



RAPID GROWTH: LESSONS LEARNED FROM .COM/.NET

VeriSign

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Overview

- + The Transformational Infrastructure
- + VeriSign's Journey
- + Growth of .com and .net: Registrations
- + Growth of .com and .net: Server Traffic and Queries
- + What Changed?

The Transformational Infrastructures



THE ANDREW J. RUSSELL COLLECTION, THE OAKLAND MUSEUM OF CALIFORNIA

19th Century

Railroads



20th Century

**Intercontinental Air Transport,
Electric Grids,
Communications Networks**



21st Century

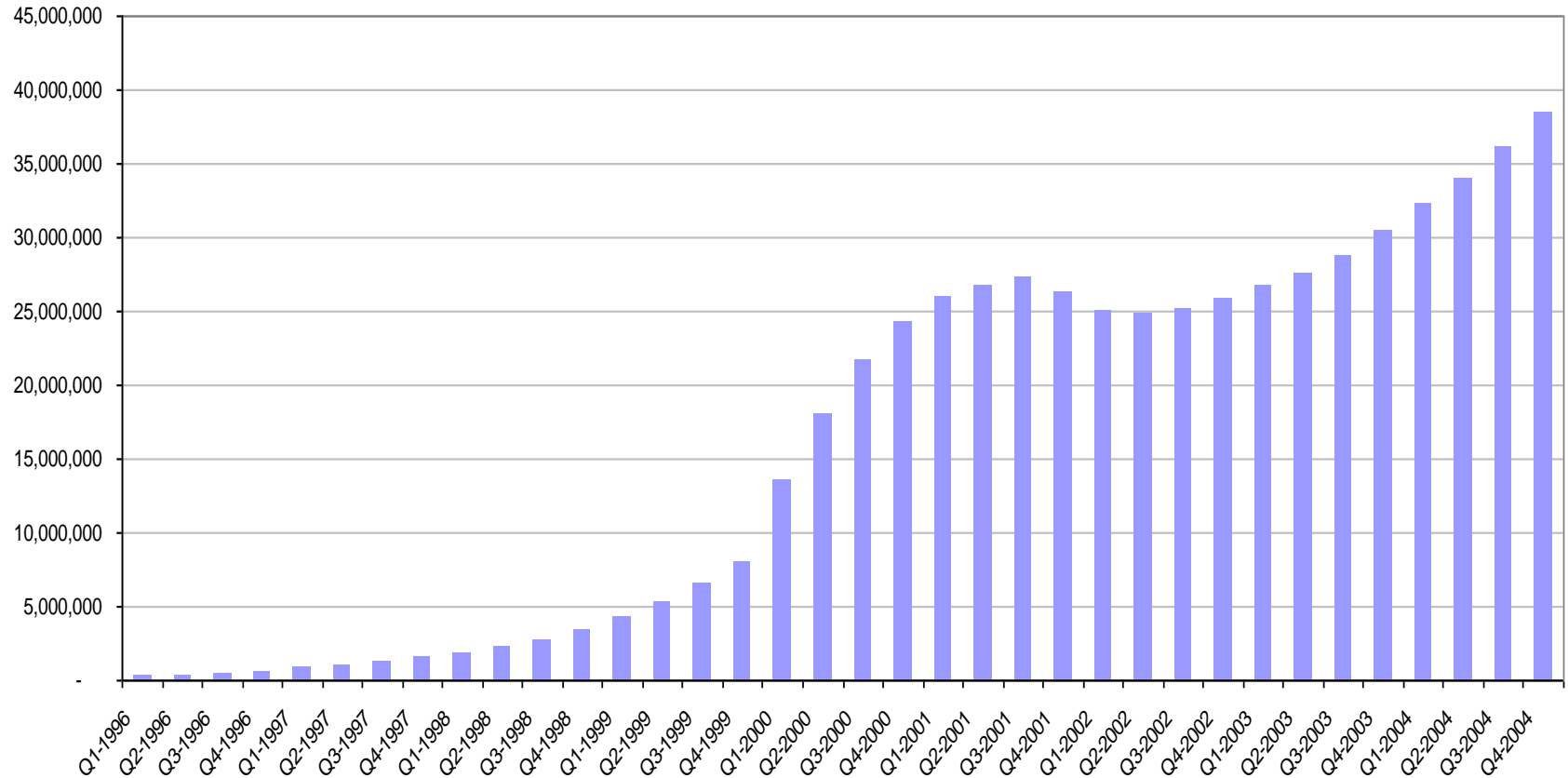
Internet

VeriSign Journey

- + Network Solutions enters into agreement to manage the .com/.net/.org/.gov/.edu etc. extensions
- + Prevailing views did not anticipate the explosion of the DNS
- + No charge to fee based registration: Major Uproar
- + Registrations begin to grow, and then explode in 1997
- + Explosion in registration numbers, particularly in .COM runs through Q-3 2001, with peak registrations at that time numbering more than 27 million. From 5 million in Q-3 1999 to more than 27 million in Q-3 2001, a period of 2 years
- + Phenomena: Registration numbers not equivalent to traffic load
- + Atlas platform: Handling the exponential load increase in a cost effective way.

