CHALLENGE
The IT revolution led by the Internet technology in recent years has brought many changes to the traditional car industry. In the face of new opportunities brought by the information technology, the auto industry, while maintaining stable growth of existing businesses, also needs to update their products and explore new business models. With the expansion in business development, SAIC Volkswagen Automotive Co., Ltd. (SAIC Volkswagen)’s requirement on information department for full-system security, operation and maintenance, has become more stringent. According to Wang Chunxiao, SAIC Volkswagen project leader, IT support is required in all aspects of the company’s business, i.e. R&D and manufacturing, transportation and logistics, car sales, after-sales services, and new forms of consumer relations programs such as fan club and car owner association.

Currently, SAIC Volkswagen has two datacenters in Shanghai and a disaster recovery data center under construction in Jiangsu. Earlier, the applications and databases at SAIC Volkswagen were mostly deployed on Unix-based small computers. In addition, it also had many web servers and small application servers. As a result, the total number of servers exceeded 1,000.

The IT team of SAIC Volkswagen faced three challenges in operation and maintenance: First, the existing legacy data center with server and storage ran a wide variety of IT applications. As a result of the expansion of applications and services, the pressures and costs of managing hardware infrastructure) have increased.

Moreover, the computing capability and storage capacity are not fully utilized. Third, the scale-up expansion model can hardly meet the performance demands of applications, when there is a need to expand the computing and storage resources. In addition, it also entails a lengthy internal procurement processes, which makes it difficult to meet the demand of business departments in a timely fashion.

SOLUTION
To overcome these challenges, SAIC Volkswagen made the decision to run a trial of private cloud after careful consideration. The hardware used in private cloud is the standard x86 hardware. While reducing procurement and maintenance costs, it also streamlines the internal procurement process, increases the response speed to the request of the business departments, and delivers more agile support. Once the plan for private cloud was made, SAIC Volkswagen immediately started selecting vendors. SAIC Volkswagen found that the products offered by Nutanix are very much in line with its planned private cloud project. The distributed storage of Nutanix products saves the trouble of buying the entire fiber-optic network and centralized storage, which makes it very appealing and advanced no matter in cost and management or in horizontal expansion.

“If we could use one word to describe the benefits brought by Nutanix, that would be ‘troublefree’. The virtual environment in the past relied on manual operation, which would normally take two days to deliver. But now, only one hour to two hours are needed to complete the same workload.”
- Wang Chunxiao, SAIC Volkswagen project leader
Through several technical exchanges with the Nutanix team and the early-stage POC test, SAIC Volkswagen finally decided to launch the building of private cloud with seven Nutanix1065 nodes.

“After the early-stage test, we found that Nutanix’s products are very much consistent with the SAIC Volkswagen’s plan for private cloud in both functions and performance. Some of its features are even beyond our expectation,” said Wang Chunxiao. “In addition, Nutanix is pioneered in hyper-convergence, and its Enterprise Cloud technology is in a leading position in the market, which echoes SAIC Volkswagen’s leading position in the auto industry.”

RESULTS
SAIC Volkswagen started deploying the Nutanix solution. In less than a day, all the environments were in place, and the users could deploy their applications directly on the enterprise platform. As such, the R&D process of new products and launch of new projects accelerated, which greatly shortened the period of the project.

Wang Chunxiao was particularly impressed by the ease of use and high efficiency of the Nutanix solution during deployment and utilization. “To upgrade the system, all you need to do is to download the upgrade package from the official website, upload via the web management interface, and click the button to upgrade. All the seven nodes were automatically upgraded, and the user at the front would not even notice the upgrade during the whole process.” The ease of the management process makes it most suitable for teams with limited manpower. Wang’s department, which is responsible for operating the infrastructure, only has 20 staff, but manages over 1,000 servers. Thanks to the efficient and trouble-free solutions of Nutanix, the IT team of SAIC Volkswagen can now direct more of its energy to application innovation and client service.

The rapid deployment and launch of Nutanix solution not only accelerates the R&D of new products and shortens the launch cycle of new projects in SAIC Volkswagen, but also saves the space of computer rooms. The seven Nutanix nodes only need 4U cabinet space, while under the previous model integrating server, centralized storage and fiber-optic SAN network, at least 20U space would be required

NEXT STEPS
The seven Nutanix 1065 nodes purchased by SAIC Volkswagen accounts for 10% of the volume of its resource pool. The easy scalability of the Nutanix solution allows the user to start from a relatively small number of nodes, which gives them much space to expand on-demand. The private cloud project of SAIC Volkswagen is still under deployment, and may consider enlarging the scale in the future.

As a leading manufacturing company, SAIC Volkswagen has a rather complicated structure and a large business portfolio. Its experience of private cloud building can be of highly relevance and learning value to similar companies.