FROST & SULLIVAN

2018 Asia-Pacific
Telecom OSS/BSS
Vendor of the Year Award





AMDOCS

ASIA PACIFIC

BEST PRACTICES

AWARDS

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Letter Of Congratulations

We are proud to present you with this year's Award for Asia-Pacific Telecom OSS/BSS Vendor of the Year.

Frost & Sullivan's global team of analysts and consultants continuously research a wide range of markets across multiple sectors and geographies. As part of this ongoing research, we identify companies that are true industry leaders, delivering best practices in growth, innovation, and leadership. These companies have a keen eye on the future and drive innovation that meets upcoming needs before they become commonly visible, thereby often being first to market with new solutions. They focus on delivering the best products at optimal prices to maximize customer value and customer experience, which makes them growth leaders in their respective industries. Identifying such companies involves extensive primary and secondary research across the entire value chain of specific products and/or markets. Against the backdrop of this research, Frost & Sullivan is pleased to recognize Amdocs Limited as the Asia-Pacific Telecom OSS/BSS Vendor of the Year.

To deliver excellence worthy of the Company of the Year recognition is never an easy task, but it is one made even more difficult considering today's competitive intensity, customer volatility, and economic uncertainty—not to mention the difficulty of innovating in an environment of escalating challenges to intellectual property. Within this context, your receipt of this Award signifies an even greater accomplishment.

Moreover, we recognize that your selection as recipient of this Award is the result of many individuals (employees, customers, and investors) making daily choices to support the organization and contribute in a meaningful way to its future. We enthusiastically acknowledge and celebrate these achievements.

Once again, we congratulate you on your achievements and wish you great success in the future. We are here to support you on any future endeavor.

Sincerely yours,

David Frigstad

Chairman

Frost & Sullivan



Industry Challenges

Telecommunications services play a pivotal role in boosting the economy by digitizing industries; however, over the past couple of years, the telecom industry has been grappling with multiple issues. Some of the top challenges that are consistent across all Asia-Pacific (APAC) markets include the following:

- Unable to monetize fully the growth opportunities from the exponentially growing mobile data traffic
- Intense competition from groundbreaking business models as digitization transforms the vertical landscape
- Declining average revenue per user (ARPU) because of fierce competition among peers

As the competition intensifies, telecom service providers will continue to seek advanced solutions that can trigger events to monetize digital opportunities in real time.

To support the growing demand for services across multiple customer segments and to leverage emerging opportunities from 5G, Internet of Things (IoT), artificial intelligence (AI), Big Data analytics, and other technological innovations, most telecom service providers have been investing significantly over the past several years to transform their IT infrastructure. These investments drove the APAC operations support systems (OSS)/business support systems (BSS) market from 2013 to 2017, at a compound annual growth rate of 4.98%.

However, in 2017, the APAC market growth rate was almost flat, at a meager 0.7%, primarily because most of the large digital transformation projects in the region have been completed or are in their final stages. According to Frost & Sullivan estimates, the segmental revenues in the region increased by \$37 million, bringing the overall regional market size to \$5.34 billion.

Visionary Innovation & Performance and Customer Impact



Addressing Unmet Needs

US-based Amdocs offers the most comprehensive OSS/BSS solutions to support telecom service providers in their digital journey. As consumers increasingly use mobile apps, social media, and online channels, Amdocs helps service providers increase the ARPU and build customer loyalty and advocacy with superior experience through its leading products and service offerings.

To transform service providers into digital service providers, Amdocs launched its Amdocs Digital Commerce, Care, and Retail solution as part of the CES 10.2 and Optima 4.2 portfolio release.

Visionary Scenarios through Mega Trends

Amdocs continues to innovate its product portfolio to enable telecom service providers to deliver an immersive experience by leveraging open application programming interfaces (APIs), AI, modular solution designs, and cloud-based operations. Some of the company's significant business model shifts and technology innovations introduced in 2017 include the following:

- In early 2017, Amdocs introduced its digital platform called aia, combining its extensive domain expertise with state-of-the-art Al and machine learning capabilities from global partners.
- In July 2017, Amdocs acquired Kenzan Media, which provides customized, end-to-end solutions focusing on digital transformation, platform-as-a-service, and cloud-native application development using DevOps and microservices.
- In September 2017, Amdocs launched SmartBot, powered by aia, to provide customer care and sales and marketing engagements.

