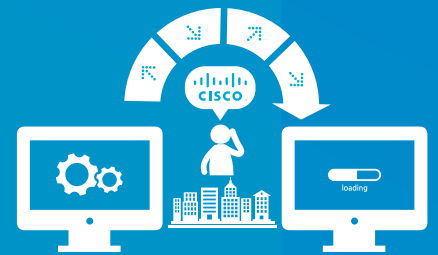




PUKYONG
NATIONAL UNIVERSITY



Cisco RISC Platform Migration Service

Case Study | Pre-Assessment Consulting for Pukyong National University's RISC Migration Project



Pukyong National University Creates Blueprint for Next-Generation Academic Administration System with Cisco's Pre-Assessment Consulting Service

- *PKNU partners with Cisco to pre-assess impact of UNIX-to-Linux migration*
- *Comprehensive analysis of IT environment, including operating systems, apps and development tools, convinces PKNU that system migration will produce desired results*

Pukyong National University(PKNU) focuses on “cultivating talents with a global mindset, responsible and actively contributing to create a better future for local, national and international communities through creative research and education.”

The nation's 10th largest university has 27,000 students, faculty and staff, 76 academic departments and 50 research institutes where dozens of national projects are being conducted. The national university is paying special attention to next generation IT infrastructures based on the belief that a ubiquitous, user-friendly campus environment is the basis for the university's continued development in this area.



Careful Consideration of RISC Migration

PKNU's IT department, which operates a wide range of services and applications on over 100 servers and large integrated storage systems, is contemplating migrating to a new ICT environment – 'RISC migration (Also known as UNIX-to-Linux, U2L).'

PKNU has operated most of its ICT systems, such as the general information system, web mail and electronic approval systems, on the UNIX platform since 2002. However, the university faces challenges to introduce new systems and technologies to the existing IT system as it sits on the legacy

UNIX platform. The PKNU IT department began to focus on a transition to an open-source system; ensuring flexibility, operational efficiency and yet maintain economic viability amid these dramatic environmental changes.

Nevertheless, the migration to Linux was not an easy decision. UNIX-to-Linux migration is increasingly gaining momentum among universities, but PKNU needed to carefully identify whether U2L migration could achieve the expected outcome and to mitigate risks.

'Pre-Assessment' Mandatory for System Migration

When legacy systems are replaced with another from a completely different architecture, a mandatory pre-assessment process must occur. The objective is to identify benefits the transition will bring and how the new system can be deployed in the most stable way.

This preliminary evaluation could not be accomplished easily by PKNU internal departments. A limited number of staff was one challenge, but the more significant challenge was that there was a large number of technical issues such as intensive investigation with technology vendors as well as systems and solutions compatibility considerations. In addition, even

if the validation was successful, accurate predictions and alternative solutions based on the results are not easy to assess without extensive experience, technical know-how. That is why PKNU could not implement its own pre-assessment plan.

In mid-January 2014, the university came across a perfect solution. It partnered with Cisco Services team to carry out a 'Pre-Assessment' exercise, which helped verify what benefits the migration would generate and how it could be conducted, prior to RISC migration formally kicking off.

Reason to Leverage Cisco's Pre-Assessment Consulting for RISC Migration

Cisco's experience in RISC Migration is one of the key factors for PKNU to engaging Cisco to provide the Pre-Assessment Consulting to help them navigate their migration journey. Cisco has successfully transitioned its databases from UNIX to Linux in all its 32 data centers scattered around the world since August 2012. Today, all of Cisco's CRM and ERP applications are running reliably on the Linux platform.

In addition, Cisco has an ideal methodology for RISC migration, which was fully-proven during its own RISC migration project. The methodology comprises of a three-step consideration phase and a four-step application phase for any successful migration. Based on this robust methodology, Cisco is able to provide comprehensive services necessary for migration, ranging from migration acceleration, strategies as well as planning to implementation.

PKNU wanted to examine how it should upgrade the university's information system through Cisco's pre-assessment consulting. "For the moment, we first have to consider replacing the old systems. Still, we want to sound out the development direction for our overall information system. We also want to prepare for future projects," explained Jo Young-Geuk, Head of IT Department, PKNU.

