



2015 North American Enterprise Storage-as-a-Service  
New Product Innovation Leadership 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

### *Industry Challenges*

Enterprise data storage is an area that requires significant focus on availability, reliability, and security. As these data storage appliances store and protect huge volumes of critical business data, in order to maintain the integrity and availability of the data, enterprises need to ensure that these data storage solutions are reliable.

Traditional on-premise data storage solutions involve huge capital expenditures. Organizations have to buy and maintain them, which is quite expensive. In addition, these traditional storage solutions have low scalability. In case the enterprise requires migration to a new geographical location, the complexity and the cost to migrate this storage are considerably high as well.

From a technological perspective, traditional data storage solutions are shared for different applications and classes of data. As such, critical and not-so-critical data share the same storage space. Frost & Sullivan notes that a security breach of one tenant's storage could compromise all the data stored in the same location.

Cloud-based storage solutions, on the other hand, minimize capital expenditures — but face challenges to data integrity, security, and reliability. These multitenant cloud storage services are mostly equipped with a common encryption mechanism, the key to which stays with the service provider. Compromising that unique key may threaten the confidential data of all of the tenants.

To address the abovementioned challenges, Frost & Sullivan appreciates the fact that Zadara Storage has developed the Virtual Private Storage Array (VPSA) solution: an innovative, cloud-based enterprise storage solution offering high scalability, security, and flexibility, without any capital expenditure.

### *New Product Attributes and Customer Impact of Zadara Storage*

#### **Positioning**

Frost & Sullivan independent analysis confirms that a key capability that distinguishes Zadara's VPSA from other competing solutions is its ability to dynamically allocate separate storage resources to each tenant on its multitenant, cloud-based storage platform. Unlike competing solutions, which use shared resources and cannot allocate individual resources to individual users or for different applications, Zadara can dynamically allocate dedicated drives, controllers, and networks for every tenant. Bringing in storage area network (SAN) and network-attached storage (NAS) capabilities in a cloud service enables the solution to allocate storage resources even for individual applications

of the same organization. This allows customers to segregate important and unimportant data, which in turn enhances performance, data integrity, and security.

Another critical feature of the Zadara VPSA is that the solution is capable of remote replication. Other competing solutions find it difficult to replicate remotely, since it is difficult for a shared cloud storage provider to replicate huge volumes of data for specific customers from a pool of data belonging to multiple customers with no specifically isolated storage locations. Zadara's patented Virtual Private Storage Array (VPSA) technology can be utilized both in the cloud and on-premises, thanks to the company's unique OPaaS (On-Premise as a Service) offering. Because both locations feature the same technology, one can automatically replicate data from on-premises to the cloud and vice versa. This feature typically helps customers during disaster recovery, migration, and business continuity by ensuring reliability, scalability, and performance. The multiple capabilities of the VPSA and its features have helped Zadara gain a significant market share.

## **Design**

The backbone of Zadara's solution is its patented VPSA technology. It offers cloud users access and storage facilities using a computer network. It allows them to send and receive storage parameters using the network. In addition, it can also create VPSA using the resources of the server's computers and allocate them dynamically. The technology is capable of providing information about specific drives and identifying whether they match or exceed various parameters — such as drive quantity and array redundancy — to the virtual controllers. The technology is also capable of dedicating segments of memory and processor complexes to the virtual controllers. It enables the virtual controllers to operate on virtual machines in dedicated segments on independent server computers. The controllers are capable of identifying the drives and creating a virtual pool from them. This ability enables data protection mechanisms, such as encryption, for those pools. The virtual controllers are also responsible for creating additional volumes of storage from the pool and delivering them to the customers through the network. The technology also enables multiprotocol access control from the users' computers to maintain data security and integrity.

Through its patented technology, Frost & Sullivan feels that Zadara has been able to truly design an innovative solution delivered via a new and compelling business model that has helped the company to acquire a clear competitive advantage in the enterprise storage-as-a-service space.

