



QUALYS®
CONTINUOUS SECURITY

2014 Global Continuous Innovation in Network Security
Company of the Year Award



F R O S T & S U L L I V A N



50 Years of Growth, Innovation & Leadership

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Background and Company Performance

Founded in 1999, Qualys is a publically traded cloud security and compliance solutions provider. Qualys specializes in vulnerability management (VM), but has added Web application scanning (WAS), Web application firewall (WAF), malware detection, Qualys SECURE Seal, as well as Policy Compliance and Payment Card Industry (PCI) compliance to its product and services portfolio. Qualys' roadmap includes private cloud services, exploit consoles for VM and WAS, governance and risk compliance, customizable reporting and workflow, polymorphic matching, continuous asset discovery, network threat detection, and continuous network monitoring.

At no moment has network security been an easy proposition. However, as recently as a decade ago, the attack surface available to attackers was minimal. Enterprise networks had a ubiquitous architecture. An enterprise had a singular firewall and protected mostly hardwired Ethernet desktop PCs with the exception of the occasional laptop PCs issued to field sales and C-level executives. Servers, routers, and switches were located on-premises.

Security appliances were designed to reflect the needs of protecting a network with this flat architecture. Physical appliances were deployed for intrusion detection and prevention (IDS/IPS), to log session information and event monitoring (SIEM), for network access control (NAC), to conduct penetration tests, and to scan for exploitable configurations (VM). On the horizon, technologists could foresee a day when different types of devices would require network access; and that the network itself would leverage the Web for greater extensibility. Beyond the horizon, Cloud and cloud-computing were close to inception.

However, network security tools and network security budgets can only be designed to accommodate the skill and comfort of the security teams that used them. At the time, the Web-based, virtual VM appliance Qualys offered in the Qualys Cloud Platform was a radical departure from conventional cyber defense tactics.

Industry Challenges

Moving to 2014, the condensed world of on-premises networking infrastructure, limited device type access to networks, and walled virtual private networks (VPN) has expanded in all directions. The term heterogeneous networking can mean the combination of on-premises networking, virtual networks, public and private clouds, and hybrid clouds. Device type access now means smartphones, tablets, bring your own devices (BYOD), and custom-purpose devices.

Frost & Sullivan is seeing erosion in the silos among network defense technologies (firewalls, IDS/IPs, VM, SIEM, NAC, etc.). In fact, bidirectional communication through

application programming interfaces (APIs) between technologies is becoming a norm rather than an exception. Information sharing between network security platforms improves the efficacy of each technology.

Part of this award citation is attributable to Qualys' product excellence and unique approach to IT security that allows customers to discover and scan assets whether its on-premise, in the DMZ or other cloud environments.

The second part of the award citation is in recognition of the Qualys' roadmap. Qualys was a true innovator in cloud, as well as on-premise network security. The Qualys architecture and API approach has been steady for the last decade as evidenced by significant customer adoption of these industrialized solutions. The fundamentals Qualys has established architecturally carry over nicely as the company adds to its product portfolio.

Visionary Innovation & Performance and Customer Impact

Frost & Sullivan attributes Qualys' growth to a steady stream of best practices and logical connections between new and existing products and platforms.

Criterion 1: Addressing Unmet Needs

In VM, Qualys offers decentralized scan capabilities utilizing multiple form factors — Web-based, virtual appliances, cloud-based, and on-premises scanning appliances. The Qualys cloud oriented architecture allows you to have single pane of glass view of the vulnerability and compliance posture across multiple locations. An additional benefit of working with Qualys cloud oriented architecture is a network security team gains complete visibility of its network's endpoints including PCs, switches, databases applications and servers.

Conceptually, Qualys offers scanning alerts based on policy on endpoints. Qualys allows customer to create a "golden image" for each endpoint on the network. When Qualys performs a scan on an endpoint, the scan checks each endpoint for multiple items (SSL certificates, OS, antivirus, and other endpoint characteristics). If an endpoint shows a change from what is stored on the golden image, the network security team is alerted.

Additionally, Qualys has been actively working on the data sovereignty problem. Many countries globally have laws that prevent data from leaving their borders. If a company has a Web-based or cloud-based solution, data transfer can be problematic. In the last couple of years Qualys has built a data center in Europe and has established significant relationships with large telcos, which allow for applications to be run within the aegis of an organizations' infrastructure never leaving the borders of a country.

Scanning large number of different and potentially unknown devices can be risky as incorrect packets can bring down network devices. Qualys has an expansive testing environment where it tests thousands of devices to ensure high accuracy as well as making sure devices are not impacted in their performance. Qualys tracks all defects in its scanning solution and reports a six sigma accuracy rate of less than six defects per million scans.

