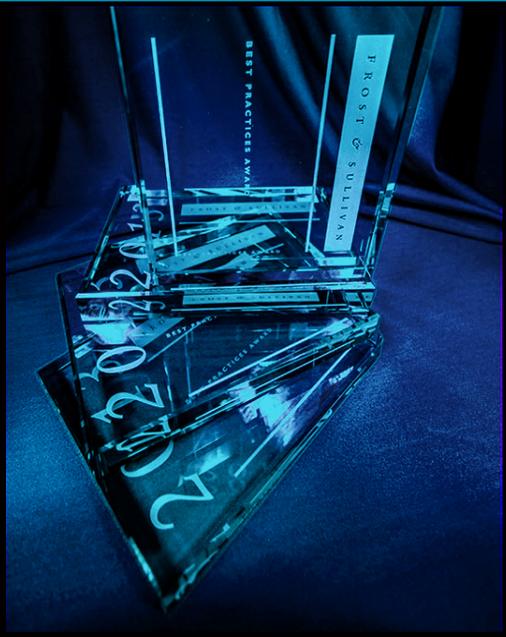


FROST & SULLIVAN



## 2016 Global IoT Analytics Solutions Customer Value Leadership Award



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BEST  
*2016* PRACTICES  
AWARD

GLOBAL IoT ANALYTICS SOLUTIONS  
CUSTOMER VALUE LEADERSHIP AWARD

*2016*  
**BEST PRACTICES**  
AWARDS

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## Background and Company Performance

### *Industry Challenges*

Proliferation of connected devices with the adoption of the Internet of Things (IoT) in the consumer, enterprise, and industrial spaces has opened the floodgates for Big Data. It is forecasted that there will be 23 billion IoT devices and over 100 zettabytes of data generated by 2020. While this will help users — especially businesses — to make informed decisions based on insights derived from data, huge challenges remain in collecting, storing, managing, analyzing, and deriving useful insights from the huge volume and variety of data coming in at high velocity.

Ever-improving sensor technology has resulted in smaller, more rugged, and smarter sensors that have become an integral part of the IoT. These sensors ensure the collection of data from IoT devices, but challenges arise in quickly analyzing the influx of data at the source and making IoT devices intelligent enough to make critical, real-time decisions. The more prevalent IoT architecture of streaming data from field devices to a centralized cloud for storage and delays queries and analyses, which hinders critical decision making in the field. This architecture also demands high bandwidth and process capability infrastructures. New IoT paradigms such as fog and edge analytics add value for customers with increased efficiency, better data management, faster querying, lower cost, and — more importantly — faster decision making at the point of measurement, control, or transaction.

With most IoT Big Data analytics companies capable of analyzing huge volumes of data, the key differentiator and value add is in the way a participant structures and manages data to enable querying in sub seconds and to allow scalability and faster analysis. A company that provides a holistic solution that efficiently collects data from millions of sensors, stores and manages it efficiently, allows faster data access and flexibility for quick analysis with hybrid architecture (whether at the source or in the cloud), and provides real-time insights will emerge as a market leader.

### *Customer Impact and Business Impact*

#### **Price/Performance Value**

Founded in 2011 as an IoT analytics startup in Cologne, Germany and acquired by IoT giant Cisco in late October 2015, Cisco ParStream has broken the norms with innovative architecture for its IoT analytics platform. With its proprietary database and geo-distributed analytics (GDA) servers, Cisco Parstream has targeted solving the challenges of IoT analytics through the concept of edge analytics, which takes analysis to the source edge and fog nodes. Unlike traditional analytics, which streams all data to a central server for analysis, edge analytics brings intelligence close to the data source and provides an efficient and faster means of data transfer, query, and analysis.

Cisco ParStream's massively parallel processing (MPP) architecture enables real-time IoT analytics that support petabytes of data and sub second response times as compared to

its competitors providing batch, operations, or stream analytics. Cisco ParStream's IoT analytics platform is able to handle over 10 billion rows of data, stream 1 million rows per second, and compared to its competition is able to achieve on an average 30 times faster query response times. This helps customers keep up with data growth, stream faster, and obtain real-time insights with minimal latency, and ultimately streamline operations, reduce costs, and achieve business goals. GDA that can be spread over 1,000 locations results in a smaller footprint and reduces cost of ownership.

