

Prepared for



From DIY DDI to BlueCat: Customers Earn ROI Within Three Months

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Executive Summary

This return on investment analysis examines the transition from a do-it-yourself approach to DNS, DHCP, and IP address management to an enterprise solution from BlueCat Networks. Based on interviews with two large enterprise customers, the analysis found that this transition could pay for itself within three months and ultimately earn customers \$1.5 million in additional financial benefits within the first year.

BlueCat Delivers ROI Within Three Months

DNS, DHCP, and IP address management (DDI) are essential core network services that govern IP address space and map them to domain names, essentially facilitating all network communications. Many IT organizations have historically adopted a do-it-yourself (DIY) approach to DDI by leveraging a mix of spreadsheets and free and open source software. IT organizations often transition to an enterprise solution (like BlueCat Networks' products) when they recognize requirements for improved scalability, resiliency, efficiency, and security.

This paper examines the return on investment that an IT organization can earn when it transitions from a DIY approach to an enterprise DDI solution from BlueCat. Enterprise Management Associates (EMA) conducted in-depth interviews with the DDI managers of two large enterprises that converted their DIY strategies to BlueCat implementations. The first customer was a Fortune 500 transportation company. The second was a multi-billion private health care technology company. Recently, EMA also conducted extensive market research on DDI technology to identify the drivers and benefits of DDI investments, which enriched its analysis of this ROI study.

EMA found that a large enterprise can experience the following with a BlueCat investment:

- On an annual basis, the BlueCat solution earns a return on an average \$240,000 annual subscription fee within 2.25 months.
- A customer can net an additional \$1.5 million in financial benefits with a BlueCat implementation in an average year.

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The Business Case for Retiring DIY DDI

A DIY approach to DDI technology is ostensibly free. Thus, some IT organizations may ask why they should invest in an enterprise solution, even if it does offer a substantial financial return. EMA research examined this issue in newly published market research and found that it's more than just a financial question.¹ IT organizations that use an enterprise solution from a DDI specialist like BlueCat report more success with core network services, like IP address management (IPAM), DNS, and DHCP.

Most enterprises have a mix of commercial DDI and DIY technology in their network today. The typical DIY approach involves Excel spreadsheets for IP address management and multiple free, open source, and commercial DNS services, as well as DHCP servers maintained by multiple groups, including network engineering, cloud operations, DevOps, and the server team. DIY approaches to DDI are highly manual, prone to error, and lack scalability. Ultimately, EMA research finds that these solutions are less resilient and less secure.

Network teams often see profound changes to operations when they transition from DIY DDI to an enterprise solution. By replacing spreadsheets with a scalable IPAM tool with automated workflows, network engineers can provision and manage networks more efficiently. A full-stack DDI solution will coordinate changes in an IPAM tool with the DDI vendors' DNS and DHCP services, ensuring all changes to domain names and network addresses are consistent. A vendor like BlueCat also offers overlay integration of its IPAM tool with third-party DNS and DHCP services for full-stack management of all core network services across on-premises and cloud networks. This is essential because most enterprises rarely eliminate all third-party network services regardless of how committed they are to an enterprise DDI solution.

While conducting market research on DDI, EMA recently spoke to a DDI project manager at a Fortune 500 oil and gas company who succinctly explained the importance of moving from DIY to an enterprise DDI solution. "It would take at least an hour to provision a piece of networking gear... sometimes even half a day, because figuring out who had address space available wasn't centralized enough. The [IPAM] spreadsheet had at least 10,000 lines, maybe even 100,000. As soon as we deployed [our enterprise IPAM solution], the first person to use it was able to deploy a device in 10 minutes."

¹ Unless otherwise indicated, all market research cited in this paper was originally published by EMA in the September 2023 report, "DDI Directions: DNS, DHCP, and IP Address Management Strategies for the Multi-Cloud Era."