Cisco UCS(Unified Computing System) played a key role when PKNU selected Cisco for the project. Early this year, the university carried out virtualization with the Cisco UCS, transferring 10 of its websites, which had been operated on

individual servers, to virtual-based services. As a result, the university was able to reduce its operating costs and gain management efficiency with the UCS. Their investment in the UCS platform was fully justified. Jo Young-Geuk, Head of IT Department, PKNU further added that the university developed great trust in Cisco because the vendor provided comprehensive consulting and technical support throughout the UCS deployment project.

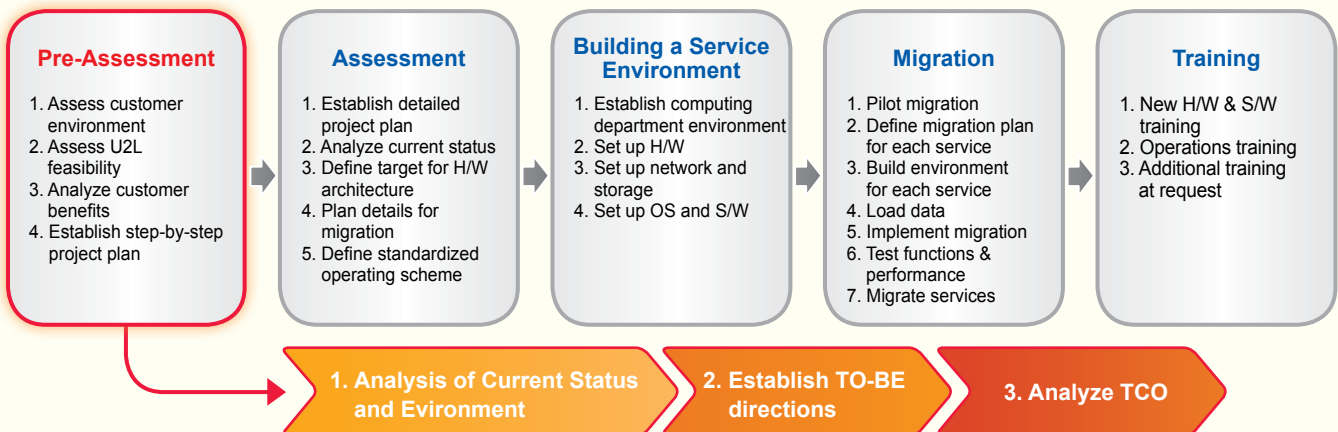
Having gained the trust of PKNU's IT Department with the initial deployment of UCS, it immediately set up pre-assessment plans with Cisco and began the RISC migration pre-assessment consulting by first analyzing the university's information system.



Cisco's RISC Migration Service

Cisco's RISC migration service offers top-quality consulting by collecting information with automated tools, seamlessly rolling out preparation procedures based on defined methods, scope, and content, conducting rapid transition processes through optimization and stabilization, enabling optimal functions, and even establishing an optimized cooperation model. Thus, the service is receiving praise for systematically reviewing all issues and risks that may occur during RISC migration and providing comprehensive preemptive measures.

Cisco's 'RISC Migration Pre-Assessment Consulting,' selected by PKNU, is a consulting service that assesses customers' information system environments, notifies them of whether RISC migration is possible and its benefits, and establishes step-by-step project plans. Cisco carried out the following procedures: analysis of infrastructure trends at PKNU, analysis of system environments, review of system SW compatibility, analysis of system H/W, system transition modeling, establishment of goal systems, and TCO analysis for goal systems.



'Accuracy' the Most Important Factor in Pre-Assessment

Cisco focused most on 'accuracy' during the RISC Migration Pre-Assessment consulting for PKNU. Byun Kyung-rok, Head of Cisco's Busan Office, said, "We cannot tolerate any compromise to system stability during transition processes from UNIX to Linux. Also, we spelt out the process and their associated risks to the customers and focus on mitigating these risks to the lowest. So simply focused on delivering the most accurate assessment results to our customer." Under these principles, Cisco carried out a thorough review process to test the compatibility of Red Hat OS, in addition to that of Oracle DB and other commonly used SW programs.

