Carbon Black.

APPLICATION CONTROL

OBSERVATIONS & STRATEGIES FOR SUCCESS

Joel Rising, Solution Architect

Table of Contents

Executive Summary

It is now widely recognized that antivirus software is insufficient to protect organizations, large or small, from advanced threats and targeted attacks. In response, organizations are increasingly looking to adopt proactive approaches to organizational security, such as application control, to ensure the fidelity and security of intellectual property.

According to Gartner, enterprise use of application control, on at least some PCs, will increase from 30% in 2017 to over 50% by 2022.

While highly effective, application control is not always a frictionless technology and does require security personnel, company end users, and management, who may be accustomed to signature-based solutions, to think differently about security.

There is no silver bullet solution when it comes to cyber security, but when done right, application control can help organizations not only protect their most important assets, but become more efficient, accountable and productive in the process.

This white paper, based on experiences gathered from more than 1,000 application control deployments, provides a blueprint that organizations can adopt to help ensure their own successful application control deployment. It also outlines how Carbon Black's unique trust-based approach and dedicated support of customers can greatly simplify the process of achieving high enforcement in your environment.

Overview

You may have heard that “whitelisting is too hard,” but the fact is that’s not true, and this paper will show you why. With the rise of advanced threats and targeted attacks, it is clear that endpoint security is no longer a “set-it-and-forget-it” solution. This paper also will explain why deploying proactive solutions such as application control—that provide real, proven, high levels of security—no longer have to be “too hard.”

No matter how open or dynamic your environment, there is a straightforward path to success with application control. The path may be different for each organization, and at times may take you down a path less traveled. However, just because a landscape is unfamiliar doesn’t mean it is “too hard,” and that is what this whitepaper is designed to show you.

Like anything worth doing, there are better ways and inappropriate ways to accomplish something, and the same holds true for application control. At Carbon Black, we’ve helped thousands of organizations successfully deploy application control in their environments, and along the way we’ve developed a set of proven strategies and leading technology solutions to ensure your success.

This paper will outline how you can employ these best practices to successfully deploy an application control solution in your environment.

In security we talk about the OODA loop: Observe, orient, decide, act. This next section of the paper is meant to help you observe the new landscape and orient yourself within the end-user landscape and safely navigate the deployment process, so that you can quickly get on to what you do best, keeping your organization secure.

NEW THREAT LANDSCAPE

What's different about cyber security today than 10 years ago? The answer is simple: More hackers and more endpoints.

Ten years ago there were fewer hackers and relatively few devices connected to the Internet. The so-called "bad guys" numbered no more than a few thousand.

Fast forward to today, and now your refrigerator, your wristwatch and your car are online. Half of the world's seven billion people are connected. Nations have standing cyber armies not 1,000, but tens of thousands strong. And for every cyber soldier, there are a dozen or more hackers making careers in "private" markets.

Yes, careers.

Ten years ago hacking was mostly about egos. Who could get in, who could wreak havoc; it was all graffiti, all bragging rights. Motivations were personal.

Today, hacking is a more than five billion dollar business, with shops, guilds, and even regular work hours. Hackers have their own formal markets, and even private currencies, in which to buy, trade and profit off your secrets.

Hacking is no longer a game, but a strategic threat. Hackers now have the same motivation, resources, organization, and staffing as you and your business. You aren't dealing with some punk trying to break in through a back window, you are dealing with a true peer, a professional. In a lot of ways you are dealing with an entity not unlike your direct market competition.

If yours is like most organizations, you don't treat hackers with the same focus and attention you place on your competition But if you did, how would that change your perspective? How would you envision, plan, budget, motivate and execute security, if the security threat were as big and knowledgeable as your competition? If that's not how your team is addressing security today, it should be.

$850 MILLION
2016

$5 BILLION
2017

According to recent Cybersecurity Ventures research, in 2017 ransomware was estimated to be a $5 billion crime, growing 6x in just one year.

MOVING FROM PASSIVE PROTECTION TO PROACTIVE DEFENSE

Firewalls are real security. Antivirus is real security. The Coast Guard cutter along our shores and TSA guard at the airport check point are real security. But their threat landscape is like ours was 10 years ago. For the most part, the volume is low and motivations are personal. That allows them to focus on more passive, perimeter-based security.

When the threat landscape changes from small bands of random marauders to large armies with focus and motivation, that kind of security is no longer sufficient. You don't just need a fence and lookout, you need a fort and an army.

