



eGuide

# The Ultimate 2022 Holiday Prep Guide

**Are you ready to deliver the  
most frictionless holiday ever?**

Read our end-to-end guide on how to prepare —  
from data and supply chain to infrastructure,  
security, applications, and customer experience.





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# Are You Ready to Create the Most Frictionless Holiday Ever?

The last few holiday seasons kept retailers and brands on their toes. This year will be no different.

A wintry mix of trends and factors are in play — all creating an urgency to deliver the most frictionless holiday ever.

Why? Because your customers expect a frictionless experience. And in many cases, your revenue and operations depend on it.

Through it all, Pivotree is here to help you get it right. Our team delivers guidance and solutions that enable you to capitalize on the holiday season and prepare for a successful year ahead.

This guide will show you how to optimize your supply chain, provide your customers with amazing buying experiences that earn their loyalty, and ensure your website is ready to handle whatever comes your way.

## 2022 Holiday Commerce Predictions

1

Retail holiday sales (U.S.) projected to hit \$1.26 trillion — an increase of 3.3%.<sup>1</sup>

2

eCommerce sales expected to hit \$235 billion — an increase of 15.5%.<sup>2</sup>

3

Mobile devices will likely capture half of eCommerce sales — projected to reach \$116 billion.<sup>3</sup>

## Challenges in 2022



### Lingering pandemic

While the impact has lessened, 73% of consumers still expect COVID-19 to affect their 2022 holiday plans.<sup>4</sup>



### Economic uncertainty

Costs and interest rates keep rising. 89% of people say inflation will likely impact their 2022 holiday shopping.<sup>5</sup>



### Supply chain stress

Conditions are improving, but it will take more time. Expect a balancing act of shipping delays, overstocked inventory, and out-of-stock items.



# How to Support a Frictionless Experience for Holiday Shoppers

## Optimize the Commerce Experience

In 2022, more customers will shop both in-store and online — a distinct shift from the digital reliance of the past two years.

When you combine this trend with tighter consumer spending, businesses face extra pressure to remove any friction that would prevent a customer from purchasing.

Time-strapped holiday shoppers become extra frustrated when:

- They can't find the product they want,
- It's cumbersome to get the product (or shipping is slow), and
- They encounter inconsistency (e.g., your website says a product is available, but once they get to the store, it's actually out of stock).

### Focus on a marketplace strategy

Consider bringing in products from a craft business to expand your assortment while still providing a curated shopping experience.

### Offer a variety of fulfillment options — especially Buy Online, Pickup In-Store (BOPIS)

There are a few things enterprises need to be BOPIS-ready. First, your website must have BOPIS capabilities integrated into the checkout process. The collection of pickup location, preferred time, notes, and customer information must be seamless. Second, associate shoppers must be able to “Pick and Pack” an order with accuracy and efficiency. Finally, the store needs

a Curbside Manager to keep logistics running smoothly related to curb and parking lot pickup.

### Ensure channel consistency

It's never been more important to provide a consistent experience across in-store, online, and mobile shopping. Customers want to move easily between channels as they search, browse, buy, or query about product availability and pricing.

### Not Sure Where to Start?

Pivotree's Experience Strategy Group can give you a plan of action, and help you go live with the right solutions in time for the busiest season of the year.





# Prep Supply Chain for Demand Spikes

The focus on supply chain in the past two years has been all about disruption — but the holiday peak of 2022 offers a different story. With the right preparation, you can celebrate a season of customer experience, commerce growth, and competitive advantage.

The key to meeting seasonal demand centers around customer fulfillment, experience, and promise — which means optimizing your entire technology ecosystem, including these critical areas:

## Get your warehouse operations ready for action

Have you done the necessary due diligence based on projected holiday volumes and performance? Have you reviewed your requirements, fulfillment capacity, space, docks, and equipment utilization?

Consider implementing an intelligent and intuitive warehouse management system (WMS), which helps simplify these tasks by providing suggestions and data points for better preparedness.

A WMS ensures near real-time monitoring of key operational parameters, the adherence to service level agreements (SLAs), and targeted productivity levels of labor and equipment — as well as the throughput of the facility as a whole.

By validating your application capabilities, sizing needs, and resources in advance, you can avoid warehouse holiday headaches.

## Establish a responsive and transparent order management system (OMS)

Expectations (and emotions) can run high during the holiday peak. Time-strapped customers expect no backorders or stockouts, no canceled orders, and no friction — which means a real-time OMS is a must.