 In November 2017, Amdocs and Gemalto announced their best-in-class integrated industry platform that delivers an intuitive and hassle-free experience for consumers to connect their eSIM-equipped smartphones, wearables, and future IoT devices to their network operators.

To drive innovation, Amdocs continues to invest and partner with best-of-breed ecosystem participants. The company is one of the early adopters of new tools and technologies, such as DevOps and microservices, that will play an important role in the development and fulfillment of new services.

Financial Performance

Amdocs had a successful year in 2017 as it continued to grow its regional business and fortify its leadership position in the APAC telecom industry. The company's revenue growth is attributed to its new project wins with existing clients and to new client wins as well.

According to Frost & Sullivan estimates, Amdocs' APAC revenue grew faster than the industry average, registering a 5.2% growth rate to reach approximately \$544 million in 2017.

Brand Equity

In a market scenario where the combined market share of the top 10 service providers declined by 2 percentage points to 57.7%, Amdocs has been successful in driving up its regional revenues. In 2017, Amdocs grew faster than most regional OSS/BSS market participants, registering a 0.5% uplift in its revenue market share, reaching 10.3%.

Background and Company Performance

Customer Service Experience

Over the past several years, Amdocs has strategically targeted Tier I and Tier II service providers to strengthen its position in the APAC region. Through its comprehensive suite of OSS/BSS offerings, the company offers services to key service providers in more than 13 countries in the region.

In 2017, Amdocs experienced significant traction and won several strategic projects with leading service providers, including KT in South Korea, Airtel in India, Telstra in Australia, Foxtel in Australia, Maxis in Malaysia, and Smart Communications in the Philippines.

Price/Performance Value

Traditionally, Amdocs has been perceived as an expensive brand; however, over the past few years, the company has changed this perception by delivering a solid return on investment (RoI) to clients and by lowering the total cost of ownership (TCO) of its software systems.

As part of its long-term strategy, Amdocs acquired Comverse Technology to leverage its BSS assets and customer base. This approach has successfully paid off as Amdocs has capitalized on former Comverse customers and has won several large strategic engagements.

Conclusion

To support against the increased competition and drive the technological evolution among telecom service providers, OSS/BSS solutions form a crucial part of their IT journey.

Amdocs has sustained its business momentum in APAC through its product and service innovations, end-to-end professional services, and ability to deliver successful IT transformation projects. The company has further solidified its market position in the region by going deep into its existing client base as well as adding new logos to its client base. As a result, Amdocs registered the strongest customer traction and recorded the best financial performance in the APAC region.

With its strong overall performance, Amdocs has earned Frost & Sullivan's 2018 Asia-Pacific Telecom OSS/BSS Vendor of the Year Award.

FROST & SULLIVAN BEST PRACTICES AWARD

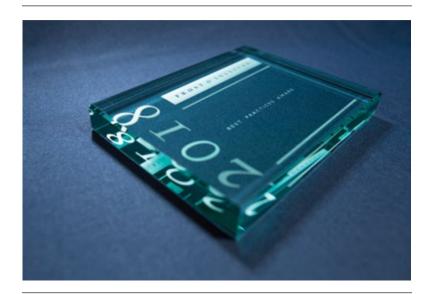
To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among your non-industry peers as well) requires a company to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning. These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Company of the Year Award (Visionary Innovation & Performance and Customer Impact).







Understanding
 Company of the Year



As discussed above, driving demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Visionary Innovation & Performance to enhance Customer Impact. For the Company of the Year Award, Frost & Sullivan analysts independently evaluated two key factors—Visionary Innovation & Performance and Customer Impact—according to the criteria identified below.

