

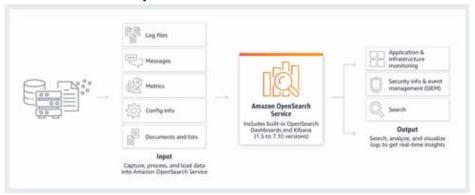
Securely unlock real-time search, monitoring, and analysis of operational data

Amazon OpenSearch Service securely unlocks real-time search, monitoring, and analysis of business and operational data for use cases like application monitoring, log analytics, observability, and free-text search. OpenSearch Service can use machine learning to detect anomalies early so you can identify a problem's root cause, and includes integrations with other AWS services and a choice of open source engines, including OpenSearch and ALv2 Elasticsearch. OpenSearch Service provides the scale you need to grow with expanding data sizes—while controlling cost. To help visualize results and share data stories, the service includes OpenSearch Dashboards and Kibana (7.10 and earlier).

Opportunities and challenges

Customers need a secure, scalable, and flexible full-text search engine to create high-speed search experiences, improve user engagement, and increase conversion rates. They also pay close attention to their log analytics to identify suspicious activity, anticipate critical system events, and decrease time for detailed root cause analysis. Whether log, trace, and metrics data are generated by AWS cloud solutions or other applications, they need to be ingested in a single solution. DevOps is increasingly challenged to deliver observability on log, trace, and metric data for their applications while conducting root cause analysis and anomaly detection. In addition to DevOps, Developers do not have time to build custom integrations (which takes implementation and troubleshooting effort) for popular integrations to Amazon S3, Amazon Kinesis Data Firehose, Amazon CloudWatch, Amazon DynamoDB, Amazon SageMaker, and AWS Key Management Service (KMS). Finally, managing open source search engines like Elasticsearch and OpenSearch requires customers to do their own cluster management, sizing, scaling, optimizing, patching, and hardware management. Using the fully-managed OpenSearch Service removes that work from customer teams.

What does Amazon OpenSearch Service do?



How OpenSearch Service works, including input, analysis, and output

Industry examples for real-time search and log analytics at scale:

- Retrieve relevant search results in real time, with requirements of cost, security, and scale
- Find the right product in e-commerce platform
- Create a document portal for speedy and relevant document search experience
- Increase user engagement with a recommendation engine
- Locate, diagnose, and remediate issues with your infrastructure
- Determine which content/ products users are interested in

OpenSearch Service facts

- Tens of thousands of active customers
- Hundreds of thousands of clusters under management
- Processing hundreds of trillions of requests per month

What is OpenSearch?

OpenSearch is a distributed, community-driven, Apache 2.0-licensed, 100% open-source search and analytics suite used for a broad set of use cases like real-time application monitoring, log analytics, and website search. OpenSearch provides a highly scalable system for providing fast access and response to large volumes of data with an integrated visualization tool, OpenSearch Dashboards, that makes it easy for users to explore their data. OpenSearch is powered by the Apache Lucene search library, and it supports a number of search and analytics capabilities such as k-nearest neighbors (KNN) search, SQL, Anomaly Detection, Machine Learning Commons, Trace Analytics, full-text search, and more.

OpenSearch Service delivers powerful transformational benefits for the entire organization, including:



Managed: Fully managed to increase operational excellence while using a popular open source solution



Secure: Audit and secure your data with a data center and network architecture with built-in certifications



Observability: Systematically detect potential threats and react to a system's state through an open source solution for machine learning, alerting, and visualization



Cost-conscious: Optimize time and resources for strategic work

AWS offers Amazon OpenSearch Service to securely unlock real-time search, investigation, and monitoring of application and log data for observability, log analytics, application performance monitoring (APM), security analytics, or free-text search with this cost-effective AWS-managed service.



Use an observability solution to monitor and issue alerts

Challenge

- Build a cost-effective, scalable solution for log analysis
- Handle growing data volume without spiraling costs
- Support for Kibana, which Pinterest's engineers already knew

Solution

Amazon OpenSearch Service modernized log analytics

Benefits

- Scaled daily log search and analytics from 500GB to 1.7TB
- Reduced cost by 30%, and expected to rise to 40-50% while ingesting 2.2TB of data per day
- Monitored and issueed alerts for 20 new software deployments a day with 1 person managing the pipeline



Using [Amazon OpenSearch Service], we can see that the scale has grown tremendously. And since we only have one person managing the pipeline, that shows immense resource efficiency.



Wei Zhu, Staff engineer, Pinterest

Resources to support you on your journey