



**Sponsored by:**  
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## Business Value Highlights

**486%**  
five-year ROI

**6 months**  
to breakeven

**97%**  
fewer print servers

**68%**  
more efficient printer-related  
staff activities

**55%**  
fewer impactful printer  
outages

**\$1.40 million**  
in revenue loss avoided per  
organization per year

# The Business Value of LRS EOM

## EXECUTIVE SUMMARY

The proliferation of 3rd Platform technologies (cloud, mobile, big data, and social media) continues to foster significant changes in the ways that employees work with information. Knowledge workers are capturing, creating, consuming, and sharing massive amounts of content across multiple applications and device types, forcing businesses to find a proper balance between the need for information access and protecting business-critical content. Adding to these complexities is the fact that business information is now stored across a host of on-premises and offsite applications and document repositories, including information management systems, content sharing and collaboration solutions, local and network file folders, email, and hardcopy documents.

Information is the lifeblood and the most valued asset of any organization. Through business analytics tools and proper governance, information is now being used and analyzed more effectively for cost management, risk mitigation, operational improvements, and better overall decision making. As a result, businesses are investing in tools, technologies, and resources to facilitate better protection and controlled distribution of corporate information throughout the enterprise. These efforts are often implemented as part of a broader digital transformation initiative.

Not surprisingly, the print infrastructure remains an area of focus for businesses looking to drive operational efficiencies. By simplifying ways to capture, store, and efficiently distribute documents across the enterprise, businesses can realize significant cost and productivity advantages, streamline document workflow, and ensure content security. Output management solutions provide a platform for advanced document delivery features and functions to help organizations achieve these goals. Enterprise output management technology is the middleware that automates the production, distribution, and management of documents created by applications, thereby aiding businesses in print server elimination, operational advancements, process optimization, modernization of legacy applications, cost reduction, and improved information security.

IDC interviewed organizations using Levi, Ray & Shoup Inc.'s Enterprise Output Management (LRS EOM) software to understand the impact of the solution on their printing-related staffing requirements, costs, and capabilities. Interviewed LRS customers reported achieving strong value by making their print infrastructure more robust, secure, efficient, and cost effective. As a result, they spoke very positively of their experiences with LRS EOM and underscored its centrality to their printing operations. Overall, based on these interviews, IDC calculates that study participants will realize value worth an average of \$24,200 per 100 printers in their LRS environments (\$1.62 million per organization) because they:

- **Require less staff time** to manage, support, and extend printer and print server environments
- **Can reduce printing-related costs** related to print servers, print volume (paper and consumable supplies), and third-party managed print services providers
- **Can minimize the cost of printer outages** in terms of lost user productivity and revenue while lowering operational risk related to printing
- **Enable users** through enhanced access to printers, functionality for mobile printing, and improved security

## SITUATION OVERVIEW

*Output management software not only assists in digital transformation by offering a cost-effective way to simplify and centralize digital processes but also enhances print and document security by reducing manual errors and ensuring the secure distribution of content to the correct destinations.*

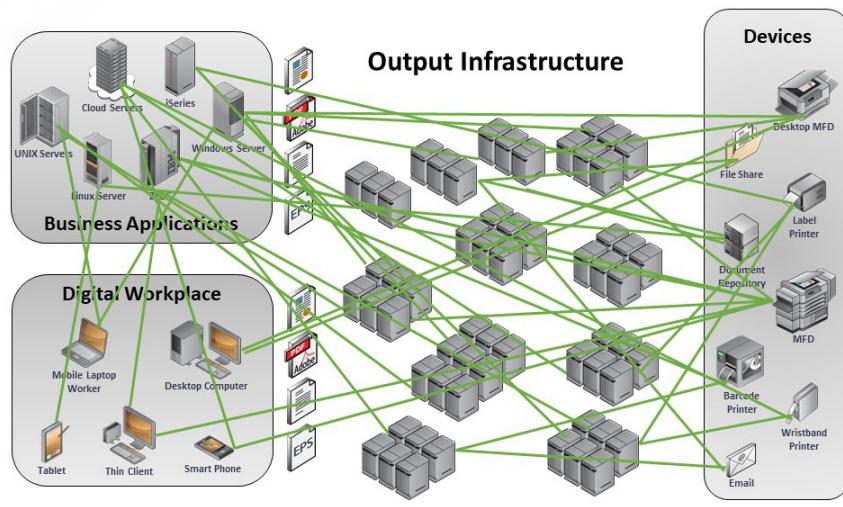
IT executives not only are tasked with lowering costs but also need to navigate the changing office ecosystem to implement technologies that improve business productivity and drive increased value. IDC research shows that organizations highly prioritize IT security and digital transformation as key business objectives. However, print security and output management are often either overlooked or not well integrated with overall IT initiatives and security policies. Output management software not only assists in digital transformation by offering a cost-effective way to simplify and centralize digital processes but also enhances print and document security by reducing manual errors and ensuring the secure distribution of content to the correct destinations.

For most enterprise organizations, the print environment can be quite complex. Printing is initiated by users across multiple departments who are either creating or accessing documents from a variety of client computing devices, fueled by the influx of mobile technologies, cloud computing, and BYOD strategies. At the same time, content can be generated from a broad range of legacy business systems and applications, many of which run on different server platforms. Once data is captured from these various print streams, it can be routed to multiple

types of printers, multifunction devices, fax servers, and other output destinations, including electronic document delivery or integration with other business applications and workflow tools.

With the expansive use of legacy systems and the need to support emerging technologies, the output infrastructure tends to evolve over time, with little planning or coordination between line of business and different IT departments. As a result, the output infrastructure typically consists of many servers running different operating systems supporting a vast array of connections between the output infrastructure, the upstream applications, and the downstream hardcopy and softcopy destinations. Because of the lack of integration and the complexities within the print environment, the output infrastructure is expensive, difficult to maintain, and prone to failure, and it poses significant ongoing security risks. It can also be a source of frustration and lost productivity for end users and IT staff, and it can prevent organizations from achieving critical business objectives. Figure 1 illustrates a typical output infrastructure in enterprise environments.

