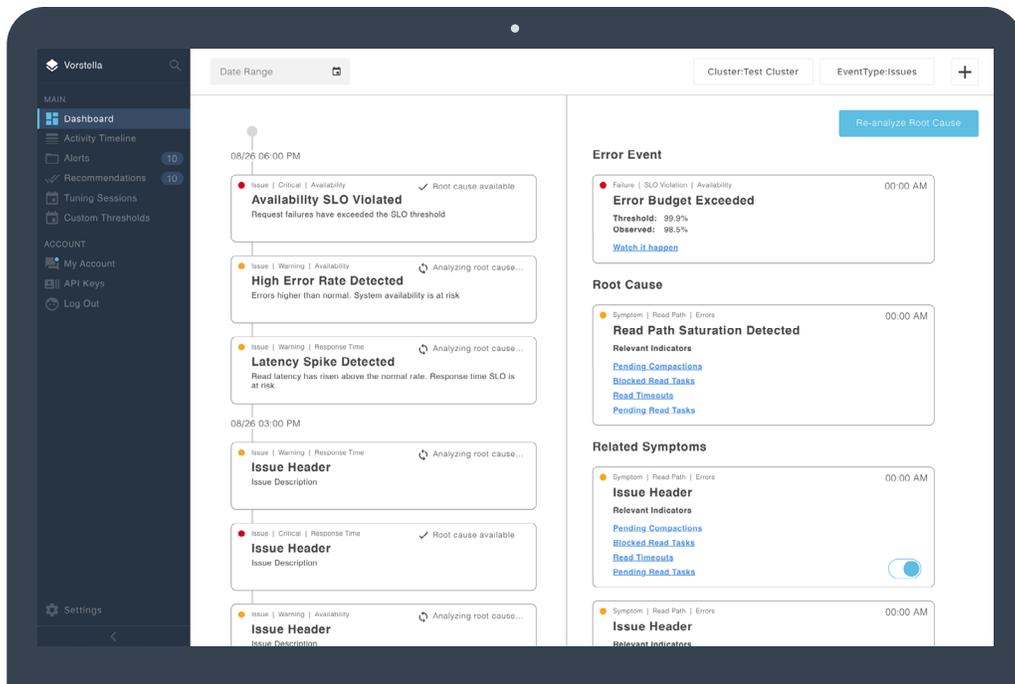


PRODUCT OVERVIEW

SIMPLIFY IT OPERATIONS WITH ARTIFICIAL INTELLIGENCE



INTRODUCTION

Vorstella reduces stress, risk and uncertainty for DevOps and Site Reliability teams managing large, mission-critical distributed systems. Our AIOps platform applies purpose-built machine learning (ML) to provide unique visibility into the health and performance of systems such as Cassandra, Kubernetes, Elasticsearch and Spark.

With Vorstella, teams do more with the resources and skills they have, and beat Service Level Agreement (SLA) requirements with ease.



BENEFITS

- ✓ Deploy in 5 minutes
- ✓ Reduce latency
- ✓ Cut cost
- ✓ Predict & avert outages
- ✓ Respond faster
- ✓ Manage at scale

KEY CAPABILITIES

- ✓ Root Cause Identification
- ✓ Predictive Alerts
- ✓ Contextual Recommendations
- ✓ Config Recommendations

CUSTOMER RESULTS WITH VORSTELLA

50+%

lower waste from needless
over-provisioning

75+%

reduction in latency

5X

faster mean time to repair
(MTTR)



DEVOPS: THE MISSION CRITICAL FUNCTION

Over the past decade, software has transformed businesses everywhere. Whether the goal is to deliver a seamless, omni-channel customer experience, or to ensure the reliable functioning of supply chain systems, the ability to deliver high-quality software has become central every modern enterprise.

The gains are no longer theoretical. Organizations that can build, deploy and maintain high-quality software products outperform their peers. A company with \$1 billion in annual revenue that makes a modest improvement in their digital customer experience, for example, on average generates \$823 million in incremental revenue over three years.^[1] This trend holds for all types of businesses, from CPG brands and car makers to banks and retailers.

