

IT Infrastructure & Networking

SPARK Matrix™: End-User Experience Management (EUEM), 2023

Market Insights, Competitive Evaluation, and Vendor Rankings

September, 2023



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Executive Overview

This research service includes a detailed analysis of global End-User Experience Management (EUEM) market dynamics, major trends, vendor landscape, and competitive positioning analysis. The study provides competition analysis and ranking of the leading EUEM vendors in the form of SPARK Matrix. This research provides strategic information for technology vendors to better understand the market supporting their growth strategies and for users to evaluate different vendors capabilities, competitive differentiation, and its market position.

Market Dynamics and Overview

Quadrant Knowledge Solutions defines an End-User Experience Management (EUEM) platform as “IT service monitoring platform designed to analyze the end-user experience while interacting with various types of technologies, including network, applications, devices and more in their work environment.” The platform’s objective is to ensure that the employees have a seamless user experience while maintaining optimal performance of the IT infrastructure being utilized in the organization. An EUEM platform examines the behavior of end users during their interactions with various applications and services through an array of monitoring, measurement, and analysis tools, offering real-time insights into diverse aspects of the end-user experience. The platform helps organizations discover IT issues impacting the user experience by implementing ongoing performance monitoring, in-depth analytics, and diagnostics for prompt issue identification and resolution. The platform also provides a complete perspective on user interactions, including application performance, network latency, and device health. The platform proactively alerts IT teams about disruptions and provides end-to-end visibility into various performance metrics, enabling swift resolution of any issues and ensuring high system uptime. Additionally, the platform prioritizes data security and privacy compliance by integrating with existing IT management tools while maintaining scalability and deployment flexibility.

End-User Experience Management (EUEM) solutions emerged in the early 2000s due to the growing complexities within the IT environments. Initially, these solutions focused on fundamental metrics such as system uptime and response times. Over time, EUEM technologies have undergone significant development, expanding into a diverse range of solutions capable of providing real-time insights into the end-user experience. The transformation in EUEM was primarily due to significant factors such as the widespread adoption of digital services, the transition to cloud computing, and a recognition of the significance of meeting user requirements. The substantial increase in remote work has underscored the necessity for reliable communication through EUEM solutions, facilitating problem resolution, supporting change management processes, enhancing security awareness, and offering effective feedback channels.

Organizations have become more dependent on digital platforms and services, understanding the performance and accessibility of these systems significantly impact their operational efficiency. EUEM solutions make the end-user experience seamless, allowing organizations to proactively identify and address

issues, hence avoiding the disruptions faced by users. EUEM platforms enable businesses to send customized sentiment surveys at scheduled intervals, these surveys gather feedback on a variety of concerns, such as device performance, application performance, UI/UX, response time of web pages, website usability and IT department engagement. The compiled survey data can be compared to real-time performance measurements, providing insights into how to improve the digital experience of the end users.

As technology ecosystems become more complex this will include domains like the Internet of Things (IoT) and edge computing, EUEM solutions will focus more on artificial intelligence and machine learning for predictive analytics and proactive issue resolution. Furthermore, the seamless integration of EUEM with DevOps is anticipated to promote user-focused application development and management. This would elevate the user's satisfaction and experience to a central position within the development process through the adoption of continuous monitoring tools, driven by real-time data, organizations and will gain the capability to proactively detect and swiftly resolve issues, ensuring a seamless user experience. The integration of user-centric design principles, which involve gathering user feedback and accommodating preferences, will become an intrinsic aspect of software development, resulting in user satisfaction. The primary advantages of EUEM for organizations encompass cost savings, data-informed decision-making, and a comprehensive enhancement in operational efficiency and productivity.

Following are the key capabilities of End-User Experience Management solution:

- **Employee Sentiment Analysis:** An EUEM platform provides employee sentiment analysis capability, which tracks and assesses the employees' experience while using digital tools, applications, and technology within their workspace. The employee feedback is collected through survey forms and then analyzed to gain end-to-end visibility and insights into the overall experience of the employee. The insights gained from sentiment analysis help organizations improve their digital products to comply with user expectations by addressing employee grievances and pain points. This enables employers to understand the impact of the digital workplace on employee engagement and job satisfaction.
- **Automation & Remediation:** The automation & remediation capability enables organizations to proactively detect, resolve, and prevent IT issues to provide optimized user experiences. The platform provides

features such as proactive issue identification, predictive analytics, rapid issue resolution, and continuous improvement. These features help organizations identify problems affecting the end users and forecast potential issues based on historical data and current trends to enable timely remediation. Automated remediation resolves issues with network latency, load time, application performance, application availability and other such factors that negatively impact end-user experiences. The EUEM platform also automates the data collection on incidents and responses, which is analyzed to identify recurring problems and opportunities for long-term improvements in digital work environments.

- **Reporting & Analytics:** An EUEM platform provides a reporting feature, which helps in the systematic collection and presentation of data in an organized and structured manner as customizable activity reports, providing a complete perspective of the employee's digital interactions with the organization. EUEM platforms incorporate ML models to deliver forecast reports that analyze historical data patterns to predict potential issues in the digital workspace. The platforms enable organizations to utilize the collected data and generated reports to understand patterns and extract valuable insights to facilitate future decision-making processes.
- **Dashboarding:** The EUEM platform offers dashboards that simplify complex data through charts and graphs and offer a consolidated and visually intuitive view of critical performance metrics and user experience data. It also provides customization options that ensure that organizations can focus on the relevant key performance indicators (KPIs). The users can utilize the data gathered from real-time monitoring, user interactions, application performance, and network behavior monitoring to build dashboards and gain insights user behavior to make decisions for improving employee experience.
- **Benchmarking Digital Experience:** The EUEM platform's benchmarking capability helps organizations benchmark digital employee experience against organizational goals and user sentiment data. The capability also helps create XLA, external peer groups, and experience while benchmarking the availability and response time trends of websites, endpoints, and more. Additionally, this capability provides access to industry benchmarks to help organizations evaluate

how their resources are performing globally. All these measures help organizations gain insights into their current performance and focus on areas of improvement to enhance overall business performance.

- **Anomaly Detection and Alerting:** Anomaly detection and alerting are key capabilities that primarily focus on proactive monitoring and issue resolution. These features are intended to continuously evaluate various performance metrics, including application responsiveness and network latency, by creating benchmark trends and thresholds. Their primary responsibility is to identify any deviations or abnormalities in these measures quickly. When anomalies are found, EUEM solutions immediately generate alerts, which are communicated to IT teams or administrators. These notifications serve as early warning signals, allowing organizations to take corrective action quickly and avoid any difficulties affecting end users. Furthermore, EUEM solutions carefully document these anomalies, allowing for post-incident analysis and the detection of reoccurring issues.
- **Platform Scalability:** Platform scalability is a fundamental requirement of an End-User Experience Management (EUEM) product, ensuring that the system can accommodate the demands of industrial-level deployments with large numbers of users. Scalability implies the platform's ability to expand its capacity and resources flexibly and efficiently in response to growing user loads. EUEM platforms are scalable for monitoring the availability of multiple devices, applications, and networks at remote & global locations and provide unified visibility into the organizational technology landscape.
- **Vision and Roadmap:** Evaluation of the vendor's product strategy and roadmap with the analysis of key planned enhancements to offer superior products/technology and improve the customer ownership experience.
- **Real-time user monitoring:** Real-time user monitoring provides visibility into the user experience of using a website or application by collecting and analyzing timing, errors, and dimensional information on end users in real-time. It helps the user to get a better understanding of their needs and offers better visibility into how third-party scripts are impacting the organization's page performance.

Competitive Landscape and Analysis

Quadrant Knowledge Solutions conducted an in-depth analysis of the major End-User Experience Management (EUEM) software vendors by evaluating their products, market presence, and value proposition. The evaluation is based on primary research with expert interviews, analysis of use cases, and Quadrant's internal analysis of the overall EUEM market.

This study includes an analysis of key vendors, including 1E, Absolute Software, ControlUp, eG Innovations, HCL Technologies, Ivanti, Lakeside Software, ManageEngine, Microsoft, Nextthink, Raygun, Riverbed Technologies, Sematext Group Inc., Tanium and VMware are among the top performers and technology leaders in the 2023 SPARK Matrix™ analysis of the global EUEM market.

VMware, Nextthink, 1E, Riverbed, Ivanti, Lakeside Software, and ManageEngine are among the top performers and technology leaders in the 2023 SPARK Matrix™. These companies provide sophisticated and comprehensive technology solutions to address various aspects related to the quality and satisfaction of end users interacting with digital applications, services, or systems. These companies are also pioneers in offering real-time user monitoring, analytics & dashboarding, employee sentiment analysis, benchmarking digital experience, anomaly detection, alerting and remediation, integration and interoperability, and platform scalability capabilities.

VMware provides EUEM capabilities as a part of its DEX (digital employee experience) solutions through its digital workspace platform titled Workspace ONE. The company provides tailored DEX tools equipped with telemetry, dashboards, and automation for frontline workers. Additionally, the tools' support for unattended remote access simplifies issue resolution, while the Intelligence SDK monitors app experiences on iOS and Android. Moreover, the remediation engine, including VMware Assist, uses scripts, sensors, and UEM actions to proactively handle issues across all device types, even unmanaged ones. The Self-service options empower employees to address common problems swiftly. The IT service desk integrates seamlessly with ServiceNow, tracking experience scores, enabling quick actions, and supporting flexible workflows in incident management.

Nextthink offers a unified end-user experience management platform for seamless data collection, processing, and aggregation, catering to IT teams' needs.