If you have no idea how to build a fort, and the idea of having to keep guard scares you, then you are worried that "whitelisting is too hard." And that's because, up until recently, the tools were limited and "real security" was assumed to be the province of well-funded security experts.

The new technologies and automated solutions that Cb Protection offers have changed that. You no longer need to be an engineer to build a fort, and you no longer need an army of special-forces ninjas to guard the gate.

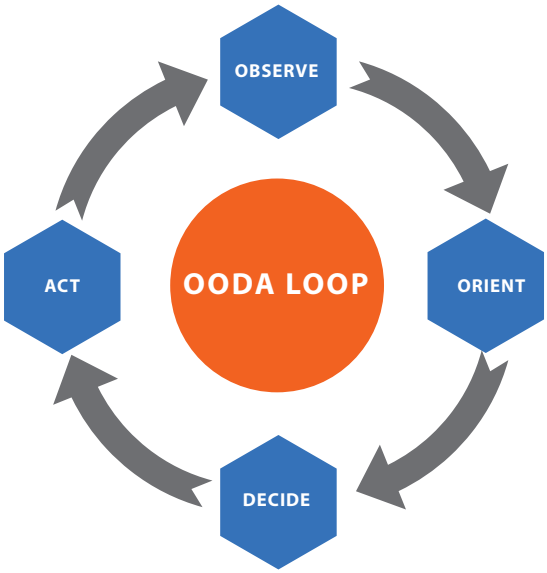
There will be additional effort and planning, but the layouts are similar and often your intuition will guide you in the right direction.

Here's how your role will change as an application control "guard":

- Incidents happen more often and you have to sound the alarm and take action.
- Expect to allocate more staff time to the solution.
- Delegate tasks across existing functions to spread out responsibility.

The difficulty of application control isn't the raw work of it, but the time it takes to change perspectives. End users do not like change, as anyone who has worked in IT operations can attest. But when properly educated and informed, they can hear your battle cry and join you in this war.

Traditional antivirus solutions and other machine-learning controls allow all applications to run unless they are known to be malicious or they exhibit known-bad behaviors. In a world where 70 percent of malware is used only once, this approach doesn't work because you simply cannot know what is bad ahead of time. Using antivirus for protection is like scanning a crowd for a bad guy, only you have no idea what he looks like.



WHY APPLICATION CONTROL IS ESSENTIAL

Application control reverses this paradigm and focuses on identifying and only allowing the execution of code that is known and trusted. This approach is far more effective at blocking new and unknown malware, and generalized malware techniques, because it does not need to know what is bad ahead of time. Like a bouncer at a party, application control only allows software "on the guest list" to run.

For your company, application control seeks to create an internal software environment not dissimilar from Apple's iOS App Store, where only approved apps are allowed to run, except you get to decide what's allowed.

Gartner defines application control as: "Software that limits the execution of applications to a predefined set of known good applications. It typically consists of a software agent on the endpoint and a central management console for reporting/alerting and policy definition."

Application control, or application whitelisting, solutions have come come a long way in limiting the set-up and administration burden associated with identifying trusted software. Leading application control solutions such as Cb Protection also include real-time access to software reputation scores on known-good applications and malicious programs from our Predictive Security Cloud (PSC), as well as access to detonation engines, and even meta-data on all binaries, such as prevalence, age, code-signing information, and known vulnerabilities associated with that software.

Gartner also notes that when compared to antivirus, application control provides numerous operations and security benefits including:

1. Reduced malware infections and faster incident response due to real-time visibility
2. Improved detection of insider threats and risky end-user behavior
3. Blocks unwanted potential backdoor applications ("torrents," remote access, spyware tools, security probes) that antivirus does not detect
4. Can reduce vulnerabilities by limiting software sprawl
5. Even in "monitor only" mode, allows early warning of potentially malicious new files by identifying "gray" files. Advanced solutions can send unknown files to a malware sandbox for automatic analysis
6. Blocks common malware techniques and indicators of compromise (IOCs) via policy (for example, no execute from trash bin, no double filename extensions and no header extension mismatches)
7. Provides granular incident response investigation capabilities, including a rapid search of all PCs for a given file or process, centralized removal of unwanted or malicious software already deployed, and blocking any newly discovered malware before antivirus signatures are available

When implemented correctly, application control will provide the highest level of protection against malware infections and targeted attacks. When leveraged as part of IT operations, it can have the additional benefit of reducing the operational burden of uncontrolled application sprawl and volume license control.

