Imperial College Healthcare NHS Trust Optimizes 24/7 Clinical IT Operations with Advanced Load Balancing Solution

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CASE STUDY

NHS
Imperial College Healthcare
NHS Trust

INDUSTRY
Public Sector/Healthcare

PRODUCT
Progress® Kemp® LoadMaster®

COUNTRY
United Kingdom

SUMMARY
Imperial College Healthcare NHS Trust runs multiple acute hospitals and satellite sites, with 24x7 clinical services heavily dependent on digital systems. The healthcare organization deployed the Progress Kemp LoadMaster solution as its standard load balancing and application delivery platform across its data centers and demilitarized zone (DMZ). Over the last 10 years, Imperial College has operated a pair of consolidated, highly available LoadMaster solutions across two data centers, plus virtual instances, underpinning both clinical and non-clinical applications.

> "You have to understand that we're not a typical 9-to-5 business. We're a hospital that needs to run 24/7. LoadMaster gave us the ability and the luxury of managing our systems without incurring any downtime or service-affecting updates that would cause services to go down."
>
> **Yusuf Mangera,**
> Technical Architect,
> Imperial College Healthcare NHS Trust

Challenge

Based in London, England, the Imperial College Healthcare NHS Trust currently serves as both a healthcare facility, which provides everything from cardiology to mental health services, and an academic health science center. While the healthcare professionals are working hard every day to solve problems in their respective fields, the Trust IT department was experiencing issues in day-to-day operations.

The team had originally deployed a Cisco-based load balancing solution that, while helpful at one point, proved to be ineffective as the organization grew. For instance, the content switching often misrouted web traffic to servers that were already overloaded with traffic or as Yusuf Mangera, Technical Architect for the Trust told us, "It just kind of sent traffic to places."

The organization had a zero or near-zero downtime maintenance requirement, not only for handling IT operations like security fixes but also for medical professionals to provide services for patients. The risk of downtime is also related to data migration and infrastructure upgrades. The Trust's IT team struggled with hard-coded crucial business applications and databases.

Being a public sector organization, the Trust required strong cybersecurity measures. The internal security needed to be better aligned with perimeter standards through transport layer security (TLS) standardization and web application protection.

Solution

After putting out a bid for a new solution and evaluating vendors like F5, the Trust chose the Progress Kemp LoadMaster solution as its features and flexible pricing aligned with the organization's long-term goals.

Initially deployed as multiple highly available instances across the network, the LoadMaster solution enabled the Trust to present applications behind stable service names while allowing backend infrastructure to evolve. Over time, improvements in network connectivity—including high-bandwidth links and diverse paths—allowed Imperial to consolidate its environment into a single, larger high-availability LoadMaster

> **"From a day-to-day operations perspective, as well as from project initiation through delivery, the process is very straightforward for two main reasons. First, the support portal offers a wide range of templated designs, giving organizations a quick head start when setting up common infrastructure or service types. Second, it allows users to easily set up simple services and build on them as needed."**
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> **Yusuf Mangera,**
> Technical Architect, Imperial College Healthcare NHS Trust

pair spanning two data centers, simplifying management while maintaining resilience.

A key LoadMaster capability that stood out to Trust's IT team was the Layer 7 intelligence, which helps manage traffic more proactively. Built-in security capabilities, including web application firewall controls and standardized TLS, extend consistent security practices across both internal and external services. Instant configuration changes and pre built deployment templates further accelerate project delivery.

Results

Over the past decade, the IT team at Imperial College Healthcare has realized significant value from deploying the LoadMaster solution. Exceptional support from subject matter experts has provided consistent, single-point resolution for all queries, no escalations needed. Fast deployment with pre-built templates and streamlined

configuration changes accelerated rollouts and sustained a trusted partnership through two major refresh cycles.

Routine patches, zero-day fixes and system upgrades no longer disrupt hospital operations. Clinicians can access critical patient data without interruption, even during system maintenance, maintaining continuity of care across hospital sites. LoadMaster has also accelerated application logins by approximately 75–80%, cutting average login times from 2–3 minutes to under 30 seconds across multiple clinical shifts. This performance leap coincided with the elimination of 45 legacy WNLB clusters—reducing network overhead and simplifying maintenance.

The platform has standardized deployments and enhanced security with pre-built templates, built-in Web Application Firewall (WAF) and TLS policies, helping the organization extend perimeter-grade protection to internal applications and reducing rollout times.

Thanks to Progress, Imperial College Healthcare NHS Trust can now focus on delivering reliable, high-performing systems that give clinicians the support needed to provide robust, patient-centered care 24/7. The organization has also freed up time and resources to dedicate towards further digital transformation—preparing its infrastructure for future scalability and cloud-readiness.

About Imperial College, Healthcare NHS Trust

Imperial College Healthcare NHS Trust provides acute and specialist healthcare in northwest London for around a million and a half people every year. To learn more, visit www.imperial.nhs.uk

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