**FIGURE 1** Typical Output Infrastructure in Enterprise Environment



Source: LRS, 2019

*Organizations are turning to more comprehensive output management solutions that offer the scalability, flexibility, and capabilities necessary to manage the entire document delivery process from the application or client computing device to the output destination.*

As a result, organizations are turning to more comprehensive output management solutions that offer the scalability, flexibility, and capabilities necessary to manage the entire document delivery process from the application or client computing device to the output destination. By using a holistic, single-architecture solution as opposed to relying on multiple point products and/or disparate tools, businesses can streamline processes and guarantee delivery of business-critical content.

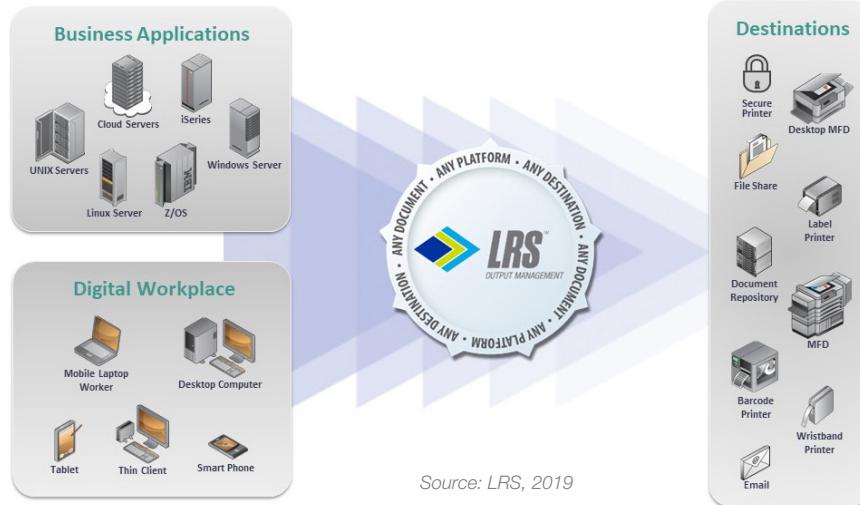
As part of these efforts, it is important to understand the distinction between print management and output management. Many organizations leverage print management software to more effectively manage and monitor office printing requirements. Enterprise output management software, on the other hand, not only offers all the components of print management but also includes the ability to automate the production, distribution, formatting, and management of all output streams from any enterprise or desktop application to any print device or electronic destination. A holistic output management solution can capture output from critical business systems such as ERP, CRM, EMR, and other line-of-business applications and send it to the target destination. EOM solutions also integrate with scheduling and workflow management systems to help organizations automate IT administrative tasks. This can increase the performance and stability of critical IT systems and improve regulatory compliance.

At the same time, an effective output management solution can scale efficiently to meet the growing needs of the organization. The adoption of smart devices and cloud-based technologies has become commonplace in the enterprise, while emerging technologies such as artificial intelligence (AI), robotic process automation (RPA), and the Internet of Things (IoT) will have a dramatic impact on the future of content creation, sharing, and distribution. An output management solution with a service-layer architecture is flexible and can support such innovations.

Despite trends around digitization and paperless strategies, print remains an important and integral business function. In many vertical markets and horizontal use cases, such as invoicing, shipping labels, and customer orders, print is mission critical. IT executives want as much visibility as possible into the hardware and software that support mission-critical business services and processes. In turn, there is intense focus on developing solutions to help optimize print delivery and minimize dependencies on paper-based processes. These trends will continue to emphasize the need for reliable and cost-effective document delivery solutions for the foreseeable future.

## LRS ENTERPRISE OUTPUT MANAGEMENT SOFTWARE

LRS offers enterprise output management solutions handling all aspects of document capture, delivery, storage, and accounting. LRS EOM software captures and manages business documents for secure, reliable delivery to a wide variety of print devices and electronic destinations (see Figure 2).

**FIGURE 2** Overview of LRS Enterprise Output Management

*LRS EOM software is designed to manage output from any platform, in any format, to any physical or electronic destination within the digital workplace. This encompasses all end-user computing devices and associated applications, including mobile devices, mobile apps, custom mainframe applications, business system applications, and Microsoft Office applications running in various environments.*

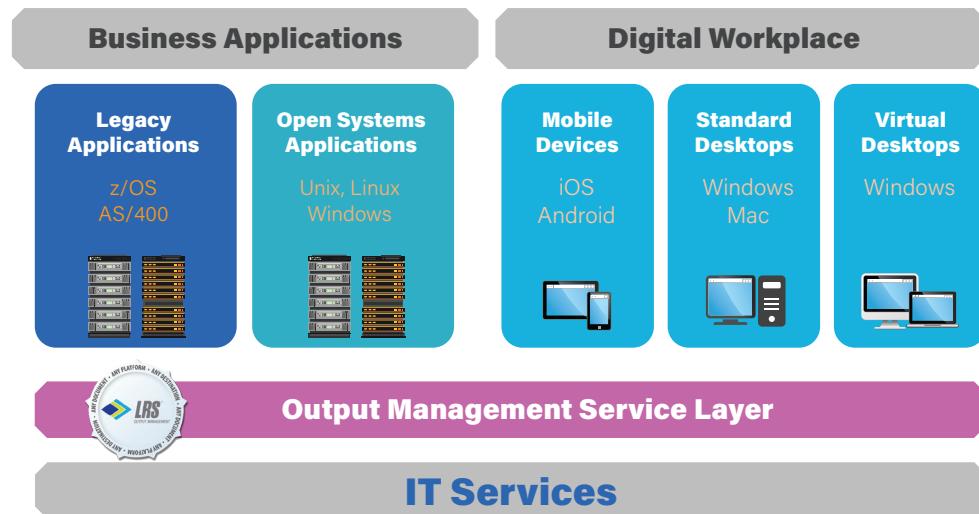
LRS EOM software is designed to manage output from any platform, in any format, to any physical or electronic destination within the enterprise. This encompasses all end-user computing devices and associated applications, including mobile devices, mobile apps, and Microsoft Office applications. It also includes critical business system applications, running in various computing environments. Business systems that LRS EOM software manages output from include SAP and healthcare applications, as well as applications running in UNIX, Linux, Windows, and other platforms. The solution captures the content from such applications using standard network protocols including LPR and IPP or more advanced connection methods such as the LRS/Queue protocol. It then stores, controls, and delivers the output to distributed printers, fax servers, file servers, and other devices. LRS EOM significantly simplifies the connections between disparate applications that create output and the various destinations for that output.