Key Benchmarking Criteria

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

Visionary Innovation & Performance

Criterion 1: Addressing Unmet Needs

Criterion 2: Visionary Scenarios through Mega Trends

Criterion 3: Implementation Best Practices

Criterion 4: Blue Ocean Strategy Criterion 5: Financial Performance

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

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 Visionary Innovation & Performance and Customer Impact (i.e., these are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion 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, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

DECISION SUPPORT SCORECARD FOR BEST PRACTICES AWARDS

| Measurement of 1–10 (1 = poor; 10 = excellent) | Vendor of the Y | | |
|--|---------------------------------------|--------------------|-------------------|
| | Visionary Innovation & Performance | Customer Impact | Average Rating |
| | | | |
| Amdocs | 9.0 | 8.7 | 8.8 |
| Competitor 1 | 8.0 | 8.0 | 8.0 |
| Competitor 2 | 7.7 | 8.0 | 7.8 |
| Competitor 3 | 7.0 | 7.0 | 7.0 |

Visionary Innovation & **Performance**

Criterion 1: Addressing Unmet Needs

Requirement: Implementing a robust process to continuously unearth customers' unmet or under-served needs, and creating the products or solutions to address them effectively.

Criterion 2: Visionary Scenarios through Mega Trends

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling "first-to-market" growth opportunity solutions.

Criterion 3: Implementation of Best Practices

Requirement: Best-in-class strategy implementation characterized by processes, tools, or activities that generate a consistent and repeatable level of success.

Criterion 4: Blue Ocean Strategy

Requirement: Strategic focus on creating a leadership position in a potentially "uncontested" market space, manifested by stiff barriers to entry for competitors.

Criterion 5: Financial Performance

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

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 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.

Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts 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 FOR BEST PRACTICES AWARDS (ILLUSTRATIVE)



Best Practices Recognition: 10 Steps To Researching, Identifying, And Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

| | STEP | OBJECTIVE | KEY ACTIVITIES | OUTPUT |
|------------|---|--|--|--|
| Q & | Monitor, target, and screen | Identify award recipient candidates from around the globe | Conduct in-depth industry researchIdentify emerging sectorsScan multiple geographies | Pipeline of candidates who potentially meet all best-practice criteria |
| 8 € | Perform 360-degree research | Perform comprehensive, 360-degree research on all candidates in the pipeline | Interview thought leaders and industry practitioners Assess candidates' fit with best-practice criteria Rank all candidates | Matrix positioning all candidates' performance relative to one another |
| | Invite thought leadership in best practices | Perform in-depth examination of all candidates | Confirm best-practice criteria Examine eligibility of all candidates Identify any information gaps | Detailed profiles of all ranked candidates |
| ₩ | Initiate research director review | Conduct an unbiased evaluation of all candidate profiles | Brainstorm ranking options Invite multiple perspectives on candidates' performance Update candidate profiles | Final prioritization of all eligible candidates and companion best-practice positioning paper |
| * | Assemble panel of industry experts | Present findings to an expert panel of industry thought leaders | Share findingsStrengthen cases for candidate eligibilityPrioritize candidates | Refined list of prioritized award candidates |
| | Conduct global industry review | Build consensus on award candidates' eligibility | Hold global team meeting to review all candidates Pressure-test fit with criteria Confirm inclusion of all eligible candidates | Final list of eligible award candidates, representing success stories worldwide |
| 1 | Perform quality check | Develop official award consideration materials | Perform final performance benchmarking activities Write nominations Perform quality review | High-quality, accurate, and creative presentation of nominees' successes |
| ₽ P | | | Review analysis with panelBuild consensusSelect winner | Decision on which company performs best against all best-practice criteria |
| Y | Communicate recognition | Inform award recipient of award recognition | Present award to the CEO Inspire the organization for continued success Celebrate the recipient's performance | Announcement of award and plan for how recipient can use the award to enhance the brand |
| <u>=Ω</u> | Take strategic action | Upon licensing, company is able to share Award news with stakeholders and customers | Coordinate media outreach Design a marketing plan Assess award's role in future strategic planning | Widespread awareness of recipient's award status among investors, media personnel, and employees |

The Intersection Between 360-degree Research And Best Practices Awards



360-degree research: seeing order in the chaos

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.

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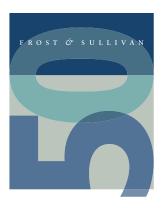
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About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community.

Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

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