Despite these new opportunities for growth, large challenges persist. IT environments are

increasingly complex, service level expectations continue to rise, and the risks of failure are real. Continuous deployment — in many ways the lifeblood of agile software development — is difficult to sustain at any scale, let alone across thousands of nodes, multiple internal teams and hundreds of millions of users. Meanwhile, technologies have proliferated, making it impossible for development and operations teams to attain expertise in them all.

As a result, DevOps organizations exhibit wide variance in their ability to support service demands and respond to outages. A 2018 survey^[2] of 3,000 DevOps and IT professionals found that many teams and organizations lag behind their desired state of capabilities and performance.

Ops Task	Low Performing (Current State)	Top Performing (Desired State)
Deployment frequency	Once per month	On-demand (many times/day)
Lead time for changes	1-6 months	< 1 hour
Time to restore service	1-4 weeks	< 1 hour
Change failure rate	46-60%	0-15%
SLO hit rate	90% or lower	99-99.99%

1. "ROI of Customer Experience 2018," The Temkin Group: <https://experiencematters.blog/category/temkin-group-research/business-impact/>

2. "State of DevOps Report 2018," Puppet: <https://puppet.com/resources/whitepaper/state-of-devops-report>



CHALLENGES

Historically, there has been no straightforward solution to the challenges of evolving technology, rising demands and limited resources.

More often than not, DevOps teams patch together a network of vendors, service providers

and systems integrators. Resources are often limited. They hire or train for new competencies, a time-consuming task. And even then, this approach isn't immune to the emergence of new trends and technologies that again set them back to square one.

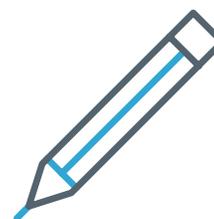
Resource Constraints



Time Constraints



Skills Gaps



WHY AIOPS NOW

Computers are fantastic at managing complexity. Algorithms are capable of processing many millions of events in just a few milliseconds. And with plentiful compute power, new applications of machine learning (ML) are beginning to come to the fore.

In the world of DevOps, ML can simplify operations amid increasing complexity and the dynamic nature of IT infrastructure. Enter Artificial Intelligence for IT operations (AIOps), defined by Gartner^[3] as:

"[S]oftware systems that combine big data and AI or machine learning functionality to enhance and

partially replace a broad range of IT operations processes and tasks, including availability and performance monitoring, event correlation and analysis, IT service management, and automation."

Put simply, AIOps enables human operators to manage the growing complexity and dynamic nature of IT architectures. It's not about replacing humans with machines — AIOps is primarily interested in assisting humans with IT Operations to accomplish more.

3. "Market Guide for AIOps Platforms," Gartner 2017.



MEET VORSTELLA

Vorstella is your DevOps hero in a box. Built by experts in distributed systems and former DevOps engineers, the software provides expert guidance that helps DevOps teams run and scale distributed technologies such as Cassandra, Kafka, Kubernetes, and Elasticsearch.

