DNS MONITORING AND ANALYSIS – FINDINGS

KEY FINDINGS FOR DNS MONITORING AND ANALYSIS

298,000 **request timeouts**	• Timeouts will have an impact on application performance and user experience. If associated with fee-based API driven services you may be overcharged.
35% **of request timeouts**	• Sauce Labs, a cloud-based automated testing service is causing 35% of timeouts. This should be investigated to ensure you're not being billed for this traffic.
1,160 **AAAA look-ups**	• Thousands of IPv6 requests have been potentially causing 2 – 4 second delays for clients and applictions. This should be fixed immediately.
15,000 **DNS response errors**	• DNS errors may be caused by misconfiguration. Fixing these may resolve application issues and slowness.

See the Appendix for DNS Monitoring dashboards

INDUSTRY FACTS

- **DNS errors and issues cause greater than 20%** of Internet and application outages – Ars Technica
- **A DNS Dashboard** for performance, availability, and risk mitigation is recommended best practice for any enterprise by DHS and the ITSRA working group along with ICANN – U.S. Department of Homeland Security

DNS MONITORING AND ANALYSIS – VALUE

Cost Savings

# of people on DNS/Network team	2	*XYZ Corp*
% of time spent per month troubleshooting DNS issues	20%	*XYZ Corp*
Average salary of DNS Admin	$75,867	*Glassdoor*
Annual labor savings	$18,208	

Risk Mitigation

Annual DNS unplanned downtime across all domains (hours)	8.75	*Verisign*
Potential reduction in downtime using ExtraHop	10%	*TechValidate Survey*
Downtime cost per hour	$100,000	*IDC*
Savings due to reduction in downtime risk	$87,500	

