



# PREEMPT THE CHALLENGES OF DEVICE MANAGEMENT

## LEARN HOW DEEPER VISIBILITY LEADS TO TIGHTER CONTROL.

Today, businesses expect the same level of intelligence and connectivity from their enterprise devices as from their consumer smartphones and tablets. They don't just want devices; they want an interconnected network of technology that collects and delivers actionable data.

This shifts the responsibility, and burden, for device uptime from operations squarely onto the shoulders of IT. Maintaining devices is no longer an ancillary task, but a core IT function. It's the IT department that must set up, secure, and maintain devices to maximize their performance and availability. As large corporations continue to amass staggering quantities of units spread across disparate locations, the strain on IT increases. For mid-size businesses with lean IT resources, the undertaking is no less difficult. Add to that the rapid pace of evolving technology, and the need for simplified management is only exacerbated.

When it comes to device management, efficiency and effectiveness are the twin results of visibility and control. Whether companies opt to centrally or locally manage, their objective should be to find such a unifying solution that consolidates devices, peers deeply into their every aspect, and offers IT the ability to govern each. As the sheer number of devices grows, organizations would be wise to streamline management, lest they risk costs and timelines spiraling out of control.

Zebra is here to help with real-world advice on how to manage a fleet of thermal printers. In this white paper, we present common challenges that can blindside organizations, as well as best practices to avoid them. With this know-how, businesses can better plan and support their workflows and processes to fully maximize a return on their investment.

## THE FORGOTTEN PRINTER

When businesses think of devices that require management, they think of smartphones, tablets, laptops, PCs and IoT devices. Thermal printers remain oddly absent, despite the fact that they are often connected to an IT network and are essential to the everyday operations of many industries.



**In healthcare**, thermal printers are a vital means of identifying the right patient, medicine and specimen.



**For retailers**, they are how inventory is received, counted, sold and shipped.



**In manufacturing**, as well as **transportation and logistics**, proper labeling can mean the difference between meeting or missing fulfillment deadlines.

**With so many workers and workflows relying on thermal printers, it is critical that they always be available and performing as intended.**

However, many businesses don't recognize that their printers demand the same governance as other devices. Instead, they resort to ad hoc management that can quickly backfire and add complexity. Based on real-world experience, we've listed the most common challenges to help organizations anticipate and preempt them.

What is the antidote to thermal printers' thorny IT issues? For some, it's having an enterprise mobility management (EMM) suite to centrally and remotely manage them. For others, it's locally managing devices under a single pane of glass that affords IT ultimate clarity and control.

### THE EMM MARKET IS EXPECTED TO GROW

5% Today

15-25% Year 4

from 5% of total mobile software/services revenues today to 15-25% in the next three to four years<sup>1</sup>

ONLY 56%

of surveyed businesses say current systems support future needs.<sup>2</sup>



## 5 CHALLENGES THAT LEAVE A MARK ON BUSINESS



### PROBLEMATIC PROVISIONING

From day one, IT is tasked with provisioning each device with network and performance settings, security protocols and status reporting. This can cause consternation for many IT professionals. While some are familiar with thermal printers, others are not. With hundreds of options to manipulate, these devices are more like a finely tuned instrument than a piece of hardware. The prospect of tweaking so many variables can quickly overwhelm IT. Something as fundamental as calibrating the label sensor so the printer knows where a label begins and ends is the number one call help desks receive. Even setting the right printing darkness can have a ripple effect throughout a business' supply chain. Illegible labels can lead to higher returned inventory, sluggish productivity and increased expenses. On the flip side, a consistent, consolidated and powerful management solution can alleviate these challenges with preset parameters that simplify the out-of-the-box experience.



### THE AUTOMATING DEVICE DILEMMA

Many industries, such as healthcare, find themselves with a lean IT staff. Such limited IT resources make the prospect of automating device management attractive. But doing so with thermal printers should be approached with care. Automatically activating an update in the middle of an enterprise's rush hour, for instance, can be disastrous. Even if IT gets the timing right, things can still go awry. An employee may turn off the printer, or it can go into sleep mode, undermining the best of administrators' intentions.