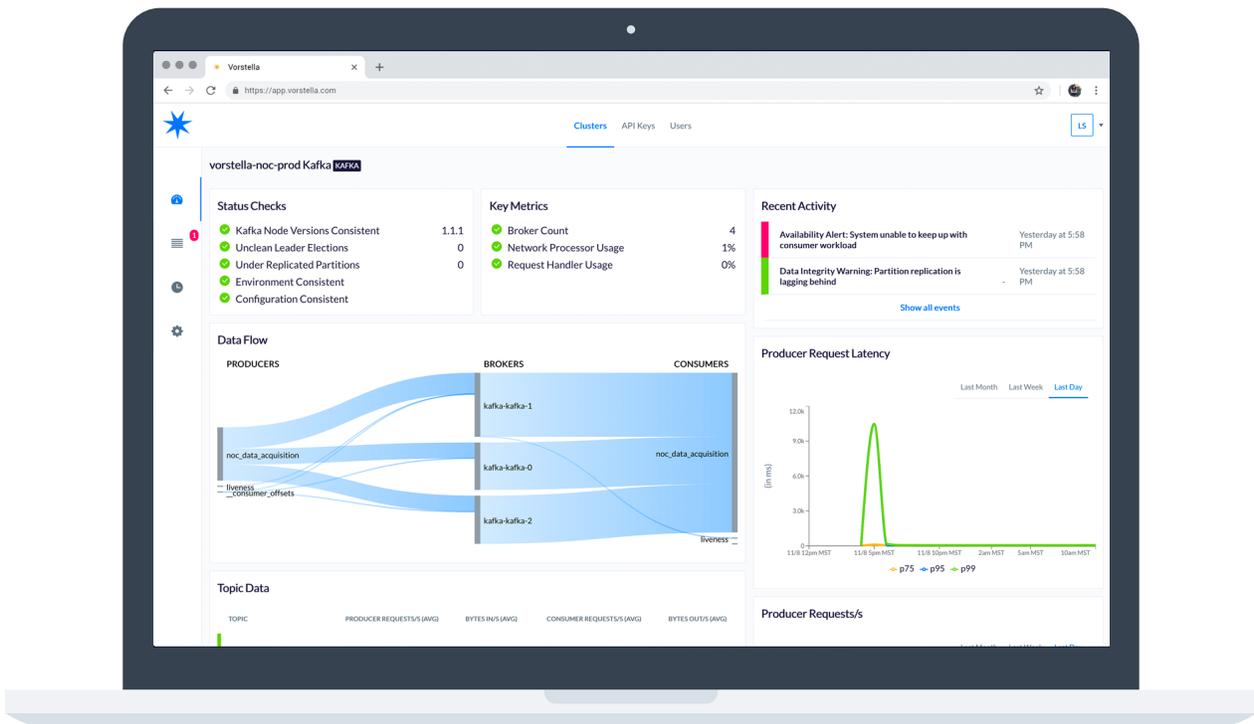
Unlike manual solutions or other AIOps providers, Vorstella can be deployed in minutes and begins its learning and automation cycles immediately. Developers and operators use Vorstella to improve system stability and performance without needing to learn the ins and outs of

every component technology, which requires time and resources.

Once installed, Vorstella's collector monitors thousands of events in real-time including telemetry data, access patterns and CPU usage. Vorstella then applies ML to automatically generate actionable insights to optimize system performance.

Vorstella works in three phases:

Collect, Analyze and Recommend.



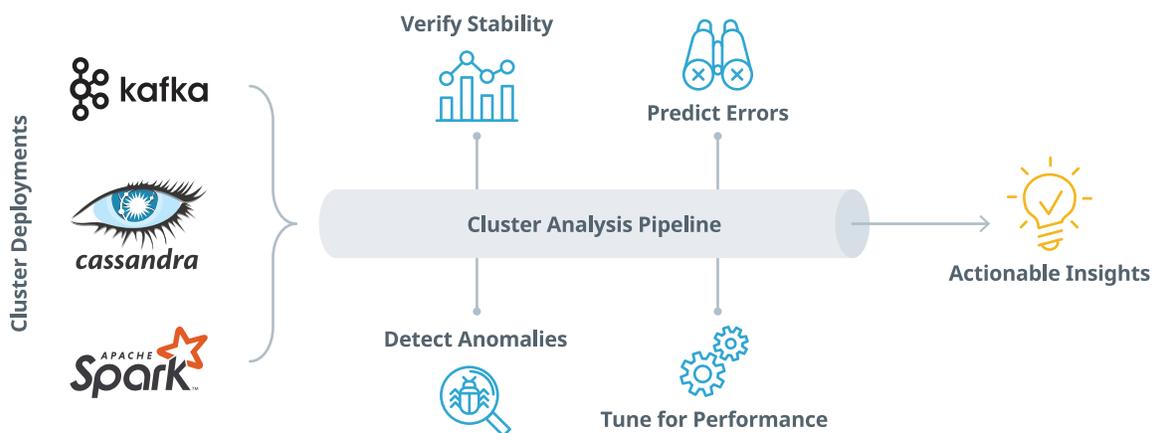
COLLECT

Systems like Cassandra generate thousands of internal metrics and traces — information that can provide a clue into what’s going on when the system misbehaves. Debugging critical issues, however, often requires a deeper level of visibility than what’s provided by standard collection and monitoring.