A responsive, transparent OMS provides complete visibility of inventory and product availability, while offering convenience throughout the entire process.

From omnichannel ordering capabilities to multiple shipping options — like fast, economical, and efficient delivery — an OMS helps you keep your delivery promises.

## Ensure a frictionless returns process

With so many factors to consider, a reverse logistics platform often gets overlooked. Don't let returns hinder your profit margins or a bad returns experience impact your brand.

You can achieve returns excellence by combining analytics, insights, and the best tools and platforms to ensure you're ready for increased returns during the peak holiday season and beyond. Pivotree can help uncover gaps in your returns process and implement the right solutions to optimize the experience.



## Data Drives Buying Decisions

It's natural during the holidays to focus on your supply chain or eCommerce success. But it's also important to remember that data is the common thread that holds everything together.

Each point of the customer journey is driven by data — from pricing and item availability to the attributes used during order management and logistics. It's often the factor that gives your customer the confidence to purchase — or decide to pass.

The holidays may be around the corner. But thanks to Pivotree data-as-service, you can still check several critical areas off your data wish list. We advise companies to:

### Get holiday bestsellers merchandising ready

In 2022, we anticipate that more shoppers will want a window-shopping experience, even when browsing online. Many customers won't know exactly what they want. Or they may be looking for a great item at the right price as they balance gift-giving with less cash to spend.

To reach these customers, you'll need to curate the shopping experience with rich content. Look to your highest selling items and make sure these SKUs are merchandising ready. To prep, ensure these SKUs have proper attribution so your customer can easily discover and decide what items to purchase.

DaaS can help you get this done quickly by delivering the right data structures essentially out-of-the-box.

Pivotree's DaaS offering combines people and technology to deliver high quality content backed by robust governance and automation.

### Prepare for an influx of SKUs

Holiday-themed products. Hot new toy lists. A marketplace of endless goods. There are many reasons to prep your organization for an explosion of SKUs.

But it's not as simple as finding a spot on the shelf. Each SKU must be optimized to shine on the *digital* shelf. Suddenly, the task of adding items — quickly and at scale — becomes very time-consuming.

The machine learning and automation elements of DaaS help here too.

With the combination of technology, people, and ready-built data, Pivotree's DaaS solution leverages the power of AI & ML technologies to accelerate product onboarding and enrichment process while simultaneously embedding enterprise data governance and industry best-practices (like normalization and cleansing). These technologies harness the power of data and governance to streamline taxonomy, modeling, analytics, and data visualization capabilities.



### Ensure you can easily capture first-party customer data

You've prepped your products so your customers can easily browse, search, and buy. But what happens after you've made that conversion?

The holiday season brings an influx of customers that only come once a year. Many of these customers have never been to your site before and are there to make a singular purchase.

Once you make that conversion, ensure you can capture and organize those data elements to leverage later on — like during your marketing efforts throughout the new year.

## Site Stability

Site stability is mission-critical in holiday planning. Even small missteps can cost your business thousands in lost revenue. To ensure your site is ready for action, you'll need to focus on infrastructure performance, security, and optimizing applications.

### Prepare Your Infrastructure for Peak Performance

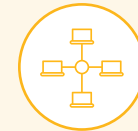
Start by assessing your current performance and capacity. Existing issues will only worsen with more visitors. Then, look at history. Use your largest spike as a benchmark for predicting traffic volumes. Pivotree will — and other hosting providers should — attest to readiness as part of their service to you. In addition, speak to your managed hosting partner about your traffic estimates.

## KEY FOCUS AREAS



### Server

CPU, Disk, Memory, I/O Wait



### Network

Distribution Switch Capacity,  
Firewall Load-Balancers



### Bandwidth



### Database

CPU, Disk, Memory, Storage,  
Query Performance, Indexing



### Storage

IOP, CPU, Latency,  
Disk Space



## Develop an emergency capacity plan

Increasing capacity during an incident (or unexpected downtime) may be costly or take longer than anticipated. There may be significant work involved if you are using an application platform that is not cloud native. If you have a limited budget, now is the time to investigate the potential for capacity increases.

Speak to your vendors about the process for adding capacity during an incident as part of your holiday planning.

**If your infrastructure provider is not performing a holiday capacity assessment with you and your team, request one. You should also reach out to vendors that provide integration points for your application. Work with them to understand any limitations, and the possibility of increasing capacity during the holidays.**

## Test and test again!

One of the best tools for your holiday preparation is the load test. By simulating a high volume of users, you can identify bottlenecks and the levels at which degradation occurs. It also allows you to fix these problems and increase your capacity with time to spare.