For example, a global energy company using Cisco ParStream's edge analytics in more than 7,000 oil wells and fog analytics in over 300 oil platforms was able to identify bad batches of oil with water content and stop pumping to avoid wastage and losses much earlier than if it had performed the analysis at its central server.

### **Customer Ownership Experience**

Cisco ParStream follows Cisco's partner-driven structure to provide optimal solutions and customer service. Cisco's Channel Partner Program and Solutions Partner Program ensure a superior customer ownership experience, demonstrated in Cisco ParStream's successful customer solution case studies.

Cisco ParStream's IoT analytics solution helped a renewable energy company to increase output and efficiency by 15% and derive estimated economic benefits of \$158 million per year. In another case, Cisco ParStream helped a semiconductor company to increase machine utilization by reducing test times, which lowered costs and boosted revenue. Cisco ParStream also helped an automotive telematics company to explore new service-based business models with its IoT analytics capability that handles 260 million new records per month and 31 billion records of historical data.

### **Brand Equity**

Cisco ParStream built trust among its clients across industries with its successful solutions, and its acquisition by Cisco, which is prominent in the IoT space, has increased its brand equity multifold. An IoT solution involves a huge investment, and it is natural for customers to gravitate towards a trusted brand to ensure the best solution and support. The Cisco name has attracted more customers to Cisco ParStream's solutions. Cisco, with a vision of being the IoT market leader, has effectively integrated the acquired products and solutions into its data analytics and automation portfolio. Cisco ParStream has the complete offering in terms of hardware on all levels — edge, fog and cloud — as well as software products for holistic IoT solution. Cisco has instilled its vision of being a holistic solution provider and leader in the IoT space across all its teams and is heavily investing in the development of in-house talent and acquisitions to add strength.

### **Customer Acquisition**

As a startup between 2011 and 2015, Cisco ParStream successfully served more than a dozen highly reputed customers across the renewable energy, manufacturing, telecommunication, and semiconductor industries. Its client portfolio has been growing

quickly, and after its acquisition by Cisco, its focus continues to be on the fast-growing Industrial IoT market and on IoT applications in the emerging smart cities market.

Cisco is the IoT market leader and is focused on pursuing the Industrial IoT and other IoT areas with high revenue potential. Cisco closely follows the Industrial IoT space as part of the Industrial Internet Consortium, and has established its own innovation centers. The combination of Cisco's strong infrastructure and investment and Cisco ParStream's superior IoT analytics technology has resulted in a team that has all it takes to capture the lion's share of the IoT analytics market.

### **Growth Potential**

The IoT market is rapidly growing: the IoT is expected to generate between \$4 trillion and \$11 trillion in economic benefits globally by 2025. Cisco ParStream's IoT analytics platform solutions tackle the major challenges in the IoT industry, including high-speed data streaming, delays in processing queries and analysis, and large processing capabilities. With Cisco's brand power, IoT expertise, and infrastructure, Cisco ParStream has tremendous growth potential.

Cisco ParStream's customers have gained proven value with IoT analytics solutions across high-growth IoT segments. Cisco's customer base can open new markets for Cisco ParStream, and Cisco ParStream can introduce new application areas for Cisco. The synergies are positive.

### **Human Capital**

As a startup, Cisco ParStream's 40-person niche product development team included software engineers with extensive experience in the fields of high-performance computing, multi-threading, and enterprise architectures. They have been integrated into Cisco's strong data analytics team, which now boasts 600 industry-leading experts in IoT analytics. Cisco has shown a strong commitment to grow its IoT capabilities organically and through acquisitions, and its leadership motivates the team to develop more cutting-edge technology that generates more value for customers.