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The BlueCat Solution

Both customers in this study invested in BlueCat's Integrity solution, which includes BlueCat Address Manager and BlueCat DNS/DHCP Server. The customers also used various other BlueCat products to enhance their overall Integrity implementation. First, they adopted BlueCat Edge, an intelligent DNS resolver that serves both networking and security use cases at the network edge. Second, they used BlueCat Cloud Resolver, which discovers DNS resources in a cloud region, automatically integrates them into BlueCat-managed namespace to remove zone conflicts, and consolidates management.

Sources of ROI

In this study, EMA identified three chief areas of ROI benefits with BlueCat solutions:

- **Reduced network downtime.** This downtime reduction is primarily associated with DNS-related outages. According to EMA research, the average enterprise loses \$12,900 per minute to IT outages.² EMA found that the cost of downtime varies by company size and by the blast radius of the outage.
- **Operational expense reduction.** Inefficient management of core network services forces highly paid network engineers to devote hundreds and thousands of hours to repetitive menial tasks. Through more efficient workflows, improved visibility, and automation, engineers spend less time on DDI operations. They can focus on more strategic projects that deliver real business value. EMA determined that the typical BlueCat customer reduced engineering hours devoted to DDI-related operations by 86.8%. These engineering resources typically earn six figures. EMA research often finds that these engineering resources are usually applied to more strategic projects, such as cloud transformation, implementation of software-defined WAN (SD-WAN) and secure access service edge (SASE) technology, IT automation projects, and enterprise mobility.
- **Infrastructure efficiency.** DIY approaches to DDI services are inefficient with resources. Some enterprises deploy excessive numbers of free and open source servers to scale up services and provide resiliency. BlueCat's solution can offer more scale and resiliency in a smaller server footprint, which reduces the amount of compute resources and operating system licenses required to maintain core network services.

According to EMA research, the average enterprise loses \$12,900 per minute to IT outages.

² EMA, "The Modern IT Outage: Costs, Cases, and Cures," October 2022.

Results for Individual Customers

As mentioned, EMA interviewed DDI managers for two large enterprises who retired a DIY DDI implementation in favor of a full suite of BlueCat DDI solutions.

A **Fortune 500 transportation company** earned a net financial benefit of \$7.5 million return over four years based on an annual \$180,000 BlueCat subscription. The annual subscription typically pays for itself within 1.5 months. This transportation company reduced engineering costs by \$35,000 annually based on an 80.6% reduction in time spent managing DDI operations. It also saved \$840,000 annually by substantially reducing its server footprint devoted to DDI infrastructure. Finally, an elimination of DNS-related downtime saved the company \$1.2 million annually.

A **multi-billion dollar private health care technology company** earned a net financial benefit of \$3.5 million over three years on an annual \$300,000 BlueCat subscription. This solution typically paid for itself within three months each year. All of this company's ROI was based on operational efficiency automation, which drove a 92.9% reduction in costs associated with DDI management.

A Fortune 500 transportation company earned a net financial benefit of \$7.5 million return over four years based on an annual \$180,000 BlueCat subscription.

ROI Benefits in Detail

Operational Efficiency

EMA identified multiple ways that customers can drive operational efficiency with BlueCat. The biggest opportunities are streamlined network provisioning, change management, and automated cloud discovery and management.

Network Provisioning

The senior infrastructure engineer at the transportation company revealed to EMA that his company saved more than \$16,000 annually on provisioning network infrastructure by replacing his DIY technology with BlueCat's product suite. This transition introduced significant network automation via BlueCat's APIs, which eliminated the need to log into individual switches to provision IP address space. Similar automation also eliminated hours of time spent on provisioning DNS servers.

"In the past, we had to log in to our switches and configure them, cut CIDR blocks, etc. It would take a NetOps engineer four hours to do the whole thing for a branch switch," the engineer said. "We moved to a Python script implemented in BlueCat, so now it takes minutes per switch. For big offices, it would take 10 or 15 hours to deploy a DNS server. Now, we can do it in four or five hours."