## Prepare your environment hosted on AWS

Many administrators believe that Amazon Web Services (AWS) is a fool-proof way to handle peaks and valleys in traffic. While AWS does allow you to scale up and down at a rate unimaginable on bare metal infrastructure, it is not entirely automatic.

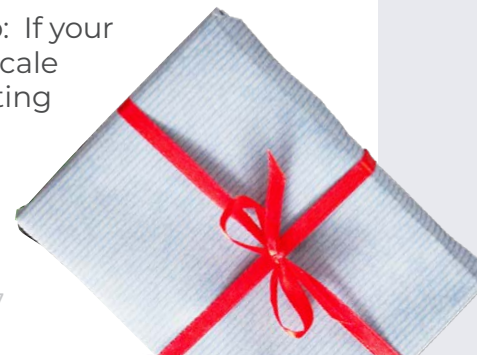
The fluctuating nature of the environment can also mean significant variances in the cost of the infrastructure. Here are our tips for preparing an environment hosted on AWS.

### *Determine your scaling strategy*

You have a few options based on whether you want to scale horizontally (add more instances) or vertically (increase the size of your existing instances). If you are scaling horizontally, determine if you are going to scale automatically based on load or if you need to pre-scale your environment.

To help decide, you should know the impact of how scaling or adding instances affects your licensing. If you are not able to add more instances because of licensing restrictions, you can increase the size of your instance. This does require a service interruption and will obviously increase your bill. Make sure you plan for this event.

A good rule of thumb: If your environment has to scale more than 3x its starting size within one hour, auto-scaling is not for you.



## LOAD TEST RECOMMENDATIONS

Leverage a load testing service that utilizes distributed geographical traffic sources.



Perform iterative tests – often, the first test will uncover problems, while subsequent tests confirm that the fix was successful.



Understand that Virtual Users and Human Users do not operate in the same manner – work with your load testing provider to understand what your virtual test number should be based on your projected human traffic.



Ensure you have the right resources on hand, including your System Integrator, Infrastructure support personnel (AWS, Networking, Database, Sys Admin), and test specialist (your load test vendor).



Run your test during off-peak times and tell your clients what you are doing. One option may be to post a banner with a message like “Sorry if we’re a little slow, the elves are at work getting us ready for the holidays.”



Perform a load test after every major release or hardware change.



## Capacity planning beyond your instances

Instances are just one part of your AWS capacity planning process. Understanding when to scale your RDS (Relational Database Services), your admin instances, and other components should also be assessed.

Two areas that are often forgotten are the elastic load balancers and SES (email services). Make sure to inform Amazon or your managed service provider when traffic is expected to increase. This will allow their teams to pre-warm these services so they can process the extra traffic.

**Need help assessing what to scale, when, and how? Speak to us about our Peak Period Assessment Services on AWS.**

Pivotree™ Protect is a Managed Detection and Response Service offering a unique combination of security expertise, processes, and leading technology to handle the daily threats your platform may encounter. We offer this service within cloud and on-premise environments. As a shared resource across a wide client base it can result in substantial savings on your triage, investigation, and incident management operational costs.

