

**LRS**  
**USER GROUP**  
**Zürich 2025**



# Industry Trends

# Modern Print

The world as we know it is changing

# Microsoft Modern Print Platform

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- “Modern print is Windows' preferred means of communicating to printers, including the Internet Printing Protocol (IPP), eSCL scanning, and Universal Print”
- "Driverless printing architecture built into Windows"
- “Replacing the traditional driver-dependent print stack with a more secure, simplified, and consistent solution across all Windows devices”

## Collection of features for Microsoft's vision of printing

# Microsoft Modern Print Platform

- Key Terms:
- Mopria
- Windows protected print mode (WPP)
  - Direct Print requiring line of sight
- Print support applications (PSA's)
- Universal Print
  - A way to reduce the need for an intranet with limitations
- WPP, PWG IPP, Mopria, Driverless, PSA's, Wi-Fi-Direct, WSD...

# Mopria



- Formed in 2013 by Canon, HP, Samsung, and Xerox
- Created to standardize mobile printing
- Provides specs and certification tools for device-printer communication
- Supports local and internet-based printing
- Uses IPP, PWG, WSD, mDNS, Wi-Fi Direct, eSCL, IPP FAX
- Standards managed by multiple working groups
- LRS is an Executive Member of the Mopria Alliance

# Mopria Initiatives

- Technical working group
- Cloud Working group
  - Cloud Tiger team
- Enterprise Working Group
  - Enterprise Tiger Team
- LRS will continue to monitor and influence

## Board Members

Canon



## Executive Members

Adobe

brother  
at your side

DEX  
imaging

EPSON

FUJIFILM

KYOCERA

Lexmark™

LRS  
OUTPUT MANAGEMENT

Microsoft

PANTUM  
The New Era for Printing

PRIMAX

RICOH

SAMSUNG

TOSHIBA

XEROX™

Y-SOFT

## Adopters



KATUN™

OKI  
Open up your dreams

vivo

## Software Supporters

ALPS ALPINE



PaperCut.™

Qualcomm



TUNGSTEN  
AUTOMATION



# Windows Protected Print (WPP)

- Disables all print drivers except for the built in Microsoft IPP class driver
- Disables PrintUI and other connection mechanisms
- Enforces printing to Mopria certified devices only using Microsoft's drivers
- Windows verifies printer compatibility and abilities using IPP communications (if it can find the right device.)
- May be enabled by GPO, but currently no way to prevent accidental activation by an inquisitive end user



# Windows Protected Print (WPP)

- Generates PDF's
- Finishing options via IPP Attributes
- Supports Universal Print
  - User must be authorized in Entra ID



Are you sure you want to use Windows protected print mode?

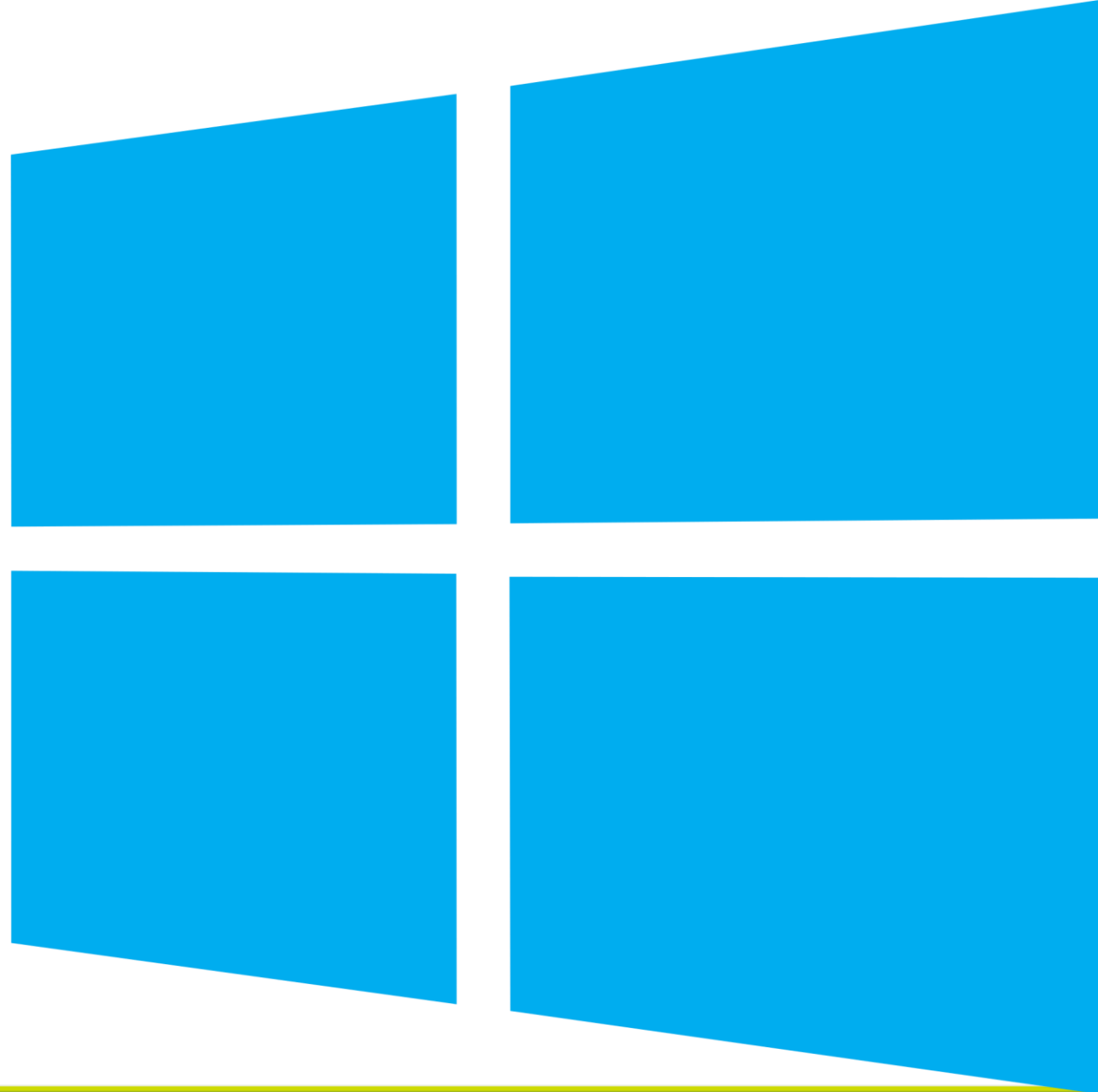
This will remove printers that are not compatible with Windows protected print mode from your devices.

Yes, continue

Cancel

# Microsoft Future

- Eliminate Windows Print Servers
- Everyone just prints locally or via universal print
- Focusing on end user generated print (Front-end printing)



# Windows Protected Print (WPP)

The screenshot shows the Windows Settings application, specifically the 'Printers & scanners' page under 'Bluetooth & devices'. A blue confirmation dialog is overlaid on the right side of the screen, asking 'Are you sure you want to use Windows protected print mode?'. The dialog explains that this will remove printers not compatible with Windows protected print mode and provides 'Yes, continue' and 'Cancel' buttons.

**Bluetooth & devices > Printers & scanners**

Add a printer or scanner

LRS - Infrastructure  
Default

**Printer preferences**

**Windows protected print mode**  
This feature helps ensure the latest security standard for printer software. Turning this on may limit the availability of some printers using an older default security standard. [Learn more.](#) **Turn Off**

Allow Windows to manage my default printer **Off**

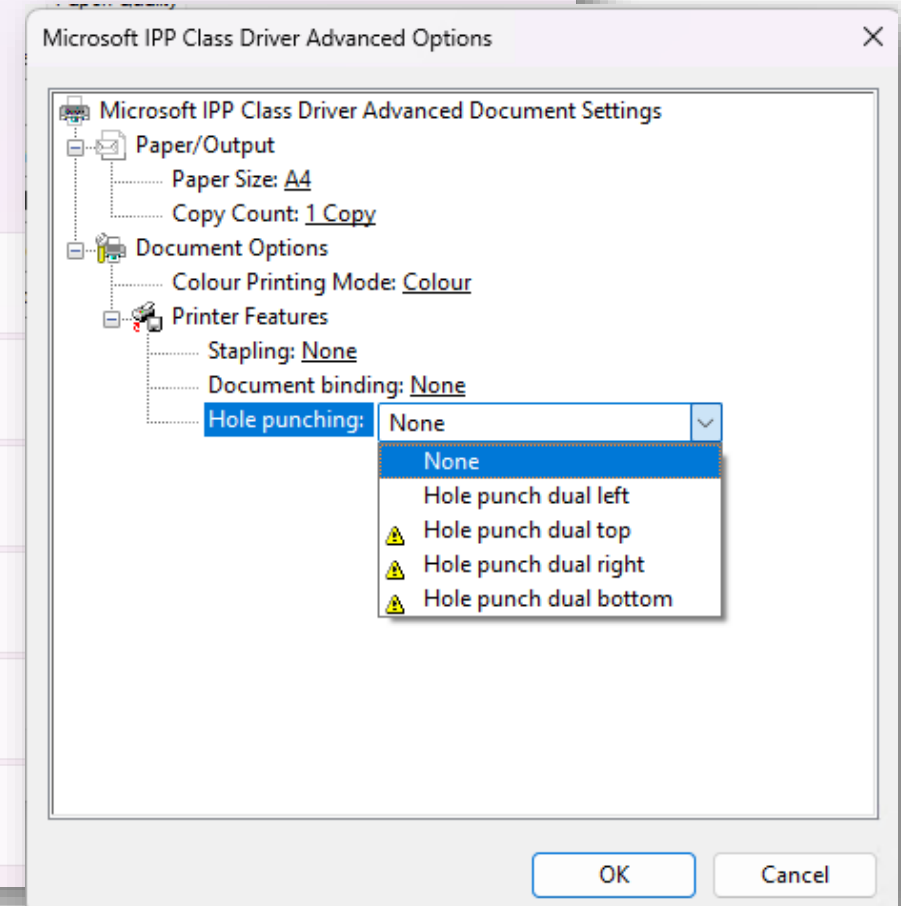
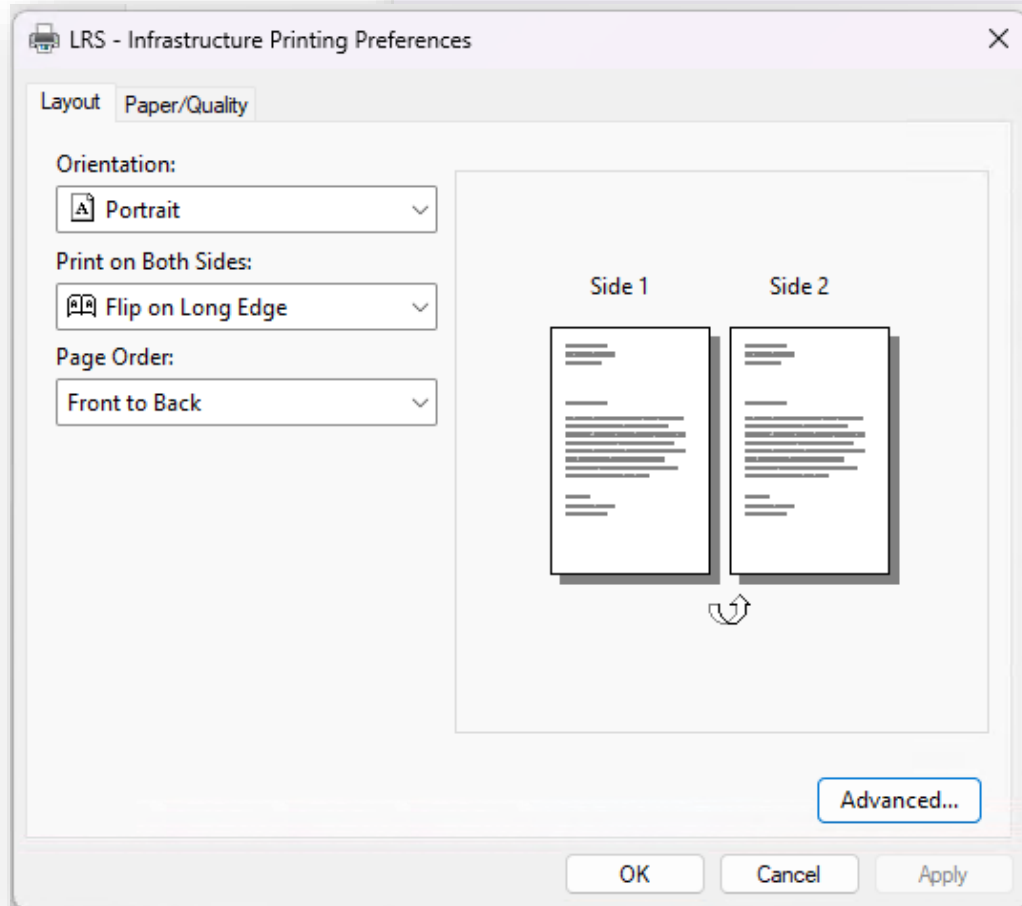
Download drivers and device software over metered connections  
Data charges may apply **Off**

**Related settings**

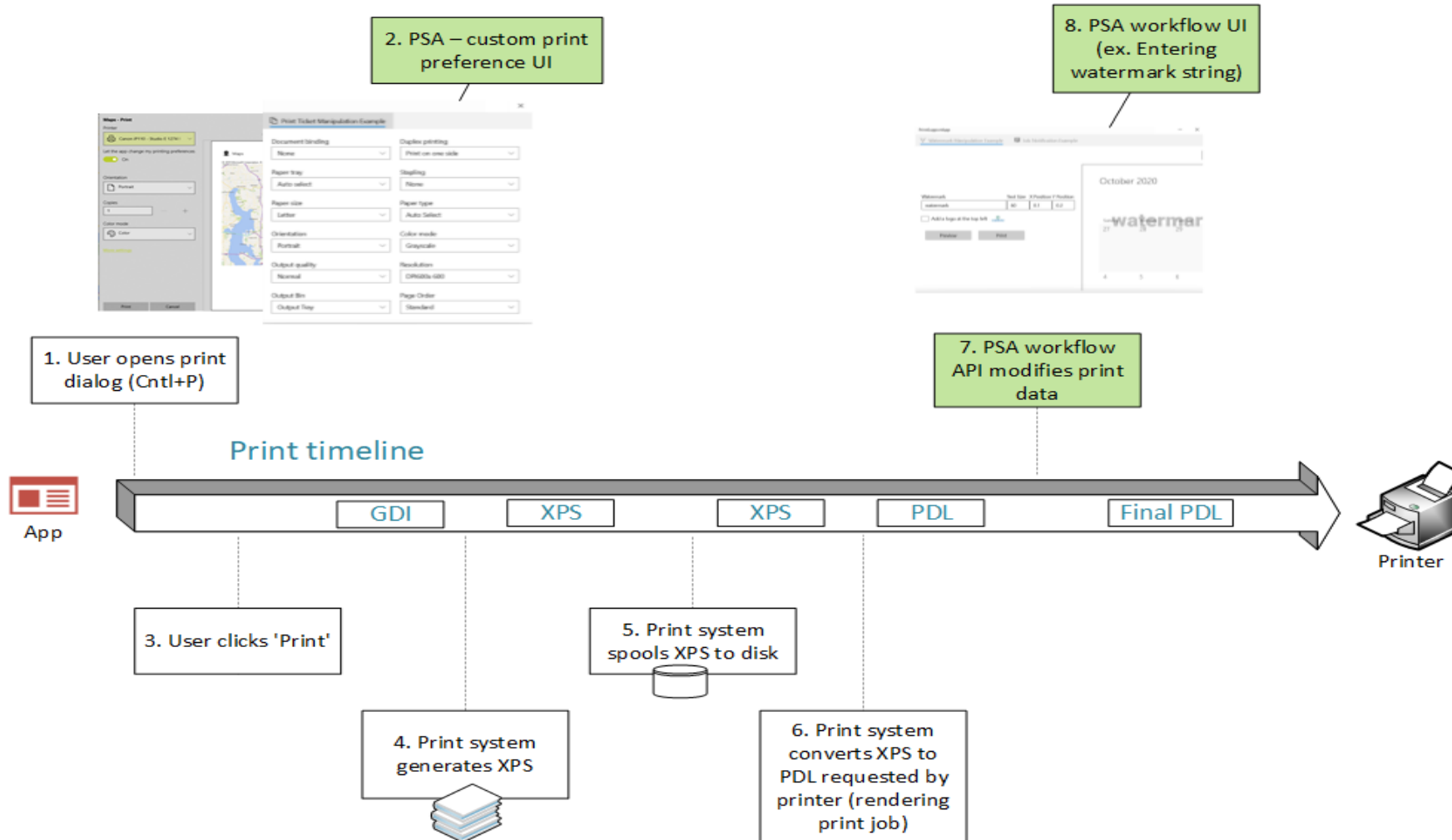
Print server properties

# Windows Protected Print (WPP)

Bluetooth & devices > Printers & scanners > LRS - Infrastructure



# Printer Support Apps



Third Party tools which allow for customisation of the printing process.

# Strategies for the new world

## IPPS

### Internet Printing Protocol

HTTPS over the open  
internet



Mopria Cloud



Pull print only

All of these things struggle with backend  
and label print

# LRS Response

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LRS will continue to handle:

- Printer installation
- Security via encryption
  - At rest
  - In motion
- Data stream conversion
- Policy enforcement
- Access control
- Specialized print applications

- LRS is actively developing a robust WPP Mopria-compatible solution that allows your organization to work as it always has

# Cloud Strategies



# Cloud first, Cloud at all?

Here are three of the most common and compelling reasons companies shift their IT operations to the cloud:

## 1. Cost Efficiency

- Reduces capital expenditure on hardware and infrastructure
- Converts fixed costs into variable ones—pay only for what you use
- Minimizes maintenance and upgrade expenses by outsourcing to cloud providers

## 2. Scalability and Flexibility

- Easily scale resources up or down based on demand
- Supports rapid growth without the need for physical infrastructure changes
- Enables global access and collaboration across distributed teams

## 3. Improved Security and Reliability

- Cloud providers invest heavily in cybersecurity and compliance
- Data backups, disaster recovery, and redundancy are built-in
- Systems are monitored 24/7, reducing downtime and ensuring business continuity

# Why are 80% of companies repatriating?

## 1. Escalating Cloud Costs

- Cloud pricing can balloon over time, especially with storage-heavy or legacy workloads.
- Companies like 37signals reported saving millions by exiting AWS
- Subscription fees, data transfer costs, and unpredictable billing models often outweigh initial savings

## 2. Compliance and Data Sovereignty

- Industries like healthcare and finance face strict regulations (e.g., HIPAA, GDPR, DORA, NIS2)
- Keeping sensitive data in-house helps meet legal and internal policy requirements
- Some organizations prefer direct control over where and how data is stored

## 3. Performance and Architectural Control

- Repatriation allows for tailored infrastructure optimized for specific workloads
- GEICO found cloud reliability issues and architectural limitations that hindered performance
- On-prem setups can offer better latency, customization, and integration with legacy systems

# Hybrid Cloud Trends

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## Cloud as a Platform

The cloud is a powerful platform—ideal for certain workloads, but not a one-size-fits-all solution

## Print as an IoT Solution

Print services align more with IoT than SaaS. It's not just about browser access—it's about connected devices and smart infrastructure

## Cloud Economics

Transitioning to the cloud doesn't necessarily cut costs at the enterprise level—it redistributes capital across different operational areas

# Networks and Architecture





# The old world | but that didn't work

# Cyber Attacks

- Increasing exponentially
  - Largely more attacks rather than more complex attacks
  - State funded, affiliated and inspired hacking groups
  - HAAS, RAAS, AI tools, dark web tools & manuals
  - Attacks increasing directed to Critical National Infrastructure, including supply chains
  - October 2025 – *‘the average time for a cyber adversary to move laterally across a victim’s network is at an all time low of 48 minutes, the fastest recorded is 51 seconds’*





# So what are companies doing?

- Zero trust networking
- Working to eliminate attack vectors (WPS, VPNs, etc)
- Workstations on the open internet
- Printers either on the open internet (less common)
- Printers on an isolated subnet
  - So how do I print?