Lastly, Web Application Security. Qualys uses a progressive scan approach which crawls Web sites, Web pages, and landing sites for vulnerable applications. On the first day, a cycle of Web pages are scheduled for application scanning. A second day scan prioritizes new added Web pages, then starts at a rescan of the first day alarms, and ultimately resumes scanning from the last known Web page. Each scan cycle begins with new Web pages, a scan of alarms, and then resumption of Web scanning from the last known Web page.

Network and WAS scanning can congest a network and affect its performance. Depending upon the size of the enterprise, a comprehensive network scan can take 12–18 hours. Therefore, if an IT director has his dithers, the director would rather perform network scans during maintenance hours. Flexibility in vulnerability and Web application scanning gives network security ways to provide continuous security while scheduling scanning during regular maintenance hours.

Criterion 2: Visionary Scenarios

At its October 2014 Investors' Day Conference, Qualys outlined four strategic initiatives where its products and services are at now and are heading. All of these initiatives map to the primary theme of continuous security, which enables customers to detect and address new security threats on a continuous, always-on basis, rather than scheduled or event-driven scenarios.

- **Continuous Asset Discovery** is the self-evident concept that a network is only secure to the degree that all endpoints can be monitored. Currently, a combination of Qualys services can provide active network mapping, identify devices and Web applications, tag assets for tracking, and has an asset connector. The roadmap includes an asset correlation module, passive discovery of endpoints, agent-based discovery from server-side and cloud-based agents, and log-based discovery.
- **Continuous Network Security** – Qualys allows its customers to take a more progressive approach to scanning by enabling them to scan their networks continuously instead of just a weekly or monthly schedule. This enables organizations to continuously monitor their devices against security and compliance policies in real time and be alerted as soon as there is a deviation from the policy. With this proactive approach customers do not have to rely on manual analysis of

scan results to get actionable alerts. This vision is achieved with its unique blend of sensors that include physical, virtual and cloud based scanners as well as agents and passive sniffers. With its cloud based scanners Qualys also offers a unique external view of customer perimeter defences and identifying security holes that are exposed externally.

- **Continuous Web Security** is a work in progress with an early generation WAF and the more mature Qualys WAS. The planned additions for Web security in 2015 include automated virtual patching, Web log analysis and correlation, and a Web exploit console.
- **Continuous Threat Protection** the fourth strategic initiative is new. and includes the development of a continuous threat protection service. The components of continuous threat protection are a malware protection (not detection) service, log correlation, and real-time indicator of compromise (IOC) querying.

Criterion 3: Financial Performance

In 2013, the last full year of financial reporting, Qualys reported \$108 million in revenues. This revenue figure was up from \$91 million in 2012 and was 18% growth year-over-year (YoY). Qualys is having even better YoY improvements in 2014. For the first quarter 2014 revenues were up 22% YoY; second quarter 2014 revenues increased to 23% YoY; and third 2014 revenues were up 24% YoY.

A popular colloquialism used in business quarters is “land and expand.” For Qualys, land and expand is manifesting in several important ways. The traditional business that Qualys has been in for over a decade is VM. VM licenses are growing 10% YoY. In the current product portfolio, VM makes up roughly 83% of revenue, with the remaining 17% split evenly between WAS and policy compliance.

WAS and policy compliance revenues are relatively new, but are important future revenue contributors. As reported by Qualys, a company that licenses \$100,000 in VM services could be upsold \$75,000 in policy compliance and \$50,000 in WAS.

The dynamic of VM growth combined with WAS and policy compliance services is self-perpetuating. The optimism extends further. Qualys believes it is only scratching the surface in WAS growth potential and reports larger licensing agreements as customers come to trust WAS. Additionally, Qualys said it dedicated the last year to improving relationships with managed security service providers (MSSPs), developing global outsource providers, and making more resources to value-added resellers (VARs). Qualys intimated it could bolster its own sales and marketing team.

Criterion 4: Customer Purchase Experience

Qualys' self-described Cloud Oriented Architecture (COA) provides tremendous advantages to global businesses. The Qualys COA serves physical, virtual, and cloud data centers. The COA can be accessed directly by mobile users and from remote offices. Scalability is a structural COA attribute.

When a company commits to a policy compliance service, the company is making the implicit statement that it has an understanding of vertical industries. To offer Payment Card Industry Data Security Standard (PCI DSS), Health Insurance Portability and Accountability Act (HIPAA), or Sarbanes–Oxley Act (SOX) compliance, Qualys establishes a functional understanding of retailers, healthcare providers, and banking industries respectively.

Importantly, Qualys has built product licensing programs for companies with any number of employees. The Express Lite Suite is designed for 250 employees or less. The Express Suite is designed for 250–5,000 employees. Lastly, the Enterprise Suite is designed for more than 5,000 employees.