## **Reliability**

The competing solutions deliver shared storage to accommodate multiple tenants in the same cloud storage. This becomes a serious threat to data integrity, as small technological glitches can lead to the abuse of data of all the tenants.

In contrast, Zadara, by virtue of its patented VPSA technology, can offer each tenant an on-demand, isolated storage array consisting of multiple storage drives. This feature, creating secure isolation of the data, makes its storage capability more reliable. Zadara offers complete rights to the drives, networks, and controller to its customers, so that complete data security is ensured. In addition, while other competing solutions have a common encryption for all stored data, which is managed by the service provider, Zadara's VPSA offers individual encryption for each VPSA created by the user. A major differentiating factor for Zadara's solution is that the encryption keys are with the users, thereby guaranteeing that only the respective enterprise has secure access to the data.

Zadara offers the capability, performance, security, and features of traditional enterprise NAS and SAN both through the cloud and on premises — in an on demand model. One of the major reliability challenges of competing solutions is that the users are unaware of the physical location of their data. This causes a major hindrance in adoption of cloud-based storage. With Zadara, enterprises now have the advantages of cloud-based secure storage and the assurance that their data resides on their own premises or on dedicated drives in the cloud. With its OPaaS offering, the company ships the on-premises appliances, such as x86 Servers, Dual 10 Gigabit Switches, standard Serial Advanced Technology Attachment (SATA), and solid-state drive (SSD) disks, which can be easily racked and connected to the network. Zadara can remotely perform every other operation — such as configuration, upgrades, maintenance and expansion — remotely and in real-time. The real-time notification of any hardware or software failure is received at the centralized control center of Zadara and can be addressed immediately, and when coupled with the architectural redundancy of VPSA, results in complete uptime of the service.

The unique OPaaS model of the company eradicates the concern of enterprises regarding the physical location of the data, making the solution more appealing in comparison to the other solutions.

## Quality

Another major factor that distinguishes Zadara's solution is its architectural advantage. The VPSA technology allows the OPaaS solution to provide dynamic storage nodes that consist of multiple storage drives. Each drive under a node can be secluded from other drives and secured using encryption. This allows easy and high-quality multitenancy. Though Zadara's multi-tenancy is superior, due to the complete isolation of tenants, other vendors offer varying degrees of partial tenancy. These partial-tenancy approaches risk endangering the data and quality of service of all the tenants if any malfunction in or threat to the data of any one client occurs, as no distinguishing separation exists among the data of different tenants.

In addition, the secure and elastic scalability of the Zadara OPaaS solution is a major differentiator with respect to quality. Zadara brings in the unique concept of delivering an elastic, managed NAS and SAN with sophisticated cloud capabilities built over them, which

makes it flexible enough to be used on-demand. The solution enables a unified NAS and SAN storage service, coupled with multiprotocol iSER (iSCSI Extensions for RDMA) protocol access support for Internet Small Computer System Interface (iSCSI), Network File System (NFS), and Common Internet File System (CIFS). This helps the users to regulate access using their preferred protocol, which in the long run enhances data integrity and bolsters data security. In addition, Zadara offers proactive delivery of new storage nodes dynamically, which makes the solution highly scalable. VPSA technology makes this possible remotely to meet requirements in real-time.

### **Price/Performance Value**

Zadara Storage ensures an impressive ROI for its customers who use the VPSA solution. In contrast to competing solutions that offer shared cloud storage solutions with considerable upfront charges, Zadara has a unique business model that does not charge any capital expenditure to its customers. The on-premises storage equipment is shipped free of charge. The only charge payable is the operational expense on a pay-per-use basis. Unlike competing solutions, Zadara does not require an initial long-term contract. The company offers fully managed and efficient SAN and NAS functionalities through a cloud-like model. This unique pricing model for the capabilities of NAS and SAN, without any infrastructural expense and maintenance charge, is of considerable value to its customers.

In addition, when a customer wishes to discontinue using Zadara's OPaaS solution, the company does not demand any extra charges. Additionally, Zadara offers its customers non-disruptive hardware refresh and periodic price reductions on consumption charges for the used storage capacity.