The platform provides core capabilities, such as telemetry, real-time alerting, diagnostics, analytics, employee journeys, and the ability to leverage AI/ML for enhancement of the end user experience. The platform efficiently monitors and correlates metrics for all employee events, from endpoints to specific application transactions. Additionally, Nexthink simplifies app management by handling desktop, web, and hybrid apps within a single solution. It conducts non-intrusive, real-time engagement campaigns for users facing IT issues through Nexthink Engage. For tactical problem-solving, Nexthink provides a content library with ready-to-use investigations, templates, dashboards, remote actions, and campaigns accessible via an online knowledge database.

1E's platform helps identify and resolve issues through automation, gauging end-user satisfaction, and offering an overall Digital Employee Experience (DEX) score. The platform also bolsters endpoint security through enhanced patching and compliance. The platform provides real-time control of content distribution to prevent system overload when deploying to numerous endpoints in an enterprise. The platform's self-healing function enhances endpoint stability, performance, and compliance by actively monitoring configuration settings. Additionally, the platform's inventory insights feature accurately captures records in a standardized vendor, product, and version format.

Riverbed provides EUEM capabilities through its offerings "Alluvio Unified Observability" and "Riverbed Acceleration." These offerings cover unified observability, digital experience management, network performance management, IT infrastructure management, and more such functions. Riverbed's Digital Experience Management (DEM), offered through the Alluvio Aternity platform, provides user journey intelligence, which assesses the digital experience of each user while using applications and correlates it with performance data. It also tracks user engagement across websites and analyzes its impact on business outcomes. The platform features click-to-render capabilities to monitor user visuals during interactions with other applications in business workflows. The Alluvio Aternity platform also provides logic-driven diagnostics and remedies for high-volume, recurring desktop issues to effectively address them before escalation.

Ivanti's end-user experience management platform leverages technologies such as ML for DEX scoring with automated remedies to resolve the discovered issues. It offers seamless integration of EUEM with UEM, ITSM, and Security systems, and the company holds a patent for its discovery technology with normalization and reconciliation capabilities. Additionally, Ivanti provides a user-friendly AI-driven automation platform for customized workflow configuration. The company

also equips service desk analysts with a dedicated workspace for expedited issue resolutions, including scoring, self-healing, and specialist-level automated actions. Ivanti further enhances digital experiences with low-code/no-code bots addressing security, policy compliance, user device satisfaction, and interactive CPU troubleshooting.

Lakeside Software's EUEM platform leverages a machine learning engine that helps pinpoint the root causes, detects anomalies, and enables predictive IT issue analysis. This predictive capability ensures proactive issue resolution, safeguarding end-user productivity. The platform also integrates with IBM Watson to analyze and monitor employee sentiment, identifying related issues. Additionally, the platform offers Role-Based Access Control (RBAC) for authorized user access to IT issue insights. SysTrack provides a range of customizable, ready-to-use tools supporting various use cases.

ManageEngine's EUEM solution monitors website availability and performance across various locations. The company provides a comprehensive suite of monitoring tools, including APM, infrastructure monitoring, RUM, synthetics, end-user experience, log analytics, and NPM, all accessible from a unified console. Additionally, ManageEngine offers integrated solutions for efficient cloud cost management, ensuring optimal spending and enabling real-time incident communication with customers and end users.

Microsoft, Tanium, HCL, eG Innovations, ControlUp, and Absolute Software have been positioned among the Strong Contenders in the 2023 SPARK Matrix™ for End-User Experience Management. These companies provide comprehensive technology capabilities and are rapidly gaining market traction across industries and geographical regions. They are also aware of upcoming market trends and have laid out a detailed roadmap to capitalize on future growth opportunities.

Microsoft's Intune platform supports integration with its associated products, ensuring effortless end-user interactions. It grants comprehensive insight into an organization's devices and applications across various regions. Additionally, it offers tailored reporting features for operations, organizational levels, historical data, and specialized needs and adheres to global, regional, and local regulatory requirements.

Tanium's End-User Experience Management (EUEM) platform, titled Digital Employee Experience (DEX), is an all-in-one solution for overseeing, administering, and enhancing the digital experience of an organization's workforce. The platform

delivers extensive employee communication, ensuring that employees stay well-informed about crucial developments that might impact their Digital Employee Experience (DEX). This functionality encompasses the ability to generate executive-level reports containing both qualitative and quantitative performance metrics and empowers enterprises to integrate the enhancement of digital work experiences as a responsible element of their broader IT strategy.

HCL provides WorkBlaze, an EUEM platform that monitors vast data of end-user computing data (EUC) in real-time in order to provide actionable insights. The platform offers contextual user feedback features that involve gathering user sentiment feedback to give organizations a comprehensive grasp of the user experience. By combining user sentiments with technical insights, organizations can adopt a data-driven approach to comprehend the user perspective, leading to enhanced decision-making and operational efficiency.

eG Innovations' EUEM platform, focused on Digital Experience Monitoring, prioritizes proactive issue detection and swift troubleshooting to ensure uninterrupted uptime and optimal performance. eG Enterprise utilizes non-invasive, real-time user monitoring (RUM) to capture and analyze every user's interaction. This monitoring involves continuous tracking of accessibility, functionality, and responsiveness, with automated detection of slow URLs and pages. The platform also provides a standardized Apdex rating for gauging customer satisfaction. Furthermore, it enables the pinpointing of issues related to page load and JavaScript errors, presented through user-friendly dashboards.

ControlUP's DEX management platform offers seamless management for distributed workforces with a dual focus on technology and employee needs. It provides proactive IT capabilities such as proactive notification, alerting and historical data reporting to ensure continuous monitoring of critical resources. This monitoring is bolstered by real-time alerts and self-healing systems, reducing the need for reactive responses. The platform also delivers end-to-end visibility across desktops, applications, and communications, allowing IT teams to identify and resolve issues affecting employees swiftly.

Absolute Software, via its Absolute Visibility platform, ensures ongoing endpoint visibility for user issue resolution. Its self-healing security solution enhances cyber resilience by enabling endpoints, applications, and network connections to recover from threats like ransomware and malicious attacks.

Raygun and Sematext have been positioned as Aspirants in the SPARK Matrix™ for End-User Experience Management, 2023, owing to strong technological capability and limited market exposure.

Raygun offers a comprehensive monitoring solution that seamlessly integrates error and performance tracking for instant software health insights. The unified product combines Real User Monitoring, Error Monitoring, and Crash Reporting, bridging the gap between errors, crashes, and performance issues. With complete visibility into server and front-end performance and its interaction with Application Performance Monitoring, Raygun enables swift trend analysis and thorough application health evaluation through adaptable dashboards, resulting in a precise monitoring approach.

Sematext's Synthetics platform for End-User Experience Management actively monitors APIs, Web URLs, websites, and user journeys. With HTTP and Browser monitors, Sematext Synthetics keeps tabs on a website or application's accessibility from chosen checkpoints worldwide. Furthermore, it offers comprehensive visibility into application performance metrics, logs, and site activity, streamlining issue resolution by consolidating all monitoring data in one location.

EUEM vendors are strengthening their technology value proposition by enhancing key functionalities, including employee sentiment analysis, automation with IT workflow orchestration, and business impact analysis by correlating Application Performance Monitoring (APM) and Real User Monitoring (RUM) data and enriching data correlation properties for better anomaly detection and root cause analysis. While a majority of the vendors provide all core functionalities, the capability to offer it with breadth & depth varies from vendor to vendor. Vendors should focus on enhancing their comprehensive capabilities to provide seamless integration with Automation and Remediation, deeper AI/ML-based problem identification and resolution and expanding use cases for Green IT. Vendors are also focusing on increasing R&D expenditure and mergers & acquisitions to continuously enhance their EUEM offerings and provide robust technology and unique value propositions to meet customer needs.

Key Competitive Factors and Technology Differentiators

The following are the key competitive factors and differentiators for the evaluation of end-user experience management platform vendors. While the majority of EUEM platforms may provide all the core functionalities, the breadth and depth of functionalities may differ by different vendors' offerings. Driven by increasing competition, vendors are increasingly looking at improving their technology capabilities and overall value proposition to remain competitive. The vendor's ability to accommodate following emerging technology trends is increasingly becoming key differentiator for selecting the EUEM platform:

Automated Self-healing Remediations: A self-healing solution ensures monitoring of vital applications for tampering, degradation, & failure to implement automation for repairing or reinstalling problematic or missing apps. Automated self-healing remediation capability deals with course correction of endpoint deviations prior to them affecting the functioning of IT systems to detect anomalies and enable them to respond to issues without the intervention of IT security personnel. Automated self-healing remediations enable organizations to increase IT efficiency & scalability, reduce IT costs, faster incident resolution, and enhance user experience. Users should evaluate vendors offering EUEM platforms on their self-healing remediation capability by ensuring that the platform is capable of self-healing issues and anomalies at the endpoint with minimum latency to minimize the effect of disruptions. Users should also evaluate the vendors on the breadth of their ML models to predict any disruptions in the work environment, enabling organizations to remediate a broad range of possible disruptions.

Endpoint Security Management: Endpoint Security Management enables IT and security personnel to enhance organizations' security posture by continuously monitoring the endpoints, network, devices, applications, and the data exchanged between these systems, ensuring data security and compliance. Users are advised to evaluate vendors based on their capability to offer data about endpoints and analysis of software, web applications, and hardware utilization, as well as identify potential failure points and suspicious usage patterns. Users should also evaluate vendors based on their capability to control endpoints over the internet that allows the establishment of geofences & alerts, on-demand freezing of devices at the time of risk and remote deletion of files & data wipe. Users should also analyze vendors' capabilities to ensure resilience to changes and efficient responses to threats, security breaches, & incidents.

