PUNJAB INFORMATION TECHNOLOGY BOARD ACHIEVES NIMBLENESS, FLEXIBILITY AND SCALABILITY TO MEET GROWING IT DEMANDS

www.pitb.gov.pk

INDUSTRY
INFORMATION TECHNOLOGY

LOCATION
PAKISTAN

KEY CHALLENGES
- Existing physical-oriented IT infrastructure was highly inefficient, with a low average resource capacity of 5 to 15 percent
- Costly, slow and extensive processes required to provision new services
- Challenges in ensuring resource efficiency, ease of management, infrastructure security, communication speed and business continuity

SOLUTIONS
- VMware vSphere with Operations Management
- VMware vRealize Operations Manager
- VMware NSX

In order to cater to the growing demands of IT within Pakistan, as well as empower government departments to focus on innovation, the Punjab Information Technology Board (PITB) embarked on a digital and cloud transformation journey with VMware to transform its IT infrastructure, resulting in greater nimbleness, elasticity and performance to better serve technology stakeholders in the country.

Recognizing that information technology (IT) is increasingly vital for accelerated economic growth, efficient governance and human resource development, the Government of Punjab founded the Punjab Information Technology Board (PITB) in 1999 as an autonomous body to leverage synergies in the IT industry, academic institutions, and government organizations. PITB monitors global opportunities, caters to the growing needs of IT, develops policy alternatives, as well as plans and rapidly implements initiatives for building an internationally competitive IT industry in the province, with the goal of enabling the country to achieve its IT potential. PITB's mission is to develop IT as a major sphere of economic activity for sustainable development, and promote its use in the public and private sectors for increasing efficiency and competitiveness.

The Challenge

In order to cater to the growing demands of IT within the country, as well as empower government departments to focus on innovation rather than infrastructure, PITB needed to reduce the time needed to deliver new e-governance applications, provide agility, and build on server consolidation to reduce data center power, cooling, and real estate costs.

However, its existing IT infrastructure was highly inefficient, as its data center was designed to run just one operating system and application at a time, with an average resource capacity of 5 to 15 percent. The system was also unpredictable and faced scalability issues, as it was unable to provision new servers quickly or effectively. This ultimately resulted in a longer lead time to procure, commission and install hardware with all the manual hard-coded government procedures. Issues with monitoring, capacity management and other correlated problems also took a long time to resolve, resulting in high operating costs.

PITB was also hampered by extensive processes for the provisioning of new services, as 85 percent of IT tasks were manual. It needed to automate its expensive manual procedure of buying new servers for every new project, which can take almost 6 months to procure. PITB faced challenges in ensuring resource efficiency, ease of management, infrastructure security,

vmware®

"Our journey with VMware has transformed our IT infrastructure to become integrated, consolidated, and homogenous, with the availability necessary to meet Pakistan's growing technology and business needs. This has enabled us to realize greater nimbleness, elasticity and performance, and we would like to thank VMware for being such a trusted partner on our journey."

SAJJAD GHANI, DIRECTOR, IT INFRASTRUCTURE, PUNJAB INFORMATION TECHNOLOGY BOARD.

BUSINESS BENEFITS
- Faster time-to-market for new services
- Significant time and utility savings, as well as manpower efficiency
- Improved scalability and security of IT infrastructure
- Improved efficiency of server utilization through dynamic load balancing

APPLICATIONS VIRTUALIZED
- Microsoft Exchange
- SAP
- MS SQL
- MySQL

communication speed and business continuity. The transformation of the security system was also needed in order to build an IT system that can support safe applications and network infrastructure, while also remaining adaptable to modern and cutting-edge technology. However, in order to upgrade the IT infrastructure and data center, the PITB Cloud team also had to ensure that there was no downtime in order to minimize disruption.

The Solution

In order to empower the public sector with the capability to manage their own IT infrastructure over the cloud at low cost, PITB needed to adopt effective technology solutions in order to promote IT in the province. It decided to deploy VMware's cloud and business mobility solutions, as VMware is recognized as a leader in virtualization and the automation of compute, networking and storage resources from the desktop, to the data center and the cloud. VMware's solutions are able to break the bonds that tie IT systems and end-user environments to physical hardware, resulting in greater efficiency, agility and control.

PITB deployed VMware vSphere® with Operations Management™ to simulate the existence of hardware and created a virtual data center. This allowed PITB to run more than one virtual system – and multiple operating systems and applications – on a single server, enabling economies of scale and greater efficiency. PITB also deployed VMware NSX, and was able to achieve micro-segmentation and granular security delivered to the individual workload. This reduced network provisioning time from days to seconds and improved operational efficiency through automation. With these solutions in place, PITB was able to transform and migrate its IT infrastructure without any downtime.

Moreover, the aftersales support and technical help, provided by VMware through its local and US-based Customer Success team, contributed to the successful deployment, reaffirming PITB's trust in VMware as a partner.

Business Results and Benefits

By adopting VMware's solutions in its digital and cloud transformation journey, PITB achieved significant cost savings, manpower efficiency, faster time-to-market, scalability and improved security. With VMware vSphere with Operations Management, its virtualized infrastructure is able to achieve 10:1 virtual to physical machine consolidation. This means that ten server applications can be run on a single physical machine, instead of just one previously. Server utilization is optimized and the legacy software can maintain old configurations while new applications are running in virtual machines with updated platforms. This reduced the need for physical space and power, resulting in lower utility costs and real estate expenditures.

The usage of virtual machines also enabled faster deployment by isolating applications in a known and controlled environment. Unknown factors such as mixed libraries caused by numerous installations can now be easily eliminated. Severe crashes that required hours of reinstallation now take moments by simply copying a virtual image.

vmware®

As server workloads vary, VMware vSphere with Operations Management also provides the ability for virtual machines that are over utilizing server resources to be moved to underutilized servers. This dynamic load balancing ensures efficient utilization of server resources.

VMware NSX has also transformed the way PITB manages its applications. All applications are now micro-segmented, and it is able to use next generation firewalls in virtual appliance format, resulting in capital expenditure savings. With the usage of dynamic inclusion policies that are context-aware, security is also now intrinsic in PITB's data center.

With VMware NSX, PITB deployed logical load balancers in public facing sites that are directly visited by the masses of Pakistan, such as application and education portals, and this ensured high availability and performance even during peak hours when hundreds of thousands of Pakistanis access the sites simultaneously. Other flagship PITB initiatives that have improved and benefited from higher availability and performance include: the smart monitoring of public school data, e-stamping and the Punjab Public Management Reform Program.

Through VMware vRealize® Operations Manager™, PITB employees can serve much more efficiently and with quicker time to market. Capacity planning reports can now be developed in just matter of minutes. PITB is able to roll out applications for new services very quickly and in a predictable manner.

With VMware's solutions, PITB is now able to anticipate data center performance and respond with better and more robust business decisions. Long procurement cycles have been minimized and the organization is able to realize linear scalability, making business decisions more agile. vSphere virtualization also allowed PITB to consolidate IT infrastructures across the group, enhancing efficiencies in delivering services to customers securely and in a cost-effective manner.

Looking Ahead

PITB's long-term goal is to inspire other local government organizations in the region to follow in their footsteps – helping to drive innovation for the betterment of the country and reinforcing the technological aspects of daily living in every citizen. Looking ahead, PITB is looking to run a complete VMware private cloud solution to better serve both internal and external stakeholders.