Organization Change and the Importance of Education

It is important to understand that the journey to high enforcement is as much about behavioral change as it is technology. For those accustomed to unfettered access to the Internet and applications of their own choosing, it may seem like an insurmountable affront to their workplace freedom.

You need to know this and be prepared to handle these objections. The training is straightforward and the disruption is minimal, but adopting new habits takes time. Here are five of the most common examples of behaviors and mindsets that create barriers to successful application control and what you can do to tear them down:

1

"Don't Limit Me!"

No one welcomes security controls . Even security professionals tire of the restrictions we place on ourselves, but we accept them because we know they are needed. Don't expect everyone in your organization to welcome application control. However there will be champions who understand the war we are fighting, and the importance of protecting their personal information and your organization's intellectual property. Utilize these champions to spread the cause throughout the end users. Change will be slow, but keep everyone focused on the value and it will happen.

2

"You'll Hurt My Productivity!"

A firewall is relatively easy to implement because it obstructs only auxiliary value, often in a way that only causes latency, and no "permanent effects."

However, when we disrupt users' workstations and applications, we stand directly in the way of their productivity. Be prepared to minimize the disruption and continue to explain the value of change in protecting their IP.

But you are already familiar with this kind of implementation. If you remember the early days of deploying antivirus, or the last time you had a major AV vendor change, you're on the right track. If you've deployed endpoint DLP or rolled out full disk encryption, consider yourself battle-hardened compared to the relative ease of deploying Cb Protection.

If you think this is like rolling out an application, it isn't that easy. If you think it will be like taking away user administration rights, it isn't that hard. Think "affordable and effective endpoint security agent" and you're on the right path.

3

"There's Too Much Gray Area!"

Security professionals live by a set of core principles. We train in them and are certified by them. We have a true code of ethics.

Here is one of our rules: If it will cost more to protect an asset than the value of that asset, then do not protect the asset. Think about that for a minute. Basically we're saying, if catching the thief costs more than what is in the purse, let him steal the purse!

If you consider the operational cost of that, well it's free, you do nothing! If you analyze it from a profit perspective it makes sense; you are simply cutting your losses. Still, from an emotional standpoint, it's a hard pill to swallow. No one wants to take a loss.

Since you are now going to be doing security like the pros, you will need to become familiar with this type of decision making, to be able to navigate this gray area. At first, your security teams won't want to build just a fort, they will want the perfect castle. And your operations team won't tolerate any infrastructure or end-user impact ever (even though this is IT and we all know it happens every day). Helping your organization come to terms with the nuance may actually be one of the hardest parts of deploying application control.

But… you got this! As a business leader you are already familiar with limited resources and too many asks. You make tough decisions every day, most of them are successful, and you recover from the ones that aren't. In IT, stuff happens. In security, compromise is inevitable. The goal is just to stop as many threats as you can and react quickly when something gets through.

If you are thinking Cb Protection is a perfect castle and you can let users run wild inside it, you are still thinking too easy. If you are thinking that your own security teams are going to be tied up endlessly approving application updates, you are still thinking too hard. Think: "mostly automated mechanisms built around appropriate risk tolerances," and you are on the right path.

"I Never Had To Do That Before!"

Right now in the new threat landscape, the most common way to break in is to phish. Basically, this means you convince, cajole or otherwise fool a user into installing a hijacked application. The second most common way is to "make use of an exploit and then make like IT." You use one of the vulnerabilities we read about in the papers, to catch hold of some IT administrator or operation, and then ride their coattails to your ultimate target.

Attacks show as anomalies, no matter how subtle they are. But anomalies only exist when there are norms to compare them against. When users are allowed to do literally anything possible, it becomes impossible to see the anomalies. Getting users to do it the same way can get you a huge security win.

It is a common "whitelisting technique" to allow users to "self-serve," so long as they follow a process. While it's not perfectly secure, it does increase security by orders of magnitude. Asking IT to run tools from a "sandbox folder," or asking users to drag installers to a "safe-prompt folder," can change security triage from impossible to affordable.

Are you ready to ask employees, just in some circumstances, to change their work habits, just a little bit? If you're not yet ready to make requests of your employees, you may not yet be ready to respond to the new threat landscape. Our experience is that users care about their jobs and the success of their company, and that when you communicate effectively with them, you can in fact successfully ask them to change behavior. They too are concerned about the future.