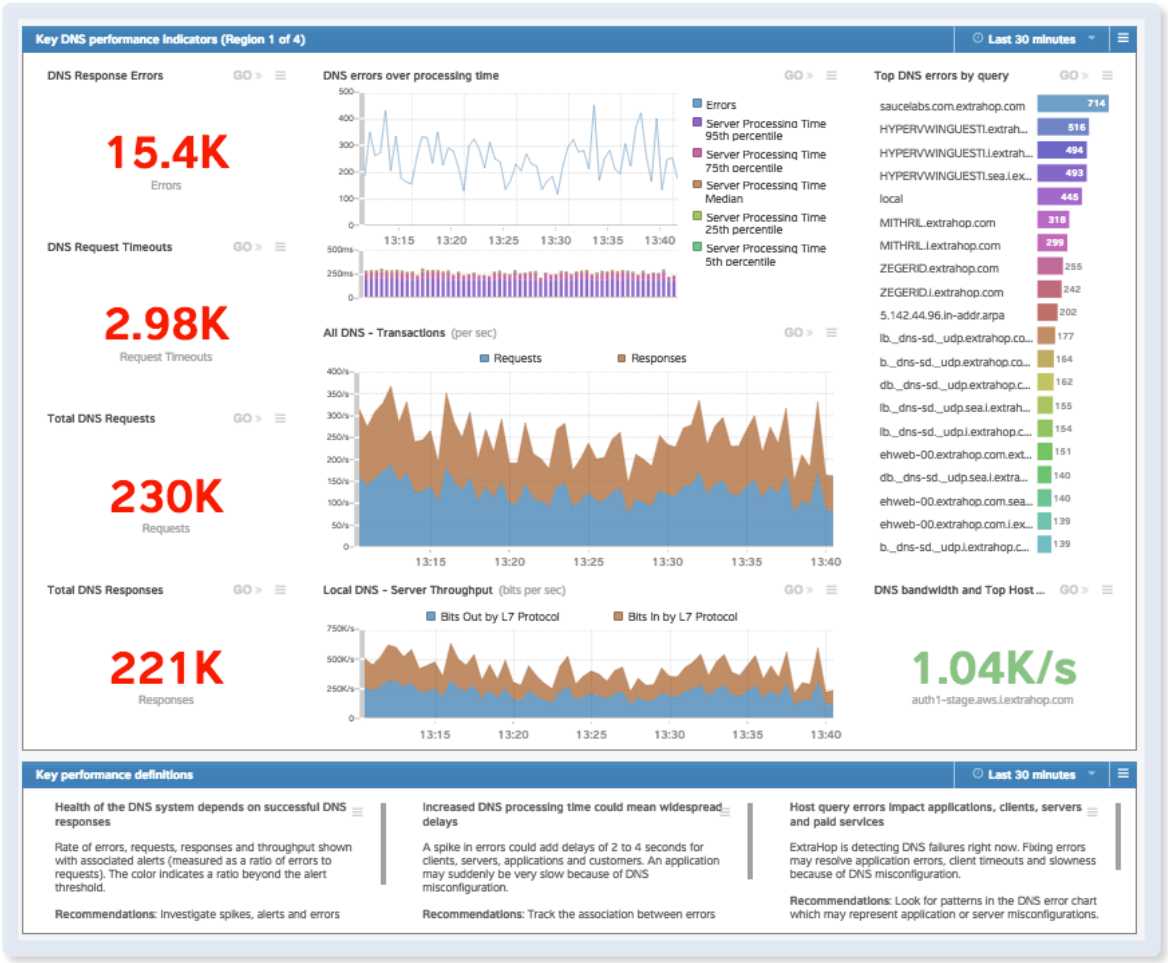
Total Annual Savings	**$105,708**

BUSINESS VALUE

- Force-multiplier for the Network, Application, and Security teams – Shorten time to remediation by up to 50%
- Prevent overcharges from fee-based API driven subscription services
- Performance improvement opportunity impacting revenue
- Increase cross-team knowledge and understanding of the importance of DNS
- If outsourcing DNS, ensure accountability and SLAs of managed service provider