IT Infrastructure Management: IT infrastructure management involves the administration & management of critical IT components to achieve full stack observability into physical & virtual infrastructure from a single console, track mismanaged bandwidth consumption, automate network configuration changes, and control management tasks. Users should evaluate vendors based on their capability to offer infrastructure monitoring solutions through the utilization of a range of methods such as (simple network monitoring protocol) SNMP monitoring, (windows management instrumentation) WMI polling, streaming telemetry, IP (service level agreements) SLA, and synthetic monitoring, and Syslog. Users are also advised to evaluate vendors based on their capabilities to offer real-time analytics for real-time monitoring of system performance to perform proactive problem detection, creation of visual models to understand interactions between different components and monitoring of on-prem systems & cloud-based applications from a single platform to cater to the hybrid work environment. Additionally, users should evaluate vendors based on their capability to provide automated network mapping that allows automatic discovery of devices present in the network and mapping of them visually to provide an overview of complete IT infrastructure.

Logic-driven Diagnostics: Logic-driven diagnostics refers to the enhancement of diagnostic processes through logical reasoning, predefined rules, decision trees, & intelligent algorithms to identify potential issues within the IT systems. Users are advised to evaluate vendors based on their capability to provide AI and ML-empowered analytics & algorithms for the detection of anomalies & automated troubleshooting guidance. Users are also advised to evaluate vendors based on their capability to provide intelligent root cause analysis to understand dependencies and real-time visibility into application code, infrastructure & user behavior for comprehensive diagnosis of troubleshooting.

Synthetic Monitoring in End-user Experience Management: Synthetic Monitoring is a method of generating artificial transactions or requests to simulate user interactions with applications or websites and deployment of monitoring agents to mimic user behavior with the aim of monitoring the availability, performance, and functionality of applications. Users should evaluate vendors based on their capability to offer script recording for accelerating the creation of synthetic tests, automate notification of application availability issues, identify and understand the impact of external, third-party services as well as networks on the user's system, and provide specific data to measure service level agreements (SLA). Users are also advised to evaluate vendors based on their capability to provide various types of synthetic monitoring capabilities, such as protocol

simulations that simulate simple protocol requests, web app simulations that support multiple-step transactions, and purpose-built logon simulators to simulate user logons without the need for separate recording steps, and full client session simulations to simulate multi-step transactions with any type of applications.

Inventory Insights: Inventory Insights involve the collection & analysis of data related to network devices, virtual machines, hardware & other components present within an IT infrastructure. Inventory Insights plays an essential role with reference to End-User Experience Management as it allows effective tracking & management of IT assets, enables organizations to understand the impact of infrastructure changes on end-user experience & manage software license compliance, understands the inventory of IT assets, and effective management & maintenance of security related issues of IT assets. Users are thus advised to evaluate vendors based on their capability to provide analytical tools for understanding the better usage of applications present in the IT system. Users should also evaluate vendors based on their capability to provide a comprehensive inventory of IT assets and understand hardware usage that enables organizations to evaluate the usage by employees.

Green IT: With the rising focus on the reduction of environmental impact resulting from conventional IT infrastructures, demand for solutions that enhance the sustainability of computing resources has increased. Green IT or sustainable IT refers to the implementation of strategies & technology that reduce energy consumption & promote sustainable practices within IT infrastructure. Users are thus advised to evaluate vendors based on their capability to provide monitoring capabilities for identifying performance bottlenecks & solutions for optimizing IT infrastructure resource usage. Users should also evaluate vendors based on their capability to assist with data center consolidation & hardware selection for energy efficiency, virtualization, & power management to maintain organizational sustainability.

Application Utilization and Rationalization: Application rationalization deals with assessing & optimizing the organization's portfolio of applications, while application utilization refers to the effective utilization of applications by end users. App rationalization enables organizations to reduce complexity, while app utilization analysis helps organizations optimize the value gained from applications. Thus, both play a significant role in enhancing the efficiency of end-user experience. Users are advised to evaluate vendors' capabilities to provide analytical tools that provide insights into application usage & performance, solutions to assess usage

patterns & user feedback, and tools to evaluate application dependencies. Users should also evaluate vendors based on their capability to provide solutions for monitoring & analyzing application usage and assessment of application utilization that enables organizations to analyze application usage by users.

Automatic Policy Deployment: Automatic policy deployment deals with the process of automatically disseminating & applying policies or configurations across an organization's IT infrastructure. This process comprises automated deployment of predefined rules, settings, & configurations to ensure consistent & efficient policy enforcement. Users are thus advised to evaluate vendors based on their capability to automate the on-schedule or triggered deployment of configurations & settings to various devices (Windows, iOS, macOS, & Android) across diverse endpoints. Users should also evaluate vendors based on their capability to configure policy as per the presence of organizations' on-prem networks.

Experience Level Agreements (XLAs): An experience metric, XLA, measures the gap between the experience an organization wants to provide, the experience it currently provides, and the actual experience received by employees. Users are thus advised to evaluate vendors based on their capability to set thresholds for the time required to check users' interaction with applications in the context of business workflow, along with setting proactive alerts related to thresholds to provide visibility into end-users' actual experience. Users are also advised to evaluate vendors based on their capability to isolate the source of delay related to every software/application/network for accelerating the process of highlighting the issue to the concerned team.

Professional Services: Users are advised to evaluate vendors based on their capability to provide pre-built remediation solutions that allow organizational IT departments to resolve issues. Users are also advised to analyze vendors' consultation capabilities and their technological strength to resolve the issue by providing step-by-step guidance for ongoing improvements in the organization. Additionally, users should evaluate vendors based on their capability to provide solutions and consultative assistance to enable organizations to reduce the rate at which helpdesk tickets are raised.

User Interface and User Experience: End-users must evaluate vendors based on their ability to provide a smooth and personalized experience while using the applications. The vendors should provide intuitive layouts that are glitch-free and

easy to use & navigate to enhance user experience and provide value for time. Vendors should be assessed based on their ability to provide a user-friendly interactive interface across channels.

Integration and Interoperability: Seamless integration and interoperability with the organization's existing technologies are among the most crucial factors impacting the technology deployment & ownership experience. EUEM vendors should be able to offer pre-built integration, out-of-the-box integration, and no-code/low-code APIs to seamlessly integrate with the UEM, ITSM, APM, security, third-party VDI, and other systems. EUEM vendors should be assessed based on their ability to offer two-way integration with partner tools to help organizations address their most complex business scenarios. Also, organizations should assess the EUEM vendors integration capability specific to their existing tools and infrastructure. Vendors must ensure seamless integration with any system without compromising employees' flexibility to work from anywhere.

Ability to Provide Self-Service Bots: Vendors can be assessed based on their ability to provide self-service bots to assist stakeholder queries, provide suggestions, and alert teams on critical issues/tasks using AI/ML technology. Vendors must be able to offer interactive bots to collect contextual sentiments to understand employees' technology experiences. Organizations must evaluate vendors' capability in providing self-healing bots that can identify issues, offer recommendations, and remediate the same to improve the digital experience of employees.

SPARK Matrix™: Strategic Performance Assessment and Ranking

Quadrant Knowledge Solutions' SPARK Matrix provides a snapshot of the market positioning of the key market participants. SPARK Matrix provides a visual representation of market participants and provides strategic insights on how each supplier ranks related to their competitors, concerning various performance parameters based on the category of technology excellence and customer impact. Quadrant's Competitive Landscape Analysis is a useful planning guide for strategic decision makings, such as finding M&A prospects, partnerships, geographical expansion, portfolio expansion, and similar others.

Each market participant are analyzed against several parameters of Technology Excellence and Customer Impact. In each of the parameters (see charts), an index is assigned to each supplier from 1 (lowest) to 10 (highest). These ratings are designated to each market participant based on the research findings. Based on the individual participant ratings, X and Y coordinate values are calculated. These coordinates are finally used to make SPARK Matrix.

Technology Excellence	Weightage	Customer Impact	Weightage
Real-time User Monitoring	20%	Product Strategy & Performance	20%
Analytics and Dashboarding	20%	Market Presence	20%
Employee Sentiment Analysis	15%	Proven Record	15%
Benchmarking Digital Experience	15%	Customer Service Excellence	15%
Anomaly Detection , Alerting, and Remediation	15%	Unique Value Proposition	15%
Integration and Interoperability	5%	Ease of Deployment	15%
Platform Scalability	5%		
Vision and Roadmap	5%		

Evaluation Criteria: Technology Excellence

- **Real-time user monitoring:** The ability of the vendor to enable organizations to analyze user behavior, performance metrics, application usage, and optimizing end-user experience.
- **Analytics and Dashboarding:** The platform capabilities to collect, analyse, and interpret data for actionable insights, pattern identification, and informed decision making.
- **Employee Sentiments Analysis:** The platform's prowess to monitor sentiments through surveys, feedback, and analysis.
- **Benchmarking Digital Experience:** Benchmarking enables organizations to compare digital employee experience against goals, sentiment data, XLA, peer groups, and industry parameters.
- **Anomaly detection, alerting and remediation:** The ability to monitor, detect and notify about deviations from defined thresholds, providing users with real-time visibility into performance metrics.
- **Integration and Interoperability:** The platform provides out of the box (OOTB) integration processes for use cases and integration with enterprise grade applications of specific vendors.
- **Platform Scalability:** The ability to demonstrate that the solution supports enterprise-grade scalability along with customer case examples.
- **Vision & Roadmap:** Evaluation of the vendor's product strategy and roadmap with the analysis of key planned enhancements to offer superior products/technology and improve the customer ownership experience.