## Strengthen Your Security

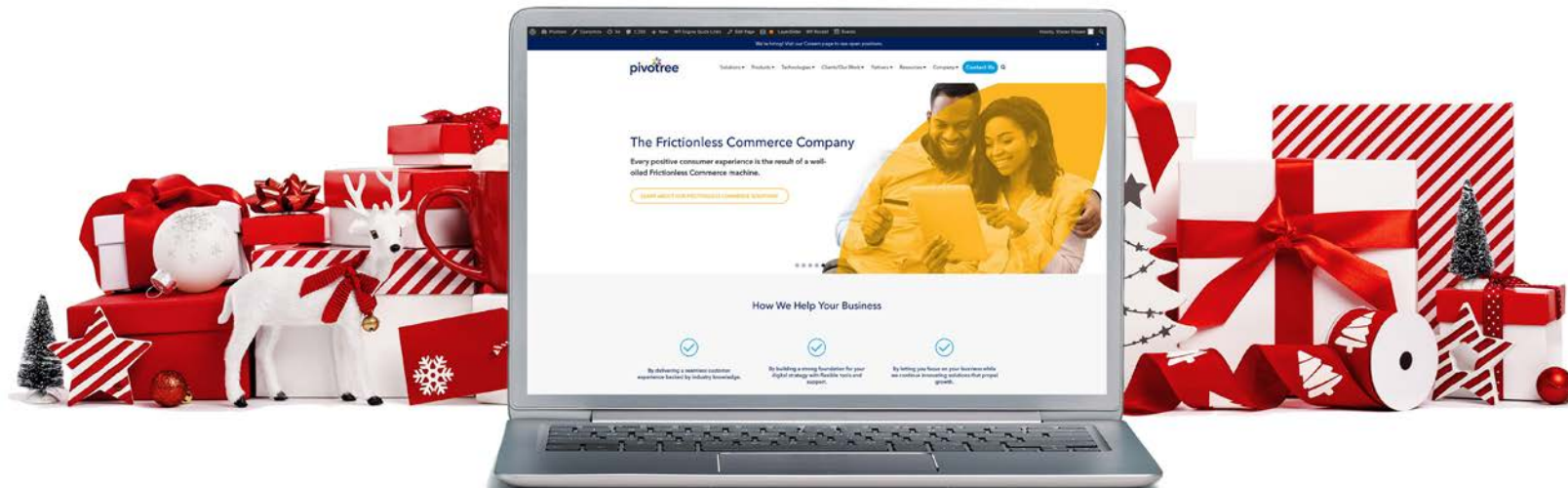
Keeping your environment secure is not only important through your busy season, it should be in your organization's DNA throughout the year. During the holidays, your security measures may be put to the test when attacks on ecommerce sites begin to spike.

## Assess and develop a patch plan

Plan for problems in the future by making sure you have a plan in place to handle security issues like emergency patching or an unexpected security vulnerability.

Ensure you understand who is responsible for monitoring security patches and applying them in all areas of your environment – from your infrastructure and operating systems through to your applications – to resolve any issues quickly. Pivotree has a quarterly patch plan in accordance with PCI requirements.

You should also review your infrastructure provider's patch and vulnerability program. Make sure you have either opted into your provider's program, or patch the environment yourself based on your own policies and schedule.



## Limit access

Limit access to your environment to authorized personnel. Require your personnel to use strong passwords and regularly review your access list. Complete an audit of users who can access your environment prior to your busy season. Two-factor authentication and encrypted communications are highly recommended for administrative personnel.

## Proactively monitor your environment for vulnerabilities

Implement an Intrusion Detection System to detect potential breaches or violation attempts. These systems monitor behavior and notify you of suspicious activity, allowing breach response and even prevention. These systems can be “noisy” so look for a provider who completes an analysis of alerts before you are notified.

Pivotree Protect goes beyond intrusion detection to provide host-based intrusion prevention. The Protect service attempts to identify potential threats and takes action to block or remediate an identified threat. In other words, in addition to raising an alert, Protect also helps prevent an intrusion from occurring.

## Make sure to use HTTPS

Ensure you are using at least SHA256 encryption and not older versions. HTTPS

should be the standard for all customer eCommerce communications, not just for authentication or payment. If you are concerned about performance with HTTPS always on, consider using a CDN service that can support your SSL implementation and increase your website performance.

## Ensure you have endpoint protection

Secure cloud instances, physical servers, and virtual machines from being exploited by malicious actors and campaigns.

Pivotree Protect offers endpoint protection that employs advanced machine learning and data analysis to prevent and correct the effects of, among other things: Fileless malware - the abuse of tools built into the operating system to carry out attacks and; ransomware - software that renders inaccessible the target systems and/or its data.

## Tune your WAF

Traditional firewalls decide if one device can talk to another at the network level, but a Web Application Firewall (WAF) monitors behaviors between an application and a browser. By operating at the application level, it can detect attacks based on stored patterns as well as monitor unusual or unexpected patterns. Application layer attacks are increasingly

common in eCommerce, making WAFs an essential part of your environment.

Like a Content Delivery Network (CDN), a WAF requires tuning to ensure the rule set is configured to respond properly to your application and traffic. Allow yourself enough time to test and tune your WAF before your busy season.

Make sure you understand your WAF provider's incident response plan, and check to ensure the right people on your team are set up to receive the appropriate alerts and have been trained how to respond.

In case of issues with your firewall, we recommend setting up a monitor that will alert you when there is a problem with the WAF and then automatically direct traffic back to your origin servers.





## Protect from DDoS Attacks

Distributed Denial of Service (DDoS) attacks are attempts to take an organization's internet presence offline, usually by overwhelming the site's network connection or servers with traffic from a collective of hacker-controlled zombie computers (also known as a Bot-net).