## OVERWHELMED AND OUTPACED BY CHANGE

Change is a constant in production workflows – and device configuration. IT administrators cannot simply set and forget thermal printers. When IT refreshes servers, networks and storage systems or rolls out new apps, they may need to update their printers' configuration. Unless the same stringent standards of their IT infrastructure are applied to the printer fleet, administrators expose the business to risk and expense from non-uniform upgrades, missed patches and outright security holes. As important as the task is, it can be quite difficult to achieve. The mix of hardware, software and workflow usages places a tremendous load on IT resources, as each type of printer requires its own separate configuration. This is yet another opportunity for an intelligent management solution. It can expedite the process by grouping tasks by hardware and workflow usage and instantly push the critical information to the entire fleet.



## MUDDLED MONITORING OF PRINTERS

Operations managers want one thing from their thermal printers: that they just work. But how can they be certain without automated status alerts? Charged with overseeing thousands of workers and hundreds of devices, operations managers can be caught unaware of printing problems and required maintenance, until they become disruptions to critical workflows.

Add to that the complications inadvertently caused by well-meaning users. Employees can compromise the quality of a printer's output simply by adjusting the settings unbeknownst to IT or operations. This can cause printing problems that are difficult to trace without visibility into the printer fleet. When technicians can see all the parameters of a thermal printer, they can zero in on the issue and quickly resolve it. There's no longer any need to physically touch the printer or send it in to a central location for repair.

A lack of insight can impact more than just the printers. Faulty printer applications can cost the business dearly if not rapidly resolved. IT is left with the burden of manually installing a patch. This becomes a mind-boggling task, when faced with a fleet of thousands of devices typical of a global company. The onus is as hard for mid-size businesses with little to no local IT staff. Not so with proper device management. Organizations can instantaneously push out an update to all printers.



## SECURITY HOLES AND HEADACHES

Although frequently overlooked, thermal printers can be a point of vulnerability for companies, as they present the same inherent security risks as any other network device. If not properly managed, they can be a gateway to a company's network and confidential data. Unauthorized access, for example, is often too simple, as many times businesses neglect to change their printers' default passwords. Fortunately, there are a number of steps a device management solution can make simple, closing this gap.

For wirelessly connected printers, security requires constant vigilance. Administrators must keep the printer operating system current to respond to ever-changing threats. Even wired printers can and should be kept current. For hundreds of printers dispersed geographically, this can reach arduous proportions. IT is left with little choice but to physically update each printer. For mid-size organizations without ample IT resources the challenge is as formidable. Even if they have a smaller fleet centrally located, they must spend an inordinate amount of time strengthening the settings of every single printer.

## VISIBILITY PUTS BENEFITS INTO SHARP FOCUS

When it comes to managing a network of thermal printers, everything hinges on intelligence. When IT has maximum visibility, control follows, device configuration becomes consistent, security airtight and scaling problem-free.

The difference a smart management solution can make is monumental. Regardless of their location, mobile or stationary barcode printers would always be within the reach of IT. Administrators would be able to peer deep inside, push and pull content en masse to expedite provisioning, troubleshooting and updates. With real-time insight, the most complicated of settings would be faster to deploy, and the inconsistencies that once plagued IT would no longer be an issue. Instead, the entire device pool would be synchronized and kept current via one effective management plan that enforces the enterprise's standards, security protocols and connectivity preferences—in significantly less time and for less cost.

### 11 BEST PRACTICES FOR MANAGING ALL YOUR DEVICES

**1**

#### START EARLY

Timing cannot be stressed enough. The sooner an organization can resort to cohesive and powerful device management, the less the chance of unexpected downtime and exorbitant costs. When implemented from the start, small concerns will no longer have the chance to mushroom into crises.

Organizations should start by assessing the quantity and quality of their fleet of devices – printers, as well as everything else. What would it take to connect them all to a network? Some can talk to your network, but not to Cloud or your EMM. It may be worth weighing the cost of investing in smart, Cloud-ready printers versus the great expense of legacy devices that are limited in their visibility, connectivity and manageability.

**2**

#### KEEP IT SIMPLE

One way to simplify management is to look for a single EMM that can manage all devices, rather than sustaining a fragmented collection divided by device type. The suite should be intuitive and user-friendly to further expedite tasks. If the platform offers the convenience of working on computers, tablets or smartphones, even better. Any new printers introduced to the fleet need to be compatible with the company's selected EMM, so as to maintain a common management platform across the ecosystem.

**3**

#### CONFIGURE WITH EASE

Visibility and control can transform an overwhelmed IT department into an empowered team. The right device management solution enables administrators to remotely push and pull content to the entire fleet. "Pushing" offers the ability to discover a device on the network, see and report on its performance and send it new content. This slashes time and effort to set up and continually configure devices. "Pulling" is equally invaluable, as devices can be set to retrieve configurations, updates and reassignments at planned times.