IT administrators also benefit from using an output management solution because it acts as a single point of control for all output with a web-based control interface. This enables administrators and authorized users to view the status of all output destinations as well as to manage multiple remote instances from one central location. With this centralized management system, IT managers can collect detailed print information including print volume activity as well as monitor successful delivery of print jobs. With greater visibility into printing habits, organizations are in a better position to meet service-level agreements (SLAs) and optimize their print and document infrastructure, improve content and hardware security, and gain insights into digital transformation opportunities.

LRS' Enterprise Output Management platform differs from others in the marketplace because of its single architecture approach. Providing a single architecture results in a standardized solution with consistent functionality and user experience from platform to platform. Organizations using a number of point solutions cannot achieve consistency in procedures, policies, and service levels across the entire enterprise. Utilizing several point solutions also prevents the organization's ability to provide a consistent user experience from platform to platform. In contrast, by leveraging LRS' holistic and single architecture output management platform, organizations can eliminate redundant print servers and multiple application-to-destination connections, thereby simplifying management and control for IT administration while reducing costs.

With one point of centralized management, organizations have consistent functionality across all applications and platforms. This includes centralized business applications, such as legacy applications and open systems applications, and distributed digital workplace devices, including mobile devices, desktops, and virtual desktops (see Figure 3). This output management service-layer architecture simplifies and enhances the delivery of new services without application changes and moves them into a device-independent and platform-independent environment. With this level of standardization, including hardware-agnostic infrastructure across an organization, the burden on IT is lessened, lowering the need for support, maintenance, and training costs.

**FIGURE 3** LRS' Single Architecture Output Management Platform



Source: LRS, 2019

# THE BUSINESS VALUE OF LRS EOM

## Study Demographics

IDC interviewed nine organizations about their experiences with LRS EOM. Interviews were in-depth in nature and elicited both quantitative and qualitative feedback about the impact of the solution on their printing-related staffs, costs, security, and business operations. In aggregate, study participants provided the perspective of a large organization (with an average of 47,100 employees and \$16.79 billion in annual revenue) but also reflected a range from smaller (900 employees) to very large enterprises (118,000 employees). Interviews included both North American (3) and EMEA (6) organizations and various industry verticals, including four manufacturing companies, three healthcare organizations, one financial services company, and one utilities company (see Table 1).

**TABLE 1** Demographics of Interviewed Organizations Using LRS EOM

	Average	Median
Number of employees	47,100	35,000
Number of IT staff	2,173	925
Number of printers	8,120	4,333
Revenue per year	\$16.79 billion	\$9.00 billion
Country	United States (3), Germany (2), Switzerland (2), France, and United Kingdom	
Industries	Discrete manufacturing (3), financial services, healthcare (3), process manufacturing, and utilities	

n=9 Source: IDC, 2019

## Choice and Use of LRS EOM

Common challenges drove study participants' decisions to deploy LRS EOM. Most interviewed organizations reported that their printing environments were neither sufficiently robust nor efficient to match demand from their businesses. They struggled to reconcile distributed printing operations that lacked standardization or centralization because they ran on print servers at branch locations. This not only led to inefficiencies in building, running, and supporting the required print infrastructure but also made it more challenging to align printing capabilities to business demand. Study participants described their LRS EOM selection criteria in more detail:

**“The primary reason that we decided to use LRS EOM was to create a printing environment that was more easily managed and used. Before LRS EOM, we didn’t have total control of our printer fleet...which wreaks havoc within the company.”**

**“From our point of view, the LRS solution had the highest potential for the future. The whole design of the LRS software was made for the future. The others had problems with outdated ideas and outdated system setups.”**

- **Ease of management and use:** “The primary reason that we decided to use LRS EOM was to create a printing environment that was more easily managed and used. Before LRS EOM, we didn’t have total control of our printer fleet...which wreaks havoc within the company.”
- **Need for improved stability and scalability:** “We had problems with our previous solution, which was not stable enough. ... We also needed scalability because we wanted to roll out enhanced printing services to the entire company, so we needed something very scalable.”
- **LRS EOM best positioned for future:** “From our point of view, the LRS solution had the highest potential for the future. The whole design of the LRS software was made for the future. The others had problems with outdated ideas and outdated system setups.”

Interviewed LRS customers use the software to cover most of their printing environments, including an average of 6,704 printers serving 26,473 employees who print more than 48 million pages per year (see Table 2). As noted, the sample included several companies in the manufacturing and healthcare sectors with specific business-critical printing requirements, including for their SAP environments as well as for other core business activities such as printing related to supply chain operations, labeling for products, and patient medical records and other care. While most interviewed organizations run LRS EOM from on-premises infrastructure environments, one interviewed organization delivers it via a hybrid cloud infrastructure that leverages public cloud resources.

**TABLE 2 Use of LRS EOM by Interviewed Organizations**

	Average	Median
Number of LRS printers	6,704	4,200
Number of users of LRS printers	26,473	20,613
Number of pages printed per year	48.5 million	33.6 million