### **Match to Needs**

Zadara Storage has developed an innovative solution that clearly addresses the challenges faced by the users of traditional on-premises and cloud-based shared storage solutions. To ensure customer satisfaction with its VPSA solution, the company organizes and participates in numerous customer events, where it meets users and other innovators in the cloud-based enterprise storage space. The company also uses these events as platforms to educate existing and potential users on the best ways to use VPSA to achieve optimum productivity.

Zadara offers round-the-clock telephone support and extended, remote assistance to deal with any technical questions that users may have. In addition, the company focuses on regular interaction with its customers to gather feedback on their experiences. Zadara also focuses on collecting market and user feedback, which is analyzed and used in the design strategies of the company to develop a roadmap for future innovations and updates.

## Conclusion

*Frost & Sullivan concludes that Zadara has emerged as the true innovator in the enterprise storage-as-a-service space. The VPSA solution, by virtue of its flexibility, scalability, and performance — and powered by its patented virtual private storage array (VPSA) technology — has obtained a huge advantage over its competitors. The capabilities of traditional SAN and NAS offered in cloud architecture and subscription-based business model have helped the company to race ahead in the league. Recognizing its strong performance in the enterprise storage-as-a-service space, Frost & Sullivan is pleased to bestow the 2015 New Product Innovation Leadership Award to Zadara Storage.*

## Significance of New Product Innovation Leadership

Ultimately, growth in any organization depends upon continually introducing new products to the market, and successfully commercializing those products. For these dual goals to occur, a company must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.





## Key Benchmarking Criteria

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

### New Product Attributes

- Criterion 1: Match to Needs
- Criterion 2: Reliability
- Criterion 3: Quality
- Criterion 4: Positioning
- Criterion 5: Design

### Customer Impact

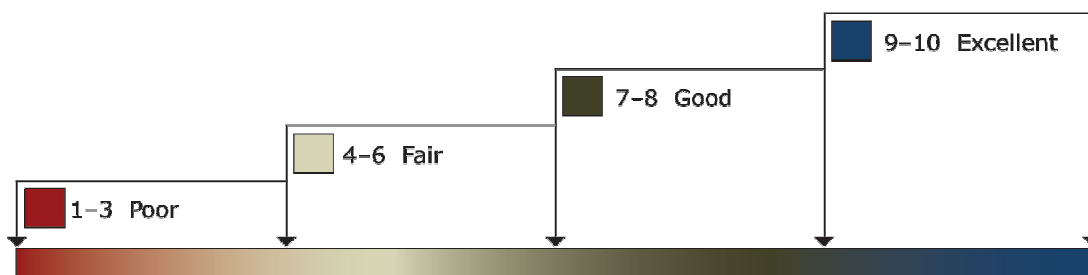
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

## Best Practice Award Analysis for Zadara Storage

### 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 New Product Attributes 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 Company 2 and Company 3.

#### DECISION SUPPORT SCORECARD FOR NEW PRODUCT INNOVATION LEADERSHIP AWARD

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
<b>New Product Innovation</b>	New Product Attributes	Customer Impact	<b>Average Rating</b>
<b>Zadara Storage</b>	<b>9.5</b>	<b>9.0</b>	<b>9.25</b>
Competitor 2	8.0	7.5	7.75
Competitor 3	7.5	7.0	7.25

### *New Product Attributes*

#### **Criterion 1: Match to Needs**

Requirement: Customer needs directly influence and inspire the product's design and positioning

#### **Criterion 2: Reliability**

Requirement: The product consistently meets or exceeds customer expectations for consistent performance during its entire life cycle

#### **Criterion 3: Quality**

Requirement: Product offers best-in-class quality, with a full complement of features and functionality

#### **Criterion 4: Positioning**

Requirement: The product serves a unique, unmet need that competitors cannot easily replicate