Historically, November is a busy month for attacks. Hackers often use DDoS attacks to distract while credit card data is stolen.

It's important to understand your service provider's policy and response plan for DDoS attacks. Most vendors will remove the attack target from their network to protect other customers. This means if you are the target of an attack your website will be unavailable until the risk level for your bandwidth provider is mitigated. This will block the attack, but also all legitimate traffic, which could represent a significant loss of expected holiday revenue.

### *DDoS mitigation*

DDoS mitigation services can be very expensive. If you don't have room in your budget to leverage this type of service all year round, consider using one during the holidays on a short-term basis.

To further manage the costs of this program, consider a "pre-staged" versus "always on" configuration. A pre-staged DDoS mitigation service allows you to have the service contracted and on stand-by until you are attacked. If an attack occurs, your traffic can be routed

to the mitigation service with a simple firewall change.

Content Delivery Networks (CDNs) can also help mitigate against a DDoS attack. If you can afford only one, invest in a CDN. The distributed nature of the CDN's network can help protect your site from low-volume attacks, while also improving your site's performance and providing added capacity.

## Test and Scan

### *Run a vulnerability scan*

Vulnerability scanning proactively identifies weaknesses in your network, application, or infrastructure. The test is generally automated and will detect known attack vectors. Running a scan can help you identify known vulnerabilities in your environment before your busy season, giving you time to fix them before they become a problem. Common coding problems such as SQL injection and Cross-site Scripting (XSS) can make it easy for hackers to compromise your website and steal valuable data. There should be a focus on OWASP Top-10 vulnerabilities and PCI-specific issues.

### *Run a penetration test*

Penetration testing will exploit weaknesses in your code and application. This type of analysis uses a combination of automated testing and experienced testers to complete the test. Executing a penetration test annually, before your site is launched or after major releases should be an important component of your security program.

Pivotree leverages Lyrical Security to perform penetration testing and AVS scanning. Lyrical Security shares the findings with Pivotree. before we present anything back to the end customer

## Understand Performance From Your Customer's Perspective

It's important to track your site performance from your end customer's perspective. This can be accomplished by using Real User Monitoring and Synthetic Monitoring. Real User Monitoring tools allow you to track the site performance, stability, and functionality during real user sessions. This information can be aggregated and compared to standard metrics, such as the core web vitals, to identify areas for improvement. Synthetic monitoring allows you to ensure critical user flows are working as expected.

Pivotree™ Reliability is a managed support service that leverages both Synthetic and Real User Monitoring to reduce the time it takes to resolve site performance issues by up to 90%. We provide the 24/7 management your eCommerce site needs to ensure your online sales revenues - and your reputation - are protected.





# Final Thoughts

**The 2022 holiday season will be here before you know it. Is your company prepared?**

To create the most frictionless holiday shopping experience ever for your customers, follow the tips we shared in this guide to optimize your supply chain, ensure your website is ready to handle an influx of traffic, and, ultimately, earn your customers' trust and loyalty.