Evaluation Criteria: Customer Impact

- **Product Strategy & Performance:** Evaluation of multiple aspects of product strategy and performance in terms of product availability,

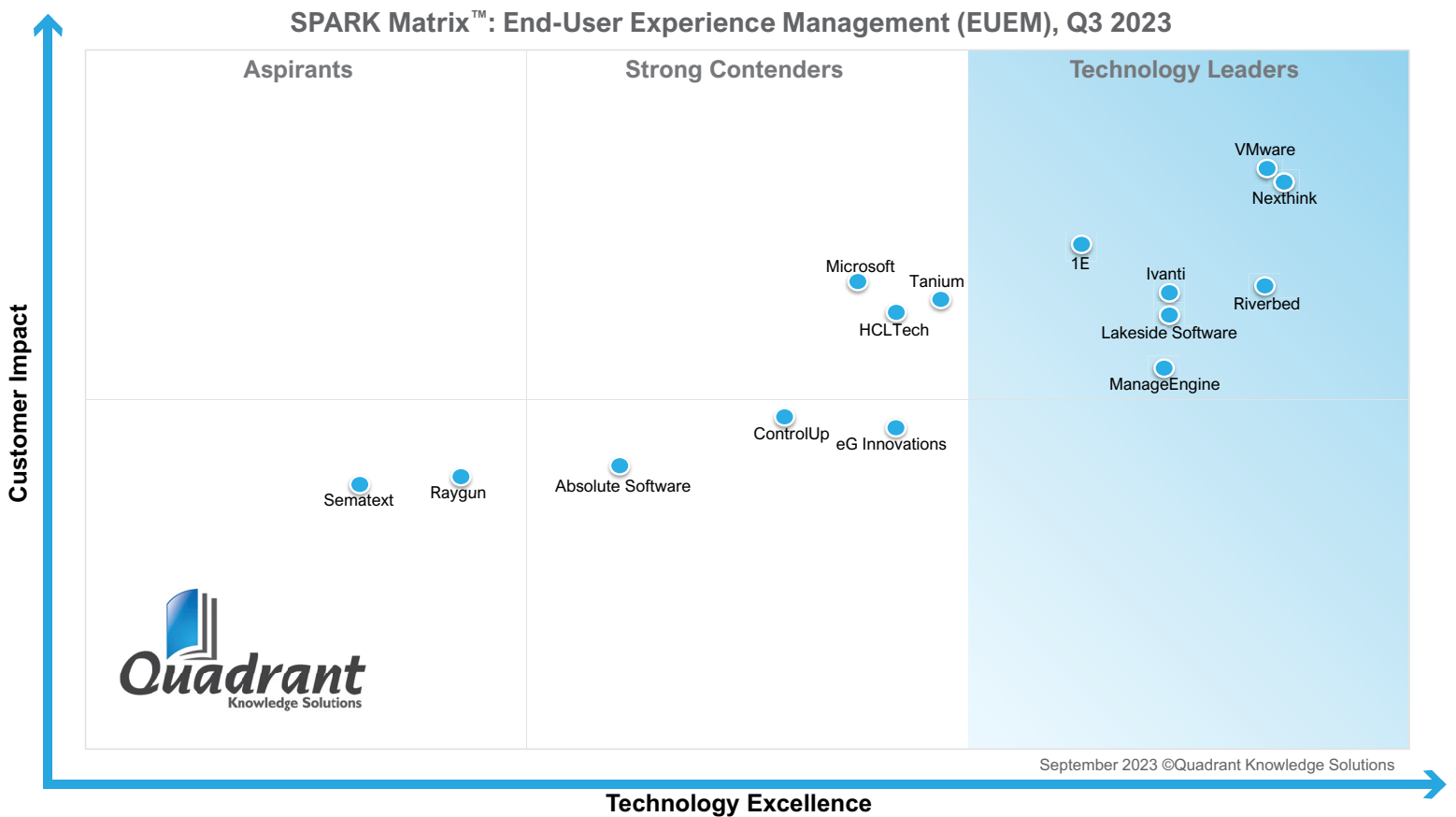
price to performance ratio, excellence in GTM strategy, and other product-specific parameters.

- **Market Presence:** The ability to demonstrate revenue, client base, and market growth along with a presence in various geographical regions and industry verticals.
- **Proven Record:** Evaluation of the existing client base from SMB, mid-market and large enterprise segment, growth rate, and analysis of the customer case studies.
- **Customer Service Excellence:** The ability to demonstrate vendors capability to provide a range of professional services from consulting, training, and support. Additionally, the company's service partner strategy or system integration capability across geographical regions is also considered.
- **Unique Value Proposition:** The ability to demonstrate unique differentiators driven by ongoing industry trends, industry convergence, technology innovation, and such others.
- **Ease of Deployment & Use:** The ability to provide superior deployment experience to clients supporting flexible deployment or demonstrate superior purchase, implementation and usage experience. Additionally, vendors' products are analyzed to offer user-friendly UI and ownership experience.

SPARK Matrix™: End-User Experience Management, 2023

Strategic Performance Assessment and Ranking

Figure: 2023 SPARK Matrix™
Strategic Performance Assessment and Ranking)
End-User Experience Management (EUEM)



Vendor Profiles

Following are the profiles of the leading End-User Experience Management vendor with a global impact. The following vendor profile is written based on the information provided by the vendor's executives as part of the research process. Quadrant research team has also referred to the company's website, whitepapers, blogs, and other sources for writing the profile. A detailed vendor profile and analysis of the vendor, along with various competitive scenarios, are available as a custom research deliverable to our clients. Users are advised to directly speak to respective vendors for a more comprehensive understanding of their technology capabilities. Users are advised to consult Quadrant Knowledge Solutions before making any purchase decisions, regarding software composition analysis technology and vendor selection based on research findings included in this research service.

VMware

URL: <https://www.vmware.com/in.html>

VMware, founded in 1998 and headquartered in Palo Alto, CA, US, is a provider of cloud computing and virtualization technology that supports cloud, mobility, networking, and security products and services. The company offers the Workspace ONE platform, a digital workspace platform that provides Experience Management as a part of their DEX (digital employee experience) solution. DEX enables IT teams to evaluate, analyze, and improve end-user experiences by offering end-to-end visibility, ML-driven root cause analysis, and integrations for the workspace (access control, application management, and endpoint management). DEX extends its features and functionalities to employee experience score; app performance and OS stability; device health and performance, insights, and incidents; and micro-surveys for employee sentiment.

Analyst Perspective

The following is the analysis of VMware's capabilities in the End-User experience management (EUEM) platform market:

- VMware's Workspace ONE platform offers capabilities that include capturing employee sentiments through customized surveys; the results of these surveys are aggregated into dashboards for easy visualizations and decision-making. Administrators can design and send surveys to end users, scheduled at a specific time or ad-hoc manually. The platform also allows users to create custom dashboards with helpful widgets that provide instructions and previews and a wide range of pre-built dashboards.
- The Employee Experience Score feature of the Workspace ONE platform helps assign scores to user experiences aligned with thresholds established by the organization's specific needs and objectives. The Digital Employee Experience (DEX) platform monitors potential issues that could lead to suboptimal user experiences across apps, operating systems, and endpoint devices. This enables the platform to provide insightful information to improve the overall end-user experience, increasing operational effectiveness.

- Workspace ONE also includes freestyle orchestration, a low-code workflow platform that enables administrators to seamlessly automate various IT tasks with conditional logic and sequencing for precise control. This solution uses Freestyle Orchestrator to automate remediation activities. The platform's native connection with Workspace ONE Unified Endpoint Management (UEM) opens sophisticated repair possibilities previously unavailable without thorough device control, enhancing automation. End users can resolve issues through self-service using VMware's Workspace ONE Intelligent Hub solution, which offers self-service capabilities.
- The platform includes tracking environment parameters that impact employee experience at five-second intervals, providing real-time monitoring and visibility. It also provides out-of-the-box and custom reporting and analytics capabilities. Workspace ONE also offers synthetic monitoring features that support network-based telemetry collection and tracking and the early identification of internal or external service disruptions before they affect end users.
- VMware's DEX solution seamlessly integrates with ServiceNow through its IT service management (ITSM) connector. This integration empowers Service Desk administrators to access advanced remediation capabilities directly from the ServiceNow portal. Administrators gain access to valuable insights, including employee experience scores, user, and device data, and the ability to execute critical Unified Endpoint Management (UEM) actions, such as device lock and wipe. Freestyle Orchestrator workflows can be initiated to address a wide range of use cases.
- Workspace ONE offers self-service capabilities that provide a personalized selection of tools and programs, simplifying the process of acquiring resources for more effective workflow. Employees can manage their devices and applications, reducing the burden on the IT department and enabling strategic focus. Self-service flexibility allows various work configurations, enabling access to office resources from any device or location, thus increasing output and enhancing job satisfaction. Employees can initiate ServiceNow tickets, access corporate resources, request apps, search colleagues, reset passwords, and manage devices.
- VMware's Workspace ONE platform employs guided Root Cause Analysis, leveraging data science techniques to expedite IT troubleshooting. ML models comprehensively analyze data and the environment to identify the root cause

of issues swiftly. This intelligent approach reduces IT professionals' time spent sifting through data, significantly lowering the Mean Time to Resolution (MTTR).

