

ARTIFICIAL INTELLIGENCE APPLIED TO TRANSLATIONS

Rozetta Japan improves the accuracy of its translations
at triple the speed with artificial intelligence



Technology

Japan

Business needs

Rozetta sought to transform the power of its T-400 translation technology by integrating deep learning (DL) into the product. This, in turn, would enabled a more accurate form of translation. To deliver its goals, Rozetta needed a server platform offering the latest graphics processing units (GPUs) to support the technology's DL-based algorithm.

Solutions at a glance

- [Servers](#)
 - [Dell EMC PowerEdge C-Series](#)
 - [OpenManage Systems Management](#)

Business results

- Transforms translations with three-fold increase in learning speeds
- Meets 4–5 times increase in revenue
- Servers run 20°C degrees cooler compared with previous hardware
- 83% faster delivery of NVIDIA GPUs compared with other vendors
- Improved system management

Three-fold
increase
in learning
speeds



4–5x
increase
in revenue



Rozetta has been a pioneer in automated translation services since it launched in 2004. To date, the company has developed translation services to support the specific needs of more than 2,000 disciplines including medicine, chemistry, IT, law, finance and manufacturing. Rozetta is also transforming the translation-service industry by incorporating artificial intelligence (AI) into its offerings—helping distinguish its products from those of competitors.

Automatic translations with 95% accuracy

Rozetta successfully developed its own AI solution by applying deep learning (DL)—a field of machine learning that tries to mirror the way people's brains work—and avoiding rules-based algorithms. "All the rules-based approach could do was simply replace words without considering the context. And in English, for example, one word can have several meanings, thus the context is crucial," says Terufumi Watanabe, the CMO Executive Director at the Marketing Head Office of Rozetta.

Mitsuru Tosaka, the Manager of the Machine Translation (MT) Business Division at Rozetta, continues, "We harnessed DL to tailor our translation services to make them faster and more accurate." The DL-based translation service was launched as the T-400 Version 2.0. Terufumi Watanabe says, "More than 2,000 companies have installed the T-400 system to date. Our Version 2.0, released in November 2017, delivers translation accuracy of 95 percent—a degree of accuracy that surpasses the rating of a conventional professional translator."

Developing its DL-based translation solution

To create the T-400 Version 2.0, Rozetta needed a server platform featuring graphic processing units (GPUs) that could cope with the demands of the company's DL software. It sought GPU-based server technology with excellent heat dissipation, low energy use and simplified management. Hiroyasu Kimura, employed at