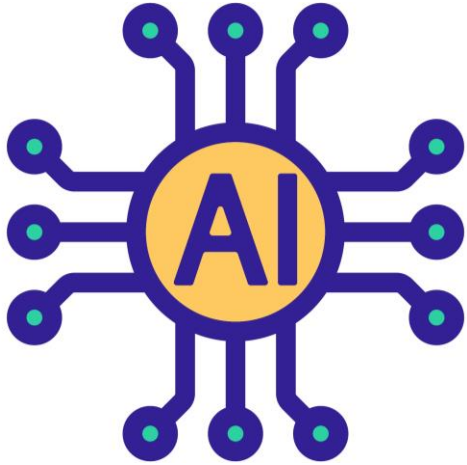
# AI



# Is this real or is this another buzz word?

- Many LRS customers are actively using or planning to use AI tools
  - Gemini, Co-Pilot, ChatGPT etc. as general productivity tools
  - Agentic AI to automate or semi-automate business processes
- Some LRS customers are passing print and scan documents from LRS products to in-house AI tools
- Some use cases:
  - Document classification
  - Data loss prevention and analysis
  - Security risk identification and audit
  - Security labelling
- Many of these functions can be achieved using existing LRS tools

# AI



## LRS research ongoing for:

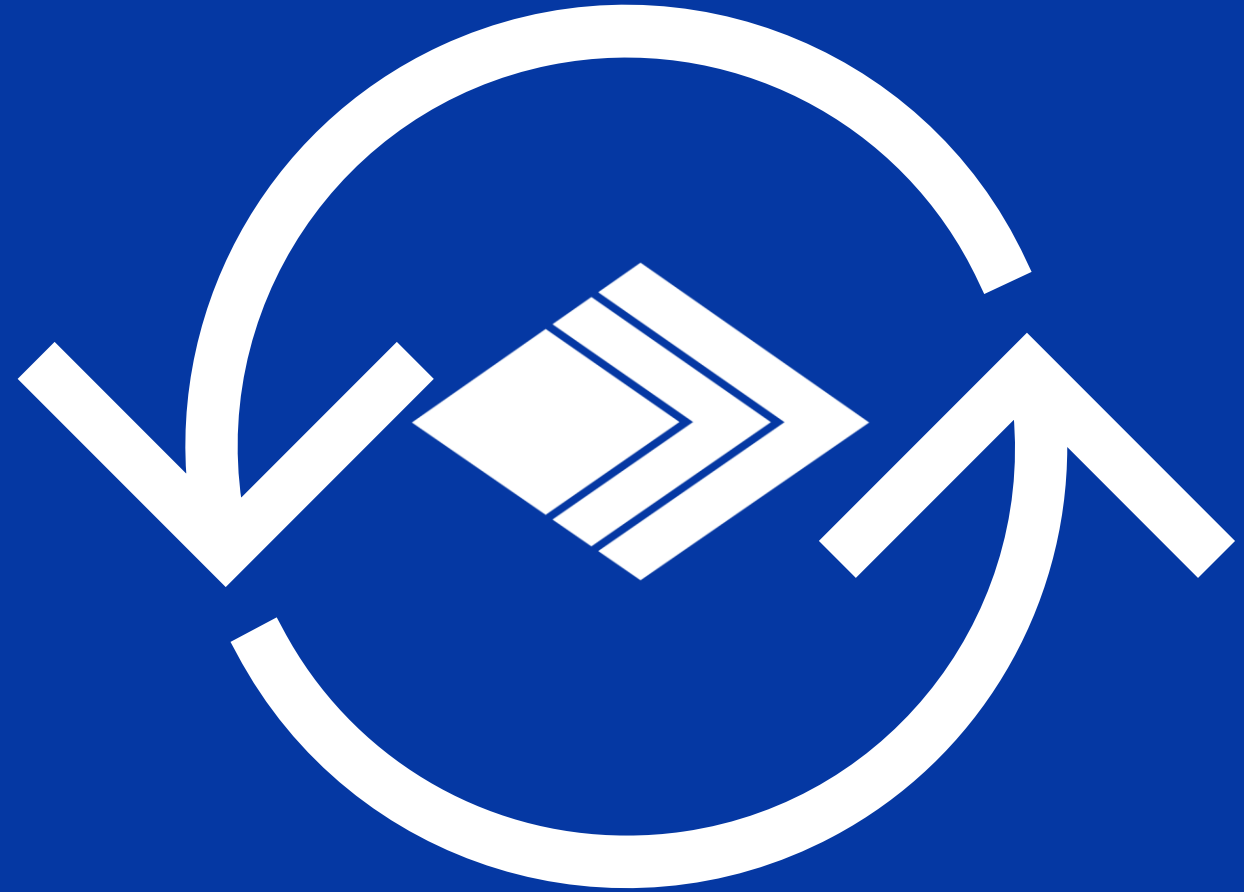
- Data loss detection/prevention
- Data classification
- Document intelligence
  - Detect missing data, automate data entry, extract key information, summarize, redact, route, data validation etc.
  - Create structured data from unstructured

## How else might it fit into our product suite?

- Support site / Knowledgebase integration
- Configuration chat-bot
- Fraud prevention
- Alerting of incipient problems via log analysis, network information, etc
- Innovate Audit / I/A Cloud prompt service
  - “Show me all the jobs user A has printed in the last month in the Springfield location that has a page count larger than 20 pages”

# Product Update and Roadmap

# Product Update



# VPSX, LRS/Gateway

# VPSX family - Quota

- What is Quota?
- Why, after all this time?
- How might it be used?

The screenshot shows the 'Security' sidebar with 'Apps' selected. The main panel displays the 'Quota' policy configuration. The policy name is 'You put in your 2 weeks' and the description is 'You cannot print anymore.' The policy status is 'Policy is active' with a 'Set as inactive' button. The policy conditions are set to 'All of the following conditions are true' with a single condition 'Enforce Quota' selected.

The screenshot shows the 'Users' management console. It includes a search bar, 'Add', 'Modify', and 'Delete' buttons, and navigation controls. Below the controls is a table with the following data:

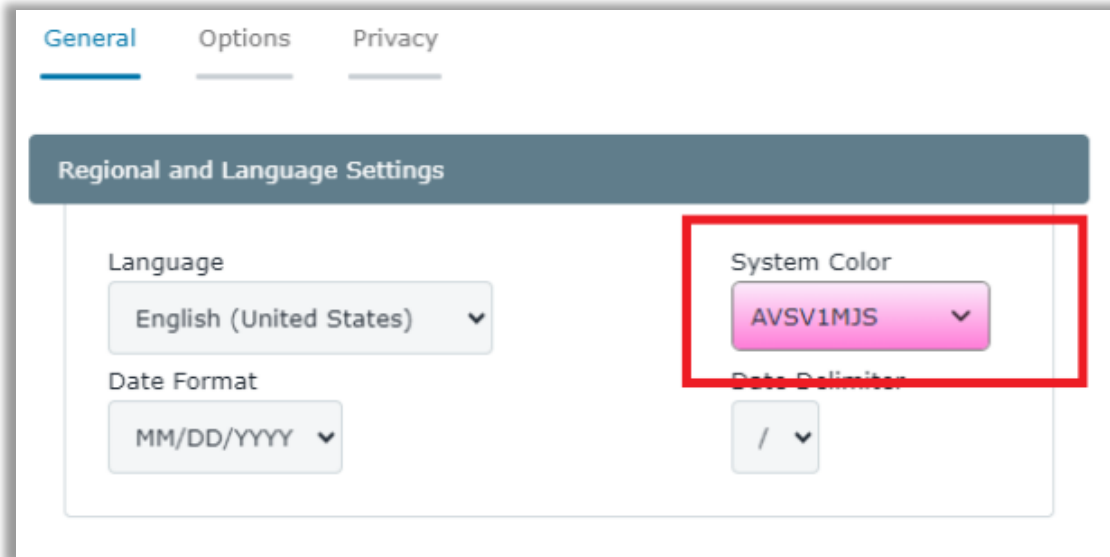
User	Limit Used	Quota Limit
william.lindsey@lrs.com	0	6

- Masking VPSX log entries



# VPSX, LRS/Gateway

- Optionally allow log files to be written in UTC time
- A new user preference option has been added to set the system color to help distinguish different environments



General Options Privacy

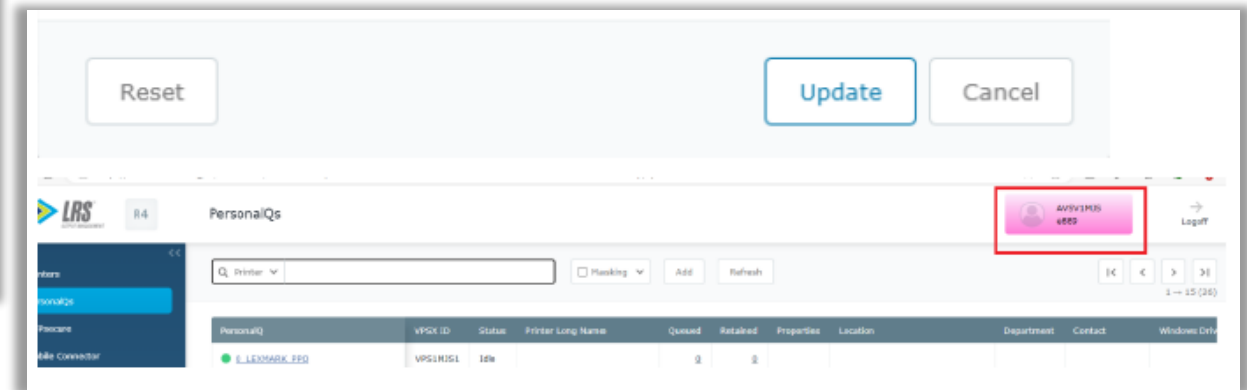
Regional and Language Settings

Language  
English (United States) ▼

Date Format  
MM/DD/YYYY ▼

System Color  
AVSV1MJS ▼

Date Delimiter  
/ ▼



Reset Update Cancel

LRS R4 PersonalQs

Q Printer ▼ Masking ▼ Add Refresh

1 - 15 (24)

PersonalID	VPSX ID	Status	Printer Long Name	Queued	Retained	Properties	Location	Department	Contact	Windows Def
6 LEXMARK_ZPD	VPS1HSL	Idle		0	0					

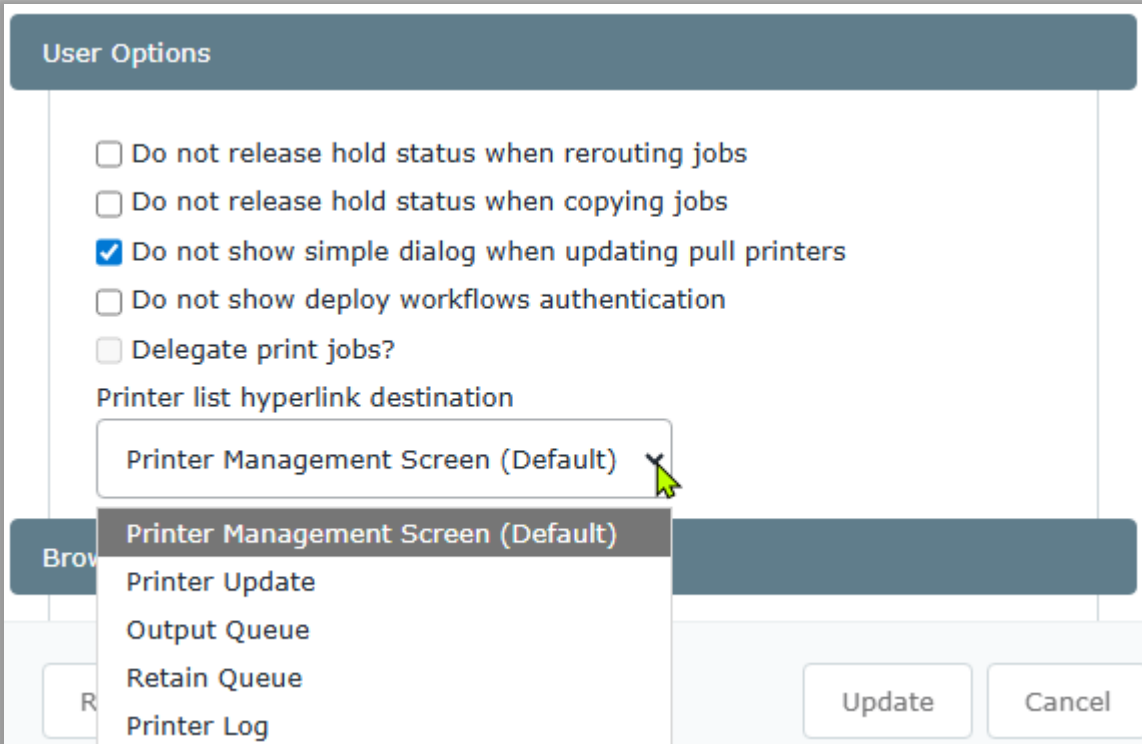
AVSV1MJS  
User

Logout



# VPSX, LRS/Gateway

- New user preference option added to change the behavior of the printer list hyperlink



The screenshot shows a 'User Options' dialog box with a list of checkboxes and a dropdown menu. The checkboxes are:

- ☐ Do not release hold status when rerouting jobs
- ☐ Do not release hold status when copying jobs
- ☒ Do not show simple dialog when updating pull printers
- ☐ Do not show deploy workflows authentication
- ☐ Delegate print jobs?

Below the checkboxes is the 'Printer list hyperlink destination' section, which contains a dropdown menu. The dropdown is open, showing the following options:

- Printer Management Screen (Default) (highlighted by a mouse cursor)
- Printer Update
- Output Queue
- Retain Queue
- Printer Log

At the bottom right of the dialog are 'Update' and 'Cancel' buttons.

# VPSX, LRS/Gateway

- Print Server Configuration now includes the option to enable administrative change logging in a separate log file

The screenshot displays the VPSX, LRS/Gateway configuration interface. On the left is a sidebar with navigation links: Print Server, VPS1 (selected), Dashboard, Statistics, Configure, Log, Licenses, SAP Servers, and Windows Drivers. The main content area is divided into two sections. The top section, titled 'Logging Parameters', contains the following settings: 'Logging' is checked, 'Log UTC' is unchecked, 'Log Expiration' is set to 48, 'System Logging \*' is unchecked, and 'Log Size' is set to 7. The bottom section, titled 'Log', features a search bar, a dropdown menu, a 'Masking' checkbox, and buttons for 'Download', 'Refresh', 'Log Type', and 'Log List'. The 'Log Type' dropdown menu is open, showing two options: 'Primary Log' and 'Administrative Log'. A yellow cursor is pointing at the 'Log Type' button.

# MFPsecure/Print&Scan

# MFPsecure/Print updates



Secure Print

- Agents are always being improved
  - Underlying infrastructure and security
- Language additions and adjustments
- I printed it to my personal print queue, but I did it wrong. Now what?
  - Some agents allow for adjustment at release time now
- Brother agent now available
- Canon i-SENSYS and ImageCLASS models

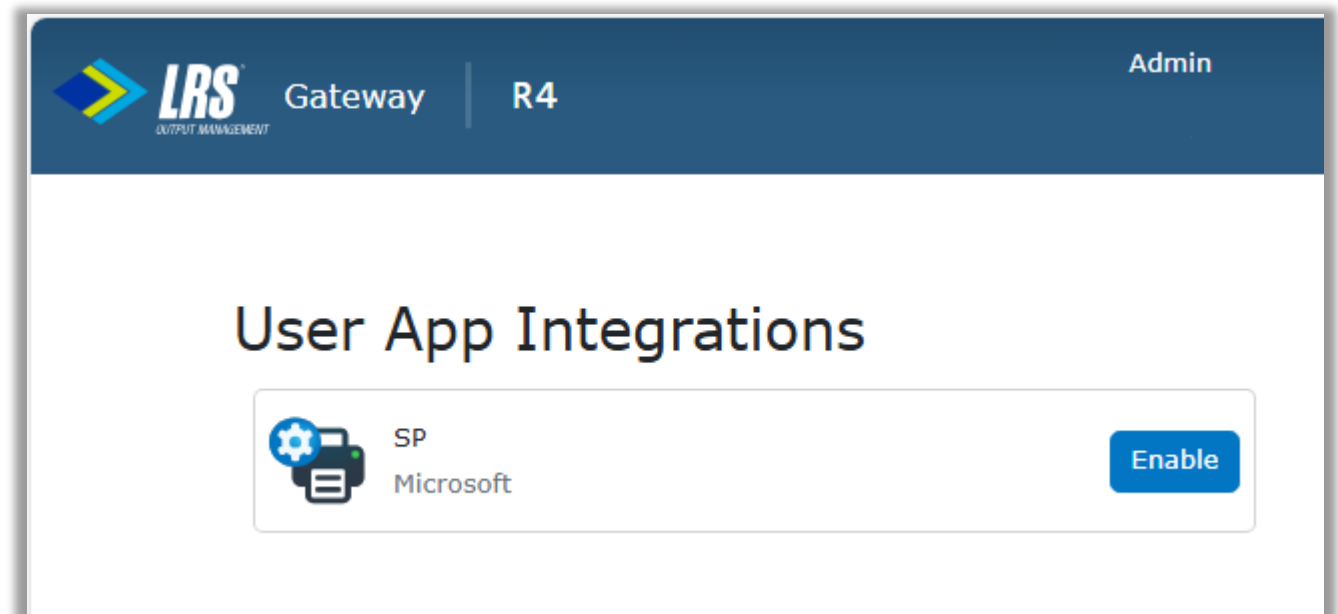
# MFPsecure/Scan



- Web UI – Changes in the Web and legacy UIs
  - Google Drive, Google Mail, FTP
- Devices are always changing
  - HP Hi Res screens
- Real time adjustments at the MFD
  - Allow Density/Darken/Exposure and Orientation settings to be changeable at the MFP panel
  - Allow Scan Preview and Paper Size options to be shown/hidden on panel by vendor/profile
- Language adjustments to OCR
- New job processor
- Numerous customer enhancements

