

# Turkcell

## Providing Future-Ready, Telecom-Scale Performance With Cost-Effective DNS Infrastructure



### Project Objectives

- Optimize DNS infrastructure costs while maintaining telecom-scale performance
- Support very high DNS traffic volumes with limited hardware expansion
- Ensure reliable, resilient DNS services for over 40 million mobile and fixed-line subscribers
- Modernize architecture through virtualization while maintaining operational continuity
- Establish a scalable foundation capable of supporting evolving network requirements

### Main Benefits

- Lower TCO compared with alternative DNS providers
- High-performance DNS at scale, with existing servers supporting long-term traffic growth
- Operational simplicity, with an intuitive platform and low support-ticket volumes
- Successful migration from bare metal to VMs with no customer impact
- Reliable, future-ready infrastructure, helped by expert local support

Turkcell is Turkey's largest telecommunications company, serving more than 40 million mobile and fixed-line subscribers across the country. DNS is a critical component of its core network, supporting services for its large subscriber base and requiring high levels of performance, reliability, and protection. Turkcell has relied on EfficientIP for its DNS infrastructure for more than a decade, making the platform a long-standing component of its network architecture.

**“SOLIDserver™ DDI has enabled us to operate a reliable, high-performance DNS environment for millions of subscribers while keeping the underlying infrastructure simple, scalable, and cost-effective.”**

Faruk Güler, Network Planning Expert, Turkcell



## Situation and Challenges Being Faced

Turkcell operates DNS infrastructure in an environment where subscriber volumes and query traffic are exceptionally high. As a core network service, DNS must remain available and perform consistently without affecting customers or subscribers.

When the time came for the company to review its DNS environment, it required cost-effective infrastructure capable of handling very high query-per-second (QPS) volumes without creating unnecessary complexity or requiring continual hardware expansion.

Turkcell also needed its DNS infrastructure to adapt to changing technology requirements. The DNS modernization project involved migrating significant subscriber traffic to virtual machines, making virtualization compatibility an important consideration. At the same time, DNS security remained critical, particularly as Turkcell introduced 5G services and continued to protect its network against external and internal attacks.

**“DNS needs to be protected from attacks, whether from outside or inside. EfficientIP has DNS Security features to block that traffic, and we are already using them very effectively.”**

Faruk Güler, Network Planning Expert, Turkcell

## The Selected EfficientIP Solution

EfficientIP had already been an established part of Turkcell's critical DNS environment for more than ten years. At renewal time, cost was a major consideration when comparing options. Turkcell considered the subscriber-based approach of other DNS providers poorly suited to its telecom-scale environment, potentially resulting in a more complex and expensive topology. EfficientIP's traffic-oriented model provided a better fit for Turkcell's requirements.

EfficientIP's ability to handle high traffic volumes with relatively limited infrastructure was another key differentiator. Turkcell was particularly impressed by the platform's QPS and traffic capacity per server, which allowed it to maintain a simpler topology. The platform also offered an intuitive user experience, straightforward troubleshooting, and strong support—important factors for a solution supporting a core network service.

EfficientIP now provides the DNS infrastructure supporting Turkcell's core network, with additional security capabilities used to help protect DNS traffic. The platform also supported Turkcell's migration from bare metal to virtual machines. The transition was carried out collaboratively between Turkcell's cloud team and EfficientIP, with no customer impact. Existing bare-metal servers were retained as a backup during the transition, further strengthening operational resilience.



## Main Results

EfficientIP has delivered value across cost, performance, operational efficiency, infrastructure modernization, and resilience. For Turkcell, the most important outcome is the ability to operate a reliable, high-performance DNS environment for millions of subscribers while keeping the underlying infrastructure simple, scalable, and cost-effective.

### Cost Efficiency



EfficientIP provides a significantly more cost-effective model for Turkcell's telecom-scale environment compared with other DNS providers. EfficientIP's approach enables Turkcell to support high DNS demand without the cost and complexity associated with a subscriber-volume-based model.

### High-Performance Scalability



Current calculations indicate the existing DNS infrastructure will support the company's requirements for another three to four years, providing confidence it can scale with demand without requiring continual infrastructure expansion.

### Operational Simplicity



The platform's user-friendly interface and straightforward troubleshooting help Turkcell's operations team resolve many issues independently. This reduces operational overhead while helping maintain a stable DNS environment.

### Seamless Virtualization



EfficientIP also supported Turkcell's transition from bare-metal infrastructure to virtual machines. The migration of significant subscriber traffic was completed without any customer impact, with Turkcell's cloud team working closely with EfficientIP.

**"The affordability of EfficientIP DDI allows Turkcell to allocate resources more effectively while maintaining high performance."**

Faruk Güler, Network Planning Expert, Turkcell

## In the Future

The EfficientIP platform will remain a core component of Turkcell's DNS infrastructure for the foreseeable future. With existing capacity projected to support traffic for several more years, the company has confidence in the platform's ability to accommodate continued growth while maintaining performance and reliability.

Looking further ahead, Turkcell intends to continue developing its relationship with EfficientIP as its network evolves. The company's experience with virtualization, 5G deployment, DNS security, and high-volume traffic handling provides a foundation for continued network modernization.



As one of the world's fastest growing DDI vendors, EfficientIP helps organizations drive business efficiency through agile, secure and reliable network infrastructures. Our unified management framework for DNS-DHCP-IPAM (DDI) and network configurations ensures end-to-end visibility, consistency control and advanced automation. Additionally, our unique 360° DNS security solution protects data confidentiality and application access from anywhere at any time. Companies rely on us to help control the risks and reduce the complexity of challenges they face with modern key IT initiatives such as cloud applications, virtualization, and mobility. Institutions across a variety of industries and government sectors worldwide rely on our offerings to assure business continuity, reduce operating costs and increase the management efficiency of their network and security teams.

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