n=9 Source: IDC, 2019

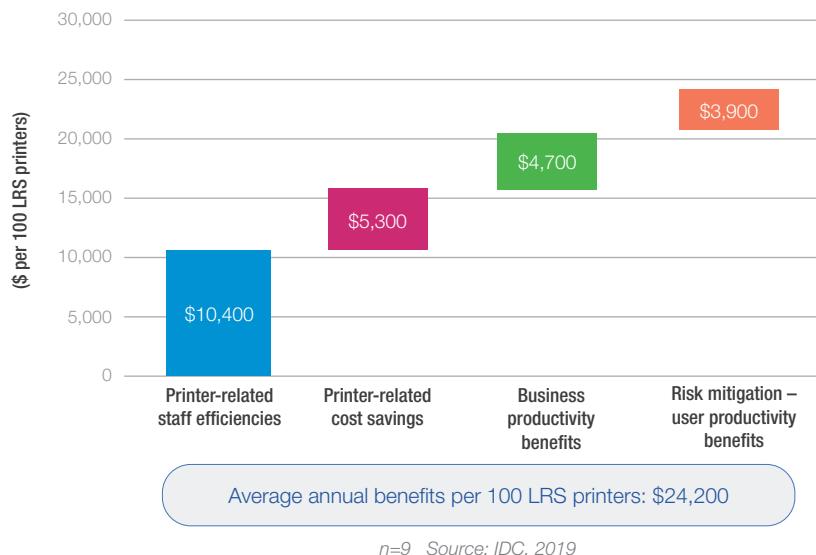
## Business Value of LRS EOM

Interviewed organizations reported that LRS EOM improves their ability to print in support of their business operations in nearly every measurable way. Fundamentally, LRS EOM improves the performance, reliability, and security of their printing environments. While such benefits can be more challenging to quantify, these benefits are critical to their business operations. Further, LRS EOM has reduced pain points associated with printing by bringing down the amount of staff time required and helping optimize printing-related costs. Study participants pointed to ease of use and management repeatedly as fundamental advantages of LRS EOM:

- **Ease of use that enables printing agility:** “*The biggest benefit for us of LRS EOM is its complete ease of use. We can add and delete printers in a very short time, there is good support, and if there’s a damaged or unavailable printer, then the print job is forwarded to another printer. It’s very easy to use and much easier than our previous solution.*”
- **Time savings for printer support:** “*There have been a lot of savings with LRS EOM because we don’t need to provide as much support. We now have hardly any hotline calls related to the LRS system. Overall, it’s been a big improvement for us.*”

IDC puts the value that interviewed organizations will achieve with LRS EOM at an annual average of \$24,200 per 100 LRS printers (\$1.62 million per organization) over five years in the following areas (see Figure 4):

- **Printing-related staff efficiencies:** Having a centralized, automated, and robust printing environment reduces the amount of staff time needed to manage print servers, support printing users, and administer printing activities. IDC calculates that interviewed organizations will realize printing-related staff time savings and productivity gains worth an average of \$10,400 per 100 LRS printers per year (\$695,800 per organization).
- **Printing-related cost savings:** Moving to a more centralized and standardized printing platform and establishing more efficient printing policies help interviewed organizations reduce costs related to print servers, paper, consumable supplies, and third-party printing services providers. IDC estimates that organizations will save an annual average of \$5,300 per 100 LRS printers (\$353,100 per organization).
- **Business productivity benefits:** Enabling users to easily find and use printers and opening up mobile printing activities help employees work more effectively. IDC puts the value of resultant higher user productivity at an average of \$4,700 per year per 100 LRS printers (\$313,400 per organization).
- **Risk mitigation — user productivity benefits:** Minimizing the frequency and duration of printing outages means that less productive employee time is lost and fewer business interruptions occur. IDC calculates the value of user higher productivity and revenue at an annual average of \$3,900 per 100 LRS printers (\$260,700 per organization).

**FIGURE 4** Average Annual Benefits per 100 LRS Printers

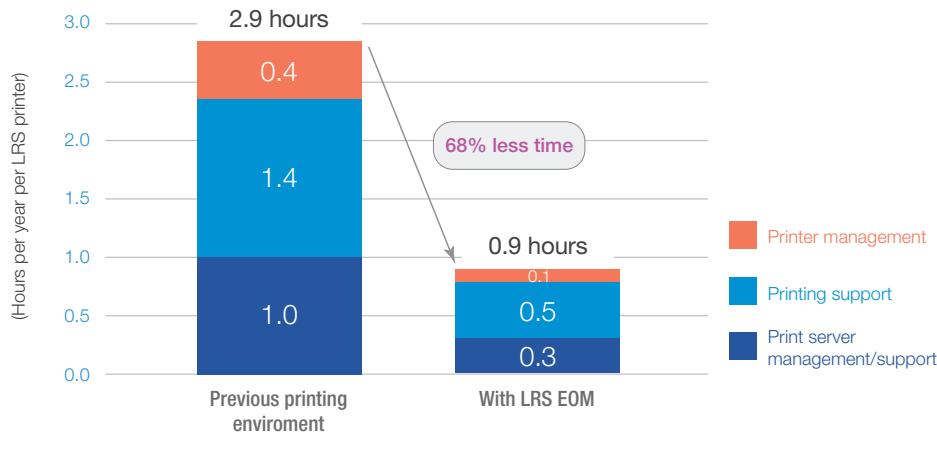
*Interviewed organizations consistently cited the need to reduce the amount of staff time required to deploy, manage, and support their printing environments was a driving factor to choose LRS EOM.*

*They have achieved substantial staff efficiencies with the LRS EOM platform, bringing down the amount of staff time per printer from almost three hours per year to less than one hour per year.*

### Printing-Related Staff Efficiencies

Interviewed organizations consistently cited the need to reduce the amount of staff time required to deploy, manage, and support their printing environments was a driving factor to choose LRS EOM. They spent too much staff time managing disparate printing environments lacking standardization and responding to printing-related problems affecting users. Study participants uniformly reported that they have achieved substantial staff efficiencies with the LRS EOM platform, bringing down the amount of staff time per printer from almost three hours per year to less than one hour per year (68% overall efficiency) to manage print servers, support printing users, and manage printers (see Figure 5).

Table 3 presents the same results but on a per organization basis, showing that LRS EOM enables just 3.3 FTEs to complete the work for which study participants would otherwise require 10.2 FTEs.