- The solution features the Workspace ONE Marketplace, a comprehensive resource library offering templates, widgets, dashboards, workflows, and more. These assets expedite DEX solution adoption, broaden DEX use cases, and simplify issue remediation.
- VMware differentiates itself by offering tailored DEX tools for frontline workers, featuring telemetry, dashboards, and automation. These tools enable frontline staff with optimized hardware planning and efficient device management. Unattended remote support simplifies issue resolution, while the Intelligence SDK monitors mobile app experiences on iOS and Android. The remediation engine, including VMware Assist, proactively resolves issues across all device types, including unmanaged ones, utilizing scripts, sensors, and UEM actions. Self-service options help employees take quick actions to resolve common issues. The IT service desk, through the ITSM connector, seamlessly integrates with ServiceNow for experience scores, quick actions, and freestyle workflow within ServiceNow incident management.
- The company has a strong customer base, including leading brands across industry verticals, such as automotive, financial, healthcare, insurance, manufacturing, public sector, retail, and telecom. Geographically, VMware has a commanding presence in North America (especially the US); Europe, Middle East, and Africa; and Asia Pacific.
- Key use cases of VMware include providing trends for OS update adoption for Windows, macOS, iOS, tvOS, Android, and Chrome. It gives visibility into OS adoption to help prioritize OS support, delivers notifications to employees through Intelligent Hub, offers metrics to monitor device health, tracks devices' resources, creates widgets to find devices with low storage capacity, notifies users to upgrade their devices, monitoring app performance, providing out-of-the-box dashboards to view app experience over time and score changes, viewing the crash and hang trends over time along with the current crash rate, providing application usage metrics to help seamless application migration, tracking adoption and engagement KPIs, using Workspace ONE to deliver a pre-onboarding experience to employees, and using surveys to measure employees' experience during onboarding so that IT teams can iterate and improve.

- The primary challenges for VMware include increasing technological advancements in EUEM and the entry of various major EUEM providers into the market with diverse offerings. Nevertheless, VMware is well-positioned to expand its share in the global EUEM market due to its comprehensive technology and unique components. The company will remain on its growth trajectory in the global EUEM market.
- VMware's product roadmap focuses on building automated Root Cause Analysis for key use cases, expanding telemetry collection, and providing customers with an out-of-the-box application rationalization solution. The company also plans to provide expanded self-service capabilities and continue enhancing AI/ML capabilities to improve its DEX solution.

Nextthink

URL: <https://www.nextthink.com/>

Founded in 2004 and headquartered in Prilly, Canton of Vaud, Switzerland, Nextthink is a provider of End-User Experience Management (EUEM) platform focusing majorly on large enterprises. The company provides transformation solutions via real-time analytics, instant remediation, automation, and end-user feedback across all devices in the digital workplace. The company offers both SaaS-based (deployed through AWS) and on-premises deployment of its EUEM platform. The key features and functionalities of Nextthink are workplace analytics, search & investigations, dashboard & scoring, alerting, diagnostics & visualization, content library, application experience, and employee engagement.

Analyst Perspective

Following is the analysis of Nextthink's capabilities in the End-User experience management (EUEM) platform market:

- Nextthink provides Workplace Analytics solution, enabling organizations to systematically observe, evaluate, and enhance employee experiences spanning diverse devices, networks, and applications within their operational context. Nextthink's Application Experience feature, which offers a comprehensive, integrated perspective of user interactions across all application types, encompassing binaries, hybrid, and Software-as-a-Service (SaaS) categories. Moreover, Nextthink's Integration capability provides an array of connectors and Application Programming Interfaces (APIs) that seamlessly establish connections with external data sources, including cloud applications and infrastructure elements. The platform also provides employee insights for technical issue resolution, combining real-time alerting, meticulous diagnostics, advanced visualization, and user feedback.
- Nextthink's end-user experience management platform gathers the operational data from users to offer services such as Support Telemetry for improved support service and Cloud Intelligence for anonymous comparative analysis of end-user experience scoring and benchmarking.

- Nextthink's end-user experience management platform has a broad range of dashboards, including configurable choices, allowing businesses to generate unique metrics by dragging and dropping widgets. These metrics provide real-time monitoring and insights into end-user behavior, promoting data-driven decision-making for better user experiences in business contexts.
- Some of the key differentiators of Nextthink's end-user experience management platform are its core capabilities in telemetry, real-time alerting, diagnostics and analytics, employee journeys, orchestration of experience workflows, and utilizing AI/ML technologies to improve these capabilities. The company provides a unified platform to collect, process, and aggregate data required by the IT teams. The company monitors, aggregates, and correlates metrics for all employee events from endpoint to application and down to specific application transactions as required by clients. The company also helps enterprises manage desktop, web, and hybrid apps in a single solution. The company, through Nextthink Engage, delivers non-intrusive, real-time engagement campaigns to user segments or specific employees experiencing IT issues. To address the tactical problems faced by organizations, the company offers a content library, an online knowledge database that provides access to content packs with a large set of ready-to-use predefined investigations, templates, dashboards, remote actions, and campaigns that can be directly installed and used on the platform setup.
- Geographically, Nextthink has a major presence in Europe, followed by North America. Nextthink's major industry verticals include banking & financial services, manufacturing, professional services, healthcare & life sciences, government & public sectors, IT & telecom, energy & utilities, travel & hospitality, retail & e-commerce, transport, and construction.
- Some of the use cases by Nextthink in the end-user experience management platform include detection and automated remediation of employee issues, large-scale technology rollouts, enhanced employee engagement with high response rate, personalized workplace delivery, obtaining visibility throughout employee workplace lifecycle, regular measurement of devices and employees, repairing asset management health and compliance, helping organizations in identifying the root cause of problems, seamless integration of Nextthink's platform with ITSM tools, and powerful consolidation of end-user data to help organizations respond faster to end-user requests.

- The primary challenges for Nextthink include increasing technological advancements in end-user experience management and the entry of various major EUEM providers into the market with diverse offerings. However, Nextthink is well-positioned to expand its share in the global EUEM market due to its comprehensive technology and unique components. The company will remain on its growth trajectory in the global EUEM market.

1E

URL: <https://www.1e.com/>

Founded in 1997 and headquartered in London, United Kingdom, 1E is a provider of digital employee experience management solutions. It enables real-time endpoint management built on single-agent visibility and control to significantly improve IT's ability to support the workforce. 1E's platform helps to surface issues, remediates them with automation, measure end-user sentiment, and provides an overall digital employee experience (DEX) score. The company's End-User Experience Management (EUEM) platform comprises comprehensive features and functionalities, such as 1E endpoint automation, 1E employee sentiment, 1E endpoint troubleshooting, 1E automated self-service, 1E inventory insights, 1E experience analytics, and 1E service desk augmentation.

Analyst Perspective

Following is the analysis of 1E's capabilities in the End-User Experience Management (EUEM) platform market:

- The product capability offered by 1E revolves around an end-user experience management platform, which empowers organizations to monitor and evaluate end user experiences effectively. This platform tracks key aspects such as stability, responsiveness, performance, and sentiment, providing real-time visibility into endpoints and software. By amalgamating this data with direct sentiment feedback from end-users, the platform offers a comprehensive view of their experiences. Through this comprehensive insight, organizations can make faster, data-driven decisions, enhancing employee engagement, productivity, and streamlining IT support operations. Additionally, 1E's Virtual Desktop Experience (VDX) facilitates comprehensive desktop infrastructure management, further supporting the platform's capabilities in delivering optimal end-user experiences.
- 1E's Employee sentiment empowers organizations to gain insights into the sentiment of end users regarding their digital environment. This feature helps to presents actionable feedback from end users, allowing organizations to obtain up-to-date sentiment scores. By leveraging this capability, organizations

can enhance their understanding of end user experiences, enabling data-driven strategies for improving the digital environment and overall workforce satisfaction.

- 1E provides an advanced endpoint automation platform designed to ensure configuration compliance across the entire IT domain. This platform delivers real-time visibility into the IT environment, facilitating configuration compliance automation and supporting audit reporting requirements. Furthermore, the feature integrates seamlessly with 1E's endpoint troubleshooting platform, enabling users to access real-time details of connected devices and effortlessly transition between the functionalities of both products. Through this integrated approach, organizations can efficiently manage their endpoint configurations, streamline compliance processes, and gain valuable insights into the status of connected devices for enhanced IT management and operational efficiency.
- 1E's endpoint troubleshooting capability provides IT configuration visibility and control of endpoints in the user's IT domain to respond to security incidents and resolve issues instantly. 1E's endpoint troubleshooting provides natural language endpoint queries to understand the queries and allows for remote endpoint actions to reduce the time per issue, and approval workflows to review and approve high-impact changes for high-impact changes.
- 1E's experience analytics tracks the end user's responsiveness, performance, and sentiment to analyze their experience while using the software. The feature combines this information with direct sentiment feedback from employees to create a complete view of their experiences and drive better employee engagement. Additionally, users can also get insights into responsiveness and stability caused by Wi-Fi problems, network connectivity, and slow boot-up time.
- The key differentiators for 1E's EUEM platform include improving endpoint security by enhancing endpoint patching and improving endpoint compliance. The Real-time Control of Content Distribution helps avoid system congestion when pushing deployments to many endpoints in an enterprise organization. Additionally, the self-healing feature improves endpoint stability, performance, and compliance with company policies by proactively monitoring configuration settings. Furthermore, the inventory insights feature provides records into a standard vendor, product, and version format by accurately capturing them.