### **Conclusion**

Frost & Sullivan's independent analysis clearly shows that with its groundbreaking IoT analytics platform enabling real-time edge analytics and MPP, Cisco ParStream empowers its clients to realize the full potential of the IoT. It has the fastest query response time, along with the capability to import and analyze petabytes of data simultaneously. With successful solution implementations for renowned clients and potential applications across multiple industries, Cisco ParStream provides the best value for customers. And with the added strength and vision of IoT market leader Cisco, Cisco ParStream is set to define standards in the high-potential IoT analytics industry.

Because of its superior overall performance, Cisco ParStream has earned Frost & Sullivan's 2016 Global Customer Value Leadership Award.

## Significance of Customer Value Leadership

Ultimately, growth in any organization depends upon customers purchasing from your company, and then making the decision to return time and again. Delighting customers is therefore the cornerstone of any successful growth strategy. To achieve these dual goals (growth and customer delight), an organization must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



## Understanding Customer Value Leadership

Customer Value Leadership is defined and measured by two macro-level categories: customer impact and business impact. These two sides work together to make customers feel valued, and confident in their products' quality and long shelf life. This dual satisfaction translates into repeat purchases and a high lifetime customer value.

## Key Benchmarking Criteria

For the Customer Value Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Customer Impact and Business Impact—according to the criteria identified below.

### Customer Impact

- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

### Business Impact

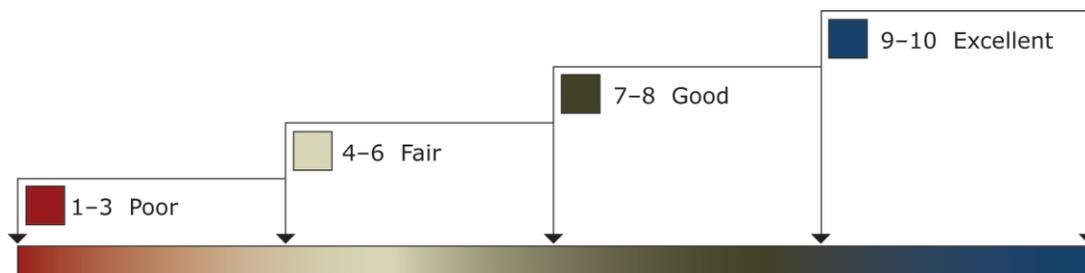
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

## Best Practice Award Analysis for Cisco ParStream

### Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are illustrated below.

#### RATINGS GUIDELINES



The Decision Support Scorecard is organized by Customer Impact and Business Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms 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.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, Frost & Sullivan has chosen to refer to the other key players as Competitor 2 and Competitor 3.

**DECISION SUPPORT SCORECARD: CUSTOMER VALUE LEADERSHIP AWARD**

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Customer Value Leadership</b>	Customer Impact	Business Impact	Average Rating
<b>Cisco ParStream</b>	<b>9.9</b>	<b>9.7</b>	<b>9.8</b>
Competitor 2	8.1	8.0	8.1
Competitor 3	7.2	7.0	7.1

*Customer Impact*

**Criterion 1: Price/Performance Value**

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market

**Criterion 2: Customer Purchase Experience**

Requirement: Customers feel like they are buying the most optimal solution that addresses both their unique needs and their unique constraints

**Criterion 3: Customer Ownership Experience**

Requirement: Customers are proud to own the company’s product or service, and have a positive experience throughout the life of the product or service

**Criterion 4: Customer Service Experience**

Requirement: Customer service is accessible, fast, stress-free, and of high quality

**Criterion 5: Brand Equity**

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty

*Business Impact*

**Criterion 1: Financial Performance**

Requirement: Strong overall financial performance in terms of revenues, revenue growth, operating margin and other key financial metrics

**Criterion 2: Customer Acquisition**

Requirement: Customer facing processes support the efficient and consistent acquisition of new customers, even as it enhances retention of current customers

**Criterion 3: Operational Efficiency**

Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard

**Criterion 4: Growth Potential**

Requirements: Customer focus strengthens brand, reinforces customer loyalty and enhances growth potential