**FIGURE 5** Total Staff Time per Year per LRS Printer**TABLE 3** Impact on Staff Time to Support Printers and Printing Activities with LRS EOM

	Previous Printing Environment	With LRS EOM	Increased Value with LRS EOM	Benefit (%)
Staff time to manage/support print servers (FTEs per organization)	3.6	1	2.6	73
Staff time to support printing activities (FTEs per organization)	5	1.8	3.2	65
Staff time to manage printers	1.6	0.5	1.1	68
<b>Total staff time (FTEs per organization)</b>	10.2	3.3	6.9	68
<b>Total value of staff time per organization per year</b>	\$1,020,800	\$325,100	\$695,700	68

n=9 Source: IDC, 2019

## Print Server Management Efficiencies

LRS EOM has allowed study participants to consolidate disparate and inefficient print server environments. They reported previously running print servers at branch locations, thus requiring time from local staff to manage and provide support. More distributed and un-integrated print servers also presented challenges in terms of handling differing server capabilities and requirements. One study participant described the benefit of server consolidation: *"LRS EOM has simplified our printing environment because we had a mixed environment with multiple print servers and teams looking after those servers in different regions of the world."* Another LRS customer described the benefit of ease of installing print drivers:

**“Installing print drivers takes minimal time now with LRS EOM...With LRS EOM, our team can do 100 devices with the same number of strokes as they previously did 10 devices. ”**

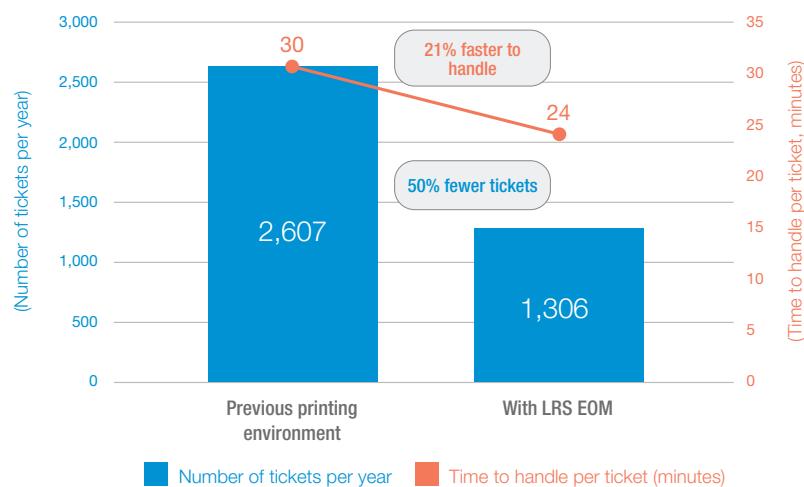
*“Installing print drivers takes minimal time now with LRS EOM...With LRS EOM, our team can do 100 devices with the same number of strokes as they previously did 10 devices.” Overall, study participants require 73% less staff time to manage print servers with LRS (refer back to Table 3).*

## Printing Support Efficiencies

Study participants have also leveraged LRS EOM to realize significant staff time savings related to responding to printing-related issues. Before deploying LRS software, they faced far more printing-related problems necessitating staff intervention. Further, distributed printer and print server environments made it more challenging for their staffs to identify and resolve problems. They were devoting too much staff time to respond to printing-related issues, which consumed valuable staff bandwidth and thus increasing the total cost of printing.

Interviewed organizations have achieved significant reductions in staff time required to support printing activities with LRS EOM by lowering the number of tickets by 50% and the time to resolve issues by 21% on average (see Figure 6). One study participant commented: *“There have been a lot of savings with LRS EOM because we don’t need to provide as much support. We now have hardly any hotline calls at least not related to the LRS system. Overall, it’s been a very big improvement for us.”* Another LRS customer noted: *“Before LRS EOM, we had about 10 people working on print issues, and we’ve moved that down to about 1.5 people with LRS EOM.”* On average, study participants have reduced the staff time needed to support printing activities by an average of 65%, saving the equivalent of more than three staff members per organization (refer back to Table 3).

**FIGURE 6 Key Metrics of Printing Support**



n=9 Source: IDC, 2019

**“It’s much easier to centralize printing with LRS EOM so that a single team can manage all printing worldwide instead of having local IT teams use their time to respond to printing issues; instead, they can use this time to do something else.”**

## Printer Management Efficiencies

Interviewed organizations noted that the LRS EOM platform offers new functionality such as a consolidated view of printing activities that deliver efficiencies in terms of managing their printer environments. One interviewed organization cited centralization as beneficial in managing its printers: “*It’s much easier to centralize printing with LRS EOM so that a single team can manage all printing worldwide instead of having local IT teams use their time to respond to printing issues; instead, they can use this time to do something else.*” Another study participant explained: “*The time required for managing our printing environment has gone down with LRS EOM because we have all printers for all applications on one view compared with several screens.*” Study participants reported requiring 68% less staff time for printer management activities with LRS EOM (refer back to Table 3).

## Printing-Related Cost Savings

With the LRS EOM platform, printing activities of interviewed organizations have become more cost effective. Before using LRS EOM, they faced printing inefficiencies stemming from distributed printing activities and not being able to apply and enforce robust policies for printing. With LRS, they have taken advantage of centralization and standardization to streamline their printing environments, better enforced printing policies, and begun implementing new capabilities such as pull printing. As a result, they are seeing cost savings with LRS EOM in three key areas:

**“We had a very distributed network for print servers — around 50 servers. Now, with LRS EOM, we’re down to three servers.”**

- **Print servers:** LRS customers have greatly consolidated their print server hardware by an average of 97%. Previously, many of them maintained print servers at branch locations, contributing to staff time inefficiencies as well as higher operational costs from running these servers on an individual basis. One interviewed organization commented: “*With LRS EOM, we’ve gotten rid of 78 print servers. ... We’ve saved on server maintenance, upkeep, licensing, and management overhead on those print servers.*” Another organization noted: “*We had a very distributed network for print servers — around 50 servers. Now, with LRS EOM, we’re down to three servers.*” IDC calculates that print server consolidation will save interviewed organizations around \$200,000 per year (see Figure 7).