- From a geographical presence, 1E has a significant presence in North America, followed by Asia Pacific, EMEA, and Latin America. 1E's major industry verticals include the IT services, banking & financial industries, healthcare & biotech industries, energy & utility industries, and insurance.
- Some of the top use cases of 1E's EUEM platform include the provision of improved automation and efficiencies in multi-tenant environments with its customization feature to ensure the right configurations for each organization. The platform also helps improve user devices and experience in the changing workplace environment. In the energy and utility sector, 1E monitors and manages multiple endpoints, significantly improving the organization's security position in the remote and hybrid working environment. Some of the other use cases also include maintaining the employees' productivity while working and allowing communication with computers outside of their firewall securely when connected to VPN.
- The company's future roadmap involves customizing the Tachyon platform to be compatible with employee engagement in multiple industries without many modifications. The company is further investing in R&D, enhancing its core capabilities, and expanding its presence geographically.

Ivanti

URL: <https://www.ivanti.com/>

Formed in 2017 and headquartered in South Jordan, Utah, USA, Ivanti is a provider of IT and software solutions. The company through the Ivanti Neurons platform offers a wide range of product portfolios which includes Ivanti Neurons platforms to resolve IT roadblocks before the company experiences them, Unified Endpoint Management to manage a secure optimal user experience across all devices, from managed end points to shadow IT remediations. It also includes Endpoint Security and Network Security to protect businesses with continuous threat management and secure access across every user, and offers Supply Chain Management, and Service & Asset Management.

The platform helps organizations provide personalized solutions to enhance employee experience. The company's end-user experience management features and functionalities include asset discovery, edge intelligence, monitoring, application insights, analytics, remediation, synthetic testing, bots, digital employee experience (DEX) score, and integration.

Analyst Perspective

Following is the analysis of Ivanti's capabilities in the End-User Experience Management (EUEM) platform market:

- Ivanti offers Discovery and Edge Intelligence, providing organizations with complete device visibility and real-time employee experience analytics. Discovery enables monitoring of usage, performance, and security data, enabling informed decisions and optimal device management. Additionally, Ivanti Neuron's Edge Intelligence delivers actionable insights into employee experiences, including application performance and user satisfaction, fostering a productive work environment.
- Ivanti Neuron's self-healing bots, designed to adapt to specific business needs and address digital employee experience (DEX) issues through intelligent automation. These bots identify and resolve challenges in productivity, continuity, compliance, and user experience. The company also offers

interactive automation bots that collect valuable feedback from employee surveys and sentiments, enhancing the overall employee experience. Ivanti Neuron's self-healing and interactive automation bots contribute significantly to fostering a supportive, productive work environment.

- The product capability offered by Ivanti involves the implementation of the Digital Employee Experience (DEX) score. This scoring system serves as a tool to measure, evaluate, and enhance the digital employee experience within organizations. Through the DEX score, organizations gain the ability to track their employees' experiences over time, providing valuable insights into potential productivity degradation. By leveraging this capability, organizations can proactively address challenges and make data-driven decisions to optimize the overall digital employee experience, fostering a more productive and efficient work environment.
- Ivanti's product capability encompasses advanced analytics and reporting functionalities, leveraging artificial intelligence and machine learning (AI/ML) to acquire and analyze data through continuous monitoring. This feature empowers the platform to offer valuable guidance and recommendations for addressing digital experience issues. Users benefit from access to comprehensive metrics and dashboards, including device reconciliation, device stability, re-image, and application errors. Additionally, the integration capability facilitates seamless connectivity with ITAM, ITSM, UEM, and LoB systems via connectors, ensuring efficient import and export of data for enhanced adaptability within diverse organizational settings.
- Some of the key differentiators of Ivanti's end-user experience management platform is utilizing emerging technologies such as ML to score DEX with automated remediation, providing out-of-the-box integration of EUEM with UEM, ITSM, and Security systems. The company has also patented the Discovery technology with an out-of-the-box normalization and reconciliation engine. Additionally, the company provides a low code/no code AI-driven automation platform that helps organizations configure workflow as per business needs. Lastly, the company provides a workspace for service desk analysts to accelerate issue resolutions such as scoring, self-healing, and specialist-level automated actions, amongst others. The company also provides low-code/no-code bots for security & policy compliance, user device satisfaction, and interactive CPU troubleshooter to identify and remediate digital experience issues.

- Geographically, Ivanti has a significant presence in North America and Europe followed by Asia Pacific, the Middle East & Africa, and Latin America. Ivanti's major industry verticals include banking & financial services, healthcare & life sciences, manufacturing, education, government & public sectors, energy & utilities, retail & eCommerce, travel & hospitality, and media & entertainment.
- Some of the top use cases by Ivanti in the end-user experience management platform include identifying device performance trends prior to hardware failure, identifying & remediating work inhibitors, automation of IT & security operations, supporting and accelerating issue resolution at the service desk, enabling self-service & self-healing approaches for issue resolution, measuring & scoring the digital employee experience for data aggregation to make informed decisions, improving hardware refresh cycles, reducing the implementation time with the help of connectors, providing visibility on device location and network latency, supporting organizations to discover, and secure & service a large number of endpoints.
- Some of the key deployment challenges of Ivanti's end-user experience management platform include comprehensive device & application management of a variety of devices and applications within an organization. The company is also facing challenges in collaborating metrics performance of devices with users' feedback. However, with its single agent architecture and skilled teams, the company is mitigating device & application management challenges and continuously focusing on integrating metrics performance of individual devices & applications with users' feedback to provide personalized resolutions. Additionally, the company might have to focus on expanding its market presence in the Asia Pacific and the Middle East to gain a competitive edge.
- Ivanti's product and technology roadmap includes continuous investing in technologies such as AI and ML to enhance Predictive Edge capability to predict digital experiences based on time-series data collected by Edge Intelligence. The company is also focusing on improving Change Impact Analysis to help organizations quantify the risk of change by analyzing various data such as patches, crashes, service mapping, and ITSM change management data. The company is also focusing on enabling XLA creation that helps admins customize indicators, set corresponding thresholds, and provide statistics of indicators to admins to view XLA relative to distribution. Additionally, the company is focusing on enhancing the orchestration of experience workflow

and device & people clustering functionalities. The company has recently updated Ivanti Xtraction to enhance its reporting capabilities. The company constantly focuses on improving its existing features and functionalities of EUEM.

Riverbed

URL: <https://www.riverbed.com/>

Riverbed, founded in 2021 and headquartered in San Francisco, California, US, is a provider of telemetry monitoring and security solutions. The company offers its products/solutions under two categories: Alluvio Unified Observability and Riverbed Acceleration. These solutions encompass unified observability, digital experience management, network performance management, IT infrastructure management, and more. Some of the features and functionalities of the digital experience management platform are end-user experience monitoring, digital experience index, device and application performance monitoring, user journey intelligence, automated remediation, and benchmarking.

Riverbed's Alluvio Aternity Digital Experience Management (DEM) platform tool provides a clear view of how users experience various applications and devices. It can identify the root cause of delays, whether they originate from the network, device, or application itself, facilitating quick issue identification and resolution to enhance figure user experiences.

Analyst Perspective

The following is the analysis of Riverbed's capabilities in the End-User Experience Management (EUEM) platform market:

- Riverbed, through its Alluvio Aternity Digital Experience Management (DEM) platform, delivers a full-spectrum DEM capability driven by a unique combination of traditional agent-based DEM, server-based APM, and market-leading cloud-based real user monitoring and synthetics for web applications and mobile applications.
- Aternity Sentiment enables organizations to deliver surveys targeted toward user groups at the right time, offering workflow integration of qualitative telemetry and analysis within the context of actual user data. This approach can boost response rates and consumer trust through customized branding. The surveys accurately measure user satisfaction across devices and locations, recording real-time feedback using adaptable survey components, such as Net Promoter Score (NPS).

- Aternity provides an open field for personas loaded with customer data (preferred by organizations, as they have done persona analysis). To assist users in identifying personas, the platform also offers custom analytics for running clustered analysis on application/device usage trends. The solution also offers several library dashboards with OOTB user attributes for department and role, with the option to add additional custom user attributes for creating management dashboards based on personas rather than devices.
- Alluvio LogiQ Engine by Aternity offers an innovative approach to address recurring desktop issues. The engine utilizes logic-driven diagnostics and remediation methods to address high-volume problems before they escalate into support tickets proactively. Aternity identifies the underlying causes of incidents by correlating the impact on end users with real-time performance data. It then autonomously executes remediation workflows, employing composable actions to replicate expert decision-making. This adaptable logic extends to a comprehensive catalog of remediation actions for both Mac and PC, covering common end-user experience issues. Aternity's automation system requires no coding, integrates additional data to support root cause analysis, and operates autonomously without human intervention. This enables organizations to transition toward a proactive support model called 'level zero.' Unresolved issues are directed to the appropriate support level along with context to expedite resolution.
- The platform provides granular application and device performance reporting and analytics, covering device health, resource consumption of client endpoints, and business application performance and health of mission-critical applications. Aternity offers business application insights, resulting in cost savings along with increased productivity and increased operational efficiency.
- Alluvio Aternity Digital Experience Index (DXI) from Aternity enables businesses to align their digital experience goals with market standards. This makes it possible to detect performance gaps with respect to potential productivity or revenue losses in real time. The platform also enables in-depth analyses of underperforming regions for accurate root cause analysis and prompt correction. DXI provides flexible benchmarking options that cover both internal and external evaluations. It supports user attribute evaluation, hardware and software configuration analysis, and comparisons of pre- and post-change scenarios internally. Customers can compare their

digital experiences with peers in the sector using DXI, which automatically benchmarks against industry averages. DXI offers dashboards that can be customized for tracking software, hardware, and compliance metrics and for identifying digital experience bottlenecks and their effects on workers.

