Challenge
NTT Data wanted to reduce the time and cost spent on creating infrastructure.

Solution
Introduction of Puppet Enterprise to automate server building. Even after the introduction, the operation and verification cycle enables expansion of the range of automation and maintain comprehensive high cost-effectiveness.

Results
The application and authorization processes are no longer necessary, resulting in a reduction of over one month to the server building period compared to before. Additionally, risks of human errors while building servers have been almost eradicated, with improvements expected not just in optimization but quality too.
A dramatic reduction in construction time by eliminating time-consuming processes

At the Platform Engineering Department, Technology and Innovation General Headquarters of NTT Data Corporation, one of the focuses of their work is driving infrastructure automation along with introducing and promoting the private cloud within the company. Manually creating infrastructure entails extensive time and cost. Also, preparing the servers necessary for each internal project requires undergoing application, verification and approval processes every time, with these sometimes taking one to two months. In the modern-day workplace, where a sense of speed is demanded, avoiding fatal delays is becoming challenging. In order to reduce these problems, NTT Data planned to introduce automation tools.

Puppet Enterprise is a tool that can automate the configuration work that stems from building and managing servers. The benefits to automating infrastructure are that, in addition to reductions in the time and cost, and a speeding up of the work, the time-consuming application and approval processes are completely eliminated. After implementing Puppet Enterprise, the initial build stages of projects were able to be reduced by over one month. In addition, human errors prone to arising when building servers over longer periods ceased, resulting in an increase in quality. The notion of “bringing negatives to zero” may seem to be a modest benefit but from the perspective of optimizing and raising the quality of the project, it is a crucial point. If, through automation, the cycles of utilization, verification, and revision, which entail introduction costs, can be reliably replicated time after time, NTT Data can expect high cost-effectiveness overall.

The low barrier to entry introduction was the greatest deciding factor

The reason NTT Data chose Puppet Enterprise from the many existing automation platforms was the high readability of its language. Compared to languages used in products by competing companies, the Puppet language used in manifest descriptions is extremely simply-structured, to the extent that even team members lacking deep knowledge of programming were able to immediately comprehend the overall schemas from the description content. As a company in which team members who are not engineers often influence development, low barriers to entry have become an important point. At the same time, the modules in the Puppet Forge provide support for a smoother introduction. By using pre-prepared modules to link applications and services connected to Puppet, the development work arising at the point of introduction can be minimized.

The number-one issue at the time of installation has become acquiring the skills to operate Puppet. Although you can leverage the modules from the Forge, you still need basic developer skills to utilize them effectively. Several engineers who can write manifests are required. And however simple the Puppet language may be, those engineers certainly cannot just write manifests off-the-cuff. At the time of installation, the development team members must first be trained. This entails time and cost, but eventually, they will be able to make their own revisions, then an ample return from this training can be expected.

A will to use Puppet to drive automation of all kinds of processes

The current development team was assembled based on the requirement that “engineers must have expertise in the infrastructure domain and are at the level of writing shell scripts and using object-oriented languages.” As everyone had a technical base, after around two days of lectures, they advanced to the stage of being able to write manifests around one week later. This was the moment NTT Data realized that even compared to traditional languages, the Puppet language is extremely easy to pick up. The practical exercises were subsequently launched in test development and the actual development was started. In total, the preparation time took approximately one month but this was much more efficient than assembling Puppet language learners.

Puppet is driving forward with products to automate all kinds of processes and NTT Data looks forward to continuing to adopt them.

Case Coordinator:
Ryo Sugahara
Deputy Manager
Strategy & Promotion Group
Platform Engineering Department
Technology and Innovation General Headquarters