## Pivotree Holiday Success Stories:

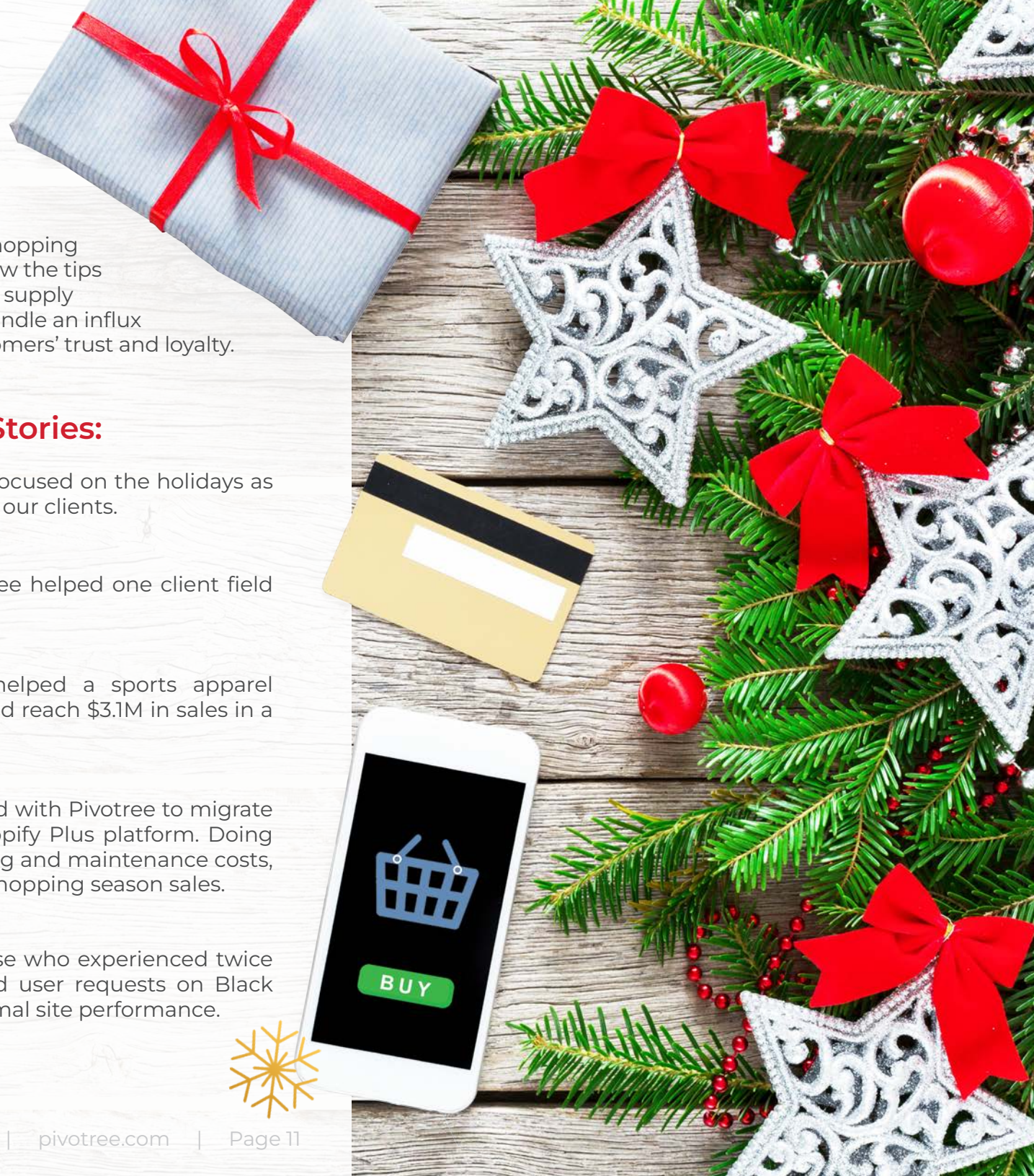
For more than a decade, Pivotree has focused on the holidays as the most important season for many of our clients.

❄ On Thanksgiving Day 2021, Pivotree helped one client field 800+ orders per minute.

❄ During the Cyber 5, Pivotree helped a sports apparel retailer beat its previous record and reach \$3.1M in sales in a single day.

❄ At the end of 2021, Lorex partnered with Pivotree to migrate its commerce solution to the Shopify Plus platform. Doing so helped Lorex reduce its licensing and maintenance costs, while achieving record-breaking shopping season sales.

❄ In 2021, Pivotree clients, even those who experienced twice the normal amount of traffic and user requests on Black Friday, were able to maintain optimal site performance.





# Still not sure if you're ready for the holidays?

## We can help.

Pivotree offers qualifying merchants a free holiday preparedness audit. We will work with you to evaluate your current strategy and develop a plan to address issues before the holiday season hits.

**Get in touch with us today at:  
info@pivotree.com  
to discuss how we can help  
you succeed during the most  
digital holiday ever.**



## About Pivotree

Pivotree, a leader in frictionless commerce, designs, builds and manages digital platforms in Commerce, Data Management, and Supply Chain for over 250 major retail and branded manufacturers globally. Pivotree's portfolio of digital solutions, managed and professional services help provide retailers with true end-to-end solutions to manage complex digital commerce platforms, along with ongoing support from strategic planning through platform selection, deployment, and hosting, to data and supply chain management. Headquartered in Toronto, Canada with offices and customers in the Americas, EMEA, and APAC, Pivotree is widely recognized as a high-growth company and industry leader. For more information, visit [www.pivotree.com](http://www.pivotree.com).

## References

<sup>1,2,3</sup> <https://www.insiderintelligence.com/insights/holiday-sales-data/>

<sup>4,5</sup> <https://www.numerator.com/holiday-trends/consumer-survey>