5

"Isn't the Free Antivirus Good Enough?"

The old way of doing cybersecurity has become commoditized to the point where Microsoft, and a host of smaller vendors, literally offer their antivirus products for free.

Why are they able to offer these for free? Because the old ways are not working and the value gained from implementing them is declining. Real security cannot be free; its value should be reflected in its price. It cannot be, because of the explosion of hackers and endpoints discussed we talked about earlier. We have to match the enemy and that includes in terms of finances.

But it's not an easy adjustment to go from free to budgeting a percentage of your IT spend. It's not just the emotional aspect, it requires real decisions about resources, and real effort to change operations. However, it's also true that just throwing money at something will not fix the problem. IT security is about reducing risk to a manageable level and every decision should be based on the ROI you expect to gain in terms of risk reduction

If you are still hoping there might be a shortcut, you may not yet be ready for application control. But if you've made the adjustment, you're ready to take the next step.

Implementation Methodology

Now, let's say you've decided you want to go down the path of implementing application control for your employees, but you have no idea where to begin. You understand AV, you've deployed firewalls but application control is a whole new ballgame. Wouldn't it be great if you could access people who have successfully deployed application control in a variety of industries, across a wide range of user types, with tools that were flexible and comprehensive?

This is where the Cb Protection teams can help. Our teams have spent the last 10 years managing successful implementations in companies large and small, controlled and open, onshore and offshore, in every industry vertical. And with integrating into the larger security stack. They operate according to a documented methodology that is pro-actively shared with every customer. When you implement Cb Protection, our Professional Services team will guide you through that methodology, help adapt its flexible parameters to the needs of your organization, and provide you with reports and deliverables that document your progress.

STEP 1:

Big Hardware to Accommodate Big Data

If you're familiar with Cb Protection, you already know that continuous real-time recording of file operations and process executions is critical to our solution and to any modern security technology. You may have guessed already that this means big data, and that in turn means big hardware.

We will begin by making sure you have the right infrastructure to handle your needs. There will be a very strong focus on database storage performance and throughput. We will provide sample specifications, throughput requirements, and test tools, so you can shape the infrastructure to your existing vendors and operations.

STEP 2:

Configure to Your Organization

If you've tried deploying other application control solutions before, you've probably discovered that most of these solutions require your organization to conform to the way their technology works. Cb Protection conforms to the unique way your organization works by including rich approval mechanisms, such as trusted publishers, trusted directories, software reputation, detonation engines and more, along with dynamic policy groups. During the "Design Workshop" that we conduct at the beginning of every project, we assess your organization's security posture and culture, IT operations and aesthetic, to determine which features are right for your use cases.

This assessment takes about an hour, during our face-to-face time in the Design Workshop. We ask if your general security posture will be open or closed, if your IT operations model is staff- or automation-centric, and if the answers are different for different areas. We then recommend what features to use as part of your "primary trust strategy," and help you understand their security footprint and operational characteristics.

STEP 3:

Build Approval Policies

You may be thinking of application control as an actual "whitelist." That metaphor isn't always helpful, but there are times when it is perfectly true. If files are not approved, then they are not allowed to execute. We need to look at the list of files arriving on computers, and see if they are getting approved. You may be thinking there are a lot of files to look at! Ours is not in fact a list-based approach, but rather a policy-based approach.

Our experience shows that policies chosen as part of the "primary trust strategy" will often approve 90 percent or more of the relevant files right out of the gate. For the remaining 10 percent, we then leverage a data-centric, iterative approach, which allows us to identify the additional use cases that generate the most files and affect the most machines. Field-tested design patterns for many use cases, and a straightforward syntax for creating rules, enable additional policies to be developed quickly."

CB PROTECTION CONFORMS TO THE UNIQUE WAY YOUR ORGANIZATION WORKS

STEP 4:

Solve for the Last Mile

By implementing just a few policies, or "primary trust strategies," you can cover 90 percent or more of all file approvals. But if you are familiar with the 80/20 rule, you know that too often 80 percent of success takes 20 percent of your effort, and then getting to 100 percent success takes the other 80 percent of your effort. In some cases, often for highly controlled, fixed-function environments, you will not have to worry about the 80/20 rule with application control, since the primary trust strategies solve 100 percent of the problem. Even in more dynamic environments, they often solve 95 to 98 percent of the problem. It is that final 2 percent that can require careful handling and may take significant effort.