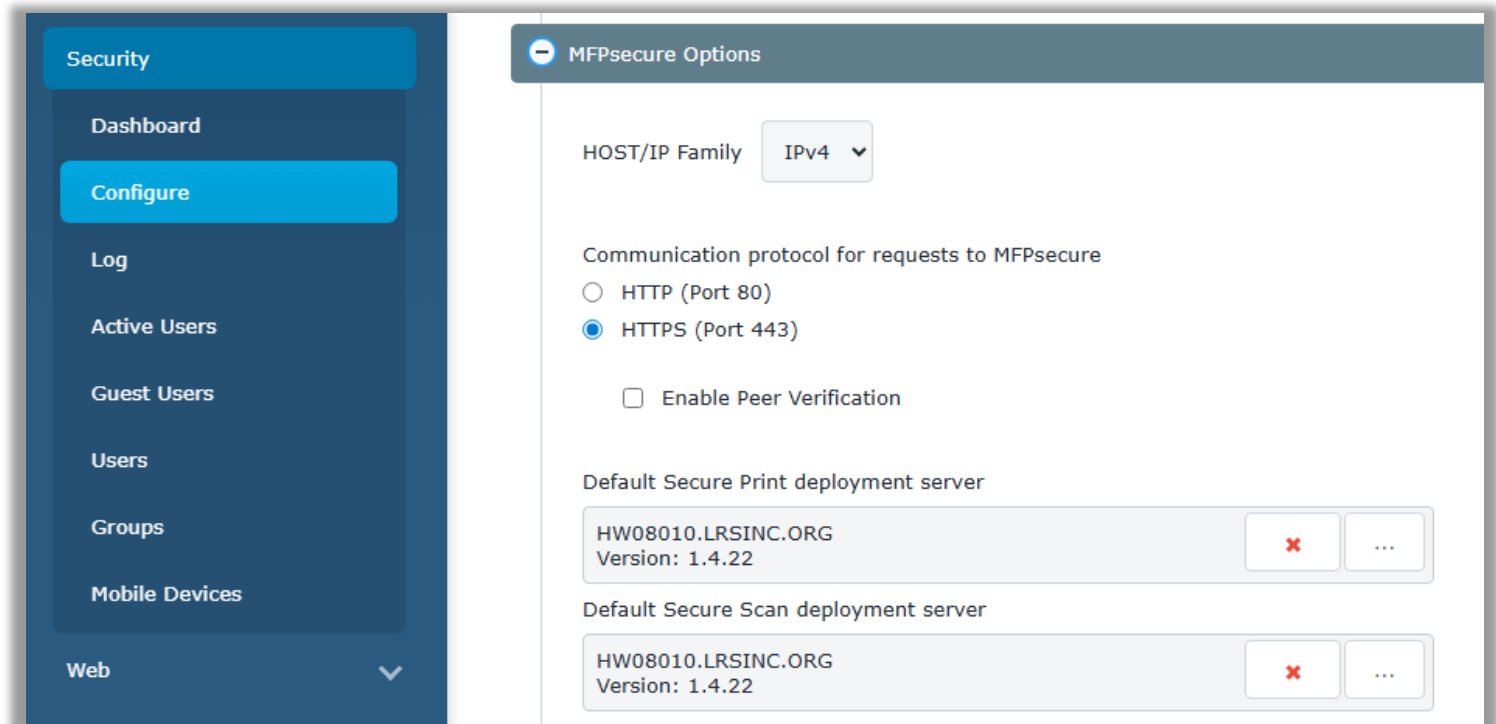
# MFPsecure/Scan

- Added /UI/AppIntegration webpage to allow end-users to enable or disable LRS/GatewayApp Integrations via the web browser



# MFPsecure/Scan

- Allow default Secure Print and Secure Scan deployment servers to be specified



The screenshot shows the 'MFPsecure Options' configuration page. On the left is a dark blue sidebar with a menu containing 'Security', 'Dashboard', 'Configure' (highlighted), 'Log', 'Active Users', 'Guest Users', 'Users', 'Groups', 'Mobile Devices', and 'Web'. The main content area has a title bar 'MFPsecure Options' and contains the following settings:

- HOST/IP Family:** A dropdown menu set to 'IPv4'.
- Communication protocol for requests to MFPsecure:** Two radio buttons; 'HTTP (Port 80)' is unselected, and 'HTTPS (Port 443)' is selected.
- Enable Peer Verification:** An unchecked checkbox.
- Default Secure Print deployment server:** A text field containing 'HW08010.LRSINC.ORG' and 'Version: 1.4.22', with a red 'X' icon and an ellipsis '...' button to its right.
- Default Secure Scan deployment server:** A text field containing 'HW08010.LRSINC.ORG' and 'Version: 1.4.22', with a red 'X' icon and an ellipsis '...' button to its right.

# MFPsecure/Scan

- Added new image processing feature for background color removal
  - Also in Blank Page Removal and Empty Page Separation

**Background Color Removal**

**Background Color Removal**

The Background Color Removal feature enhances document clarity by converting background colors to white. It adjusts sensitivity for color variation, brightness, and uniformity to ensure nearly white areas remain unchanged. The system skips non-color pages, handles negative images by inverting colors, and verifies background removal by checking page margins. This results in cleaner, more readable documents, ideal for scanning and digital archiving.

☒ Enable Background Color Removal

Color Swap Threshold

90

Brightness Threshold

230

Max Uniformity Difference

15

Page Margin Size

10

Skip Non Color Pages

☒

Invert Negative

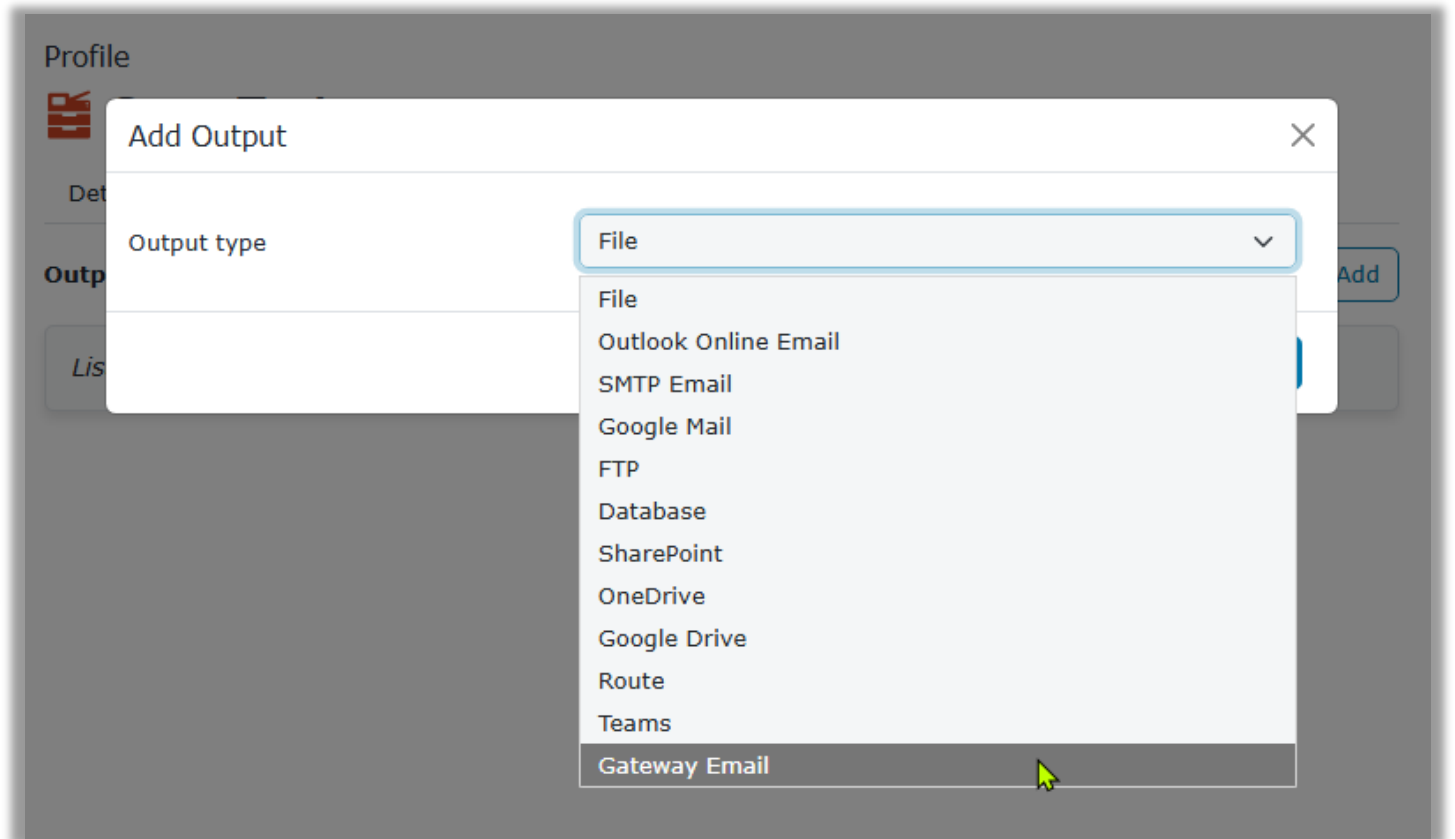
☒

Reset to default



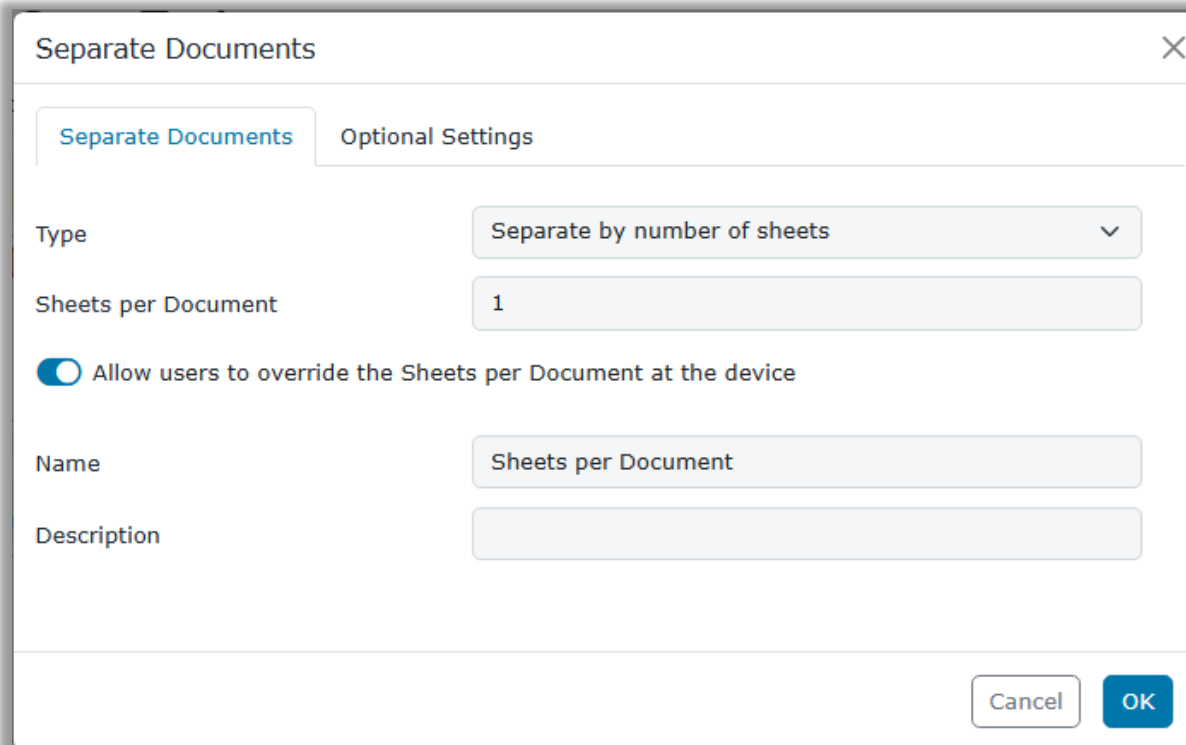
# MFPsecure/Scan

- Added new Gateway-based email output

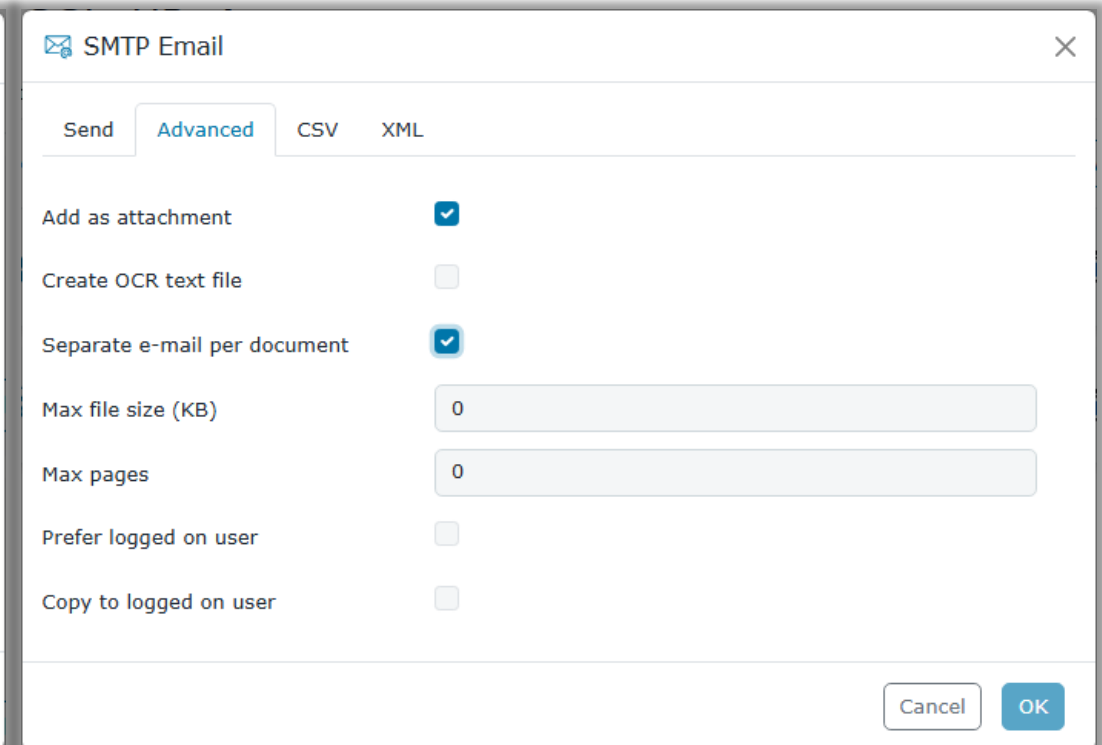


# MFPsecure/Scan

- Added separate document option to allow users to specify number of sheets
- Added support to split email output by file size



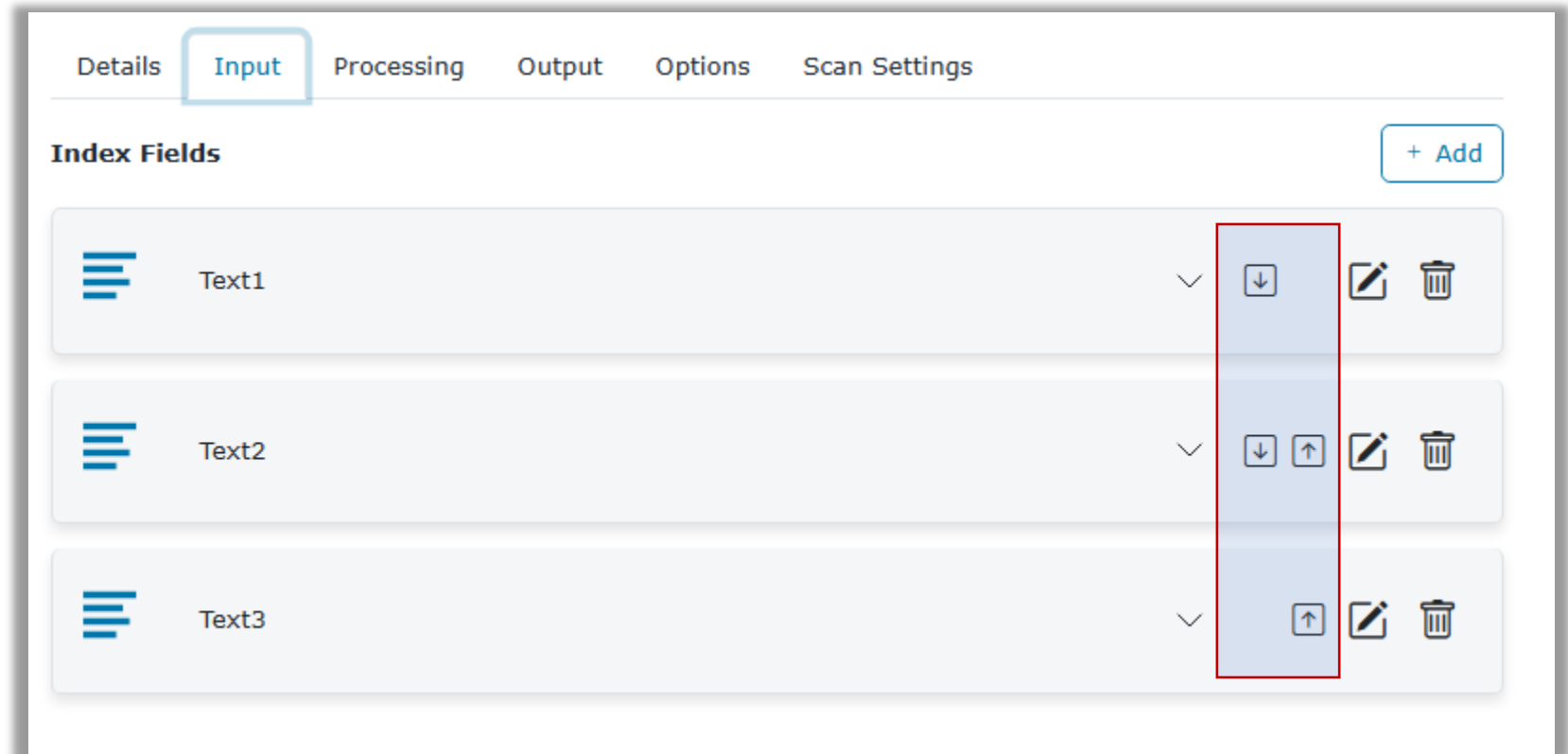
The 'Separate Documents' dialog box has two tabs: 'Separate Documents' (active) and 'Optional Settings'. Under 'Separate Documents', there is a 'Type' dropdown menu set to 'Separate by number of sheets', a 'Sheets per Document' input field with the value '1', a toggle switch for 'Allow users to override the Sheets per Document at the device' which is turned on, a 'Name' input field with the value 'Sheets per Document', and an empty 'Description' input field. At the bottom right are 'Cancel' and 'OK' buttons.