Criterion 5: Customer Ownership Experience

Currently customers come to Qualys for VM, WAS, or policy compliance services. When a device enters a network, Qualys can fingerprint it and catalog the device's IP, its OS, where it is mapped to, and its security/compliance posture. Even if a company declines the policy compliance service, the ability to report all of the endpoints on a network is common over many different compliance standards. Additionally, the Qualys scan checks on the status of SSL certificates.

The use of vulnerability management scanning is also a de facto patch management system. A network is a very fluid environment and for many different reasons and, for example, an OS update or a formal patch may not transmit to all of its intended endpoints. Scan results show what is on a given endpoint and that can be compared to what should be on an endpoint.

Customer service relations are often thought of as block and tackle fundamentals and sometimes lightly regarded. Qualys internal auditing indicates that phone calls are answered within one minute. The average email response time is less than 24 hours. Because Qualys has a legacy clientele, at any given time 12,000 members are online and are contributing to the knowledge base, offering training advice, and providing third-party support.

Criterion 6: Brand Equity

In the January 2014 Frost & Sullivan study *Analysis of the Vulnerability Management Market: Platform convergence intensifies competition but creates opportunity in growth technology (NE36-74)*, Qualys was found to be the vulnerability management market leader with 17.8% share of a \$528.6 million market.

The product concept of the Qualys Cloud Platform has been in the market since 2002. While not as recognizable as Microsoft Windows or Intel Pentium, Qualys is a well-known brand in VM.

The cliché about the proof being in the pudding is applicable with Qualys. Qualys Chairman and CEO Philippe Courtot explained that Qualys was finally realizing its first \$1 million deals. Internal statistics presented at the Investors' Day indicate high customer satisfaction and loyalty. Qualys reports a 95% retention base of all existing accounts. Qualys said that Top 100 customers in 2013 represented roughly 23% of all Qualys revenues. Arguably, the most interesting statistic presented was that customers that had been with Qualys for 10 years increased their licensing by 544% in the tenth year compared to value of the license that was issued in the first year.

Conclusion

Network security has been an industry punctuated by secretive product platforms. Perhaps no company has demonstrated a greater transparency in describing its product development and future roadmap than Qualys.

Qualys's dedication to Web-based and cloud-based services is paying massive dividends. Driving this is the company's steadfast vision of having a single point of entry to offer scan capabilities across all endpoints of a heterogeneous network. The single point of entry approach is a winning strategy for endpoint visibility and as a double-check redundancy for patch management and to see if OS and application updates were properly installed at the endpoints.

No company has staked more to its reputation in 2015 than Qualys. On the 2015 roadmap, Qualys has committed to:

- Cloud-based log management of vulnerabilities and applications
- A correlation engine that makes its four strategic initiatives possible
- Scanning using asset risk as a criteria
- Cloud-agent, passive, and log based discovery
- Exploit consoles for VM and WAS

Qualys has a reputation of being able meet deadlines and fulfill on customer needs. Frost

& Sullivan appreciates the current Qualys product iterations, and is bullish on Qualys' ambitious roadmap.

Because of its strong overall performance, Qualys, Inc. is recognized with Frost & Sullivan's 2014 Company of the Year Award for Continuous Innovation in Network Security.

Significance of Company of the Year

To win 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). This concept is explored further below.



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 to enhance customer value and impact.

Key Benchmarking Criteria

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.

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

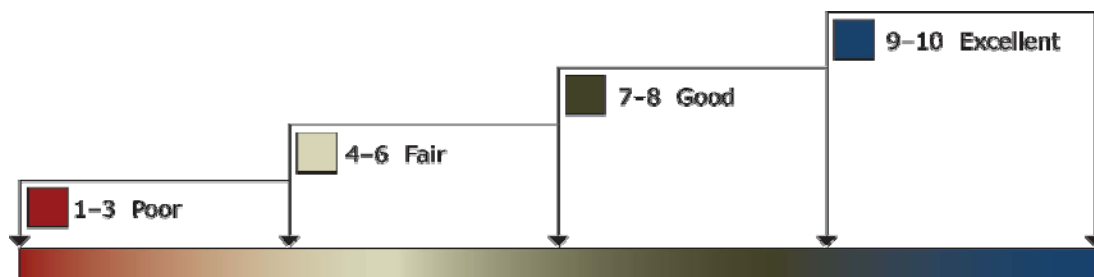
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

Best Practice Award Analysis for Qualys, Inc.

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., 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, we have chosen to refer to the other key players in as Competitor 2 and Competitor 3.