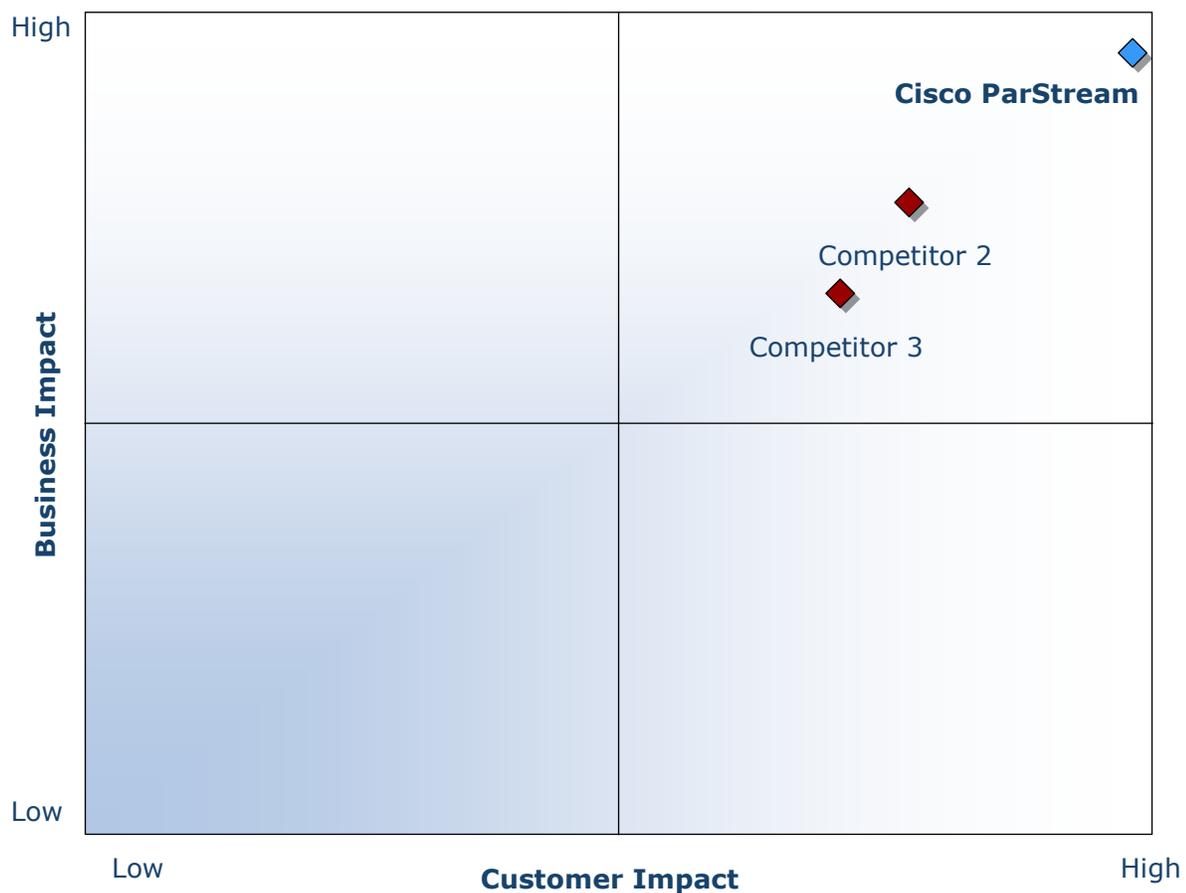
**Criterion 5: Human Capital**

Requirement: Company culture is characterized by a strong commitment to quality and customers, which in turn enhances employee morale and retention

*Decision Support Matrix*

Once all companies have been evaluated according to the Decision Support Scorecard, analysts can then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.

DECISION SUPPORT MATRIX: CUSTOMER VALUE LEADERSHIP AWARD



## The Intersection between 360-Degree Research and Best Practices Awards

### Research Methodology

Frost & Sullivan's 360-degree 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 7 of Frost & Sullivan's research methodologies. Too often, companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry players and for identifying those performing at best-in-class levels.

### 360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



### 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 over 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 40 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.