The 'SMTP Email' dialog box has three tabs: 'Send', 'Advanced' (active), and 'CSV' and 'XML'. Under the 'Advanced' tab, there are several settings: 'Add as attachment' (checked), 'Create OCR text file' (unchecked), 'Separate e-mail per document' (checked), 'Max file size (KB)' (input field with '0'), 'Max pages' (input field with '0'), 'Prefer logged on user' (unchecked), and 'Copy to logged on user' (unchecked). At the bottom right are 'Cancel' and 'OK' buttons.

# MFPsecure/Scan

- MFPsecure Scan - Added support to sort input fields



# MFPsecure/Scan

- Add support for global error notification settings
- Add support for profile level notifications

The screenshot shows the 'Advanced' settings page for MFPsecure/Scan, specifically the 'Notification' tab. The page has a top navigation bar with 'Profiles', 'Data sources', 'User Manager', and 'Advanced'. Below this is a sub-navigation bar with 'Support', 'General', 'Notification' (selected), 'Backup', and 'About'. A descriptive text block states: 'When enabled, this setting activates notifications to alert users immediately if any errors occur during the processing of scan jobs. This feature ensures that users can promptly address and resolve issues.' Below this is a toggle switch for 'Enable Global Notifications', which is currently turned on. The form contains several input fields: 'Connection (Data source)' is a dropdown menu set to 'Email-Server'; 'Sender Name' is an empty text field; 'Sender Address' is a text field containing 'secure.scan@lrs.com'; 'Recipient' is a text field containing 'helpdesk@lrs.com'; 'Also send to LoggedOn User' is an unchecked checkbox; 'Subject' is a text field containing 'Processing errors during scan processing'; and 'Body' is a text area containing 'A processing failure ...'. There is a 'Send Test Mail' button next to the 'Sender Address' field. At the bottom of the form are 'Reset' and 'Save Notification Config' buttons.

Profiles Data sources User Manager **Advanced**

Support General **Notification** Backup About

When enabled, this setting activates notifications to alert users immediately if any errors occur during the processing of scan jobs. This feature ensures that users can promptly address and resolve issues.

☒ Enable Global Notifications

Connection (Data source) Email-Server

Sender Name

Sender Address secure.scan@lrs.com

Send Test Mail

Recipient helpdesk@lrs.com

Also send to LoggedOn User ☐

Subject Processing errors during scan processing

Body A processing failure ...

Reset Save Notification Config

# MFPsecure/Scan

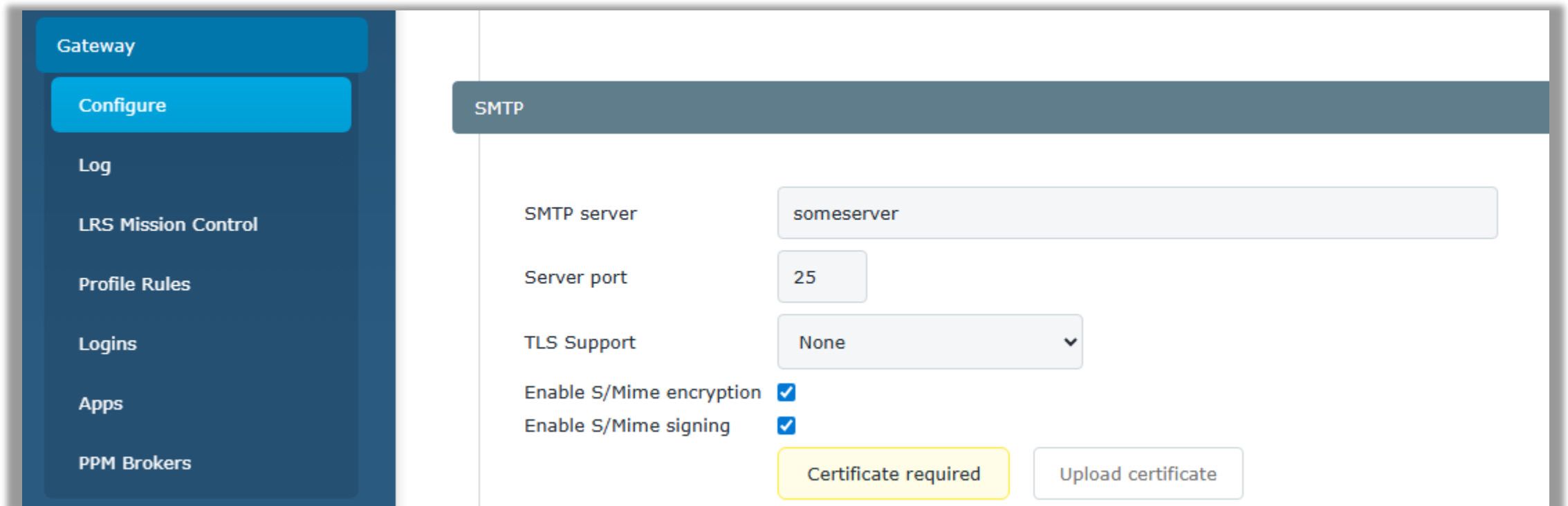
Added:

- OCR zone configuration support
- Translation option for profile labels and input fields
- Test LDAP search settings in new admin UI
- File output option to run additional applications for each document
- File output option to create OCR text file

# Security Updates

# Security settings updated

- TLS1.0 and 1.1 removed from UI by default (VPSX/ServerX)
- S/Mime encryption and signing for all platforms



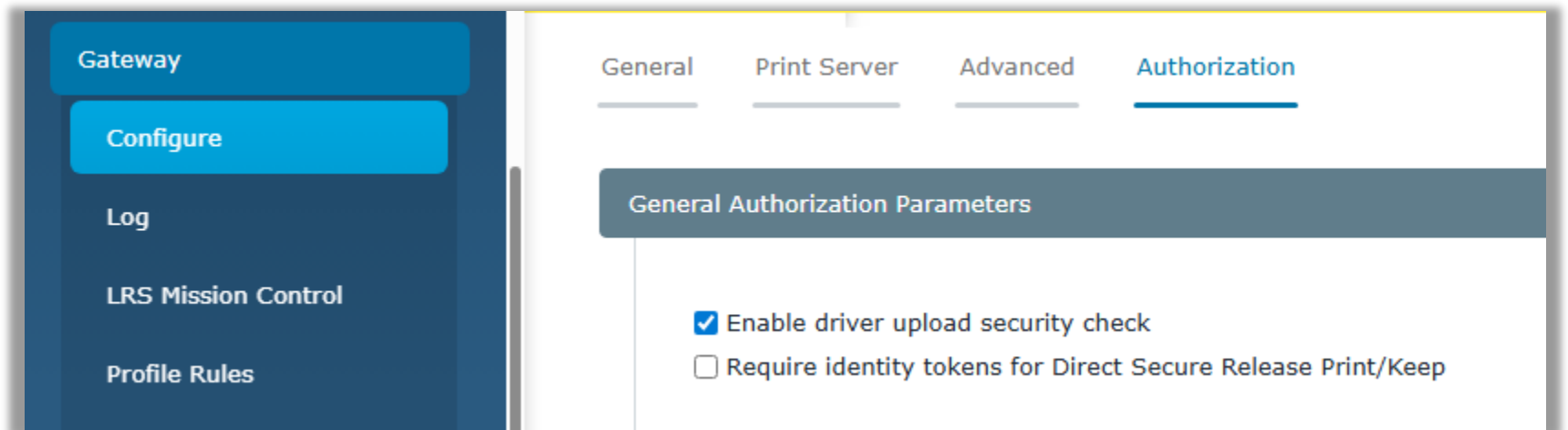
The screenshot displays the LRS Gateway configuration interface. On the left is a dark blue sidebar with navigation links: Gateway, Configure, Log, LRS Mission Control, Profile Rules, Logins, Apps, and PPM Brokers. The 'Configure' link is highlighted. The main content area has a grey header labeled 'SMTP'. Below this, the configuration fields are as follows:

Field	Value
SMTP server	someserver
Server port	25
TLS Support	None
Enable S/Mime encryption	<input checked="" type="checkbox"/>
Enable S/Mime signing	<input checked="" type="checkbox"/>

At the bottom right of the configuration area, there are two buttons: 'Certificate required' (highlighted in yellow) and 'Upload certificate'.

# Security settings updated

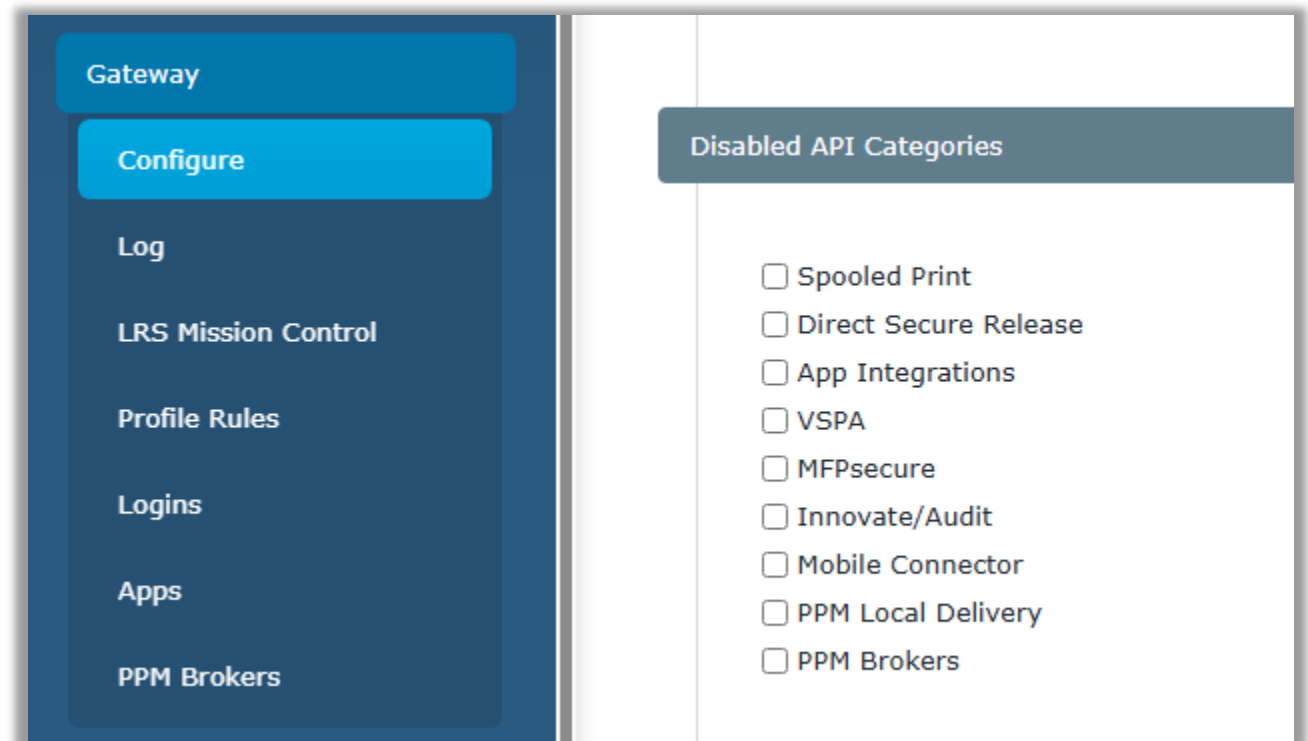
- Support of Advanced Message Queuing Protocol (AQMP) rather than Message Queuing Telemetry Transport (MQTT) for EOM Notification Services (GW)
- Adds a new Gateway configuration option to perform additional authorization checks against a new `Upload Drivers` security flag for Users and Groups in ServerX





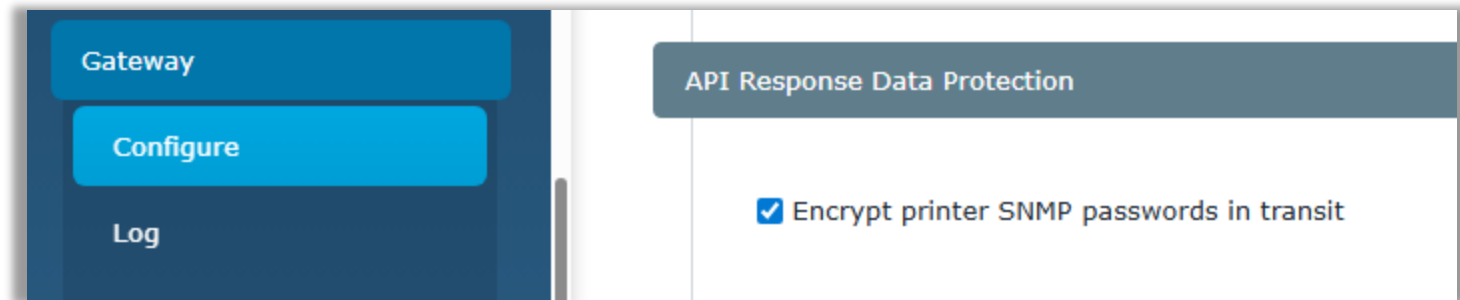
# Security settings updated

- Adds configuration option to the Gateway Admin UI  
Configuration page for disabling categories of Gateway APIs



# Security settings updated

- Optionally performing additional encryption of sensitive SNMP credentials in response to Personal Print Manager printer install information requests

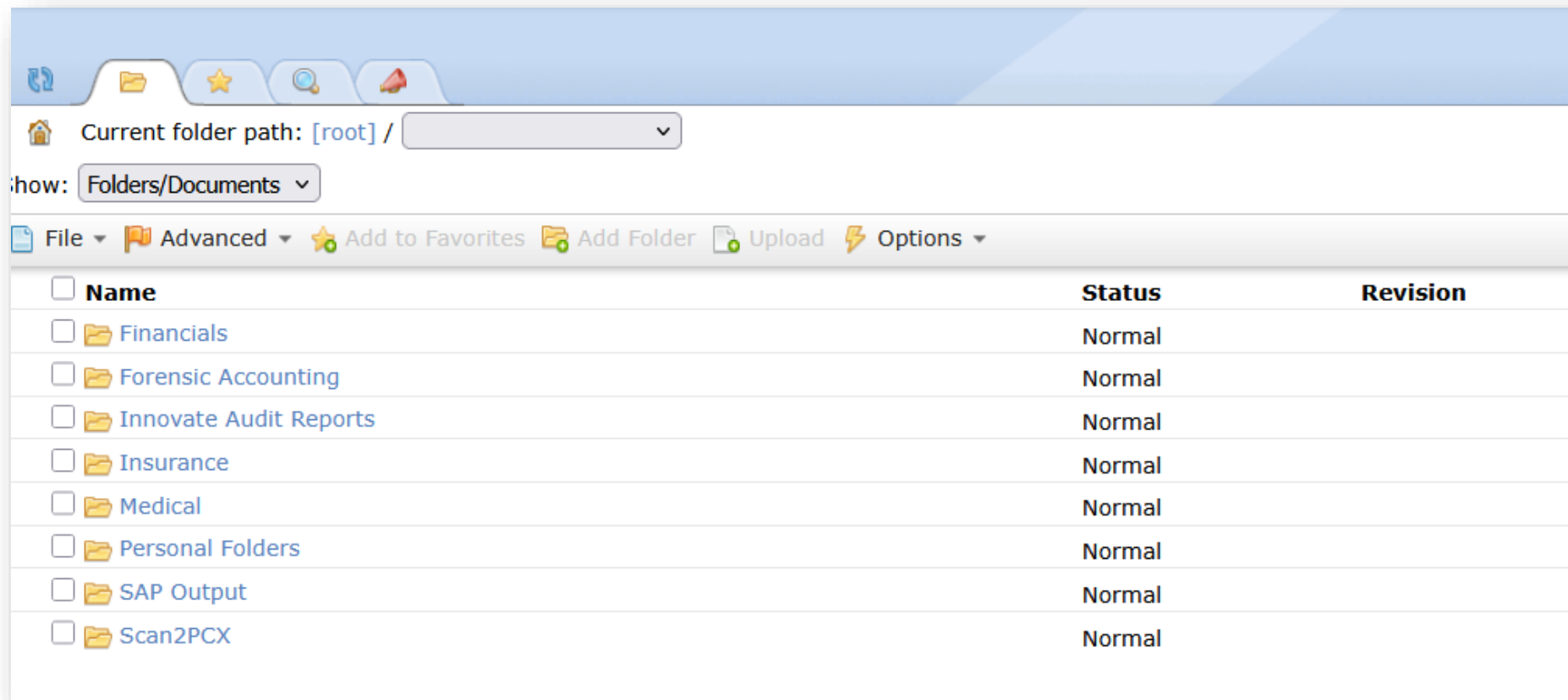


SNMP credentials can be returned to a client in "clear text" (although still within a TLS channel) in JSON responses to PPM when retrieving printer install information. These changes allow the customer to choose whether this is changed

