



National Information
Resources Service

Established in 2005 under the Ministry of Interior and Safety, National Information Resources Service (NIRS) is the world's first government data center, serving critical information resources to more than 50 South Korean government and public organizations.

Industry

Public sector

VMware footprint

- VMware Cloud Foundation®
- VMware® vDefend™ Distributed Firewall

NIRS Improves Reliability of Korea's Public Services with VMware Cloud Foundation

National Information Resources Service (NIRS) adopted the Broadcom private cloud platform, VMware Cloud Foundation (VCF), to modernize Korea's e-government services, improving reliability and efficiency. NIRS supports 13 government organizations with 33 critical workloads running on VCF. By transitioning from highly virtualized infrastructure to a unified and modern private cloud, NIRS reduced critical system failure time by 36%, increased private cloud adoption two-fold and strengthened Korea's public service infrastructure¹. This transformation underscores the scalability, security, and innovation powering Korea's digital government and the success in providing world-class public services.

Advancing efficiency and reliability in Korea's digital government

As a global leader in digital governance, the Korean government leverages big data to deliver a wide range of innovative public services for its citizens. Platforms such as Government 24 for online documents, the National Tax Service, and the Emergency SMS Text Alert highlight the government's proactive approach to public service excellence. To meet growing citizen demand for high-quality services while enabling operational efficiency, the government mandated a centralized infrastructure capable of supporting its digital transformation goals.

In response, NIRS was established in 2005 as the world's first government data center (GovDC). Designed to centralize and optimize information resources at both local and national levels, NIRS plays a pivotal role in enabling a more scalable, secure, and forward-looking digital infrastructure, positioning Korea's public services as a global benchmark for innovation.

¹Based on NIRS' internal assessment in 2025.



Modernizing IT infrastructure with VMware Cloud Foundation

After thorough evaluation, NIRS selected VMware Cloud Foundation as the cornerstone of its Intelligent Cloud Project. VCF's robust private cloud capabilities provided the reliability, scalability, and security necessary to meet NIRS's ambitious modernization goals.

The implementation began in 2020 with VMware vSphere, enabling server virtualization to support Korea's e-government services. Virtualization was later expanded to networking, establishing separate internet and business network zones to enhance external and internal operations. The initiative continued with the integration of GPU support and management zones. In 2023, VCF Operations (formerly Aria Operations) was adopted to optimize management and monitoring.

Additionally, VCF Networking (formerly VMware NSX) together with VMware vDefend Distributed Firewall, provides advanced capabilities such as native real-time load balancing, a scale-out architecture, multi-tenancy gateway infrastructure, automation and micro-segmentation. These features have enabled a smooth transition to a unified cloud infrastructure and laid the groundwork for continuous innovation.

"Rebuilding the government's cloud infrastructure was key to ensuring reliable public service," says Kim.

Achieving a stable, scalable, and secure cloud environment

With VCF, NIRS created a resilient private cloud that enhanced service delivery and operational simplicity. Critical system failure time decreased by 36%, enabling uninterrupted access to digital government services in the last two years². Korea's public services maintained smooth operations, even during peak hours or in the event of system failures.

The platform's scalability allows rapid adaptation to fluctuating workloads, while advanced security features strengthen IT resilience. This transformation contributed to Korea's top ranking in the OECD Digital Government Index (2023), further cementing its leadership in public sector innovation.

"VCF's capabilities and Broadcom's proactive response to user needs have enabled more innovations in the public sector," says Kim.

Overcoming decentralization and driving modernization

Previously, the Korean government's legacy information resource system was decentralized across ministries, making collaboration and resource optimization challenging. The government's heavy reliance on open source software further exacerbated the situation, leading to prolonged service downtime during upgrades, compatibility issues, and inefficient IT operations—particularly due to the complexities involved in performing upgrades.

Recognizing the urgency to modernize, NIRS launched the Intelligent Cloud Project, a strategic initiative to unify its IT systems and address these challenges. By transitioning to a modern, scalable, and secure cloud platform, NIRS aimed to streamline operations across 13 government organizations, including the Ministry of Employment and Labor, and transition 33 critical workloads securely to a private cloud environment. This comprehensive transformation required robust technology to ensure success.

"Previously, the Korean government adopted a decentralized IT system across ministries, thus making it challenging to increase efficiency. Therefore, NIRS had to succeed in a SDDC-based Intelligent Cloud transition and reliable operation project."

Kyoungsu Kim, Senior Engineer, NIRS



Transforming public service delivery and efficiency

Between 2019 to 2021, the adoption of VCF has doubled Korea's annual cloud transition rate for e-government services from 5% to 10%. This reflects widespread satisfaction with the solution at NIRS, highlighting its ability to improve IT infrastructure stability and security.

With VCF's advanced features such as software-defined infrastructure, integrated Kubernetes support, and vDefend software-defined firewall (SDFW), NIRS can efficiently scale resource allocation in response to rising service demands. VCF also streamlines network operations, strengthens security posture, and provides the flexibility to support modern AI/ML workloads. These capabilities position NIRS at the forefront of technological innovation in public service delivery.

Building a resilient and future-ready digital government

To strengthen resilience against natural disasters, cyberattacks, human errors and system failures, NIRS is establishing a back-up disaster recovery (DR) center in Gongju. Leveraging VMware solutions, the new DR system will implement an active-active configuration between the Daejeon and Gongju data centers, enabling uninterrupted delivery of critical public services.

Looking ahead, NIRS aims to expand its private cloud infrastructure, integrating AI-driven services to enhance citizen experiences further. With VCF, NIRS is well-positioned to lead Korea's digital transformation journey, fostering innovation and reliability in public service delivery.

“The private cloud deployment through VMware Cloud Foundation enables the Korean government to provide reliable and secure public services. Building on this, NIRS expects to spearhead digital administrative services and be future-ready to deliver services such as AI.”

Kyongsu Kim, Senior Engineer, NIRS

²Based on NIRS' internal assessment in 2025.