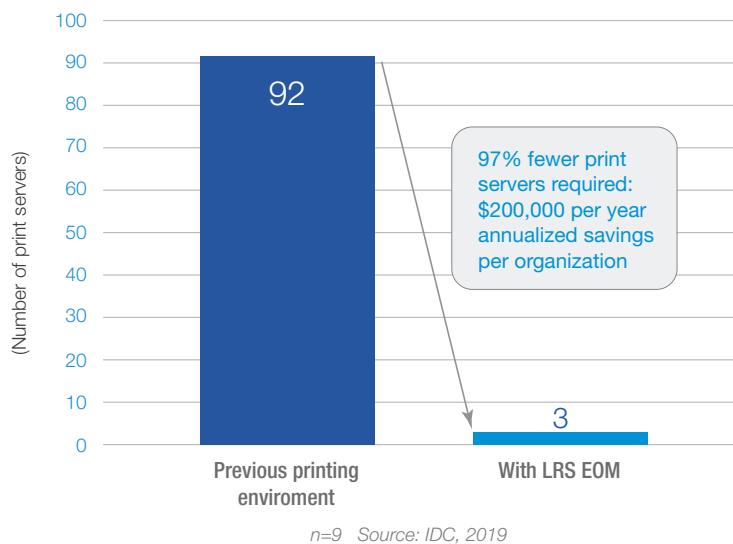
**“With LRS EOM, the default printout is black/white or grey colored. ... As a result, we’re reducing costs by about 50% because printing in color is much more expensive.”**

- **Consumables, including paper:** LRS EOM enables study participants to put in place and enforce more robust printing policies, including default duplex and monochrome printing, that help them optimize costs related to printing consumables. Several customers also reported beginning to use pull printing functionality, which they believe will further limit unnecessary printing. One organization explained: “*With LRS EOM, the default printout is black/white or grey colored. ... As a result, we’re reducing costs by about 50% because printing in color is much more expensive.*” While most interviewed customers have not yet put in

place LRS functionalities (including auditing of print activity, pull printing, and policy-based printing) that could even more significantly reduce print volumes, IDC estimates that this group of LRS customers will reduce the number of pages printed per year by over 7 million pages (10% fewer pages), which would yield paper-related cost savings of over \$28,000 per year.

- **Managed print services providers:** A number of study participants also use third-party managed print services providers and have optimized those costs with LRS EOM. One study participant commented: *"We have saved about 25% per year by defaulting to black and white printing with LRS EOM."* IDC calculates that interviewed LRS customers will save an average of \$135,000 per year per organization (12% savings) on third-party managed print services provider costs.

**FIGURE 7 Number of Print Servers Required**



### Printing-Related Risk Reduction

In addition to providing robust, efficient printing services, interviewed organizations must minimize printing-related risk. Interviewed LRS customers spoke of the different forms this risk can take, including user- and business-impacting outages, ensuring document confidentiality, and potential security breaches. They described combating these potential issues with LRS EOM through improved performance, high availability, increased visibility, and specific platform functionalities.

Most interviewed LRS customers rely on printing to drive their core day-to-day business operations, including printing of documentation required for shipping products, labels for

**“Printing here is directly connected to [our] sales so it’s highly business critical. When printing is down, we cannot print warranty cards and price tags, which means we basically cannot sell our product. Since printing is much more stable now with LRS, we have a much higher percentage of uptime of the system, which is good for our business.”**

**“With LRS EOM, printing is up 24 hours a day, and it works all the time. I’ve worked here six years now, and we’ve never had a situation where printing is down with LRS EOM.”**

retail sales, and patient documentation for healthcare organizations. This means that they can and do suffer business losses when printing outages occur. Further, employees who rely on printing lose valuable time when they cannot print or must find printing workarounds.

Study participants reported significantly reducing printing problems and nearly eliminating business-impacting issues with LRS EOM:

- One customer reported: “*Printing here is directly connected to [our] sales so it’s highly business critical. When printing is down, we cannot print warranty cards and price tags, which means we basically cannot sell our product. Since printing is much more stable now with LRS, we have a much higher percentage of uptime of the system, which is good for our business.*”
- One organization noted: “*We have to have high availability because if printing goes down for us, then we’re dead in the water. It’s a business imperative. ... In the 10 years I’ve been working on LRS, I’ve never seen it go down.*”
- Another organization echoed the “always on” theme of the solution: “*With LRS EOM, printing is up 24 hours a day, and it works all the time. I’ve worked here six years now, and we’ve never had a situation where printing is down with LRS EOM.*”

IDC calculates that, as a result of avoiding unplanned printing outages that affect business operations, study participants will avoid the loss of \$1.40 million in revenue per organization per year (\$20,900 per 100 LRS printers) (see Table 4).

Meanwhile, Table 5 underscores the benefit for employee users of higher availability for printing services. While the productivity loss associated with outages may not be significant on a per-event basis, lost productivity adds up across thousands of users each year and diminishes user confidence in the functionality of the printing services upon which they rely.

Study participants have also reduced less tangible risk associated with printing with the LRS EOM platform. For example, one organization talked about using LRS MFPsecure (i.e., pull printing) functionality to enable users to better control printing of confidential documents: “*With MFPsecure delivery, the printer will only be started if you go to the device and you authorize with your chip card or company card. ...The user authorizes the printing on the device and gets the confidential printout. It’s a good solution.*” Another participant spoke on how the platform can harden specific printers requiring greater security: “*Using built-in security with LRS EOM, we’ve reduced access to spools for specific printers. There’s a security issue there in that some printers need higher security, and we’ve been able to implement those levels of security.*”

**TABLE 4** Business Productivity Benefits: Higher Revenue with LRS EOM

	Per Organization	Per 100 LRS Printers
Higher revenue and reduced impact of unplanned printer outages		
Additional revenue per year	\$1.40 million	\$20,900
Recognized revenue per year — IDC model*	\$210,000	\$3,100

n=9 Source: IDC, 2019

\* The IDC model assumes a 15% operating margin for all additional revenue.