# PageCenterX

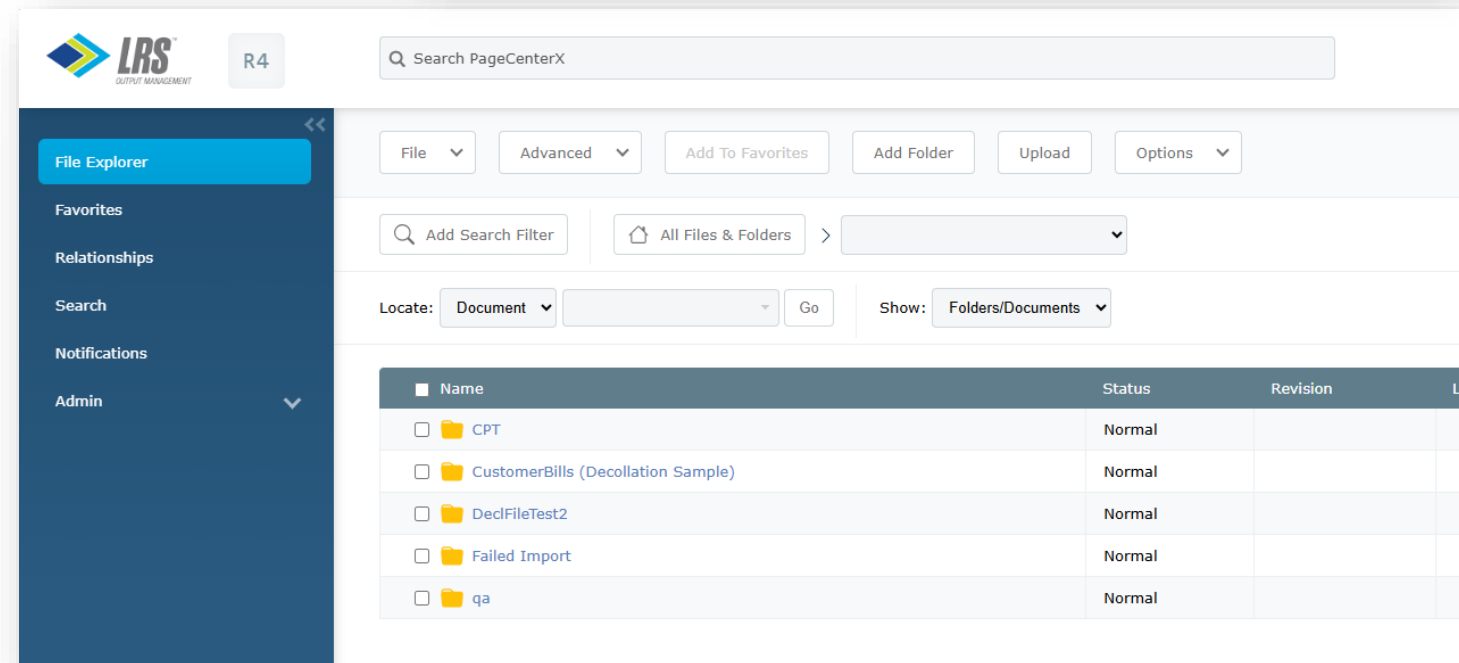
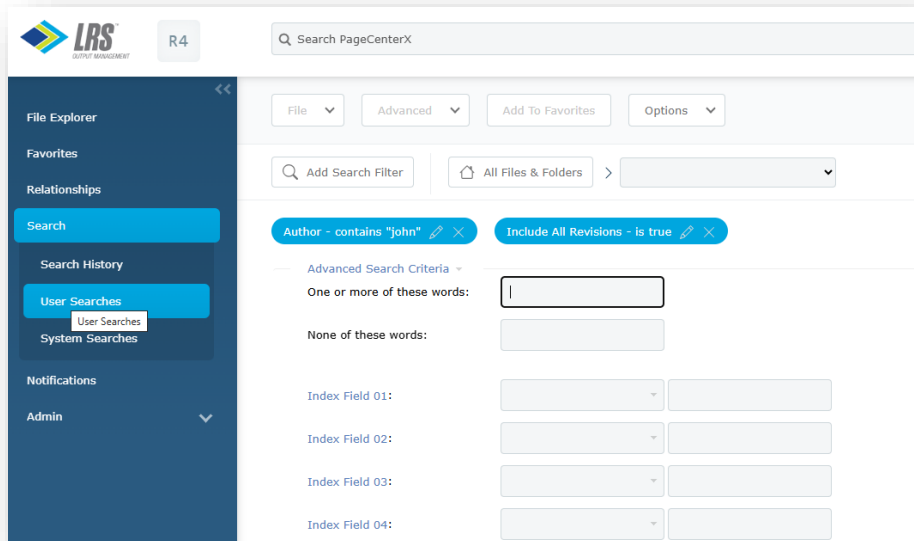
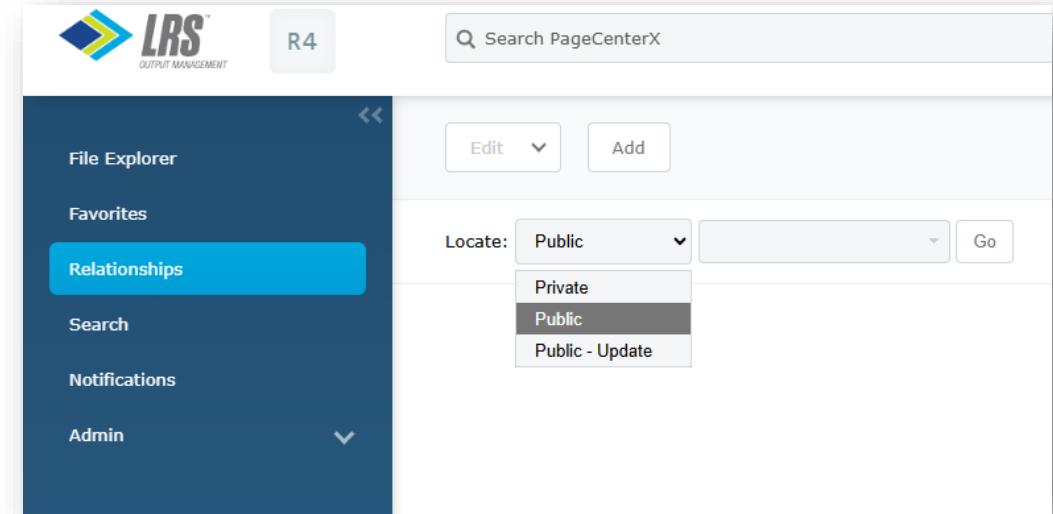
# PageCenterX

- Added Drag and Drop functionality for moving documents

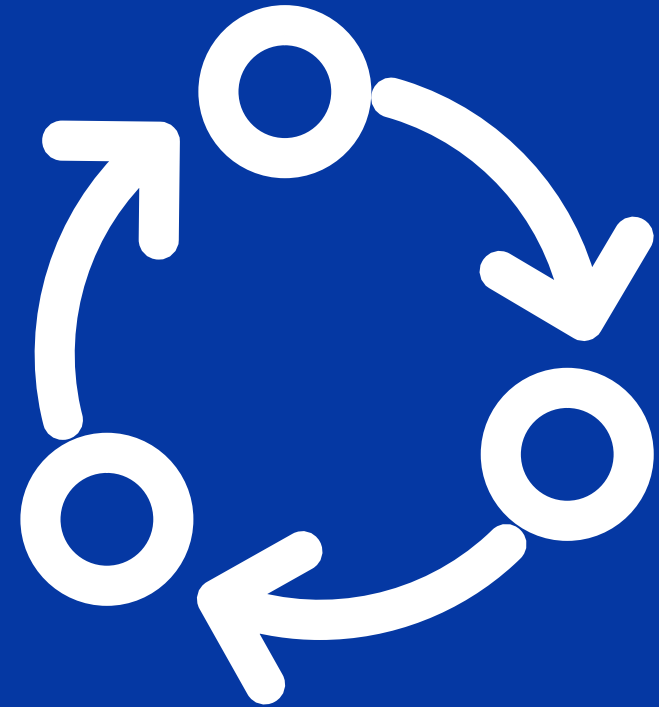


# PageCenterX R4

- New UI
- Gateway authentication
  - Authenticated transactions
  - Multi factor authentication



# Process updates



# Process Updates

- Knowledge base
- Enhanced release notes
  - Available since Q3 2024
  - Subscription available
- LRS support site will include security bulletins

## LRS Knowledge Base

Find the answers you need when you need them



KB0010602

### Enhanced Release Notes - MFPsecure V1 R4.0 Fix 0020

📅 11d ago • 👁 34 Views

**NOTE:** Customers using the HP Agent and upgrading to MFPsecure 1.3.54 or later must upgrade the HP Agent to V1R3.054.005 immediately following the MFPsecure upgrade. Redeployment is not required.

HP devices will require FutureSmart 5.6 or higher to support TLS 1.3 with SecureScan. However, due to firmware issues on various devices TLS 1.3 may result in the 49.38.03 error.

#### MFPsecure Enhancements

##### Enhancement 1



# LRS Mission Control

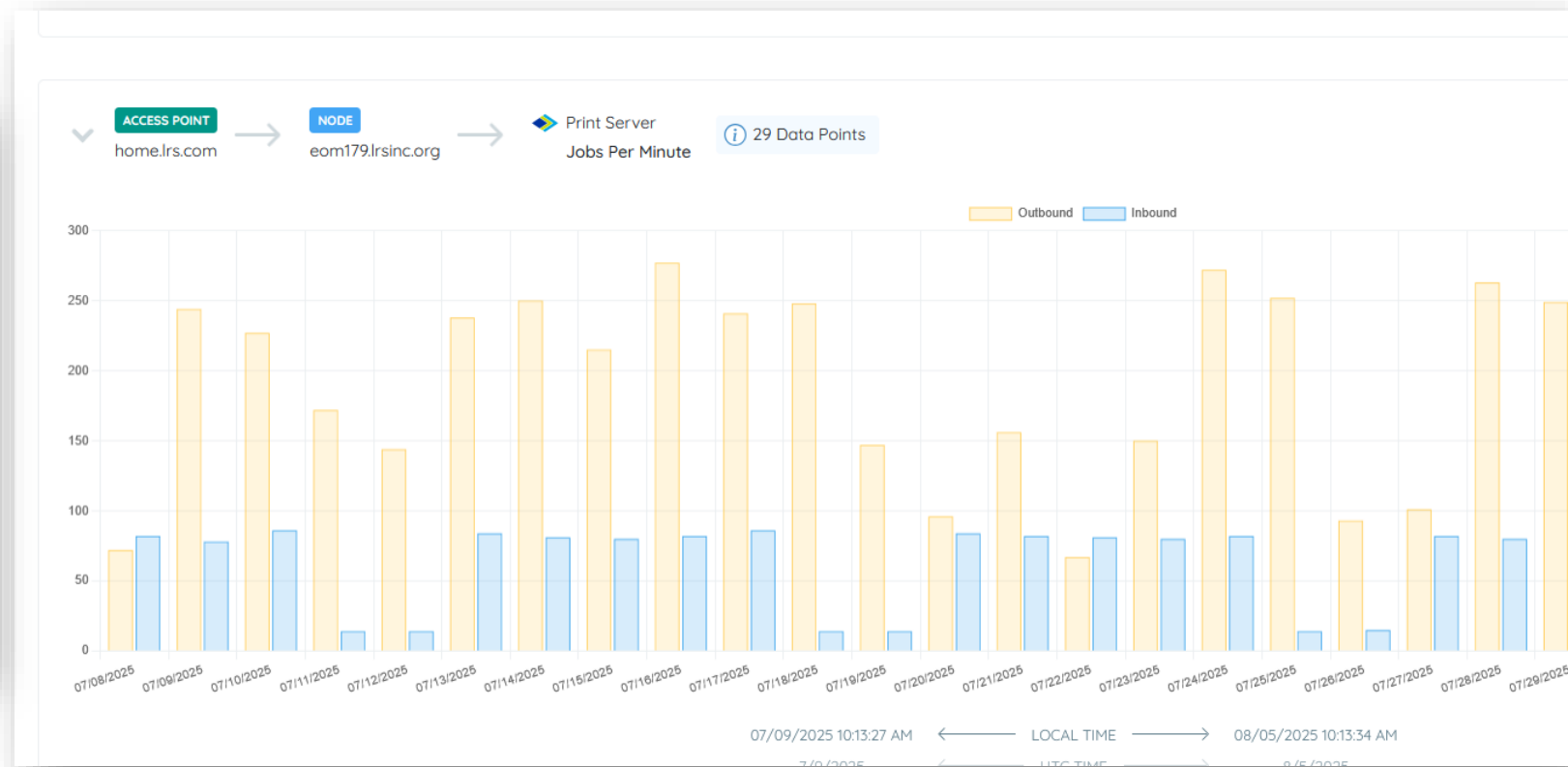
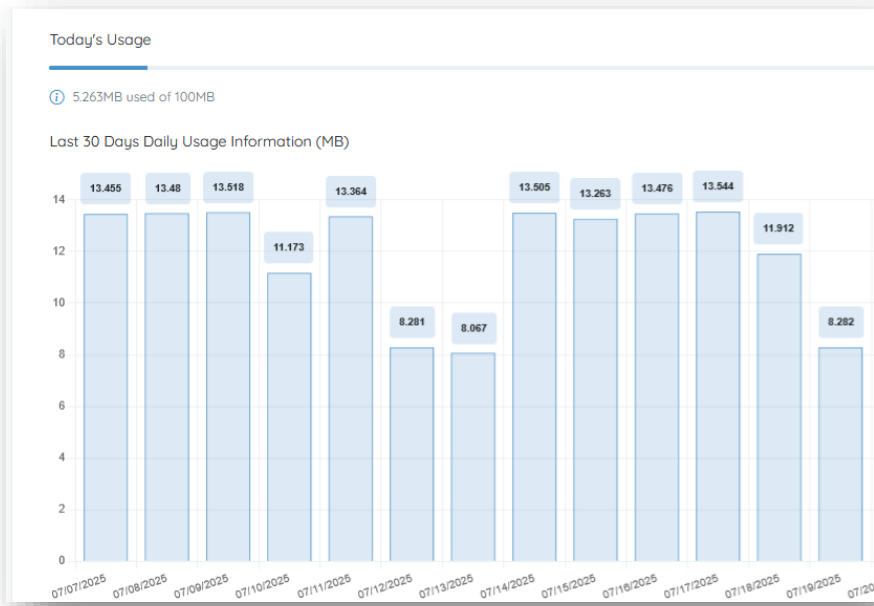


# LRS Mission Control

- A Platform. This is the basis for LRS SaaS offerings
- Runs in Microsoft Azure
  - Front Door
  - Entra ID
  - Database(s)
  - Storage
  - CPU
  - Analytics
  - Terraform
  - Etc

# Customer Benefit

- LRS Mission Control platform is included in onsite licensees
- Provides Monitoring and Analytics
- Provides license distribution
- R4 is prerequisite



# **Some LRS Mission Control Concepts**

# **‘Mission Control Environment’**

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- LRS/Gateway Environment (On Premise)
  - This is included with LRS Mission Control
  - Not chargeable by LRS
  - You may have more than one of these within prescribed limits
- LRS Mission Control Hosted Environment
  - A single instance of LRS Mission Control resources. Customers may require multiple instances for purposes of managing the Azure data storage for regions or for production and testing
  - Each is considered a separate LRS Mission Control instance and will incur an additional LRS Mission Control Hosted Environment fee

# For Example...

Levi, Ray & Shoup, Inc. - Demo

EOM Environment

LRS Mission Control Hosted Environments

1 used of 1

Hosted Environment - East US

LRS Mission Control Hosted Environment

Connected

East US

LRS Mission Control Hosted Environment

Production

Existing LRS/Gateway Environments

1 used of 2

Demo Environment

Connected - All LRS/Gateway Nodes Connected (1)

East US

Production

Levi, Ray & Shoup, Inc. - Demo

[EOM Environment](#) > [Add EOM Environment](#)

Add EOM Environment

Complete the options and click Add EOM Environment when finished.

Environment Name

Required: Please enter an alphanumeric name to describe the EOM environment

Existing LRS/Gateway

Use this environment to manage an existing LRS/Gateway VPSX UI to establish a connection to LRS Mission Control.

Production Environment

You have reached the maximum number of environments.

Description

Optional: Optionally enter a description of the environment.

Resource Location

Required: The geographical region where data for the environment should be stored.

East US

East US

North Europe

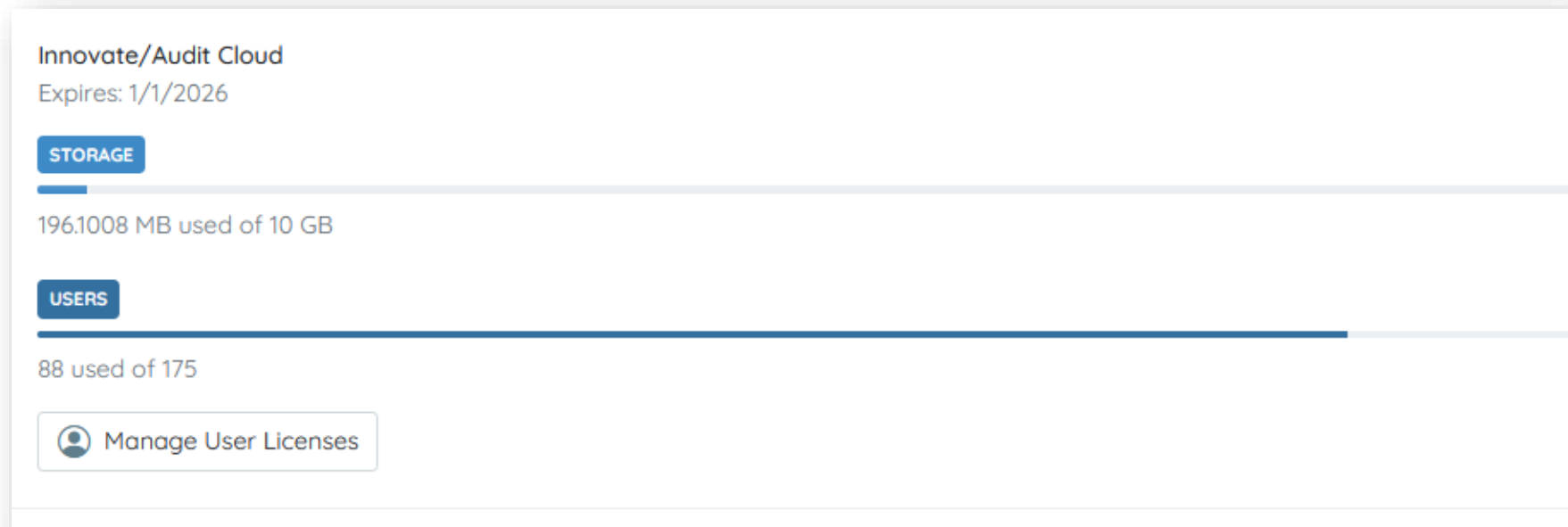
# Single Hosted Environment

- This will be typical
- This provides a basis for products to run
- But –
  - Some customers may have some unforeseen need for a second environment
  - Location?
  - Storage segregation?
  - Who knows – but . . .
  - A second environment will incur a fee that the first did not



# Innovate/Audit Cloud – Available today

- Accepts data from both LRS/Gateway and Hosted environments
- If you have LRS/Gateway environment(s) (On Premise)
  - Innovate/Audit (AuditX) must be installed
- Hosted Environments send data to Innovate/Audit Cloud only
- Licensed
  - By storage and
  - By user



Total Jobs

160K

Total Pages

1.56M

Total Impressions

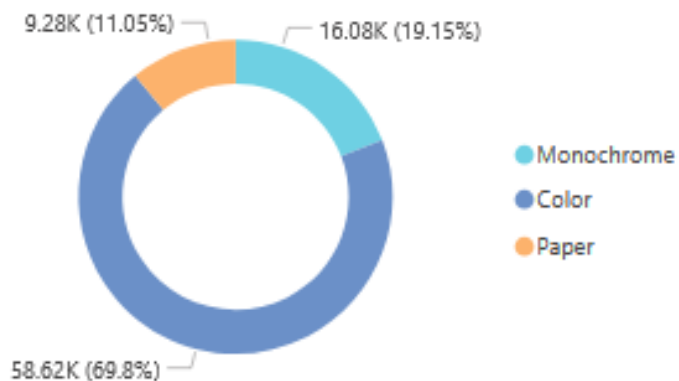
1.57M

Total Cost

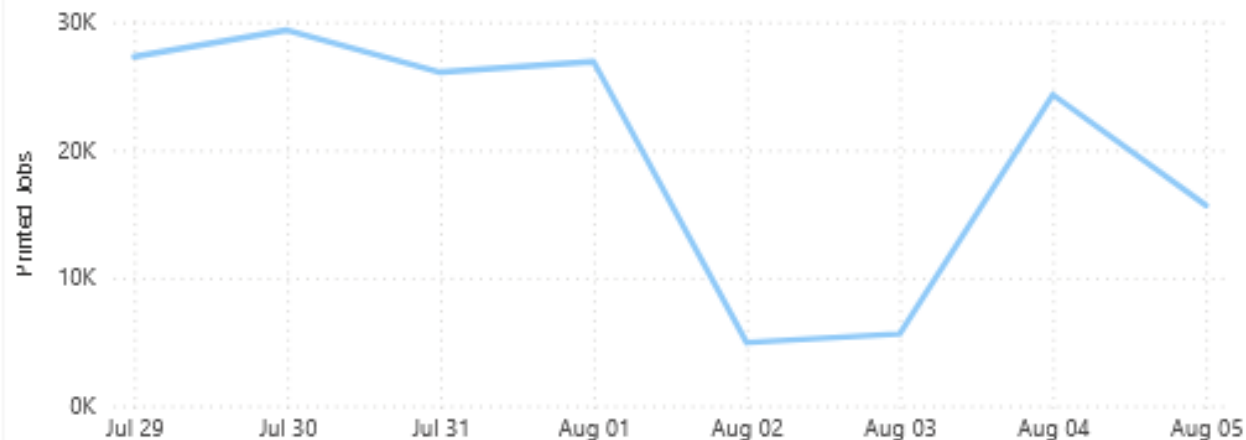
83.98K

Possible Savings

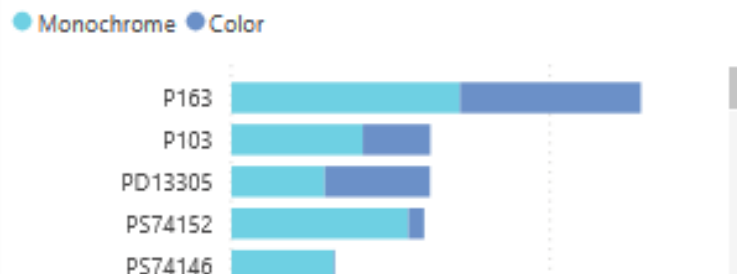
Cost Breakdown



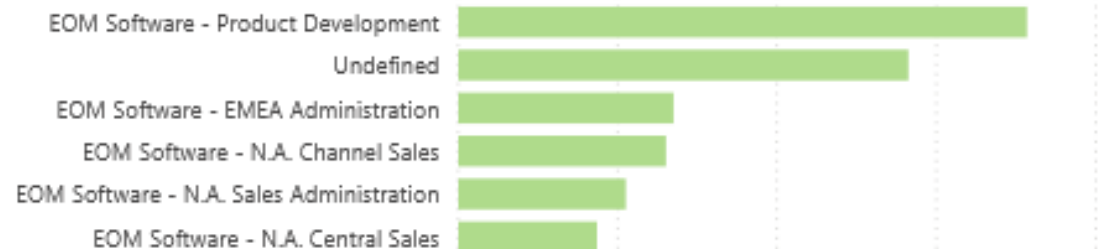
Job Count



Top Printers by Print Volume



Top Departments by Cost



Reports are environment-specific, generated in Power BI, and represent a superset of the current I/A Reporting capabilities.