#### **Criterion 5: Design**

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use

### *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**

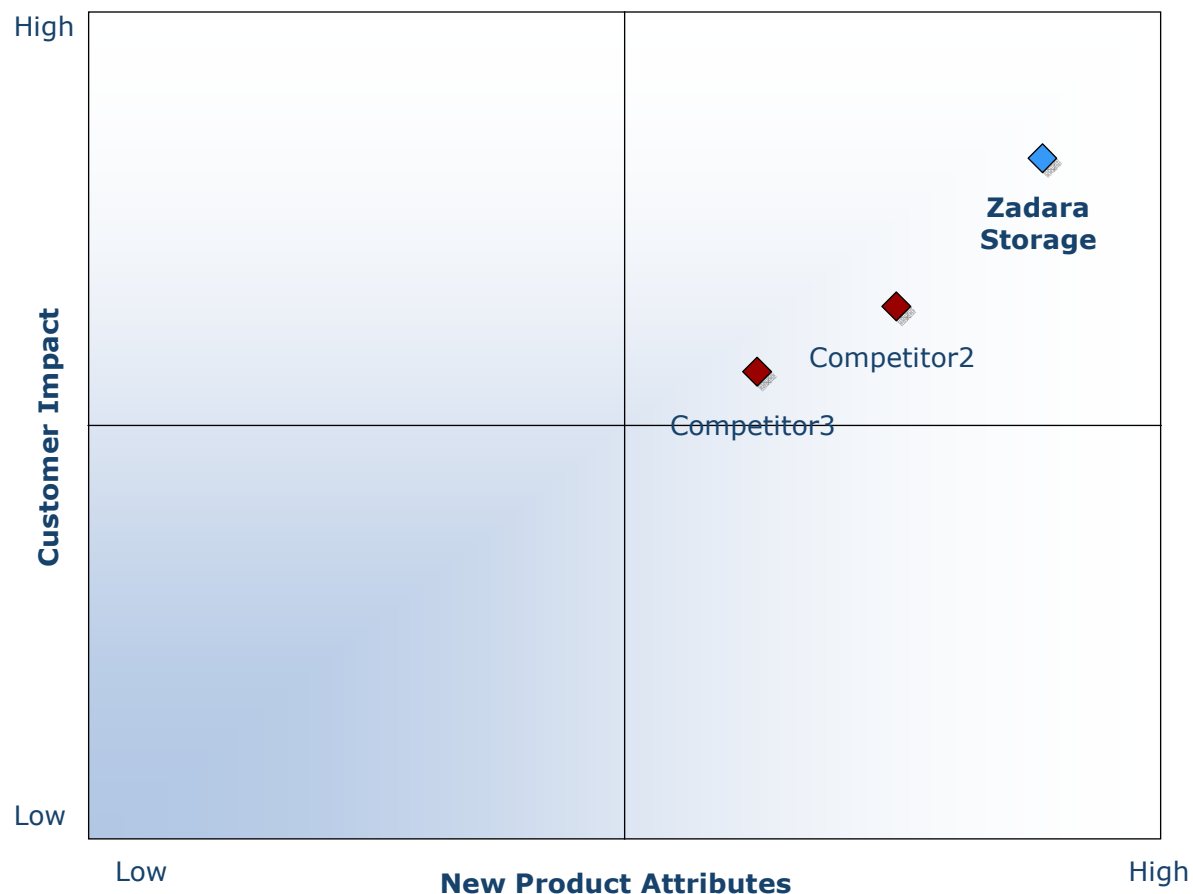
Requirement: Customer service is accessible, fast, stress-free, and of high quality

**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.

**DECISION SUPPORT MATRIX FOR NEW PRODUCT INNOVATION 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



## 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 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
1 <b>Monitor, target, and screen</b>	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized Award candidates
6 <b>Conduct global industry review</b>	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible Award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official Award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select winner</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> <li>• Present Award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 <b>Take strategic action</b>	Upon licensing, company may share Award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess Award's role in future strategic planning</li> </ul>	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>.