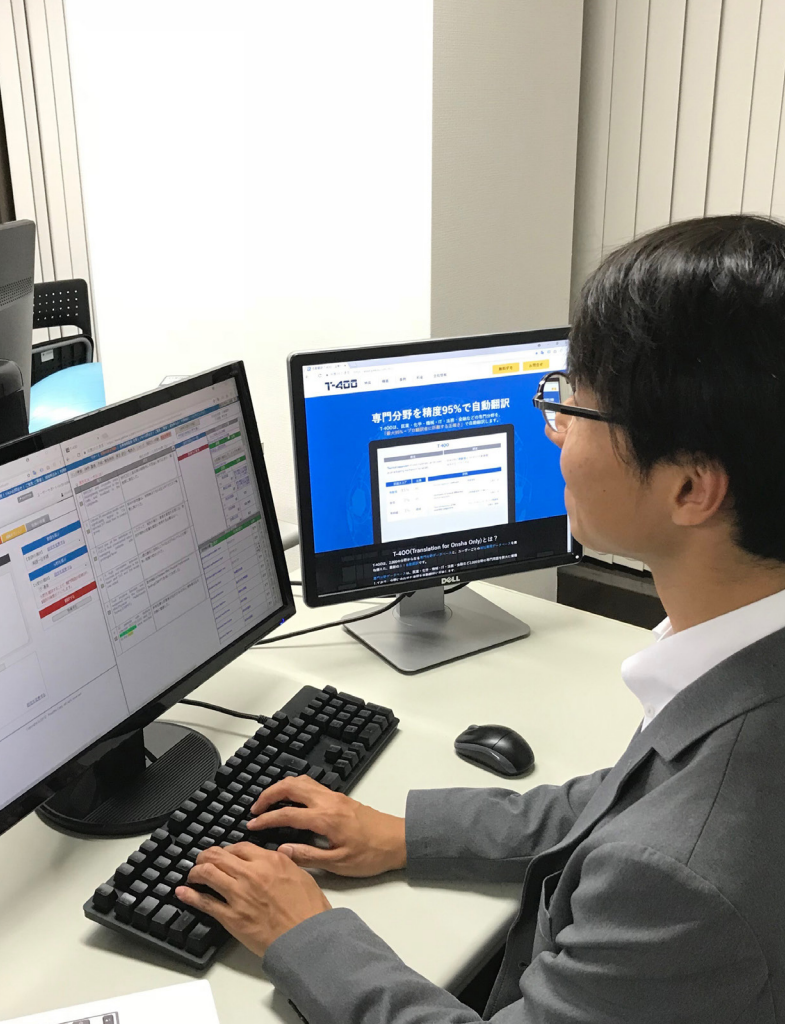
the Development Head Office at Rozetta, explains, "DL environments rely on GPUs performing many calculations over a long time. They create significant amounts of heat and consume lots of power. We needed a solution that could overcome these challenges while scaling easily."

The company looked at a public cloud solution, but rejected the idea. Kimura explains, "A public cloud-based solution wouldn't catch up with the latest technologies and stand up to the rigorous daily testing that we required." Rozetta wanted the on-premises solution to feature the latest NVIDIA Tesla V100 GPUs, and it turned to Dell EMC as well as other solution providers for possible servers. Kimura says he was impressed with a Dell EMC presentation for its Dell EMC PowerEdge C-Series server. Furthermore, a Dell EMC server with just 4 GPUs would deliver the performance needed—reducing costs, particularly in power usage. Adds Kimura, "All the vendors except for Dell EMC said it could take a few months to procure the NVIDIA GPUs. Only Dell EMC could procure them in a month."

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Hiroyasu Kimura

Development Head Office
Rozetta



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Hiroyasu Kimura
Development Head Office
Rozetta

Three-fold increase in learning speeds

Rozetta has transformed the speed at which the T-400 Version 2.0 can complete translations. Kimura says, “We have seen a threefold increase in learning speeds, so we can run tests at three times the speed of the previous system, which allowed us to improve the accuracy of the machine translations. We are really happy that we branched out in this direction because it gives us a competitive advantage over our peers in this industry.”

In addition, there are no longer concerns over heat dissipation. Hideyuki Watanabe, employed at the Development Head Office at Rozetta, comments, “Previously the heat generated on these GPUs caused serious problems, such as shortening the working life of various components. With the new system, the peak temperature is not so high—in fact it is over 20°C degrees lower.”

Company revenue increases 4–5 times

The impact of the T-400 Version 2.0 on Rozetta’s business has been significant. Terufumi Watanabe says, “The release of Version No. 2 has delivered a 4–5 times increase in the revenue of the company.”

Increased IT admin productivity

Rozetta deployed the integrated Dell Remote Access Controller (iDRAC), a systems management tool that allows companies to easily deploy, update, monitor and maintain Dell EMC infrastructure. Explains Kimura, “The embedded iDRAC comes with the ability to automate really detailed functionality, and the web browser-based virtual console is very easy to use with outstanding Japanese language support.”

Increased global competitiveness

By transforming the capabilities of its translation technology, Rozetta is in a better position to succeed in an increasingly competitive global market. Terufumi Watanabe says, “The translation market is said to be worth 250 billion Japanese yen, and an accurate machine translation solution would essentially turn that market on its head. Our services rank alongside and above anything our rival vendors are offering in terms of conventional spoken or written machine translation.”



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