- Aternity offers advanced, real-browser, and network synthetic testing through Aternity User Journey Intelligence. It tracks what users see when interacting with applications in a business workflow. It shows a response time breakdown between a client device, network, and application back end to quickly expedite issue resolution and reduce conflicts within different IT teams.
- The platform gives in-depth monitoring and visibility for transactions running on contemporary cloud and app infrastructure, such as Docker, Kubernetes, Pivotal, Red Hat OpenShift, OpenStack, Amazon Web Services, Google Cloud Platform, and Azure, which has been fully integrated into the cloud-native ecosystem. It also provides application performance monitoring scalable, easy-to-use capabilities and deploys high-definition monitoring that unifies visibility across end users, applications, networks, and the cloud-native ecosystem.
- Key differentiators of Riverbed's DEM are user journey intelligence that measures the digital experience of each user while using applications and correlates it with performance data, tracking user engagement across websites, and analyzing its impact on business outcomes. The platform offers click-to-render capabilities to track user visuals when interacting with other applications in business workflows. The platform also provides dashboarding capabilities that enable the creation of experience-level agreements and built-in recommendations. Aternity differentiates itself from other vendors by offering logic-driven diagnostics and remediation for high-volume, recurring desktop issues before they escalate.
- Geographically, Riverbed has a major presence in the Americas and a good presence in Asia Pacific and Europe, Middle East, and Africa. Some of the major industry verticals that the company is catering to are financial services, government and public sectors, healthcare, energy and utilities, high-technology, logistics, mining operations, oil and gas, and retail.
- Riverbed caters to various use cases, including improving visibility into the actual end-user experience of its contact center employees, speeding up response time, reducing the volume of tickets at the service desk, and resolving them faster and at the lowest level possible without escalating.

Organizations use Allvio Aternity DXI to prioritize change initiatives based on business impact and enable IT to identify the areas with the biggest impact on digital experience. Allvio Aternity EUEM is used to acquire changes right the first time; it enables IT to validate the impact of IT change on employee experience. Allvio Aternity UJI is used to analyze the impact of change on customer experience and business outcomes and to associate performance with business metrics, such as revenue, conversion rate, and abandonment rate. Allvio NPM is used to implement network changes with confidence. This can also compare network configurations and network performance data side-by-side to find changes affecting performance quickly. Cloud Accelerator is used for fast, agile, and secure delivery of any cloud workload to anyone, anywhere. Aternity is used by organizations to improve contact center operations, reduce IT asset costs, improve customer journeys, and enable organizations to successfully manage their digital transformation while minimizing risk and optimizing their omnichannel experience.

- Riverbed's future roadmap focuses on extending its capabilities by 2023 to provide deeper, actionable insights, such as comparisons with industry benchmarks and estimates of carbon and cost savings by device types (migrating to VDI). Riverbed also plans to build remediation actions to complement existing ESG-related fixes (changing sleep timeouts). The company is also working on deeper AI/ML-based problem identification and resolution to cover a broader set of problems and use cases with Aternity Experience Insights. The company aims to expand its sentiment capabilities by triggering sentiment surveys based on any device/user attribute or performance metric thresholds. It also aims to develop streaming sentiment capability for continuous sentiment sampling to support both automated feedback collection and self-service feedback.

Lakeside Software

URL: <https://www.lakesidesoftware.com/>

Founded in 1997 and headquartered in Boston, Massachusetts, USA, Lakeside Software is a provider of the cloud-based digital experience management platform. The company offers Lakeside Assist, that helps the organization's level 1 workforce in diagnosing and resolving issues by automatically identifying critical issues affecting the employee technology experience. The company's Executive Insights help the organization's top management in their strategic planning by offering insights in historical and real-time data analysis of the tech stack. Lakeside Prevent improves user productivity and satisfaction by automatically detecting incidents and helps IT teams in prioritizing and resolving issues. It also predicts the probable behavior by observing the trends in the performance of the sensors to provide automated resolution before an incident occurs.

Lakeside Software's product portfolio consists of Big Data for end user computing, VDI assessment, modelling, migration & planning, Business Intelligence for IT, End User Experience Optimization, Infrastructure Monitoring & Management, End User Quality Scoring, Systems Management & Monitoring, Workspace Analytics, Endpoint Management, Digital Experience Monitoring, Event Analysis & Correlation, Desktop Transformation, IT Asset Optimization, Employee Experience, and ITSM Monitoring.

The Lakeside SysTrack Platform enables organizations to monitor factors that impact end-user experience directly from the digital workplace. The platform analyses the data and provides a complete view of the current state of the organization's end-user computing environment. The company's End-User Experience Management (EUEM) platform comprises of several comprehensive features and functionalities, such as user experience score, real-time analysis of IT performance, and remote support experience.

Analyst Perspective

Following is the analysis of Lakeside Software's capabilities in the End-User Experience Management (EUEM) platform market:

- The Lakeside SysTrack Platform helps IT teams and executives to get a complete visibility of their IT and employee digital health, automate the discovery and resolution of end-user issues at first touch, manage digital issues proactively before the end-user notices it, and automate resolution of the most complex tickets.
- The employee experience score capability provides the ability to score an environment's employee experience using digital employee experience management metrics. Further, it aggregates and analyses user behaviour, system performance, and application usage data, to generate numerical value which indicates the overall employee experience within an organization. The score aims to offer a clear and unambiguous representation of the user experience that assists IT administrators to understand the impact of technology on employee productivity.
- The real-time analysis of the IT performance capability analyzes the totality of the end user's digital experience impacted by network connection, latency, CPU usage, memory, and more in their workspace. The feature enables organizations to find and eradicate the root cause of IT issues by using real-time and historical endpoint data. With this insight, IT administrators may handle emergent issues more proactively, decreasing the effect on employee productivity and overall lost working hours.
- The remote support experience enables end users to resolve incidents through automated fixes and next-gen IT self-service. This feature increases the remote automation to resolve common problems such as low disk space, high CPU, app faults, and access communications from the IT department to improve end-user experience.
- The key differentiators for Lakeside software's EUEM platform include a powerful machine learning engine to analyze the root cause of issues, detect anomalies, and enable a predictive analysis of IT issues. This predictive analysis capacity improves the platform's ability to proactively handle issues, assuring end user's continued productivity. Additionally, the platform offers

integration with IBM Watson to analyze and monitor employee sentiment and detect the corresponding issues. The company's robust partner ecosystem and support services have reduced the implementation time. The platform offers RBAC setting to allow access to only authorized users to understand IT issues. Furthermore, SysTrack provides ready-to-use customized tools to support multiple use cases.

- From a geographical presence perspective, Lakeside Software has a presence in the USA, the European Union, and Asia Pacific. Lakeside Software's major industry verticals include banking & financial industries, insurance, manufacturing, government & public sectors, hospitality, aerospace, IT services, healthcare & biotech industry, and education sector.
- Some of the top use cases of Lakeside Software's EUEM include use of SysTrack for understanding software usage, root cause analysis of issues, remote work performance monitoring, Active Directory audits, benchmarking end-user experience data, seamless VDI migration, delivery of flexible workspace, robust performance monitoring, implementation of SysTrack tools to reduce application downtime & unauthorized changes, and supporting a remote workforce by managing devices both inside & outside corporate networks. SysTrack is further used to expedite problem resolution to minimize lost productivity of employees, SysTrack and its persona structure separate company users based on their observed workstyles and continually decide the proper endpoint, application, and delivery mechanisms for their unique requirements.
- The primary challenge for Lakeside Software is competition from well-established vendors with a proven technology offering as well as from small vendors with a local geographical focus that tend to serve a certain section in the market. However, the company, with its strong customer value proposition, sophisticated technology platform, and comprehensive vision & roadmap, is well-positioned to maintain and grow its market share.
- The company's future roadmap involves incorporating improved application analysis to get visibility and management of application performance across the enterprise. The company is also adding more capabilities in terms of DEX packs to drive enterprise IT agility, green IT, and employee well-being. The company is also focusing on expanding its horizons by providing SaaS scalability to get better visibility into end-user experience, improved incident response, and asset optimization.

ManageEngine

URL: <https://www.manageengine.com/>

ManageEngine, founded in 2002 and headquartered in Del Valle, Texas, US, is a provider of various IT management software solutions to manage IT operations within organizations across layers, such as applications, networks, servers, and security. Some of the features and functionalities of End-User Experience Management (EUEM) are Real User Monitoring (RUM), website monitoring, internet service monitoring, anomaly detection and alerting, reporting, desktop management, mobile device management, and others.

ManageEngine offers cloud and on-premises deployments through its ManageEngine Site24x7 and ManageEngine Applications Manager. The company's on-premises offering provides distributed monitoring and failover capabilities to help scale for large enterprises. The company provides a multi-instance architecture, enhancing data isolation and increasing the overall availability and personalization for large enterprises.