Growth of .com and .net

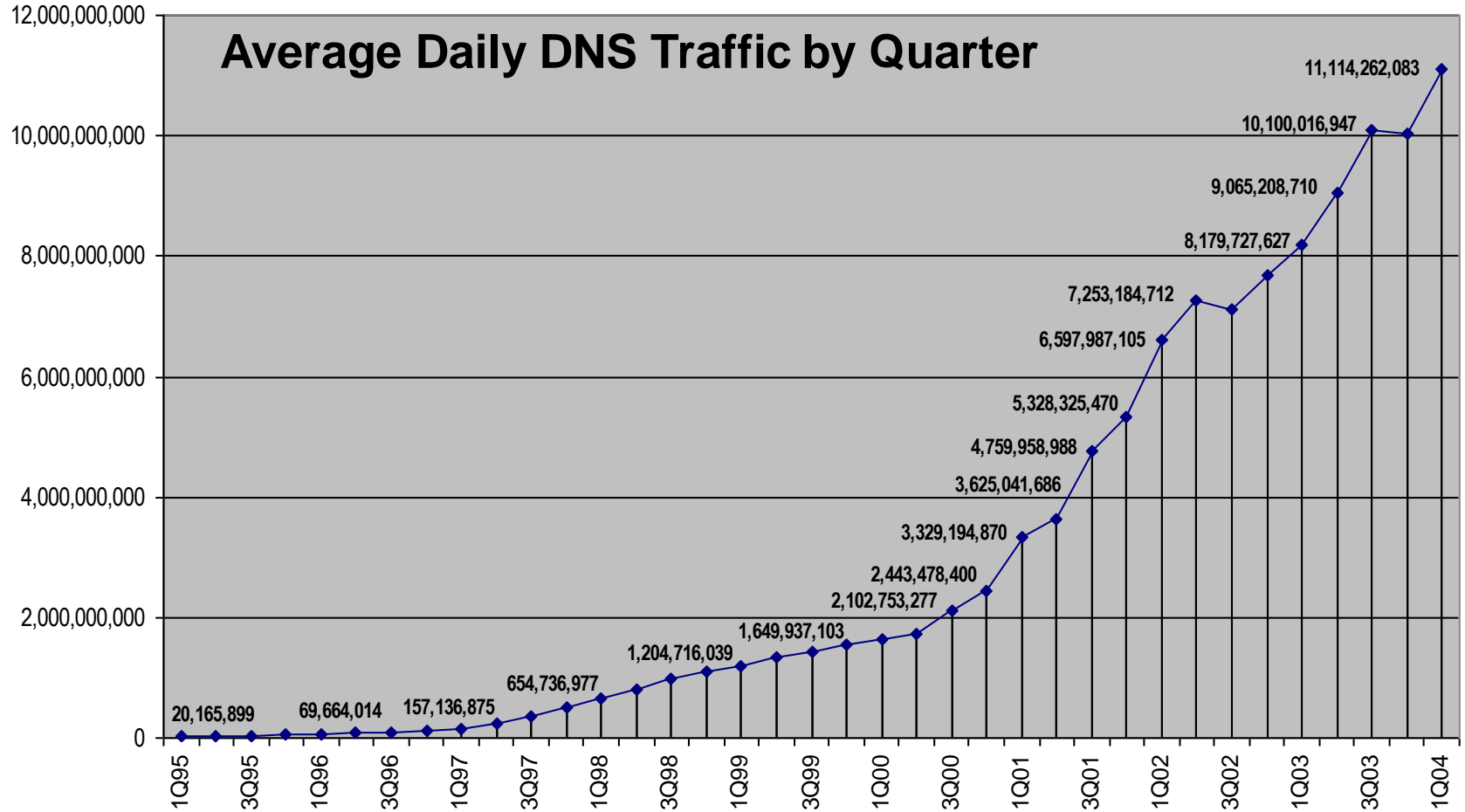
COM NET ZONE



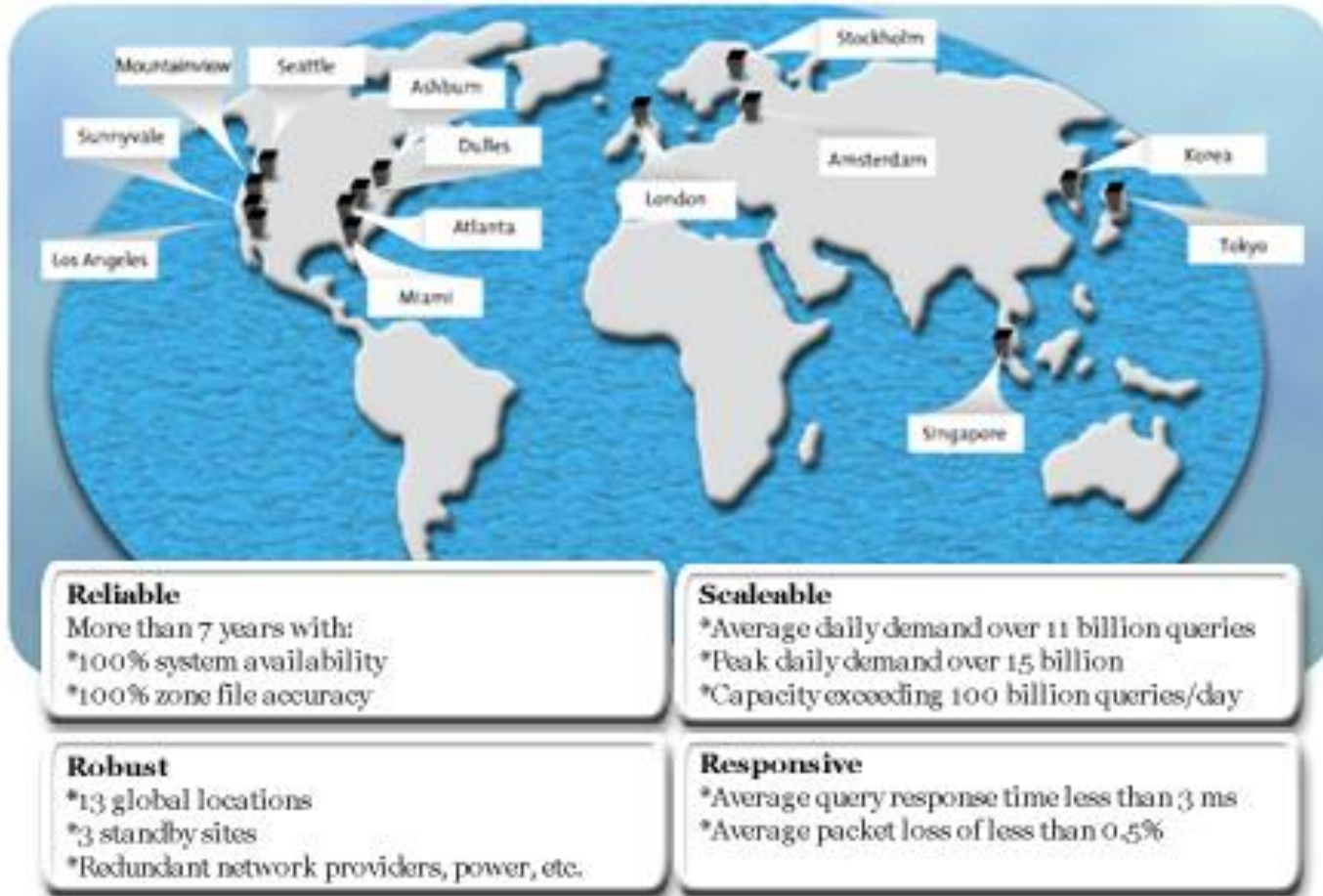
NOTES: Data prior to 2000 was obtained from Network Solutions SEC filings and may also include .org, .gov and .edu domains and does not contain other registrar data for 1999.

DNS Query Volume Handled by VeriSign

Current Daily Volume: 7.5B – 13B/day; 15B+ peak



Global Infrastructure



Some Important Lessons

- * + Capital Reserves are KING – Estimate Needed Cash Reserves Then x2

Ensuring 100% availability, maintaining response times measured in milliseconds, ensuring capacity to handle DoS attacks and other events that burden the infrastructure, providing highest security possible in capacity, all require capital.

- + It takes longer and requires more energy to make changes in the direction of an aircraft carrier than a 30 foot speed boat

Continuous strategic planning essential; close coordination of efforts between technical staff, and financial and business operations critical; one weak link can be the downfall of the entire organization. Very little room for error.

- + Customers, end users and others in the internet community expect the same performance of a registry with millions of registrations as one with thousands.

IPv6, DNSSEC, Real-time zone file updates, personalized attention and troubleshooting, etc. Expect you to have it all, and the resources to make it happen regardless of strain caused by growth,