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
Company of the Year	Visionary Innovation & Performance	Customer Impact	Average Rating
Qualys, Inc.	9.7	9.5	9.6
Competitor 2	8.4	8.4	8.4
Competitor 3	8.2	7.6	7.9

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 opportunities solutions

Criterion 4: Implementation Best Practices

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

Criterion 3: Blue Ocean Strategy

Requirement: Strategic focus in 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 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

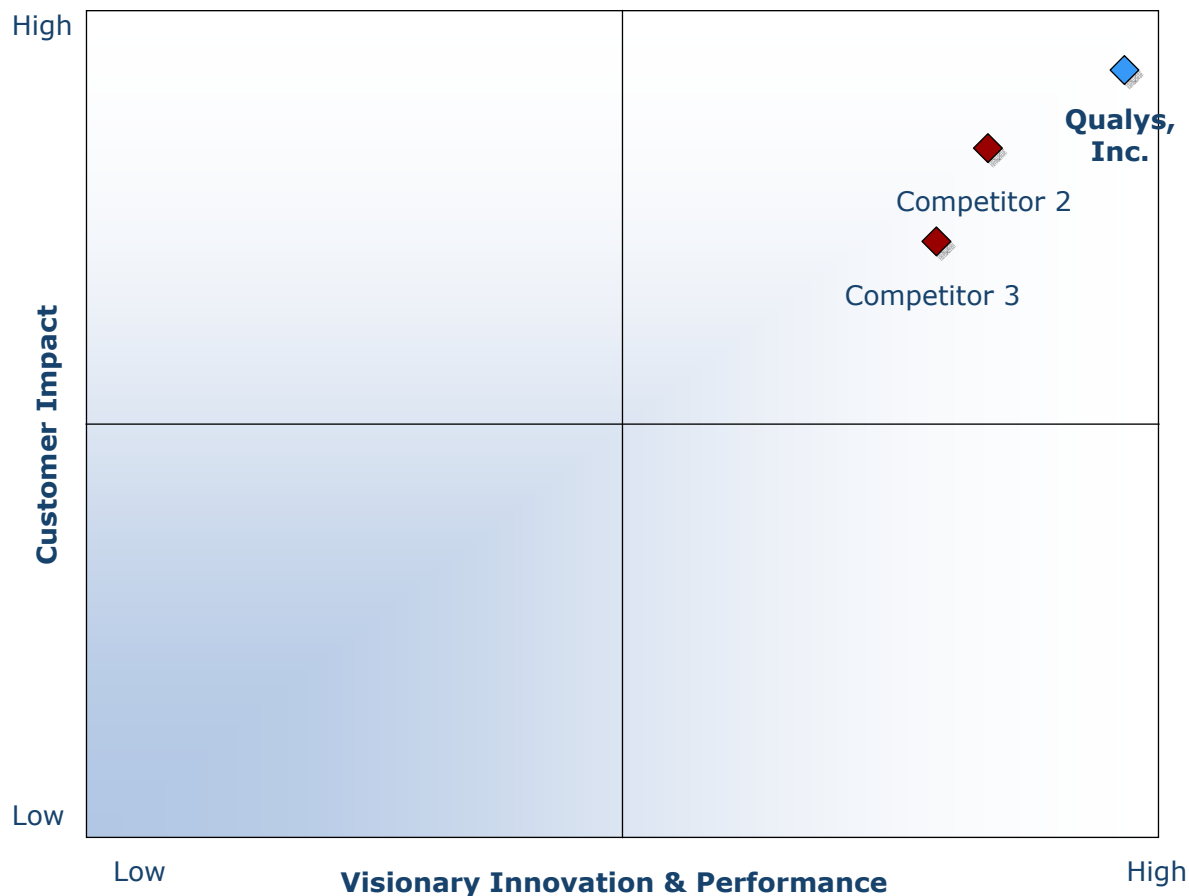
Requirement: Customer service is accessible, fast, stress-free, and of high quality

Criterion 5: Brand Equity

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

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.



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



Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

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

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 Monitor, target, and screen	Identify award recipient candidates from around the globe	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies 	Pipeline of candidates who potentially meet all best-practice criteria
2 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> • 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
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> • Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps 	Detailed profiles of all ranked candidates
4 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> • Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles 	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> • Share findings • Strengthen cases for candidate eligibility • Prioritize candidates 	Refined list of prioritized award candidates
6 Conduct global industry review	Build consensus on award candidates' eligibility	<ul style="list-style-type: none"> • 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
7 Perform quality check	Develop official award consideration materials	<ul style="list-style-type: none"> • Perform final performance benchmarking activities • Write nominations • Perform quality review 	High-quality, accurate, and creative presentation of nominees' successes
8 Reconnect with panel of industry experts	Finalize the selection of the best-practice award recipient	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select winner 	Decision on which company performs best against all best-practice criteria
9 Communicate recognition	Inform award recipient of award recognition	<ul style="list-style-type: none"> • 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
10 Take strategic action	The award recipient may license the award for use in external communication and outreach to stakeholders and customers	<ul style="list-style-type: none"> • 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

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 almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.