What is it about this final 2 percent that can make it so hard? It is infinite variety and lack of consistency.

EXAMPLE: Large company with 10,000 application servers.

In this case, the issue with the final 2 percent is not technical, but logistical due to varied ownership across the organization. Often, individual applications are hosted by no more than 20 servers total. So that means there are potentially 500 different application behaviors and updater workflows that need to be accommodated for whitelisting. And it's likely that each of these applications is overseen by a different group. While in practice relatively few of these applications actually need accommodation and the rules for them are quick to author, simply reaching out to 500 different operators can take time and effort. In this case, the challenge is human rather than technical, but is one that you should respect and include in your implementation timelines.

EXAMPLE: Entrepreneurial end users.

Consider the creative and entrepreneurial end users who sit in cross-functional roles and often are provided very wide latitude for getting their job done. These people tend to use a huge variety of tools, may be creating their own lightweight automation, and may even be using consumer or personal applications to meet job requirements. In such a mass of what seems like random behavior, it can be hard for even the most seasoned administrator to discern what to allow, and the best accommodations for various workflows. In this case, the issue is technical as several custom rules or policy groups may need to be set up to meet the unique needs of a small group of users. Communicating goals, process, requirements and expected outcomes to these user groups prior to deployment will help them understand their role in educating you on their work needs.

STEP 5:

Use Metrics to Manage

Many questions arise during the implementation process such as:

- How do I know if we are in the easy part of the 80/20 rule, or the hard part?
- How do I know which users are or will be the harder ones to lock down?
- How can I know which users are more stable, and if I should try to lock them down first?
- How can I account for unknowns if I am trying to build a project plan?
- How can I know how many phone calls will show up at the help desk?
- How many incidents are going to get escalated to the SOC team?
- How long is this going to take, and when will I be done?

To answer these questions, you must first have a firm understanding of your environment and the technology resources that will be required. To help customers navigate this planning process, Cb Protection provides you and our services team with data-driven intelligence about your environment, and our services team leverages a metrics-driven methodology. So no matter the situation there is an "agile and efficient" way to deal with the areas that, by their nature, must be more flexible.

STEP 6:

Delegate Tasks

Modern security cannot be just "set it and forget it." The hackers are bringing the human element in huge volume, and we must do the same in order to combat them. Luckily, automation can still do most of the work for us, so we can focus on the high-value exceptions and action items.

Part of completing your Cb Protection implementation is making sure the right teams and personnel are prepared to handle those infrequent but important exceptions. The best teams are those with diverse sets of skills and experiences, so you might find yourself with a team made up of IT, security and help desk professionals, as well as end users.

Building a team often starts with delegating. Being able to delegate appropriate tiers, "runbooking" and scripting activities, is part of what makes staffing a Cb Protection deployment affordable and effective. The trick is not to try and make security experts out of everyone, but rather to delegate tasks that naturally fit with existing skills and processes. Adding minor items to a "local whitelist" is something that can be easily delegated to the help desk, to managers and leads, or even to users themselves via a "self-service" mechanism, no console access required. This part is easy to accomplish, but also critical to ongoing operation.

LUCKILY, AUTOMATION CAN STILL DO MOST OF THE WORK

STEP 7:

Automate Continuous Learning

As you handle exceptions in human fashion, triaging and remediating the anomalies you see on a weekly basis, you will begin to see patterns. Some of the patterns may cause you to wonder if there might be better ways to configure your policies. Or possibly even to automate some of the work you are doing manually now.

Continuous learning is part of the modern industrial landscape, and it applies equally well to security. As you become increasingly familiar with our technology and how it operates in your environment, you most certainly should make improvements where you see fit.

If you are thinking full automation is part of that improvement loop, Cb Protection includes a rich REST API out of the box and offers access to a comprehensive set of partner integrations. You can quickly integrate Cb Protection into your security stack, and customize your engineering and orchestration, without needing to be a senior programmer integrating Cb Protection into your SIEM, sandbox, firewall, threat intelligence and analytics platforms will allow you to automate actions and enrich the quality of alerts before they ever show up on your screen.

Success Stories

You may be familiar with the old phrase, “knowing is half the battle.” I hope this paper has increased your understanding of what it takes to implement application control efficiently, and how Carbon Black’s technology and services help make it easy. Of course the other half of the battle is knowing you are surrounded by folks who are going through it with you, and understanding what you can learn from their experiences.