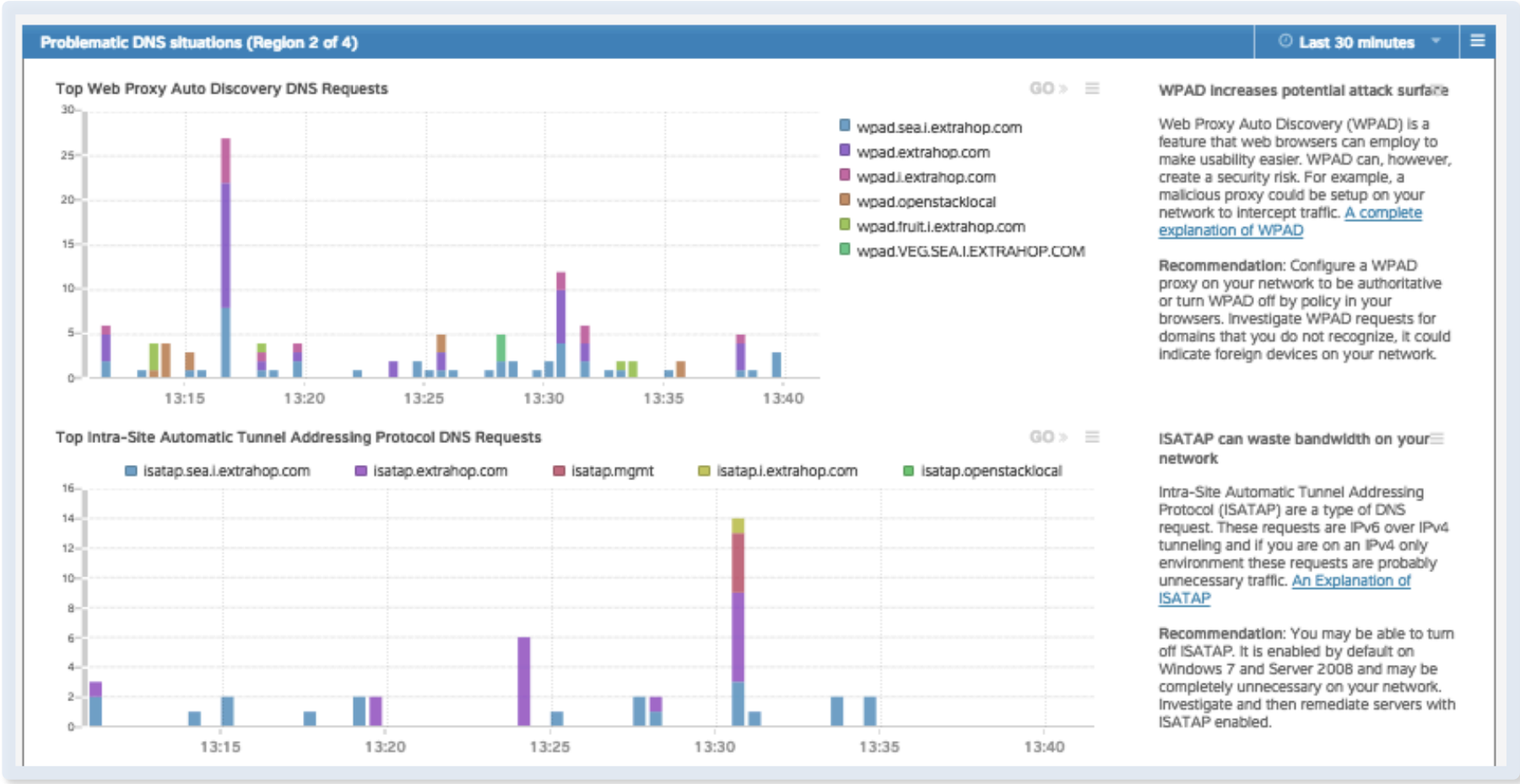
DNS MONITORING AND ANALYSIS DASHBOARD

DNS errors and issues cause greater than 20% of Internet and application outages. DNS response errors and request timeouts can cause performance issues for application users. Furthermore, DNS is a common and vulnerable attack vector for botnets running distributed denial of service (DDOS) attacks. This dashboard surfaces DNS metrics that can warn you of potential performance issues or security vulnerabilities in your environment.



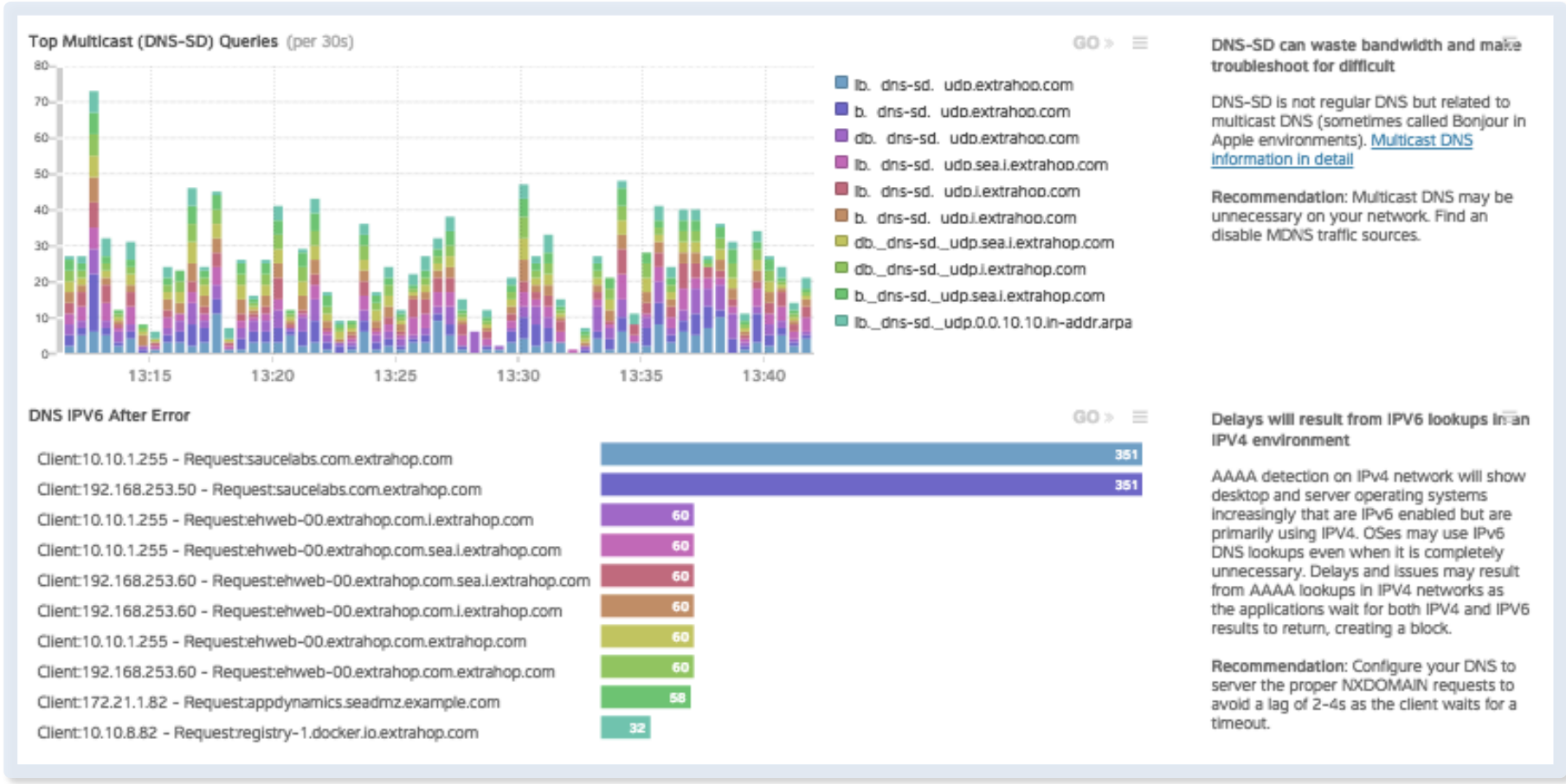
DNS MONITORING AND ANALYSIS

This dashboard displays instances of two types of DNS requests that can affect the performance and security of your network. The first is WPAD, which can provide an attack vector into your network, and the second is ISATAP, which wastes bandwidth if enabled unnecessarily.



