



## AT A GLANCE



With Elastic AI, Cisco.com users receive detailed, easy-to-consume results with direct links to relevant content.



Elastic Search enables support engineers to retrieve customer service request documentation quickly.



Powered by Elastic on Google Cloud, Cisco's state-of-the-art enterprise search platform helps increase employee productivity, leading to higher customer satisfaction.



## Cisco chooses Elastic to power its enterprise search platform

Founded in 1984, Cisco Systems builds the technology that powers the world's networked economy.

More than 87% of Fortune 500 companies use Cisco technology, which includes networking hardware, software, telecommunications equipment, and other high-technology services and products.

## RESULTS



**Up to 73%**

faster search queries

**90%**

of support request were resolved with  
the new platform

**5,000**

support engineer hours saved per month

## A modern, AI-powered search experience for customers, partners, and employees

For Cisco, content search plays a key role in many areas of operations. This includes business-critical activities such as customer support where more than 11,000 support engineers use search tools to retrieve content from millions of documents that helps resolve the more than two million service requests received each year.

Search is also an essential feature of the Cisco website, where visitors can find information from a collection of hundreds of thousands of files of web pages and documents, including data sheets and user guides, as well as other technical, product, and corporate resources.

Sujith Joseph, Principal Enterprise Search & Cloud Architect at Cisco, compares searching support or product materials to a vast library where visitors need help finding a specific page or paragraph among thousands of books. "Today, people expect instant search access to the information they need. Keeping customers and potential customers aligned with relevant content about our solutions and services is fundamental to these relationships," he says.

In addition to search results accuracy, the speed at which results are returned is critical. A delay of just half a second can impact the website click-through rate or the customer experience when in touch with a support engineer.

Cisco wanted to add advanced search capabilities to many of its internal and external facing applications with the enhancement of artificial intelligence (AI) and modern cloud-native technologies. Upgrading all applications at once would be operationally inefficient and time-consuming, so the company decided to initially focus on customer support and Cisco.com search, followed by intranet search and more.



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Feedback from our engineers is extremely positive. They now use Topic Search to solve 90% of service requests. They can deliver a better customer experience by easily finding on-target information and fixing issues much faster than before.

**Sujith Joseph,**  
**Principal Enterprise Search**  
**& Cloud Architect, Cisco Systems**

## Elastic is at the heart of Cisco's new search platform

Cisco had previously deployed Elastic technology in other areas of the organization, and with help from the Elastic Support team, began to explore the possibilities of putting Elastic at the heart of its enterprise search platform.

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Elasticsearch, running on Elastic Cloud on Kubernetes, is now the engine at the center of Cisco's new enterprise search architecture. Joseph highlights the performance improvements of the customer support tool, called Re-imagined Topic Search, which enables support engineers to quickly retrieve documentation applicable to the customer service request.

Now, whenever Cisco support engineers are on a call, they can search for similar cases in real time using error messages related to the customer's problem. Topic Search will deliver relevant information from similar support cases, product bugs, knowledge articles, and internal discussion forums. The new search capabilities have enabled Cisco to save 5,000 hours per month of support engineer time.

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Cisco search is powered by the Re-imagined Search Platform, an AI search solution built on Google Cloud services and Elasticsearch. AI (Neural Question Generation) is used to power auto-suggestions on Cisco.com search created from passages on Cisco.com pages. The deep Q&A solution also has the capability for hybrid (semantic and textual) search on text passages.



When you combine the accuracy and speed of Elastic, and the power of Google Cloud, you can build a very stable and cost-efficient search platform that also delivers a delightful experience for the user.

We've been able to innovate more quickly using Elastic due to its integration with the latest cloud technologies and platforms. It has also increased our overall operational efficiency in terms of our ability to deliver highly accurate business information more quickly.

**Sujith Joseph,**  
**Principal Enterprise Search**  
**& Cloud Architect, Cisco Systems**

"The ability to pre-process search queries means that we can return text or a paragraph from a document as part of the search results. When the user clicks on it, they are taken directly to that section of the document," says Joseph. "This is a significant improvement from our previous platform where the search result might take you to the right Cisco.com web page, but not necessarily the specific section that is most relevant to the search query."

Joseph stresses how AI plus Elasticsearch enriches the end-user experience. "We use deep learning models to modify or pre-process the user query that Elastic sends to the backend," he says. "This also means that we can generate search results pages that are most relevant."

Now, when a search query is entered, a drop-down list of autosuggestions appears that updates in real time as more characters and words are typed. This includes common questions that reflect search intent, and which enable the searcher to find relevant information more quickly. Result pages also include lists of products, videos, and other recommended content.

## Increasing user engagement, reducing operational costs

As a result of the new search capabilities, user engagement via click-through rates has gone up drastically, and the response time for a search query is now 73% faster, reducing the likelihood that people will lose interest while the page loads.

Joseph also emphasizes the role of the Elastic team that supported the deployment of the new search platform. "The team at Elastic was incredibly helpful," he says. "It really made a difference at the start of the project and ensured that we were moving in the right direction."



We've made important advances in search. We use AI to make our Elastic-powered search platform much better and relevant to a wider audience across our enterprise.

**Sujith Joseph,**  
**Principal Enterprise Search**  
**& Cloud Architect, Cisco Systems**

## Rolling out search across dozens of applications

Since the Re-imagined Search rollout to Customer Support and Cisco.com, Cisco's Search Team has added more than 50 internal and external facing apps, including the Cisco intranet. They are adding more AI tools to Cisco's Re-imagined Search Platform. For Customer Support, this includes using AI models to automatically generate queries from a customer support ticket that are then sent to Elastic for content recommendations which are immediately provided to the customer. Predicting what an engineer would do in the same situation helps them save time and resolve issues more quickly. For intranet search, Cisco's Search Team utilizes AI models along with semantic search based on embeddings of employee support content to power a great Q&A and autosuggest experience. This makes use of Elasticsearch's dense vector search functionality.

Says Prem Malhotra, Director, ML/AI & Search at Cisco, "Elastic is a feature-rich environment for creating a variety of search solutions. The ability to combine semantic search aspects into solutions is key for search evolution and Elastic is well-positioned for it."

"Many of our external and internal facing search workloads are built on top of Elasticsearch. The resilience and scalability of Elasticsearch will ensure their strong foundation for years to come with a manageable TOC. The native AI capabilities released recently by Elastic are also impressive. It provides opportunities for us to further streamline our integration and AIOps." - Li Tan, Sr. Director, AI and Search.