The results showed that PKNU could achieve outstanding outcomes through migration to Linux. According to the results, risks in the migration processes were understood and could be mitigated. In terms of costs, the university could save over 30% more compared to its previous system. However, Byun noted, "Since the cost-savings percentage was estimated based on the assumption that the university buys new storage products instead of using existing, the formal assessment may actually conclude that the university will be able to save far more than 30%."

"Migrating to Linux is Worthwhile", says PKNU

Since it was PKNU's first pre-assessment consulting before deploying a new system, it expected to receive only brief analysis results compared to a formal assessment report. However, the results were exceeded expectations. The university's IT department expressed a high level of satisfaction, saying, "Cisco initially told us that it would conduct brief pre-assessment processes, but we were surprised by the results. They were much more in-depth than we expected. Satisfactory results were produced through the comprehensive analysis of Operating Systems(OS), middleware, main applications, databases(DB), and development tools. We are now confident that migration to Linux is worthwhile in terms of cost-savings, efficiency, and risk."

Based on the pre-assessment consulting results, PKNU is planning to initially transition its web mail system to the Linux system. It has assessed that there would be no problem

in transitioning its electronic approval system to Linux. The university assumes that although there needs to be deeper consideration and formal assessment processes for the transition of its entire academic administration system, transition of individual systems can be carried out immediately without posing problems.

Thanks to this whole experience, PKNU gained broad technological knowledge and detailed analysis data related to RISC migration, not to mention confidence, saying that the challenges of introducing new technologies no longer are a concern. The university, which resolved almost all its concerns regarding RISC migration with just the pre-assessment consulting, expects to establish an academic administration system that guarantees the best performance and security based on Linux when Cisco performs its formal assessment consulting.

“ The Results of Pre-Assessment Consulting is Trustworthy and Migration Will First Be Applied to Individual Systems ”



Jo Young-Geuk, Head, IT Department, Pukyong National University

What is the background behind the Pre-Assessment Consulting for RISC Migration?

“Among universities, too, RISC migration is of major interest. Since it is the latest change in data center technology trends and even companies with much more advanced systems are transitioning their systems to Linux, we believe that universities should also actively adopt this new trend. Furthermore, the cost gap between UNIX and Linux is huge. As a national university with a limited budget, we cannot help but take great interest.”



Compared to private universities, national universities' transition to Linux is relatively late. Why is this so?

“National universities pursue changes more cautiously than private universities due to their organizational characteristics. However, a more significant reason is that it is not easy to examine whether there are problems in terms of stability and if visible benefits are guaranteed after transitioning to a new system. Since many technological factors should be considered and examined, indeed, it is not easy for the university's IT department to conduct pre-assessment processes with its limited personnel.”

How did you decide to partner with Cisco for the RISC Migration Pre-Assessment Consulting?

“Cisco proposed an offer to conduct the Pre-Assessment Consulting, which is less burdensome than a formal Assessment Consulting. Through our past experience of deploying and operating Cisco UCS, we realized that Cisco is equipped with extensive expertise and skills related to not only networks, but also to comprehensive IT systems. In addition, we had strong trust in Cisco's overall RISC migration service thanks to its own successful experience at the headquarters level, so we requested that Cisco carry out the consulting for us without hesitation.”

Were the results satisfactory?

“Referring to the checklist used during the project, we learned that the consulting, which lasted about one month, provided high-quality results rather than a brief analysis that we had expected. We were very satisfied with the results, since a comprehensive analysis of OS, DB, main applications and development tools was conducted. Since nearly all conditions and circumstance were factored into the analysis, we have complete trust in the results. The results showed that there would be no problem even if we further pursue the transition of our comprehensive information system to Linux. The consulting helped us a lot to assess factors that we couldn't have assessed by ourselves.”

Are you planning to reflect the consulting results in future projects?

“We are considering the transition of our web mail and electronic approval systems to Linux when we upgrade to new systems. We will need more in-depth discussion regarding the transition of our entire academic administration system, in addition to formal assessment consulting processes, but the transition of individual systems can be carried out immediately without any problem.”
“Although we had huge interest in the Linux system due to costs and efficiency, we had groundless fears since we had never attempted a transition. However, after receiving the consulting, we now have confidence in RISC migration. We can now set the future direction for our IT system.”



TOMORROW starts here.



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