# Innovate/Audit Cloud



# VPSX/DirectPrint Cloud – Available today

- Just like VPSX/DirectPrint, but without any onsite server
- Though the name says VPSX, this is NOT VPSX, but rather written for LRS Mission Control specifically
- The workstation agent used is the exact same – Personal Print Manager
  - This means the same look and feel
  - Driver uploads are the same
  - Direct Print is the same
  - Location data is . . .
  - Floorplans are . . .

Overview

Print Server

Secure Print & Scan

Desktop App

Audit

Print Server

Printer List

The list of printers for this environment

Search

Printer

Add Filter

+ Add Printer

Selection Options

0

List Items

1 → 67 (67)

Name - starts with "P"

<div><input type="checkbox"/></div>	<div>Printer</div> <div>Location</div>	Hostname/IP	Description	Props	Options
<input type="checkbox"/>	<div>P019</div> <div>USA/Illinois/Springfield/Building 7/4th floor</div>	10.96.120.19	HP LaserJet M402dn		
<input type="checkbox"/>	<div>P091</div> <div>USA/Illinois/Springfield/Building 7/4th floor</div>	PD017	RICOH IM C300		
<input type="checkbox"/>	<div>P103</div> <div>USA/Illinois/Springfield/Building 7</div>	PD028	Corporate Accounting		

# **MFPsecure/Print Cloud – Available today**

- Allows users to print to a personal print queue and retrieve jobs from the device
- Jobs can be either Direct Secure Release or released from MFPsecure/Print Cloud
- If they are Direct Secure Release, then the workstation must have line of sight to the device
- If they are released from MFPsecure/Print Cloud, then it is the same as Internet Only printing
- Submission is done via Personal Print Manager, same look and feel as onsite products to the end user

# MFPsecure/Print Cloud

- Licensed by user
  - Enforced by safeguarding the add of a PPQ in PPM
- These are named users
- The initial agents:
  - HP
  - Canon
  - Ricoh
  - Lexmark
- Agent deployment requires a Broker (PPM with line of sight to the printer) except for HP
- Agents work the same way as any Internet Only Agent

Overview
Print Server
Secure Print & Scan
Desktop App
Audit

### Device Setup

Deploy/Configure apps via PPM Network Brokers/HP Command Center

INSTALL DEVICE APPS

DEVICE

+ Add Printer	>
Manage Canon Printers	1 >
Manage HP Printers	2 >
Manage Lexmark Printers	2 >
Manage Ricoh Printers	2 >
Device Settings	>
Network Brokers	3 >

?

 Canon Device Help >

?

 HP Device Help >

?

 Lexmark Device Help >

?

 Ricoh Device Help >

### User Printing & Scanning

Print data is sent to a PersonalQ. Scans are processed via a scan profile.

DOCUMENT

PERSONALQ

+ Add PersonalQ	>
PersonalQ List	2 >
Jobs Pending Release	4 >
Retained Jobs Archive	2 >
Printed Secure Print Jobs	4 >
Secure Print Printing Errors	0 >
Uncollected Expired Secure Print Jobs	0 >
Expired Retained Secure Print Jobs	2 >
Successful PersonalQ Installs	6 >
Failed PersonalQ Installs	5 >

Secure Scan Profiles List	2 >
Scanned Jobs	0 >
Scan Errors	0 >

### At The Device

A user authenticates then can access the Secure Print & Scan apps

AUTHENTICATE

DEVICE APPS

LRS MISSION CONTROL

Authentication Settings	>
Secure Print App Settings	>
Secure Scan App Settings	>
Secure Scan Profile Rules	1 >
User Emails	>
MFP User Session Activity	24 >

# MFPsecure/Print Cloud

# MFPsecure/Scan Cloud

Available now: :

- Scan to My Email
- Scan to My OneDrive with folder navigation
- HP, Lexmark, Ricoh, Canon agents
- Licensed by users

# MFPsecure/Print and Scan Cloud

## Timeline estimates

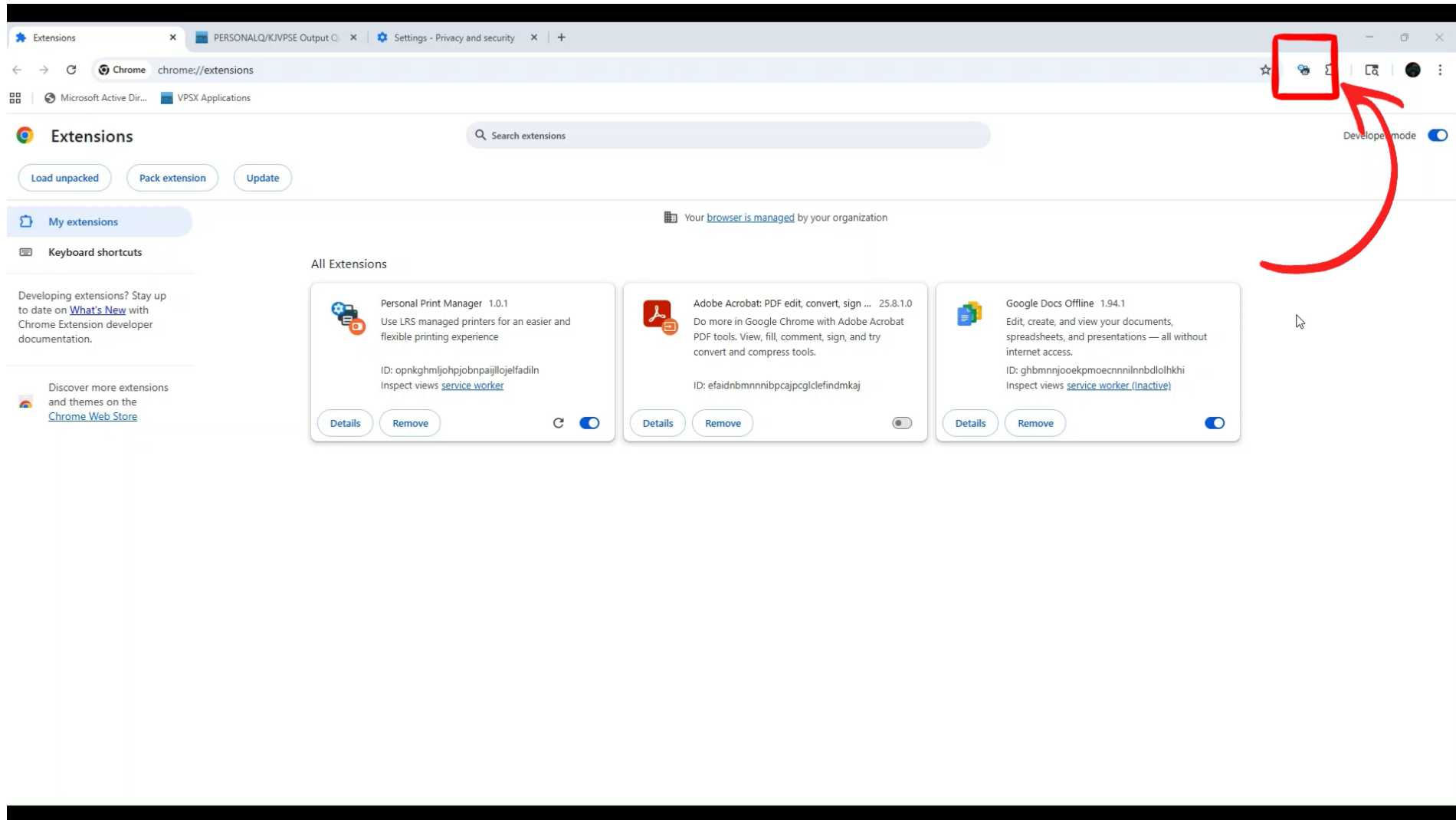
- End of December – Scan - HP, Lexmark, Ricoh?
  - Scan to PPM Address book (email, OneDrive)
  - Scan to local folder as user (methods being discussed)
  - Scan to Teams
  - Scan to SharePoint
  - OneDrive folder navigation
  - PDF combining
- End of February
  - Mobile App for MFPsecure/Print Cloud and MFP/Scan Cloud

# MFPsecure/Print & Scan Cloud Timeline Estimates

- End of March –HP, Lexmark, Ricoh
  - SecureScan Cloud Advanced Features
    - Document processing and custom profiles
    - Scan to local folder extended
      - LRS Transforms
      - Scan specific transforms (TIFF, JPEG, etc.)
      - OCR (base and PRO?)
      - Barcode recognition
      - Bates stamping
      - Artifact cleanup (de-speckle, etc.)
      - AI?
- End of April
  - Canon Agent with SecureScan Cloud Additional Features
- May
  - Additional Agents where possible



# PPM for Chrome



# PPM for Chrome

- Lightweight PPM that can run on any Chromium web browser (Chrome, Edge, Brave, etc.)
- Extension will be added to Chrome web store
- Can be deployed and configured from Google Admin Console
  - Google admins can force the extension to be installed on their users' devices/browsers
- Partnership with Google in place
- Requires multiple updates to LRS/Gateway
  - Release date currently unknown, targeting Q1 2026

# AGENDA

## Technical Session

- Mainframe
  - Trends and directions
  - Re-engineering mainframe output
- SAP
  - Replacing SAP Document Composition Tools
- Stories from the Field
  - Redaction
  - Copy print restriction
  - Bundling and Pull Printing
  - Scan process as part of Print process



# Mainframe

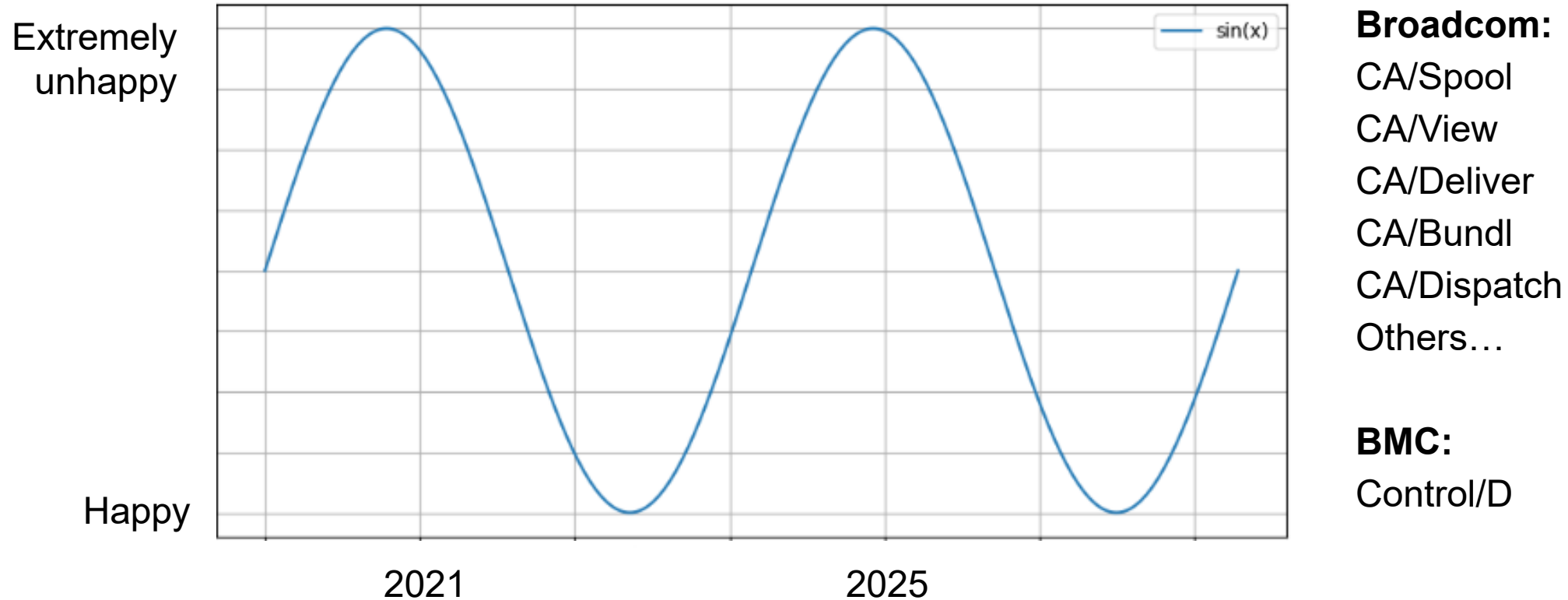
# The Mainframe...

- Today, Mainframes are still running 70% of global business transactions, quietly powering the digital world behind the scenes.
- LRS are not here to sell “legacy technology” - we’re here to help our clients modernize, scale, and unlock untapped value as a competitive advantage.

# Where LRS can help...

- Attrition of mainframe-skilled staff
- Initiatives to move away from mainframe applications
- Initiatives to modernize pieces of the mainframe landscape
- Incompatibility with modern tools
- Need for Modern APIs, real-time access
- Mitigation of dependency on legacy skills
- Reduce high operational (storage, MIPS) and licensing costs

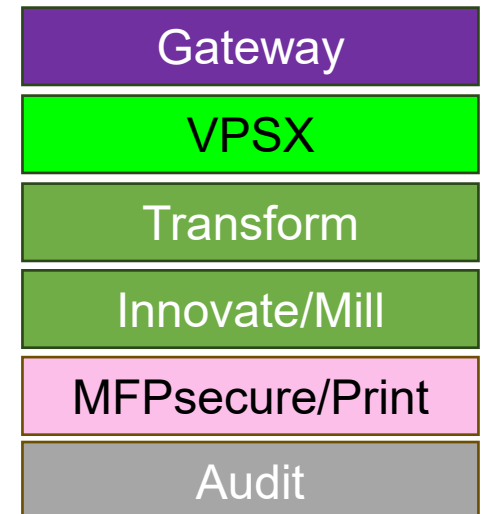
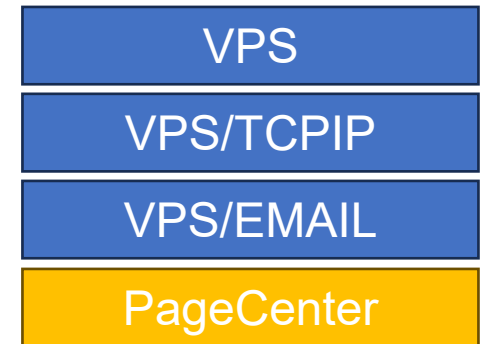
# What we are seeing...



CA (Broadcom) and BMC licensing policy!

# LRS solutions...

- Deliver output from the mainframe...
  - direct to printers
  - to eMail
  - to Archive
- ... and via the LRS open systems platform to enable
  - print to remote/internet-only locations
  - pull-printing for mainframe documents
  - document Transformation and/or re-engineering
  - audit and analysis
  - future proof delivery of mainframe output





# How LRS can help...

- As an alternative mainframe solution
  - proven technology, endless experience, ...
  - core product, continued development and support
- Moving to MicroFocus, Anubex, Fujitsu, etc.
  - LRS has interfaces to many of these products
  - many "modernisation projects" fail to consider printing/archiving soon enough – LRS have already thought of it and know what to do
- Moving to open-systems Report Archiving\Viewing
  - LRS Conversion and Migration Services team has done many of these

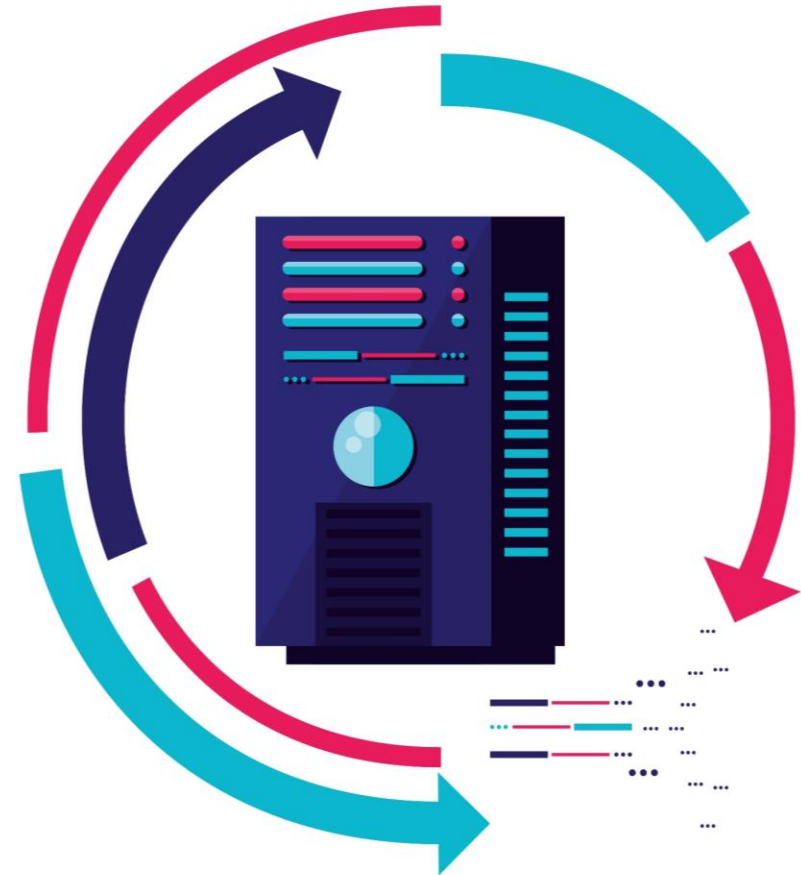
# What LRS have done...