That’s where Vorstella’s collectors come in. Going beyond standard monitoring, Vorstella’s collectors capture detailed data from both the

system and the operating environment — including containers, the virtual machine and OS — enabling the discovery of deep insights into the relationships between every layer of the stack.

Importantly, Vorstella operates real time, detecting important events such as configuration changes, topology changes and configuration inconsistencies. This information is then passed to the next phase in Vorstella’s process: Analyze.



ANALYZE

Unlike monitoring tools and dashboards — which are noisy and often require technical expertise to configure — Vorstella is designed to zero-in on the events and metrics that actually matter. Amid vast amounts of data, Vorstella finds the needle in the haystack.

Data is sent to Vorstella’s cloud, where machine learning models conduct real-time analysis. Our service extracts and identifies anomalous requests, performance outliers, violations of

seasonal trend, changes in configuration or topology, and best practices violations. As Vorstella processes more information, it gains unique predictive capabilities, learning how actions affect the system over time.

Result: DevOps teams gain automated recommendations on performance and stability specific to their particular infrastructure configuration and workloads.

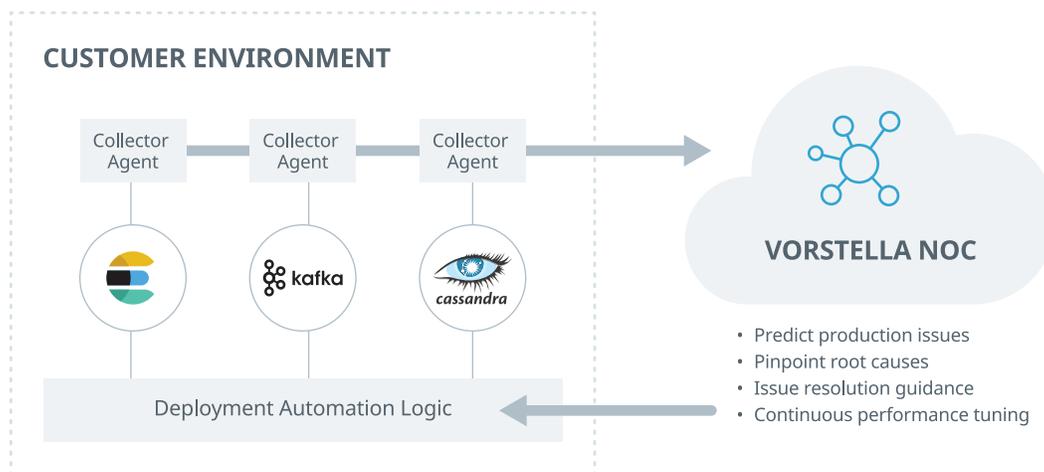
RECOMMEND

Detecting that something is wrong is just the first step of effective operations — what really matters is how quickly IT operators are able to determine root cause, fix the issue, restore service, and then enact safeguards against the issue recurring in the future.

Vorstella is designed to accomplish exactly this, in an automated and reliable fashion. Because its technology has seen hundreds of deployments, Vorstella is quickly able to correlate your specific issue to its likely root cause, and recommend steps to remediate the issue — no more generic alerts. In a matter of seconds, for example, Vorstella can detect a spike in CPU activity, identify the root-cause compaction, and provide a recommendation on how to resolve the issue.

With Vorstella, IT Operators can cut outage times from hours to minutes or prevent them altogether. Unlike monitoring tools — which can only detect if a pre-configured threshold has been exceeded or rule has been triggered — Vorstella is able to make contextual recommendations based on workload levels it has seen in the past. Operators get automated suggestions for optimal hardware configurations, system settings and changes to their application.