With that in mind, here are some brief stories based on our customers’ real experiences with application control.

THOSE CRAZY KIDS

Internet giants with young end users

Many of us are familiar with the stereotypes common for the “Millennials” and “Generation Y.” Certainly one is that they require flexibility and creativity in their work culture, which doesn’t necessarily lend itself to security discipline, at least not in the more traditional sense.

Some well-known Internet giants have harnessed that culture to their advantage. Their entire business model is designed around fostering flexibility and creativity, and driving value with the best outcomes. They are continuous innovation machines, where everything is constantly changing.

Some of those companies have Cb Protection installed in a fully locked down, high-enforcement mode. They are not even using a “block & ask” user bypass mode. They accomplished that by focusing purely on outside persistent threats. When you make security less about enforcing corporate policy, and more about catching bad guys, that allows you to get creative. In addition, they found that trusting users, peers and leads to make good security decisions will work, if you give them the right scope and context. Still a third factor is related to an understanding that breach is inevitable, and a strong program of detection and response, like that offered by Carbon Black, is a cornerstone of any robust security program.

These companies host some of the most open and dynamic work environments on the planet and yet they’ve got application control locked down. Being comfortable with the nuances of security is the key to their success.

MAKE SECURITY LESS ABOUT ENFORCING CORPORATE POLICY, AND MORE ABOUT CATCHING BAD GUYS

LONG MARCH

Companies with lots of business units

Even controlled environments can show chaos, depending on how you think about it. There may be strict corporate policies about software procurement, but with a huge number of teams and departments, the massive variety of approved software becomes unfathomable. Companies with many lines of business, or that have grown by acquisition, may have many hundreds of different business critical applications deployed.

What once seemed like a straightforward approach can now seem like a bit of chaos. This can be especially true if some of the problems are very sticky to diagnose, or if the end users are propagating irresponsible and negative rumors about the project. Overlay competing schedules and priorities, and suddenly making application control successful has become a “long march.”

It’s like riding a bicycle 100 miles. Part of it is knowing how to ride for endurance. Part of it is having prior experience getting there successfully, or having faith that you’ll be able to do so. There is a skills piece, but also a psychology piece.

Some of our customers have in fact gone through this long march. The most important keys to their success were mandate and consensus Hearing from executives how important it was, and communicating with users about meeting their needs, not just once but repeatedly, is what made the march both bearable and fruitful. Ongoing incremental successes build powerful momentum, because each incremental success delivered immediate security improvements for all involved.

THE KEY TO THEIR
SUCCESS
WAS TOP-DOWN
COMMITMENT
AND
CONTINUOUS
COMMUNICATION

SECURITY TURN AROUND

Company facing a breach

Just as having the right perspective can make a project successful, a misguided perspective, can cause delays and failure.

It's not uncommon for customers to be in a breach situation when they first choose to purchase. They are experiencing the new security landscape firsthand, and they need to stop the flood as quickly as possible. If they are thinking of application control as "whitelisting," they may then think to themselves, "It's just a list. I can build a list. How hard is that?" We don't mean to say that customers oversimplify what it takes. But rather, in coming at it from this "list" perspective, they design the wrong methods for getting configuration built correctly and swiftly.

The difficulty is that in a breach situation forces have already been marshalled, expectations have already been set, and no one wants to hear that we have to go back to the drawing board. This is especially true if days or weeks of planning have already occurred, or when authorities have set deadlines for getting controls in place. Taking a step back is hard enough when you're in a panic, and much harder still when you're already headed down a certain road.

Carbon Black understands and provides an emergency workshop, that allows customers to take a step back. Typically within just one day of face-to-face interactions, they are able to realign their expectations about how application control works. This crucial moment of planning results in more swift and efficient implementation, and better management of stakeholder expectations

Taking a methodical approach turns difficult situations into long-term wins.

QUICK AND EASY

An organized environment

We know what happens when an environment is open and dynamic, when it is large and varied in character, and when we're still paradigm-shifting our perspective. But what happens when none of that is true? What happens when the environment really is highly controlled and well understood, when there is a limited amount of possible configurations, and when there's time to understand the necessary changes and the right approach?