Analyst Perspective

The following is the analysis of ManageEngine's capabilities in the End-User Experience Management (EUEM) platform market:

- ManageEngine's RUM is crucial in helping organizations monitor front-end performance, gain insights into browser behavior and geographical locations, and enable them to drill down to user sessions. Utilizing data center, edge, and cloud infrastructures, the company's synthetic monitoring platform enables enterprises to simulate business-critical user experiences. The waterfall analysis feature within RUM allows users to identify areas on the website that may benefit from performance improvements by providing insights into resource lists, page load times, and slow requests.
- ManageEngine's EUEM platform provides features, including dashboards offering real-time visibility into critical performance metrics, website health, uptime, and user experiences. This intuitive dashboard provides organizations with a singular, comprehensive overview. This platform enables users to

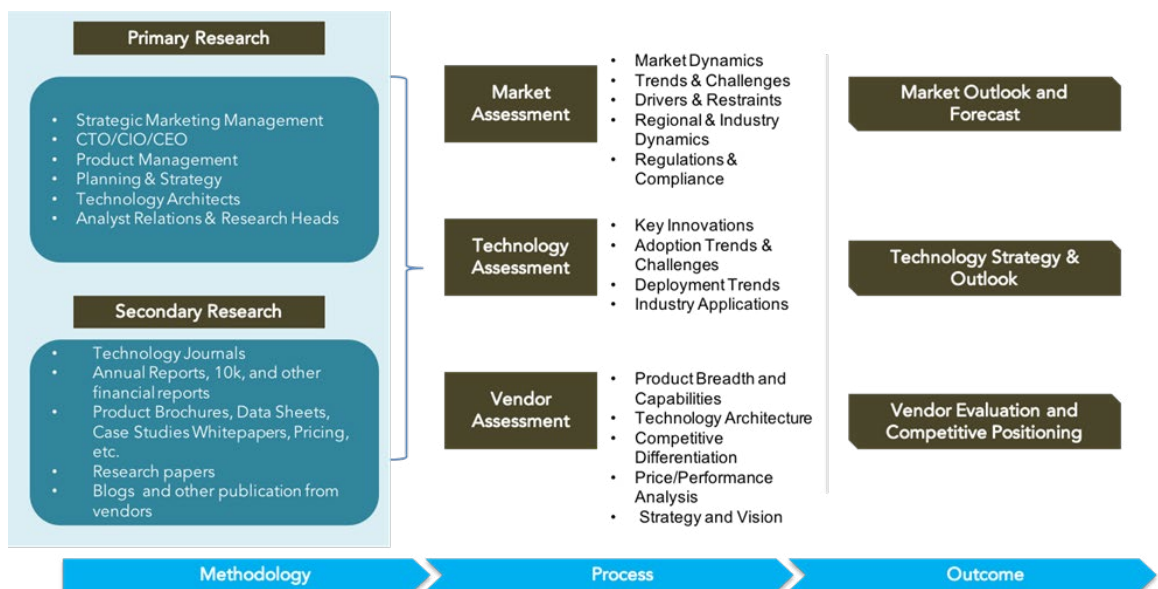
seamlessly integrate with the in-house business intelligence, data analytics, and reporting platform—Analytics Plus. This integration presents a holistic view of organizational performance across departments by amalgamating data from diverse sources.

- The platform offers application performance monitoring (APM) with byte code instrumentation that helps in application discovery, distributed tracing, logs, application metrics, service maps, and custom application metrics to facilitate correlation. It provides AI-powered anomaly detection and alerting capabilities that leverage AI technology across alerting mediums, including SMS, emails, voice calls, IT service management (ITSM), and integration and collaboration platforms.
- The ManageEngine platform enables organizations to create AI-driven thresholds for dynamic event evaluation and metric analysis, triggering automated processes and leveraging powerful automation and remediation capabilities. The platform's analytical capabilities include ML-based forecasting to identify and examine abnormalities. The platform's time-series forecast engine simplifies the generation of various reports, including forecast and capacity reports. It offers anomaly detection and alerting features that enable customers to leverage of AI-powered Zia framework for searching anomalies by analyzing past usage patterns, trends, and seasonality.
- ManageEngine's synthetic monitoring capability allows users to oversee site availability across diverse geographic regions proficiently. The platform enables the recording and simulation of crucial business transactions, facilitating performance benchmarking for continuous improvements. The platform also helps measure availability and response time trends of websites and endpoints through its global benchmarking report.
- Key differentiators of ManageEngine include the availability and performance monitoring of websites in multiple locations. The company offers all monitoring tools within a single console, encompassing APM, infrastructure monitoring, RUM, synthetics, end-user experience, log analytics, and NPM. The company also offers integrated solutions for cloud cost management to optimize cloud spending and real-time incident communication with customers and end users. ManageEngine has a dedicated in-house R&D lab, driving innovation and advancements in its EUEM capabilities through its homegrown and centralized ecosystem.

- ManageEngine has a major presence in North America (especially the US), Europe, and Asia Pacific as well as in Latin America, the Middle East, and Africa. The company has a strong customer base, including leading brands across industry verticals such as IT and telecom, healthcare and life sciences, banking and financial services, government and public sectors, education, travel and hospitality, retail and eCommerce, manufacturing, energy and utilities, and media and entertainment.
- Key use cases of ManageEngine's EUEM platform includes measuring key statistics such as website performance and availability with respect to an organization's competitors. Enabling sales and marketing teams to gain insights into website performance and downtime to ensure peak website performance and enhance overall customer experience. To gain code-level visibility into application performance in real-time which helps administrators to trace and analyze errors down from the source code level. To facilitate proactive monitoring of real user experience across geographies and receive alerts when unusual patterns are detected. Attain complete visibility across the entire stack, from the website to back-end application code, and further into the network, to effectively detect and resolve ISP-related issues.
- The primary challenges for ManageEngine include the delay in delivery of notifications after an incident occurs which restricts the capabilities of concerned personals to rectify the issues in real time. However, with its comprehensive technology, innovative offerings, and effective competitive and growth strategies, ManageEngine is well-positioned to grow its share in the global end user experience management market while targeting enterprises.
- Some of ManageEngine's planned technology enhancements include support for employee sentiment analysis, improvement in automation with IT workflow orchestration, and integration of generative AI capabilities to develop a context-specific chatbot for analysis and summarization. The platform enhances business impact analysis by establishing correlations between APM and RUM data. This strategic approach aims to provide a holistic visualization of the entire waterfall of business transactions, reinforcing the platform's vision to provide comprehensive insights and informed decision-making

Research Methodologies

[Quadrant Knowledge Solutions](#) uses a comprehensive approach to conduct global market outlook research for various technologies. Quadrant’s research approach provides our analysts with the most effective framework to identify market and technology trends and helps in formulating meaningful growth strategies for our clients. All the sections of our research report are prepared with a considerable amount of time and thought process before moving on to the next step. Following is the brief description of the major sections of our research methodologies.



Secondary Research

Following are the major sources of information for conducting secondary research:

Quadrant’s Internal Database

Quadrant Knowledge Solutions maintains a proprietary database in several technology marketplaces. This database provides our analyst with an adequate foundation to kick-start the research project. This database includes information from the following sources:

- Annual reports and other financial reports
- Industry participant lists
- Published secondary data on companies and their products
- Major market and technology trends

Literature Research

Quadrant Knowledge Solutions leverages on several magazine subscriptions and other publications that cover a wide range of subjects related to technology research. We also use the extensive library of directories and Journals on various technology domains. Our analysts use blog posts, whitepapers, case studies, and other literature published by major technology vendors, online experts, and industry news publications.

Inputs from Industry Participants

Quadrant analysts collect relevant documents such as whitepaper, brochures, case studies, price lists, datasheet, and other reports from all major industry participants.

Primary Research

Quadrant analysts use a two-step process for conducting primary research that helps us in capturing meaningful and most accurate market information. Below is the two-step process of our primary research:

Market Estimation: Based on the top-down and bottom-up approach, our analyst analyses all industry participants to estimate their business in the technology market for various market segments. We also seek information and verification of client business performance as part of our primary research interviews or through a detailed market questionnaire. The Quadrant research team conducts a detailed analysis of the comments and inputs provided by the industry participants.

Client Interview: Quadrant analyst team conducts a detailed telephonic interview of all major industry participants to get their perspectives of the current and future market dynamics. Our analyst also gets their first-hand experience with the vendor's product demo to understand their technology capabilities, user experience, product features, and other aspects. Based on the requirements, Quadrant analysts interview with more than one person from each of the market participants to verify the accuracy of the information provided. We typically engage with client personnel in one of the following functions:

- Strategic Marketing Management
- Product Management
- Product Planning
- Planning & Strategy

Feedback from Channel Partners and End Users

Quadrant research team researches with various sales channel partners, including distributors, system integrators, and consultants to understand the detailed perspective of the market. Our analysts also get feedback from end-users from multiple industries and geographical regions to understand key issues, technology trends, and supplier capabilities in the technology market.

Data Analysis: Market Forecast & Competition Analysis

Quadrant's analysts' team gathers all the necessary information from secondary research and primary research to a computer database. These databases are then analyzed, verified, and cross-tabulated in numerous ways to get the right picture of the overall market and its segments. After analyzing all the market data, industry trends, market trends, technology trends, and key issues, we have prepared preliminary market forecasts. This preliminary market forecast is tested against several market scenarios, economic most accurate forecast scenario for the overall market and its segments.

In addition to market forecasts, our team conducts a detailed review of industry participants to prepare a competitive landscape and market positioning analysis for the overall market as well as for various market segments.

SPARK Matrix: Strategic Performance Assessment and Ranking

Quadrant Knowledge Solutions' SPARK Matrix provides a snapshot of the market positioning of the key market participants. SPARK Matrix representation provides a visual representation of market participants and provides strategic insights on how each supplier ranks in comparison to their competitors, concerning various performance parameters based on the category of technology excellence and customer impact.

Final Report Preparation

After finalization of market analysis, our analyst prepares necessary graphs, charts, and table to get further insights and preparation of the final research report. Our final research report includes information including competitive analysis; major market & technology trends; market drivers; vendor profiles, and such others.

Client Support

For information on hard-copy or electronic reprints, please contact Client Support at ajinkya@quadrant-solutions.com | www.quadrant-solutions.com