Totals by "From" Archive Product	Completed	Vendor/comments	Platform
Beta93	0	Beta Systems	z/OS
CA- Bundl	2	Computer Assoc. (now Broadcom)	z/OS
CA-Dispatch	5	Computer Assoc. (now Broadcom)	z/OS
View	7	Computer Assoc. (now Broadcom) - fka SAR	z/OS
View/Deliver	11	Computer Assoc. (now Broadcom) - fka SAR/Express	z/OS
CMOD for z/OS	1	IBM - Content Manager OnDemand	z/OS
CMOD for Multiplatforms	1	IBM - Content Manager OnDemand for Multiplatforms	Open
Columbus DW	1	Macro4 (a division of UNICOM)	Open
Content Server z/OS	4	Systemware (fka XPTR)	z/OS
Control-D	8	BMC	z/OS
LaserArc	2		Open
Marchive	1	M/Archive - Kuhn & Weyh - Software GMBH	Open
Mobius	15	ASG (Rocket Software) (fka InfoPac, ViewDirect)	z/OS
Mobius for Nets	4	ASG (Rocket Software) (fka ViewDirect for Networks)	Open
PageCenter	9	LRS	z/OS
PageCenter Plus	3	LRS	Open
Report2Web	1	Redwood	Open
ReportSafe	0	Acscend	Open
RMDS	4	IBM (withdrawn from marketing/support)	z/OS
RMS	1	Mantissa	z/OS
Rocket EOS	3	RSD (now Rocket Software) (fka RSD EOS, EOS 360)	z/OS
Rocket Folders	1	RSD (now Rocket Software) (fka RSD Folders)	Open
TRMS	3	SEA	z/OS
Vista Plus	3	OpenText Vista Plus (fka Quest Vista Plus)	Open
Other	10	One-off projects: In-house or non-mainstream	
<b>TOTAL</b>	<b>100</b>		

# How LRS can help...

Enhancing / re-engineering mainframe output

- change document layout, logo, letter text, ...
- deliver in different format to a new destination



# Document re-engineering example

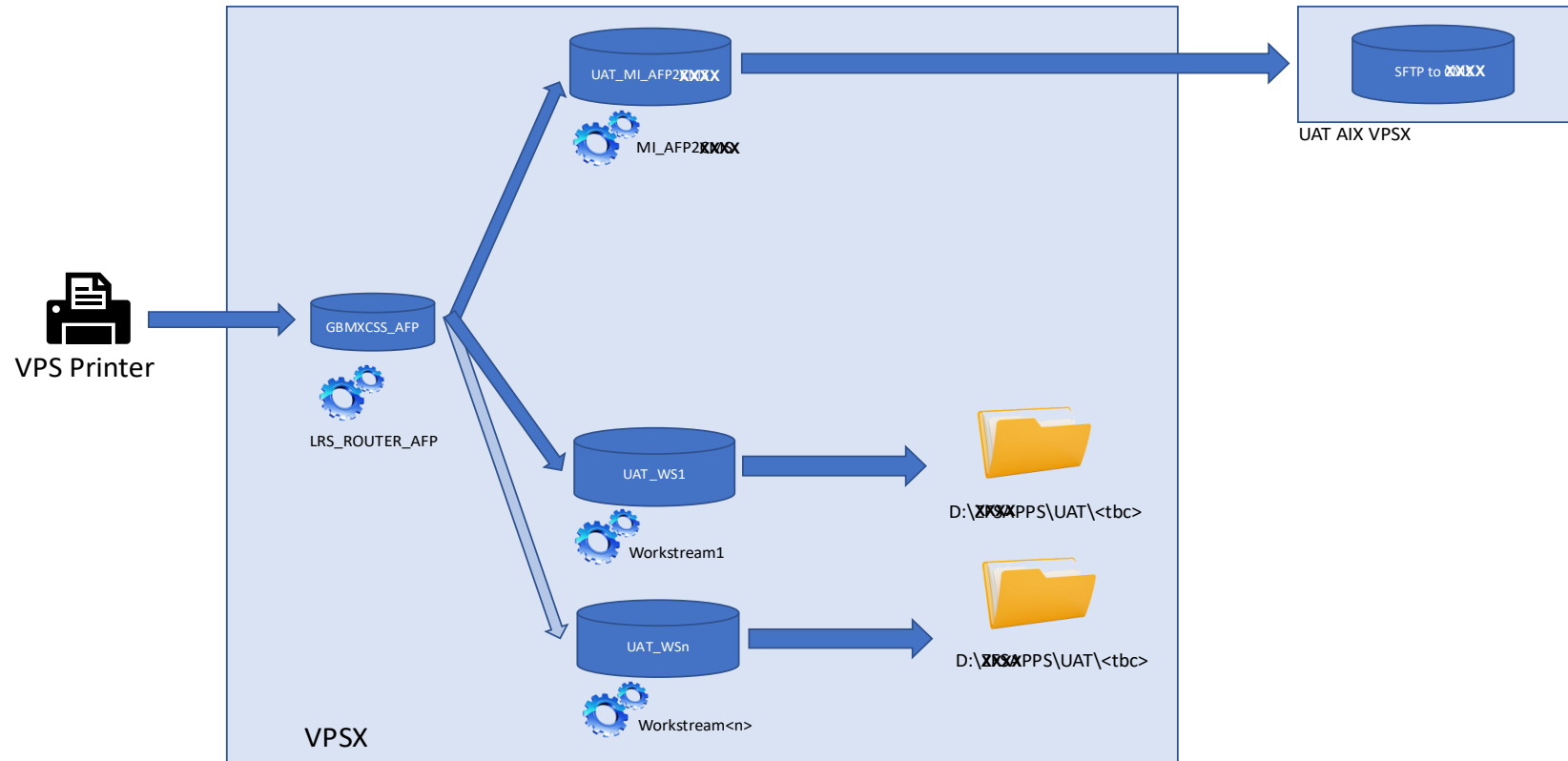
Customer insurance policy documents are generated on mainframe as AFPDS print files

Documents must be identified and routed into 1 of 8 workstreams

Documents are 'modernised' to new style and layout

New document then delivered as PDF depending on type to:

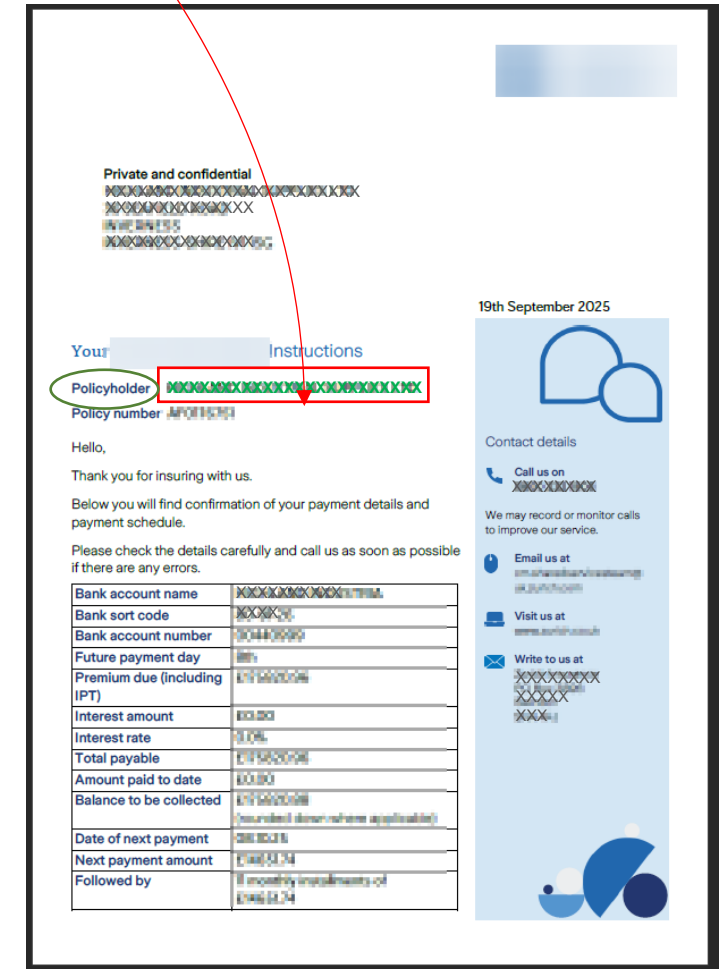
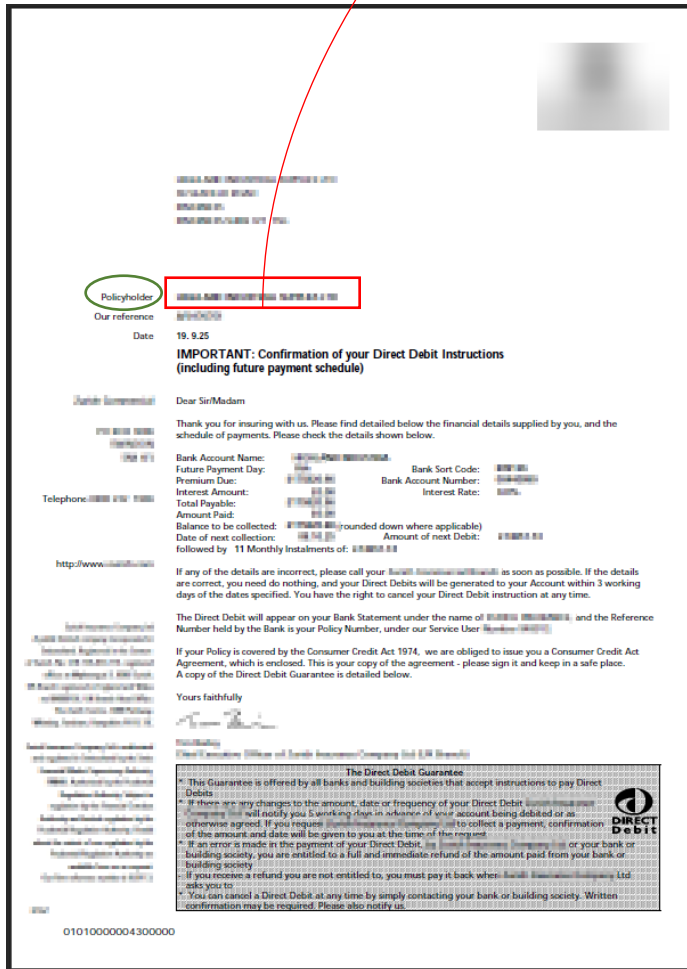
- file storage
- out-sourced production print fulfilment service via SFTP



# Document re-engineering example

## Innovate/Mill

- reads APFDS content
- identifies 'variable' fields from placeholders and reads to memory
- removes all text and images from page
- reads in new page 'overlay' and places on page
- inserts 'variable' fields into new positions
- outputs new document as PDF/a



# SUMMARY

- Mainframe is still very important to you...  
...and to LRS!
- LRS mainframe products actively developed and supported
  - VPS V2R1.2.0068 (18/08/2025)
- LRS seeing trends to
  - replace existing mainframe products with "like-for-like"
  - use LRS open systems products to
    - enhance document output
    - enable mainframe output with same features of 'workplace'

# Document Composition for SAP

... presented for use with SAP, but can be used in many other scenarios!

# Why are we talking about this?

SAP are changing the game with RISE:

- SAP **Presentment** means Document Composition (like StreamServe which is now part of Open Text) but they were ALL **click charged**
- SAP Forms by Adobe (replaces Adobe Document Server, which was Free for printing) running on BTP - now **charges by block**, and results in massive charges for companies who print a lot



**Adobe Document Services out of support in 2027 - extended maintenance available until 2030**

- Change required: SAP Forms by Adobe (BTP Service)
- Will SAP offer an OnPremise option ?
- It is pay per use (also preview) click charge



**SAP for Adobe Document Services, SmartForms/SAPScript will also be out of support.**

- Business documents will be supported and maintained ONLY in the new BTP based service.

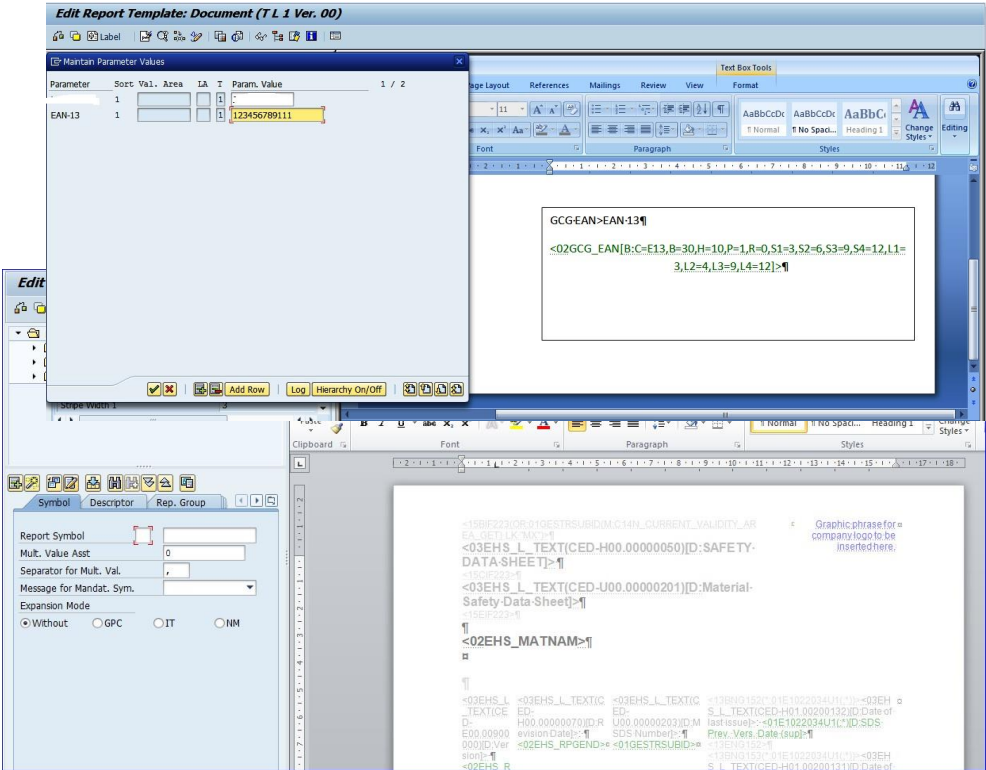
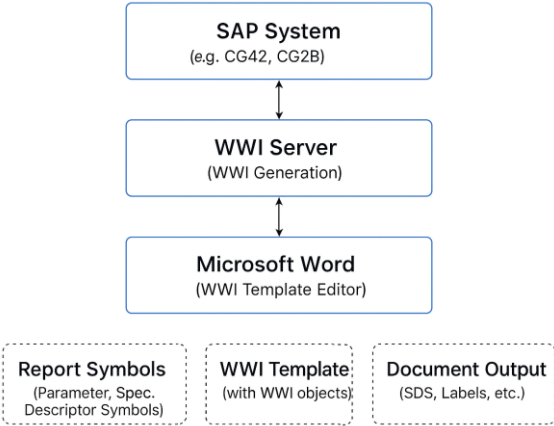




Windows Word Integration (WWI) is often a part of label printing as a tool to create templates

SAP is sunsetting WWI and actively promoting **third party [cloud-based] solutions.**

(See SAP Note: 2557755 - EH&S WWI and EH&S Expert End of Maintenance, **how does that impact your CMO for label printing.**)



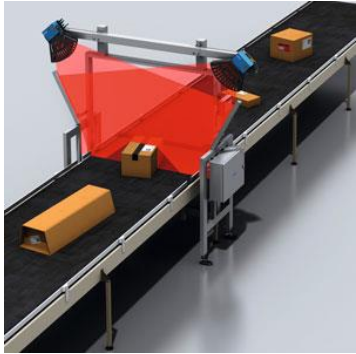
- SAP are working with Loftware to create a new Cloud based Global Label Management solution (GLM).
- This will replace the current SAP Windows Word Integration GLM solution.



... because labels and forms are STILL critical in many business processes, where a printing problem very quickly leads to a business problem.



# Assured delivery



Perfect Integration with Production Line software, all available papers for a given package are requested from VPSX at the scan point, consolidated into a single print job and printed.



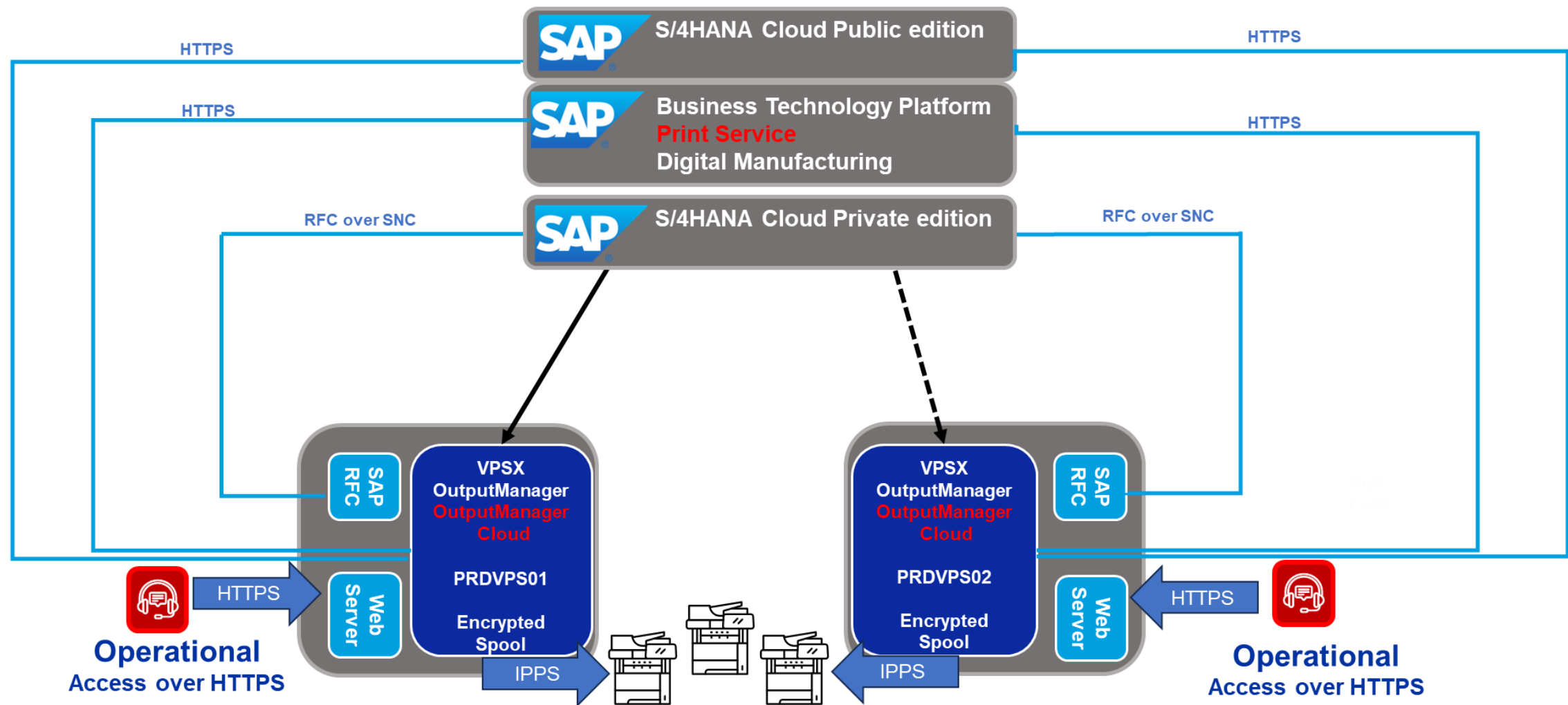
Perfect Integration with Commissioning, Pull by Voice etc. Back End Print is collected at ANY available device by the RIGHT person. With PjL even an interrupted print can be resumed with label exact restart at the next available device.