In that case, application control can be quick and easy. Cb Protection's strongest and oldest customer base is point-of-sale systems. Generally the configuration of these machines is highly controlled and infrequently changed, and they come through a very short list of well-understood channels There are only a few types of machines and functions, and usually one or only a few markets and regions. And, despite the high-profile breaches we read about in the news, most point-of-sale customers are not in a difficult situation, but are instead working proactively, for both security and compliance reasons

Not every point-of-sale installation meets all these criteria, but when they do, implementations are simple, straightforward, efficient and quick. Application control can be "cheap and easy"in the right circumstances.

NOT THE RIGHT FIT

A wide selection of rarely used legacy applications

Any application control solution will have certain common limitations. As we mentioned earlier in this paper, any endpoint security agent can impact performance and interoperability, which can be exacerbated under certain conditions. Application control configuration needs to be fully cached so that agents can operate robustly offline, but what happens if unusual conditions cause that configuration to be too large or very specific and unusual needs?

Imagine first a giant repository of legacy software, 10 years' worth of high-end applications. While any given application is hardly used at all, there is often an urgent need to check out a particular version from a particular year. At any moment, you may need to test or review one, so all of them have to be available and approved by application control. Furthermore, they are not delivered by any software management agent, such as SCCM or BigFix, so there is no way to just "bless their installer." They all sit on a plain old file server, so each file has to be explicitly approved. In this scenario, the offline cache becomes bloated, and checking it against each file execution becomes a drag on performance.

Imagine that the way the code in these legacy applications works is diametrically opposed to how active endpoint security agents do their jobs. The code relies on massive parallelization, stopping and starting scores of small programs hundreds or even thousands of times per second. When it's deployed against a high-performance computing infrastructure it works great, but when simulated on a regular workstation it's already slow. If an endpoint security agent has to track and enforce against every execution, the overhead becomes too much. If the user base is used to high-end computing response times, the combination becomes impossible Application control will not work for this organization.

Though it happens rarely, some customers do come to the conclusion that application control is not the right choice for them. Having that amount of control would have been great but it ends up being too unwieldy and restricting.

CUSTOMERS

WHO HAVE TRIED AND FAILED TO IMPLEMENT OTHER APPLICATION CONTROL SOLUTIONS CAN FIND

SUCCESS WITH CB PROTECTION

Conclusion

In the end, application control isn't "too hard." The amount of money and effort required to invest in deployment significantly pays off with real, proven high levels of security. The trick to deciding if application control is right for your organization is understanding what models to use for deployment, and what sort of traps to expect. Different customers require different approaches, and some take more time and effort than others, but the right fit can be found for every situation —and the Carbon Black professional services team can help you get there. Our technology makes the new threat landscape a challenge your organization can successfully combat.

About the Author

Joel Rising: Joel has 25 years of experience with information technology. After 10 years as an IT guy at a university, where he was considered a security innovator and good neighbor, he transitioned to enterprise security startups, focused primarily on information and the endpoint Joel leads the solutions architects team at Carbon Black, which is assigned to major enterprise accounts, and responsible for technical best practices He cares about connecting people and technology through the medium of process, believing that technology can win the day but that the human element is what changes the game.

About Cb Protection

Cb Protection is the world's most widely deployed whitelisting solution. Combining a trust-based and policy-driven approach to application control with real-time threat intelligence, Cb Protection continuously monitors and records all endpoint and server activity to prevent, detect and respond to cyber threats that evade traditional security defenses. Cb Protection provides automated and highly granular policy controls with out-of-the-box access to software trust ratings, detonation engines, and advanced pattern-based threat indicators. With open APIs and a broad partner ecosystem, Cb Protection provides unmatched flexibility to seamlessly integrate with both in-house and third-party tools.

Carbon Black.

Carbon Black is a leading provider of next-generation endpoint security. Carbon Black serves more than 3,700 customers globally, including 33 of the Fortune 100. As a cybersecurity innovator, Carbon Black has pioneered multiple endpoint security categories, including application control, endpoint detection and response (EDR), and next-generation antivirus (NGAV). Leveraging its newly introduced big data and analytics cloud platform – the Cb Predictive Security Cloud – Carbon Black solutions enable customers to defend against the most advanced cyber threats, including malware, ransomware, and non-malware attacks. Deployed via the cloud, on premise, or as a managed service, customers use Carbon Black solutions to lock down critical systems, hunt threats, and replace legacy antivirus. For more information, please visit www.carbonblack.com or follow us on Twitter at @CarbonBlack_Inc.