Change Management

The health care technology company saves \$1.2 million on DNS records management by using BlueCat to automate adds, deletes, and updates of DNS records. With its legacy DIY solution, network engineers spent two hours gathering data from spreadsheets, logging into DNS services, and manually updating servers for every DNS record change. With BlueCat, integrations and workflow automations have streamlined the average time to change a DNS record down to 10 minutes.

“On a weekly basis, we have 300 to 400 adds, deletes, and changes. Automation with BlueCat has made it so much easier,” the company’s infrastructure architect said.

Cloud Discovery and Management

The health care technology company uses BlueCat Cloud Resolver to automate discovery and streamline management of hundreds of DNS services in the public cloud. The company’s infrastructure architect estimated that this automation eliminates nearly 4,200 FTE hours of manual work conducted by Tier 1 network engineers who are trying to identify, secure, and manage disparate DNS services. This automation eliminates \$150,000 in wasted resources annually.

“BlueCat Cloud Resolver is a godsend,” the architect said. “People create a bunch of junk in the cloud and you need to know what’s out there. Cloud Resolver goes out and finds every virtual network and every DNS zone. I can create a domain list, and now, I can use DNS Edge as my traffic cop. Without this, I would be lost. Domain changes in our Azure cloud happen rapidly. There were 1,500 just yesterday and 1,300 the day before.”

Resource Optimization

The transportation company reduced the number of servers it maintained to host its DDI services. It leveraged BlueCat’s scalability and resiliency to consolidate from 150 servers for DHCP and DNS services to just 30. The company’s infrastructure engineer said his company’s chargeback model pegs the annual cost of an individual server at \$7,000. By eliminating 120 servers previously dedicated to DNS and DHCP services, the company saved \$840,000 annually.

“We did a redesign of how our DDI infrastructure worked within our offices,” the engineer said. “We used to have a primary server in our primary offices and failovers in our data centers. With BlueCat, we changed traffic so that it would egress from our data centers out to the internet. I decided that we didn’t need servers in our 50 offices when we could just put high-capacity BlueCat servers in our data centers.”

“BlueCat Cloud Resolver is a godsend,” the architect said. “Without this, I would be lost. Domain changes in our Azure cloud happen rapidly. There were 1,500 just yesterday and 1,300 the day before.”

Downtime Avoidance

Last year, EMA conducted in-depth research on the cost of downtime based on a survey of 300 IT managers and executives. The study established that the average cost of downtime per minute is \$12,900. EMA found that downtime costs varied by company size. For example, a company with 1,000 to 1,500 employees experiences \$1,850 of losses per minute, but a company with more than 20,000 employees experiences \$25,402 of losses per minute. This figure assumes a total network outage. A partial outage (e.g., impacting 10% of a company) might only have 10% of the financial impact.³

By deploying a high-availability solution with BlueCat, the transportation company was able to eliminate DNS- and DHCP-related outages.

“On the service layer, the ability to migrate all of the information from one DDI server to another allowed us to utilize DevOps practices to quickly bring up new servers to replace troubled ones,” the transportation company’s infrastructure engineer said. “We can lift and move the entire footprint of a data center with a click of a button.”

Prior to implementing BlueCat, the transportation company would experience two DDI-related outages per month, each lasting three to four hours. These outages typically impacted 1% of the company. BlueCat eliminated that downtime. Based on company size and the outright elimination of these outages, EMA estimates that this customer is avoiding \$1.2 million in annual downtime-related losses.

³ EMA, “The Modern IT Outage: Costs, Cases, and Cures,” October 2022.

Other Potential Benefits of BlueCat Investment

DDI administrators can only quantify so much in interviews with analysts. EMA suspects there are multiple other ways that a BlueCat solution can drive financial benefits, but quantifying those benefits is a challenge.

EMA’s “DDI Directions” market research asked 333 DDI managers to identify the top business benefits of investing in a commercial DDI solution, like BlueCat. **Figure 1** reveals that the top two responses are improved network resilience and enhanced IT productivity. EMA was able to quantify both benefits in this ROI analysis.