**TABLE 5** Impact of LRS EOM on Unplanned Downtime: Before and After

	Previous Printing Environment	With LRS EOM	Increased Value with LRS EOM	Benefit (%)
Number of impactful printer outages per year	183	83	100	55
Time to resolve per issue (hours)	0.7	0.5	0.2	24
Lost productive time per user per year (minutes)	7.5	4.4	3.1	41
Lost productive time per year per organization (FTEs)	1.7	1	0.7	41
Value of lost productive time per organization	\$122,400	\$71,800	\$50,600	41

n=9 Source: IDC, 2019

## Printing-Related Business and User Enablement

Interviewed organizations also spoke about how enhanced functionality with LRS EOM creates affirmative efficiencies for employees and their businesses. They noted the ease of finding and connecting to printers, document handling functionality, and the ability to support mobile printing as beneficial. These types of functionalities reduce friction related to printing for employees and make printing a more seamless part of how they work. Study participants described the benefits of LRS EOM:

- **Ease of printer use:** “We can provide a self-help portal now for users with LRS EOM. They get a quick tutorial on how to install a printer, and how to set a default printer in a couple of clicks. ... You look at the printer label, go to the portal, press one button, and you've got it installed. It's so seamless for our users and it brings a lot of user delight.”
- **Saving time with automation with LRS Intelligent Document Bundling:** “We were spending so much manual time printing documents and then sorting by customer number or

**“ We were spending so much manual time printing documents and then sorting by customer number or invoice number. ... The logistics department was spending 20–30% of the day bundling these documents, and with LRS Intelligent Document Bundling, they do not need this time. ”**

*invoice number. ... The logistics department was spending 20–30% of the day bundling these documents, and with LRS Intelligent Document Bundling, they do not need this time."*

Interviewed LRS customers reported that most of their printing users — on average 19,000 users per organization — have benefited to at least some extent from ease of use and new functionality enabled by LRS EOM. IDC puts the value of resultant higher productivity at an average of \$313,400 per organization per year (\$4,700 per 100 LRS printers) (see Table 6).

**TABLE 6** Business Productivity Benefits: Higher User Productivity Using LRS EOM

	Per Organization	Per 100 Users
Number of users impacted per year	19,000	284
Equivalent net productivity gain (FTEs)	4.5	0.1
Higher productivity time per user per year (minutes)	27	27
Higher productivity per year (\$)	313,400	4,700

n=9 Source: IDC, 2019

## ROI Summary

Table 7 presents IDC's analysis of the average discounted benefits and investment and return on investment (ROI) for the organizations using LRS EOM software. IDC projects that these organizations will achieve total discounted benefits over five years valued at \$85,900 per 100 LRS printers (\$5.76 million per organization) in terms of printing-related staff efficiencies and cost savings and user productivity and revenue gains. Compared with discounted benefits, these organizations will invest a five-year average discount total of \$14,700 per 100 LRS printers (\$0.98 million per organization), including the cost of LRS software, staff time costs for deployment and extension, and any other LRS use-related costs. This would result in a five-year ROI of 486%, with average breakeven on investment occurring in six months. For more details about IDC's Business Value and ROI methodology, see the Appendix.

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*This would result in a five-year ROI of 486%, with average breakeven on investment occurring in six months.*

**TABLE 7** ROI Analysis

	Five-Year Average per Organization	Five-Year Average per 100 LRS Printers
Benefit (discounted)	\$5.76 million	\$85,900
Investment (discounted)	\$0.98 million	\$14,700
Net present value (NPV)	\$4.77 million	\$71,200
Return on investment (ROI)	486%	486%
Payback period	6 months	6 months
Discount rate	12%	12%

n=9 Source: IDC, 2019

## Additional Customer Testimonials

Overall, interviewed LRS customers expressed strong satisfaction in their use of LRS EOM software and their relationship with LRS. In many cases, their feedback was less immediately quantifiable but reflected the positive outcomes they are achieving. Feedback collected during interviews included:

- **Exceeded expectations:** *"I would totally recommend the LRS EOM solution. For me, if your organization has multiple locations with very business critical needs of printing, this product is for you."*
- **Strong foundation for large and diverse printing environment:** *"We're a very big company with a large set up with thousands of different printer models, so I would say if we don't have it, then it doesn't exist ... So far we've found solutions for everything with LRS EOM."*
- **High praise about quality of software and LRS:** *"I've worked in IT for more than 20 years. I've seen so many IT products — everything that you can imagine. There's a bug in all software — that's really the truth. But the LRS system is so free of bugs that you can't imagine. What LRS says in its presentation pitch is really true ... It's a very good product, a very good company, and very good people we work with there."*
- **Quality of support from LRS:** *"We've found that LRS bends over backwards to be responsive and to solve our problems ... They've been like that since day one. It's been fantastic service from the sales and technical teams behind the scenes. When we say we need help with a problem, they come back with a solution for us."*

# CHALLENGES AND OPPORTUNITIES

## Challenges

Organizations face a variety of challenges when it comes to driving operational improvements. The desire to reduce costs while optimizing infrastructure to drive productivity and gain better business insights is always a balancing act. Identifying potential roadblocks allows businesses to better prepare for systemwide changes to infrastructure and is key to maximizing the benefits of technology deployment and implementation.

Although viewed as an important and necessary business function, print has gone largely unmonitored and unmeasured as a business expense. Lack of visibility into the total cost of printing and other document-related business processes remains a challenge for companies of all sizes. By leveraging a holistic output management solution, businesses can gain valuable insights into specific areas crucial to process optimization and digital transformation. Nevertheless, it is not always easy to demonstrate the value of output management until hard metrics are available to identify existing printing costs in terms of device distribution and resource allocation, utilization rates, print volumes by device and department, and other usage-based metrics.

LRS' print auditing and accounting tool provides organizations with detailed information about their output environments, so they can better identify opportunities to reduce costs, increase document security, and improve compliance efforts. Although the tool provides ROI metrics and demonstrates the value of output management, many organizations remain unaware of the business improvement opportunities presented by using such solutions.

IT executives are also challenged by organizational silos, making it difficult to implement a single print architecture across the entire company. Many businesses leverage several point solutions to manage their print infrastructure, thereby restricting visibility into total print costs and asset deployment and making it much more difficult to identify opportunities for improvement. A good change management program can help IT executives build a business case and gain executive sponsorship for transitioning to a systemwide approach for output management.

Print security is another issue that tends to go under the radar. Interestingly, an organization's own print and document infrastructure is uniquely positioned right at the intersection of digital transformation and IT security. Today's printing device is an intelligent business processing hub that serves as an on- and off-ramp to business-critical information — whether it is stored in the device, on the corporate network, on paper, or in the cloud. Nevertheless, most businesses fail to recognize the security vulnerabilities associated with their existing

print and document environment. According to IDC's August 2018 IT and Print Security Survey, only 17% of organizations indicated that security policies for managing access to and controlling usage rights for printers and MFPs are "very important." At the same time, over half of the survey respondents (53%) expressed high concern for a potential security breach due to exposure of documents/information left at the printing device.