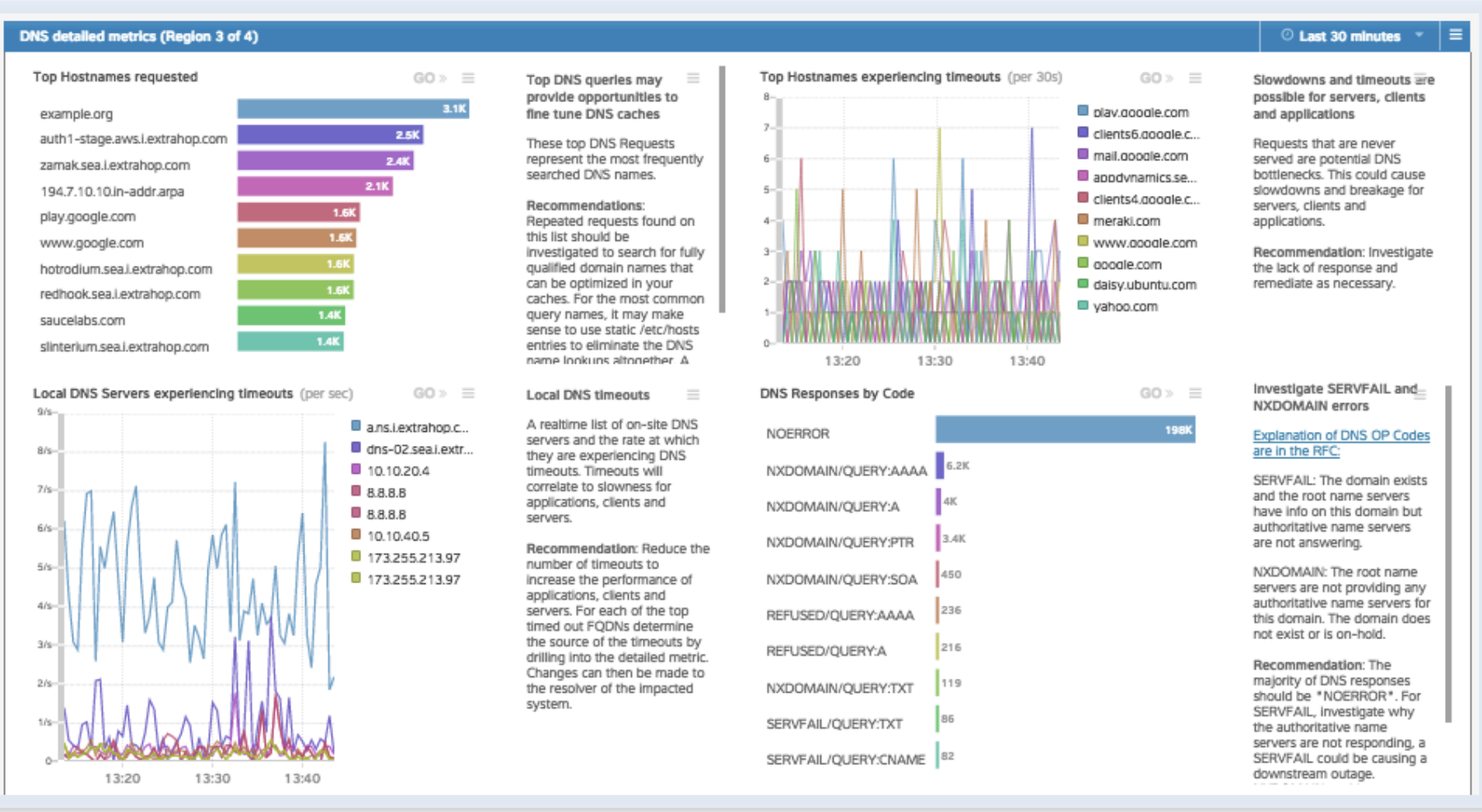
DNS MONITORING AND ANALYSIS

This area of the DNS Monitoring dashboard shows two types of DNS queries or lookups that are often enabled on networks even when unnecessary. Both DNS-SD and IPV6 lookups can cause latency and timeouts if they're enabled on your network and they shouldn't be. Fixing this improves user experience.