**4**

#### SECURE BEFORE DEPLOYING

Advance planning is particularly crucial. Even before a rollout, companies should identify potential threat vectors and apply appropriate protocols to their thermal barcode printers, as they would to any other wireless device.

5

**CHANGE DEFAULT PASSWORDS**

Businesses should look for a smart device management solution that prompts IT to change the printer's default password. With a vast pool of devices to manage, not having that reminder is too risky to leave to chance.

6

**CONTROL ACCESS**

When intelligence is built into devices, it expedites and streamlines management. IT gains insight into who is accessing the printers and can allow or deny requests based on the organization's unique security needs. When the printer connects, the device management tool can detect whether the printer has a matching certificate. This simplifies security for IT, as they only have one location to encrypt and authenticate.

7

**ENCRYPT CONNECTIONS**

IT should ensure that all connections to the printer administrator control panel are encrypted. For example, systems that utilize web sockets, encryption and certificates to authenticate connections should be preferred.

8

**UPDATE REGULARLY**

Zebra recommends that businesses update and patch on a regular basis. This can meaningfully protect sensitive data and networks. Updating can also upgrade the user experience to a more intuitive interaction, modernized applications, and accelerated functionality.

9

**AUTOMATE EFFICIENCY**

Short of automating management, overseeing a local or global fleet can be tedious, expensive and slow going. By contrast, having the ability to pull content via an EMM is a breeze for IT. They simply need to program the printers to connect to the network and retrieve new configurations, patches and updates when they turn on. With a secure, central system in place, businesses can thwart risks.

10

**BE PROACTIVE IN TROUBLESHOOTING**

With visibility and control embedded into an intelligent solution, there is less risk of surprises. Operations managers will have advance warnings of printing issues, and can plan for required maintenance. For IT, troubleshooting shifts from reactive to proactive. With visibility into status analytics, they can see error patterns and take corrective steps to maximize uptime.

11

**MAXIMIZE PRODUCTIVITY WITH CLOUD MANAGEMENT**

The advantages of Cloud are too good to be ignored. Hefty CAPEX turns into predictable, reasonable OPEX; scaling up or down is instant, and remote management easy. As such, Cloud-hosted management is quickly becoming the new norm. With more organizations adopting the new technology, it makes sense to prepare for the future with a Cloud-compatible printer management solution. Doing so will put amazing flexibility and control within the reach of the IT department. Plus, it can render printers into data-collecting machines for big-picture visibility that can improve decisions and operations across all departments.

## EXPERTISE THAT CANNOT BE COPIED

If an enterprise is going to reap the full benefits of their devices, then it has to take a long view. Purchasing thermal printers is but the start of a lifecycle that demands IT vigilance and attention. Whether that's done in a reactive or proactive manner depends on how the fleet is managed. Without a smart, consolidated platform, it becomes untenable on a grand scale and problematic on a smaller scale for organizations lacking IT resources.

Where Zebra stands apart is in its holistic approach. We are not just a printer company; we are an enterprise's answer to all things device- and management-related. It's our deep understanding of all sides of the equation that led us to not only engineer reliable, connected, and Cloud-enabled printers, but also imbue them with software intelligence, so as to directly address today's most pressing challenges. We call it Link-OS™; businesses will call it ingenious.

## PRINTER INTELLIGENCE BEYOND SPEEDS AND FEEDS

Link-OS is Zebra's innovative operating system, that is backed by a powerful software development kit and smart applications to centralize and streamline every facet of managing and utilizing Zebra printers – whether they are printers that produce barcode labels, receipts, or passive RFID tags. With it, developing multiplatform apps is simple, connecting to the Cloud seamless, pairing apps instant, and integrating into ERP systems a given. As it embeds into popular third-party solutions, businesses can truly consolidate device management.

From deployment to management to maintenance, IT gains tighter control and real-time visibility. The results are fleet-wide consistency and stronger security for game-changing efficiency and richer ROI.

Little wonder then that this unique interrelationship between software and hardware has garnered us the trust of enterprises the world over for more than 40 years.



**WORLD-CLASS  
RELIABLE HARDWARE**



**LINK-OS SOFTWARE**

1. COMPUTERWORLD, February 2016
2. Field Mobility Survey, Zebra Technologies, 2016

**TO TRANSFORM LINK-OS PRINTER INTELLIGENCE INTO GREATER CAPABILITIES,  
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