

#### **INFOGRAPHIC**

# The evolution of managed DNS

As the internet grew from a research project to the underpinning of our modern world, the humble domain name system (DNS) grew along with it. As NS1 celebrates its 10th year in business, we look back at how DNS has changed since its invention in 1985 - and look forward to how it will continue to evolve in our "digital-first" world.

1985

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# 1980s

DNS first appears on the scene, and the canonical BIND DNS server implementation **is first created.** Domain owners almost always operate their own DNS servers

> DNS is created to translate human-accessible addresses into machine-readable IP addresses



# 2000s

Yet in the early 2000s, the internet changed - and DNS had to evolve alongside it

#### What is managed DNS, and how is it different from traditional DNS?

Domains are associated with DNS servers that serve DNS records for the domain, mapping hostnames to IP addresses and more. Traditionally, domain owners ran their own DNS servers.

As the scale, complexity, and performance requirements of DNS changed with growing internet usage, managed DNS rose to meet this challenge. Managed DNS service providers run authoritative servers on behalf of their customers, and are experts in delivering this mission-critical service with global servers built for reliability and performance.

Most managed DNS providers enable better reporting, API automation, traffic management, and other features hard to achieve in a self-operated system.

# **1990s**

**Companies continue to maintain their** own DNS servers, which works sufficiently for how DNS is used in the '90s: returning proper answers to queries, 24/7/365, for relatively simple websites and small user bases

# 2000

414 million people use the internet worldwide

As internet use explodes, managed DNS is invented. Anycasting is applied to networks of DNS servers to provide redundancy and improve overall reliability. Early managed DNS networks first appear, primarily providing DNS as a service

## 2005

**Over one billion people use the internet** worldwide

### Late 2000s

#### Managed DNS providers compete on speed

and delivery. Networks are increasingly built with tightly tuned anycasting to improve response times and reliability. Providers increasingly compete on performance - 100% uptime is table stakes.



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# 2010

Worldwide internet users double again within 5 years to two billion people

## 2013

**NS1 is founded** to serve the growing need for a more performant, reliable DNS solution that allows companies to serve a growing global customer base.

#### Enter mobile and the cloud:

Company-owned servers and desktops increasingly give way to the cloud and mobile devices. IP addresses may now have a shelf life of only a few minutes.

#### User expectations change

With the rise of faster cellular networks and broadband internet, end-users grow to expect more from websites and applications they use - even just a few seconds of load time is no longer acceptable.

# 2020s

#### Today, nearly every company has had to become a tech company in some fashion.

The scale, complexity, and performance challenges facing enterprises will only continue to grow.

## **2010s**

Websites and applications become more complex, feature rich, and are increasingly global and distributed. As people spend more time online accessing these sites and applications, the number of queries balloons.

## 2022

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5.3 billion people use the internet -66% of the global population<sup>2</sup>

Keeping end-users reliably connected to applications and websites - no matter what device or location they're accessing from - is critical to business revenue.

Forward-thinking organizations are already looking for an end-to-end approach to application connectivity that will optimize pathways through the entire technology stack.

### 2023

The average cost of an unplanned outage for a company is \$12,900 per minute<sup>3</sup>

#### NS1 celebrates its 10th anniversary in business

As a part of IBM, we're working towards an end-to-end approach to application connectivity that optimizes pathways through the entire technology stack

### Want to learn more about the future of application connectivity?

Check out our blog: How DNS traffic steering extends the value of hybrid- and multi-cloud networking >

### About NS1, an IBM Company

NS1, an IBM Company, delivers premium DNS and traffic steering solutions that let enterprises do more with DNS by turning the workhorse of their network into an engine of innovation. Companies around the world depend on NS1 to help them keep their businesses online all the time, identify network performance anomalies, and lower the cost of delighting audiences. NS1 is headquartered in New York and has more than 850 customers across the globe.

<sup>2</sup> https://www.statista.com/statistics/273018/number-of-internet-users-worldwide/ <sup>3</sup> https://start.bigpanda.io/221104\_basic\_content-ema\_what\_does\_an\_it\_outage\_cost\_LP.html