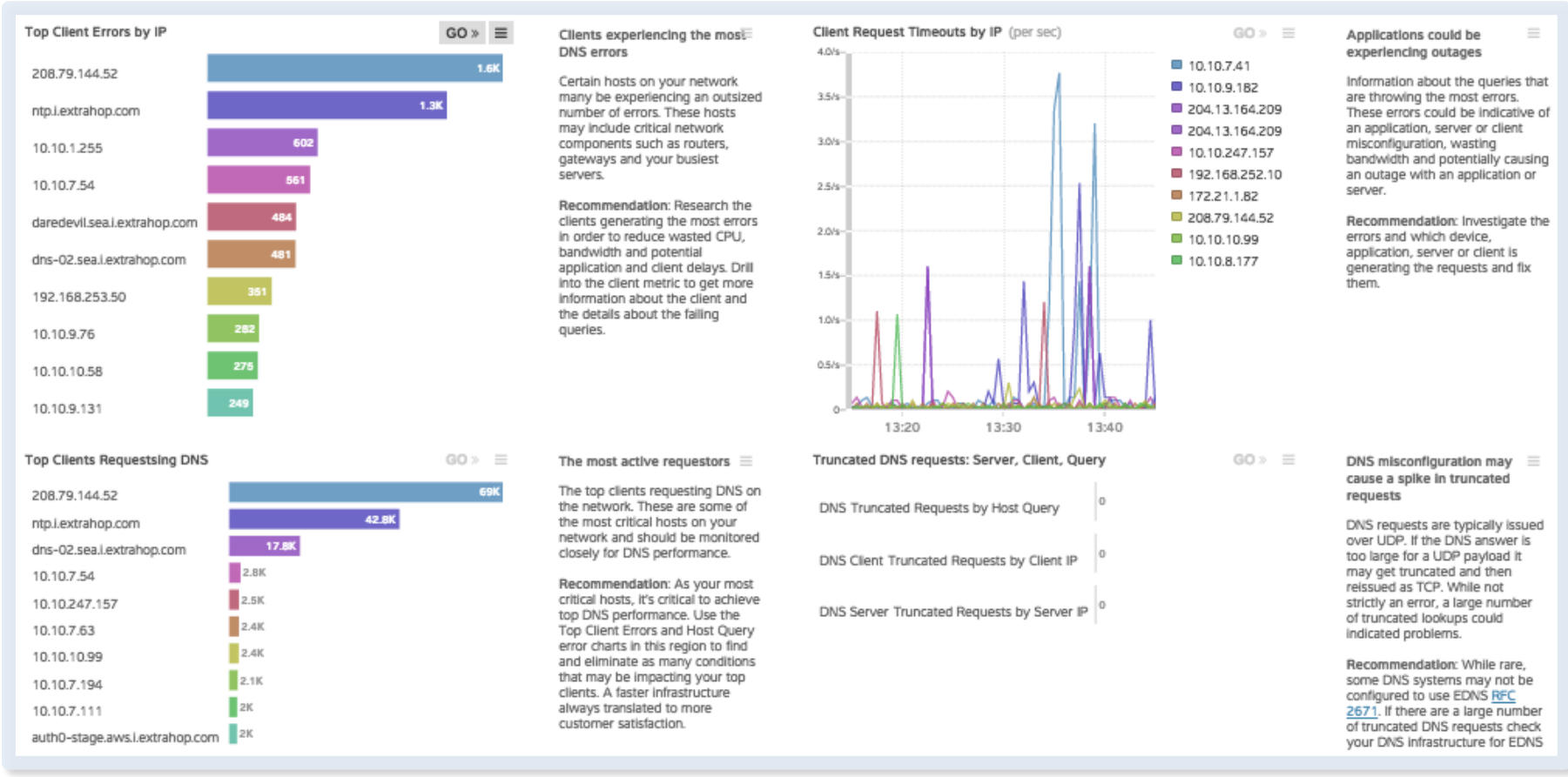
DNS MONITORING AND ANALYSIS

This section of the DNS Monitoring dashboard shows local DNS servers and Hostnames experiencing timeouts, both of which negatively impact application performance. The dashboard also shows opportunities for optimizing your most accessed hostnames, and tracking error codes to assure everything is running smoothly.



DNS MONITORING AND ANALYSIS

This area of the dashboard is all about clients. You can see which clients are the most active requesters, which are experiencing errors, and which are getting timeouts. Trends shown in this section can help you improve DNS performance for the most active clients on your network.



DNS MONITORING AND ANALYSIS

DNS lookup and testing tools are another useful way to investigate DNS performance and corroborate the insights you're getting from ExtraHop. The dashboard includes links to some external testing services so you can learn as much as possible about your DNS environment.