There is a false perception among businesses today that printers are protected by other IT security practices and policies based on the assumption that systems put in place to protect the network would extend to other connected peripherals. But security around the network perimeter is crumbling, and every device connected to the network is now an endpoint security risk. The print environment is unique because it is leveraged specifically to manage data, documents, and information in both the digital and the paper format, which means business-critical content is exposed and vulnerable in a variety of ways.

Output management software can help organizations improve security of the print and document infrastructure in a variety of ways, not only to shore up the device and protect network access but also to ensure protection of business-critical content, including data in motion and data at rest. For example, security measures such as pull printing can significantly reduce risks associated with data leakage. However, more education is needed to demonstrate the security vulnerabilities inherent in the output environment.

This does not mean that pain points related to print infrastructure go undetected or unmanaged. Instead, IT organizations have historically approached printing-related problems in a piecemeal fashion by deploying a disparate set of ad hoc solutions with minimal integration and no cohesive strategy as it relates to broader IT objectives. By implementing a holistic output management solution, businesses can simplify and standardize on a secure document delivery platform while addressing important variables critical to print management, process optimization, and digital transformation.

## Opportunities

There are several opportunities for businesses to improve operational efficiencies by implementing output management technology. Although there is a tendency to look at organizational opportunities strictly through the lens of monetary benefit, it is imperative for IT executives to understand the value proposition of EOM, which extends far beyond incremental cost savings. To build an effective business case for output management, it is necessary to focus on mitigating the complexities associated with the changing digital workplace in terms of mobile and cloud computing, virtualization, digitization, and the rapid adoption of advanced automation technologies fueling digital transformation.

Inherent in the value proposition is the opportunity to enable more efficient and cost-effective print policies and practices. Once again, however, businesses should carefully consider the best tools to enable this functionality. Most print management solutions support rules-based printing as a means for reducing costs. These policies can range from administrator-controlled access to output devices or features to mandatory restrictions and printing limitations. Implemented properly and as part of an integrated document workflow strategy, rules-based printing procedures can be an effective means for optimizing business processes and controlling output costs.

On the other hand, if these policies are strictly enforced with no thought given to the impact on workflow, it can cause significant disruption to worker productivity. In some cases, employees will devote significant time and effort simply to create workarounds to avoid certain restrictive print policies and do their job effectively. An effective output management solution should encourage and enable better print behavior, rather than simply mandate it as a cost-savings utility.

Print optimization and process optimization must occur concurrently and in a complementary way to achieve the greatest impact. This requires an output management solution that can evolve along with the organization's changing needs. At the same time, modifications to the print environment with no consideration regarding the impact on productivity could lead to further inefficiencies in document processes, costing businesses much more in the long run than could ever be recovered by reducing print costs.

Last, transitioning to a holistic output management solution is consistent with overall trends toward a "cloud first" IT strategy and prioritizing solutions that run in the cloud. Organizations across all vertical markets can benefit from moving applications and critical components of their IT infrastructure to third-party cloud platforms such as AWS and Azure. Leveraging this model, organizations that are adopting a platform-as-a-service architecture and running LRS' EOM software in a private cloud are achieving greater flexibility and scalability while maintaining complete control over software solutions that may be customized to address specific business requirements.

## CONCLUSION

The workplace is evolving, and organizations face increased pressures to rationalize and streamline IT infrastructure. Knowledge workers require 24 x 7 access to information both inside and outside the corporate firewall. As a result, there is growing concern over the need to more effectively (and securely) manage access to information. With growing adoption of

cloud, mobile computing, and IoT, IT executives must identify gaps in their corporate strategy to not only reduce operational costs but also enable a more effective digital workplace.

Optimizing the print infrastructure represents an important opportunity for businesses in these endeavors. Through the implementation of a holistic output management solution, businesses can enable a more mobile, secure, and productive workforce while reducing overall costs associated with print production, distribution, and management. The need to more effectively manage and control access to information has never been more critical to organizational success. As a result, IT executives must consider strategies for secure and effective document delivery as part of their overall digital transformation initiatives.

IDC's research demonstrates the value of LRS EOM software in supporting enterprise document delivery activities. Interviewed organizations reported that LRS EOM significantly improves their ability to support business operations by ensuring more reliable, efficient, and higher-performing printing.

As a result, study participants better align the quality and security of printing to critical business needs, even as they bring down the amount of staff time required to run their print infrastructure and optimize printing-related costs. IDC's analysis projects that these organizations will achieve strong value relative to their investment in LRS EOM, with an average projected five-year ROI of 486%.

## APPENDIX: METHODOLOGY

IDC used the following three-step method for conducting the ROI and Business Value analysis informing this study's results and conclusions:

- 1. Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of LRS EOM software.** In this study, the benefits of using LRS EOM included printing-related cost savings, printer-related staff time savings and efficiencies, and higher user productivity and revenue.
- 2. Created a complete investment (five-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of deploying and using LRS EOM and can include additional costs related to migrations, planning, consulting, and staff or user training.
- 3. Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of LRS EOM over

a five-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from current users of LRS EOM software. Based on interviews with nine organizations, IDC performed a three-step process to calculate the ROI and payback period:

- Measure the benefits associated with using LRS EOM software in terms of printer-related efficiencies and productivity gains, reductions in printing-related costs, and higher user productivity and revenue.
- Ascertain the investment made in deploying LRS EOM and associated migration, training, and support costs.
- Project the costs and savings over a five-year period and calculate the ROI and payback for LRS EOM software.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and productivity savings. IDC assumes a fully burdened salary of \$100,000 per year for IT staff, including developers, and \$70,000 for other employees, with an assumption that employees work 1,880 hours per year.
- Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
- Lost productivity is a product of downtime multiplied by burdened salary.
- The net present value of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.
- Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each company what fraction of downtime hours to use in

calculating productivity savings and the reduction in lost revenue. IDC then taxes the revenue at that rate.

- Because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

*Note: All numbers in this document may not be exact due to rounding.*

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