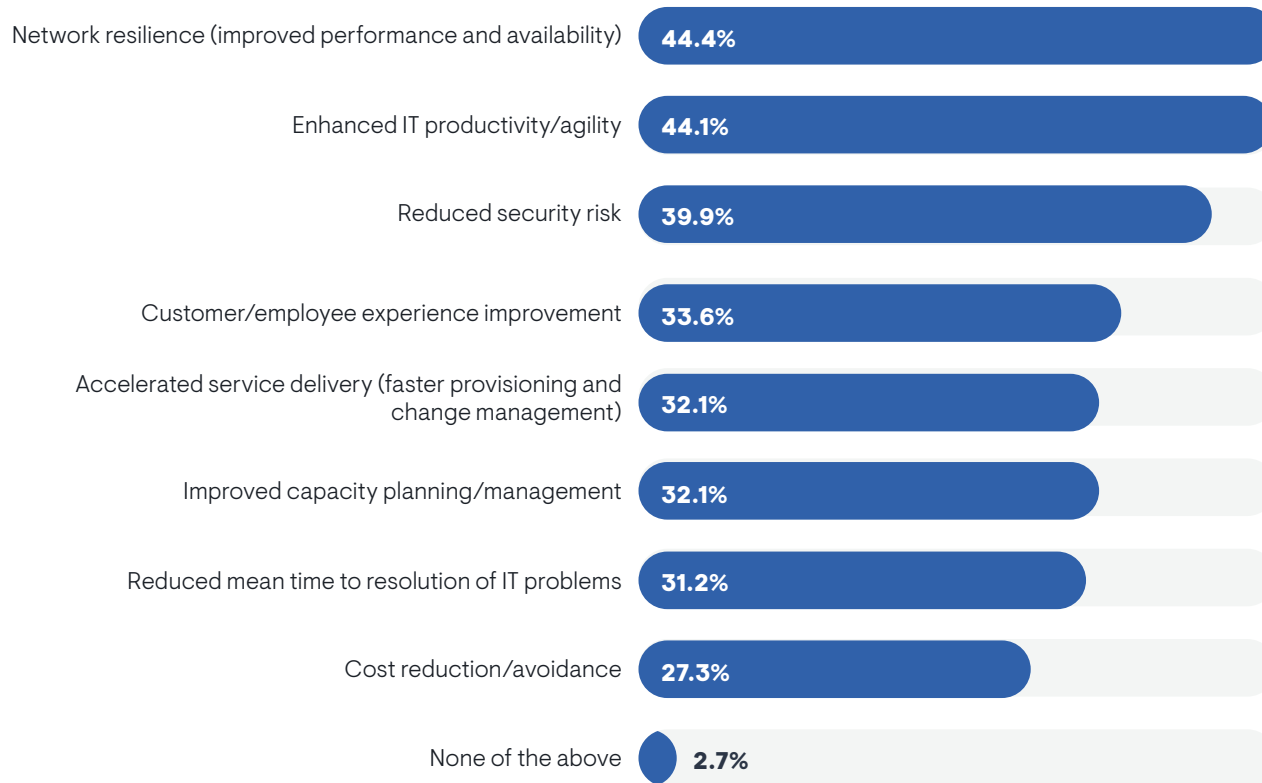


Figure 1. Top business benefits experienced with DDI investments

Some of the other benefits are harder to quantify, but are even more compelling. For instance, DDI managers pointed to reduced security risk as their number-three opportunity. EMA's market research found that only 31% of all DDI managers are completely confident in their DNS security, an appealing target of opportunity for malicious actors.