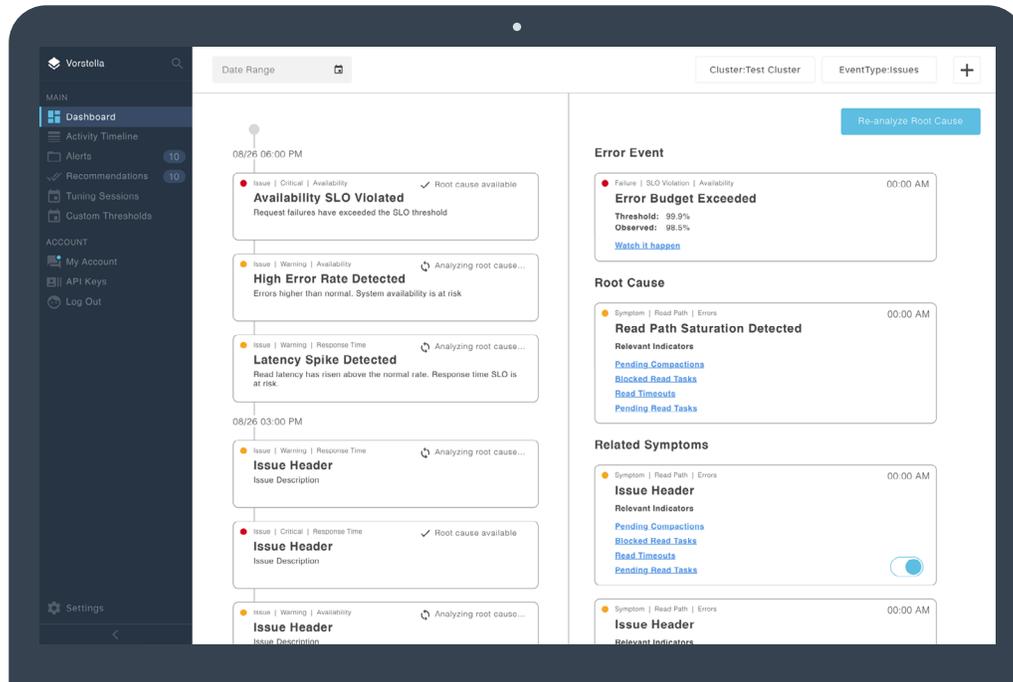
Result: better stability and performance, and lower cost, all without having to dig through the applications code.



A DAY IN THE LIFE WITH VORSTELLA

Unlike monitoring tools and in-house solutions, Vorstella saves time by automatically surfacing the issues that matter, placing them in the right

context, and providing clear recommendations on how to resolve them. Here's what DevOps life looks like with Vorstella.



TIME	CLUSTER	EVENT	INSIGHTS & ACTIONS
8:05am	Cassandra Prod	ALERT: Read response SLA violation.	Probable Root Cause: Thread saturation. Increase Read threads.
12:00pm	Cassandra Prod	PREDICTIVE ALERT: Growing compaction backlog may put Read response SLA at risk.	Probable Root Cause: Table user_def has poor partition distribution. Change partition key.
4:45pm	Kafka Prod	PREDICTIVE ALERT: High partition lag may put consumer availability SLA at risk.	Root cause compaction identified; 4 hours work saved.
9:40pm	Kafka Prod	RECOMMENDATION: Low utilization detected. Increase network threads to improve throughput.	Log into your Vorstella account to track effects of your change.





ABOUT

VorstellA builds software that makes life easier for DevOps and Site Reliability teams managing mission-critical distributed systems such as Cassandra, Kafka and Elasticsearch. Our founders spent a decade helping companies like Netflix, Walmart, and Sony optimize their distributed systems infrastructure. VorstellA applies machine learning to make this expertise available to any team, regardless of current resources or skillset. Unlike monitoring tools or other solutions, VorstellA can be deployed in just a few minutes, requires no configuration, and makes predictive recommendations to avert issues before they cause harm.

Request a Free Trial at: vorstellA.com