EMA research found that DNS security confidence goes up when enterprises use a full-stack DDI solution with extensive integration between IPAM and DNS services. They are also more confident in DNS security when they use automated DDI workflows to reduce manual errors that can lead to security vulnerabilities. EMA believes that BlueCat's automated workflows, reporting and auditing capabilities, and security features will reduce security risk around DNS, as well as tighten administrative controls around IPAM and DHCP. Overall, an IT organization will be more secure with an enterprise-grade DDI solution, like BlueCat. Current industry benchmarks estimate that the cost of a single data breach, via DNS or other means, can cost the typical company \$4.45 million.⁴ Avoiding such a cost is compelling to any organization.

DDI stakeholders should pay close attention to some of the other potential benefits of DDI investments. More than one-third of organizations highlighted customer and employee experience improvements as a major opportunity. This can further enhance operational efficiency, but it can also help with customer retention and boost revenue opportunities.

Accelerated service delivery and faster time to market are also opportunities highlighted by nearly one-third of DDI stakeholders. By enabling speedy delivery of new applications and services, enterprises can monetize digital services more quickly, beating competitors to market and addressing customer needs more quickly to maximize earnings.

⁴ IBM, "[Cost of a Data Breach Report 2023](#)"

Conclusion

The average enterprise earned a net benefit of \$1.5 million annually from its BlueCat investment. This research is based on transitions from homegrown DDI solutions that rely on free and open source software and spreadsheets to an enterprise solution from BlueCat. The leaps in operational efficiency, infrastructure consolidation, and resiliency are based on that stark contrast between inefficient, less scalable DIY solutions and an enterprise BlueCat solution with massive scalability, automation, and extensibility advantages.

The transition from another enterprise solution to BlueCat can still lead to a positive ROI, but the payback may take longer and results could be less dramatic. In these cases, enterprises will need to estimate ROI by looking at where BlueCat's features and innovations differentiate from competing enterprise vendors. Compare them on scalability, automation, integrations, discovery, security features, API programmability, and more. EMA recommends in-depth conversations with BlueCat to identify opportunities for measuring the benefits of such a transition.

Also, the size of a company can determine the overall size of return. This research is based on the experience of multi-billion-dollar companies in which the scale of operations and the revenue stakes are extremely high. That scale drives ROIs of \$1.5 million per year. Smaller enterprises can still expect high rates of return and a fast ROI relative to their overall size, but the total dollar amount may be more modest.

Decision-makers should consider several core factors when comparing BlueCat to other enterprise vendors. First, look at how BlueCat can improve resiliency and eliminate downtime given its differentiated architecture with BlueCat Edge. This resiliency allowed one customer to consolidate 120 DNS and DHCP servers.

Also, consider the cost structure of competing solutions, especially the predictability of future costs, at scale. Some vendors require re-architecture at certain scalability milestones, while BlueCat consistently scales linearly. This cost structure can help maximize ROI.

This report makes it clear that the transition from DIY to BlueCat DDI can be transformative. The financial benefits are strong and the initial investment is relatively low in comparison to the potential benefits. Moreover, the soft benefits, such as reduced security risk and improved user experience, are also compelling. EMA recommends that network teams consult with BlueCat to identify opportunities for improved operations with an enterprise solution. Moving from DIY to BlueCat will be extremely beneficial.

This report makes it clear that the transition from DIY to BlueCat DDI can be transformative.

About BlueCat

BlueCat is the Adaptive DNS company. The company's mission is to help organizations deliver reliable and secure network access from any location and any network environment. To do this, BlueCat reimagined DNS. The result – Adaptive DNS – is a dynamic, open, secure, scalable, and automated DDI management platform that supports the most challenging digital transformation initiatives, like adoption of hybrid cloud and rapid application development. The company is headquartered in Toronto and New York and has additional offices throughout the world, including in Germany, Iceland, Japan, Singapore, Serbia, and the United Kingdom. Learn more at bluecat.com.



About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading IT analyst research firm that specializes in going “beyond the surface” to provide deep insight across the full spectrum of IT management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services at www.enterprisemanagement.com or follow EMA on [X](#) or [LinkedIn](#).

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