# Is there another way? Yes!



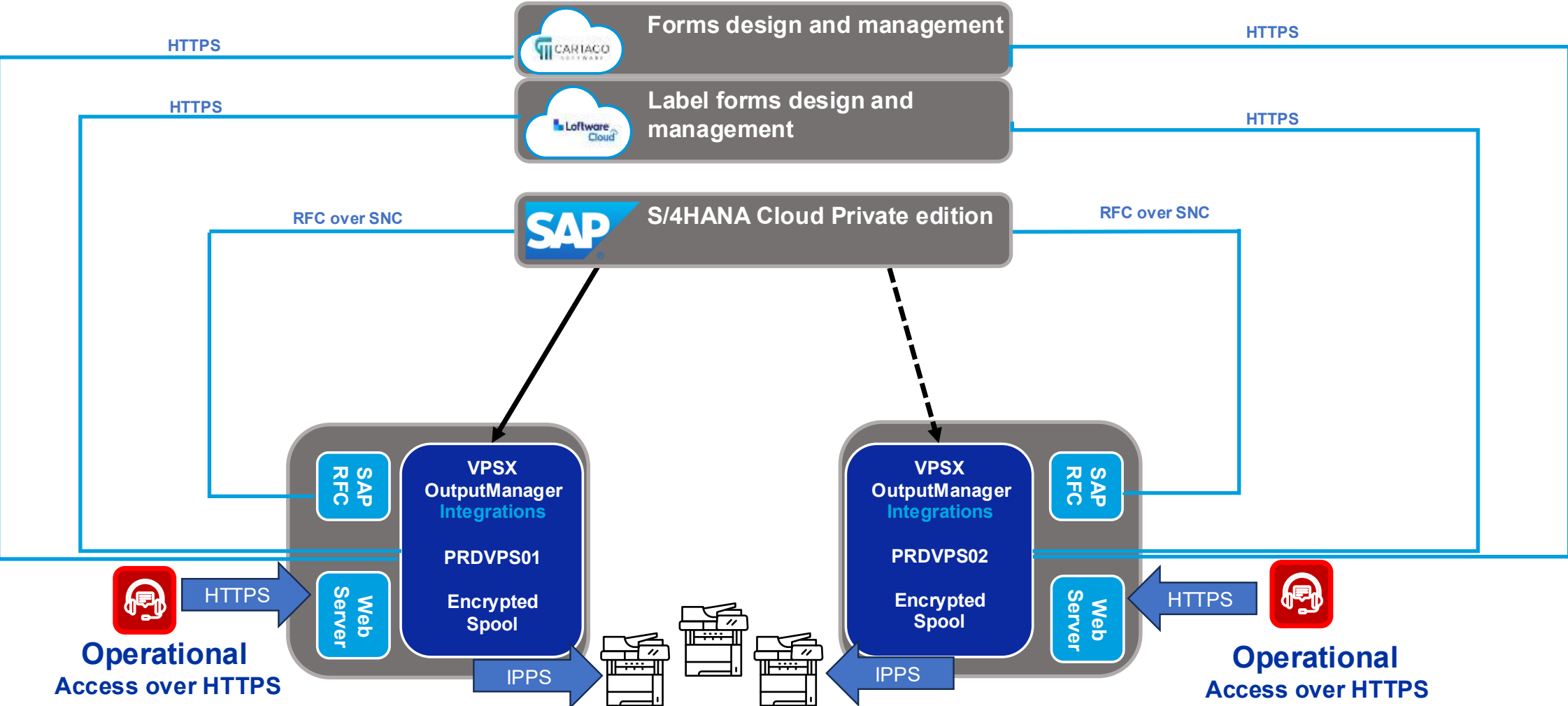
## Presentment (Composition) Systems

# SAP S/4HANA Private and Public Cloud, SAP Print Service





# Integrate Presentment systems





(NiceLabel)



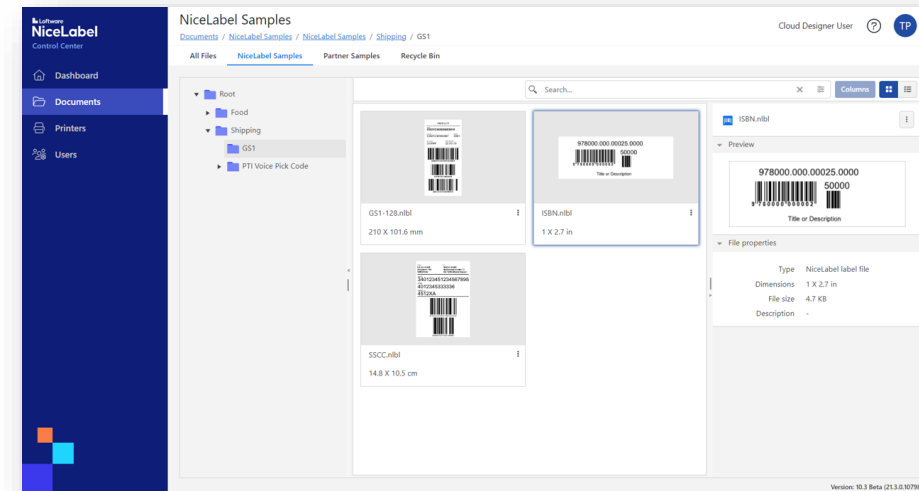
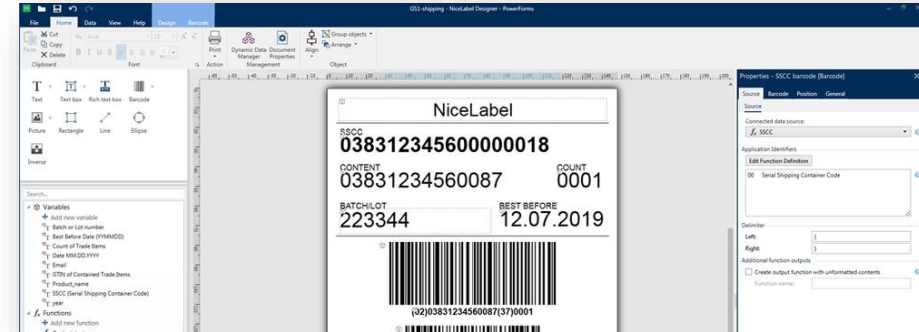


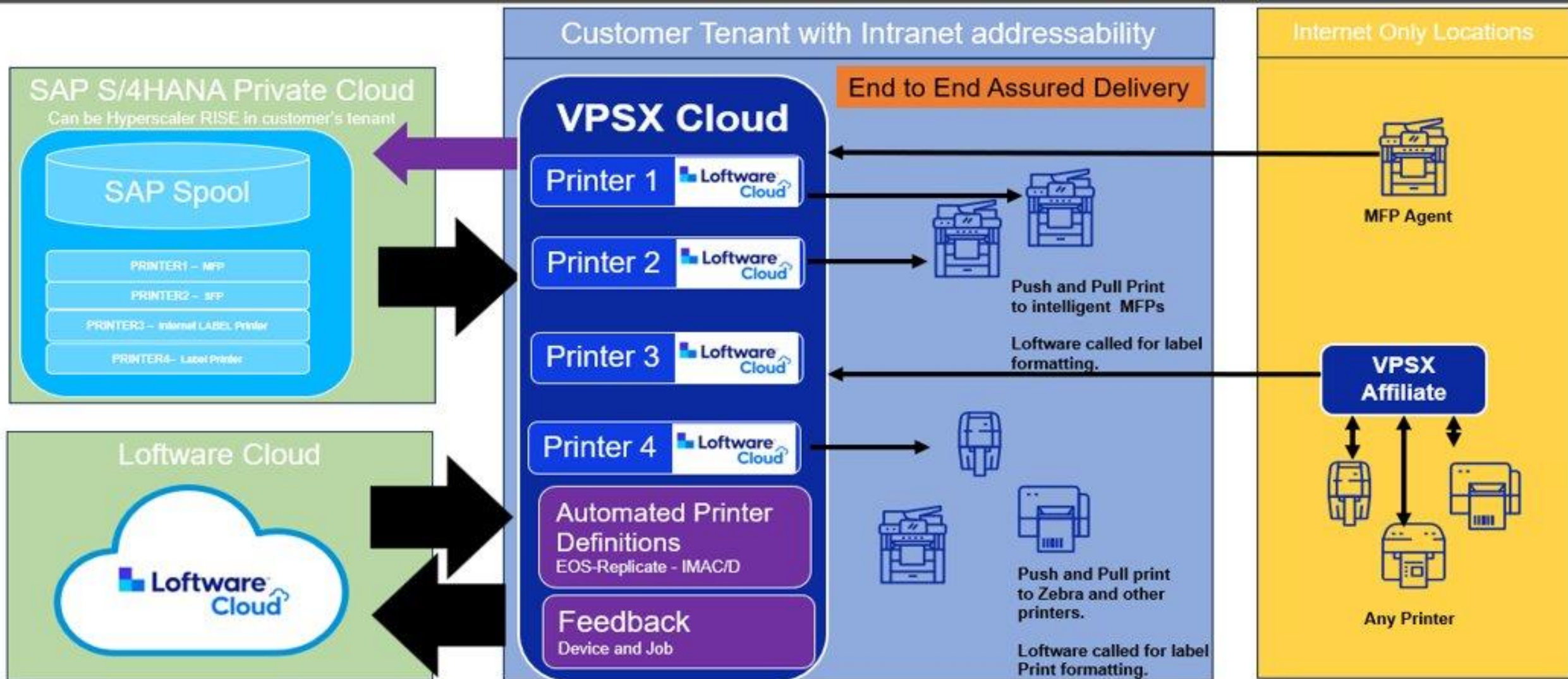
Software Cloud is a cloud-based labeling and artwork management platform that integrates seamlessly with SAP S/4HANA Cloud and SAP Business Technology Platform (BTP).

It enables centralized control of label design, storage, and printing across global operations.

Software is, like LRS, the Software of choice for many Enterprise customers

Now LRS and Software Cloud can be integrated into an end-to-end, assured delivery workflow.





# SaaS with LRS, Zebra and Loftware

# SAP sends XML to a processing queue in VPSX

XML contains:

- data
- format
- printer name

```
<labels
  _FORMAT="LC-Logistics"
  _PRINTERNAME=" ZPL600"
  _QUANTITY="5">
  <label>
    <variable name="ProductName">Tinuvin 770 DF</variable>
    <variable name="Material">50227141</variable>
    <variable name="BatchNumber">123456789Q</variable>
    <variable name="NetWeight">20</variable>
    <variable name="UOM_Weight">KG</variable>
  </label>
</labels>
```

# VPSX sends XML to Loftware Cloud via REST API (HTTPS)

[https://\[REDACTED\]nicelabel.com/Trigger/v1/CloudTrigger/](https://[REDACTED]nicelabel.com/Trigger/v1/CloudTrigger/)

<SOFTWARE\_FILTER > SOFTWARE\_FILTER SPOOLID 00007882 70C1938C-B033-4A91-8DF2-28EE7E1A725B FILTER1 PROCESSING STARTED

Request will be -inputfile C:\LRSROOT\vpsxroot\spool\SOFTWARE\_FILTER\00007882.dat -  
outputFile C:\LRSROOT\vpsxroot\tmp\filter\SOFTWARE\_FILTER00007882.tmp -pdfaMode  
pdfa\_3a -formatType pdf -templateID -inJobName -inOwner e1351 -inTitle -inSpool 7882 -  
inPrinter SOFTWARE\_FILTER -retain\_Software true

HTTP RC 200

Return Code set to 0 - Job has been successfully processed - XSL()

Output pdf File will be written 9190 byte(s)

End to End time 7260(ms). Overhead 7260(ms) (HTTPS-Network-Round-

Trip 7199(ms), IO to disk 4(ms), this Program 57(ms))

Bytes sent 331, received 12338, so average network throughput is calculated at 2(kilobits/second)

FILTER ATTRIBUTE UPDATES COMMITTED

Saved Output @ ipp://someserver.domain.org:631/LOFTWARE-ARCHIVE/27499

VPSX receives composed document back via same HTTPS connection

## Leading Label Solution for SAP

- supports a HUGE variety of Label Printers including thermal printers, label printers, card printers, RFID printers, and specialty Inkjet printers.
- available as a cloud service (SaaS), applicable/certified for S/4HANA and SAP Print Service (DM,BTP)
- well-made web-based designer
- 'conformant label' assistance for Hazmat etc. to required standards

## Leading Output Management Solution for SAP

- supporting and certified for all SAP
- end-to-end workflow control and monitor
- assured delivery and feedback to SAP
- layers of functionality:
  - pull-print
  - print to internet-only locations
  - print to Affiliate/non-corporate printers
  - Transform
  - Audit



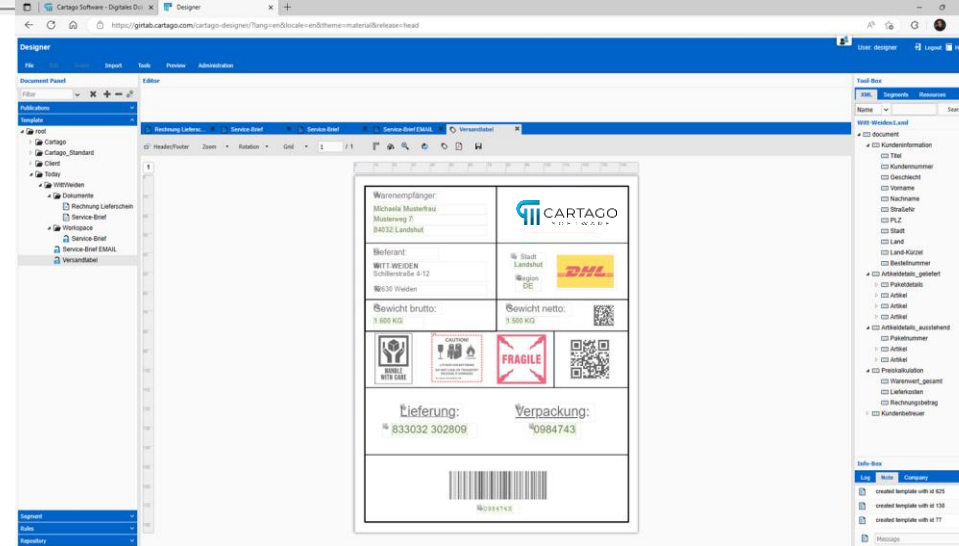
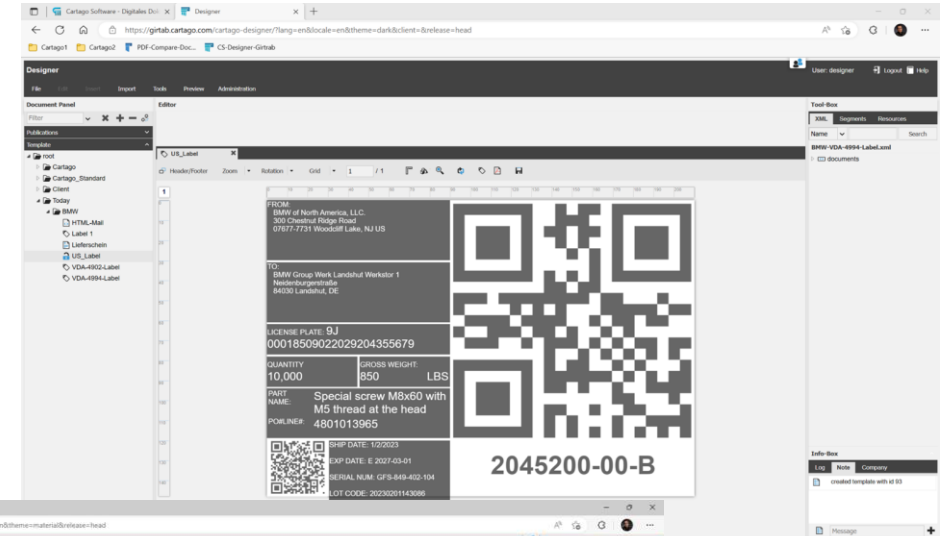
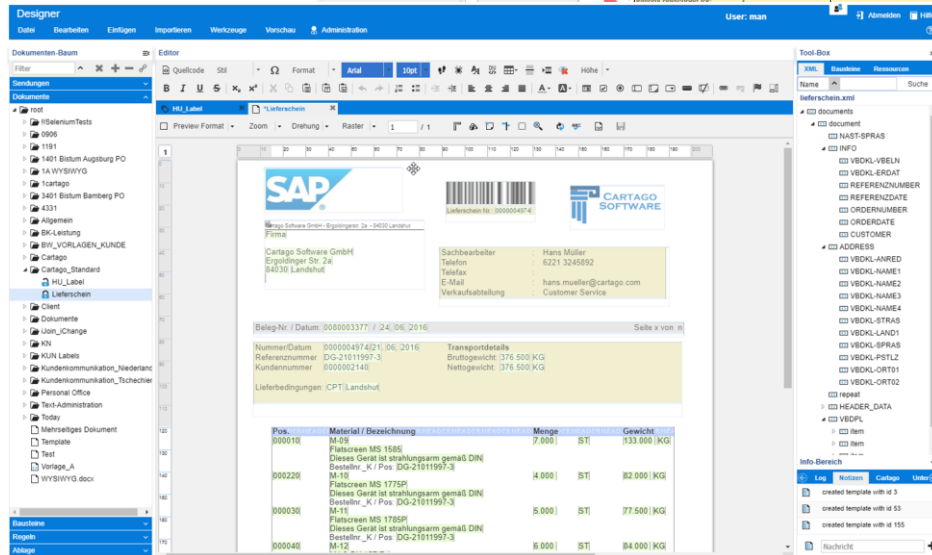
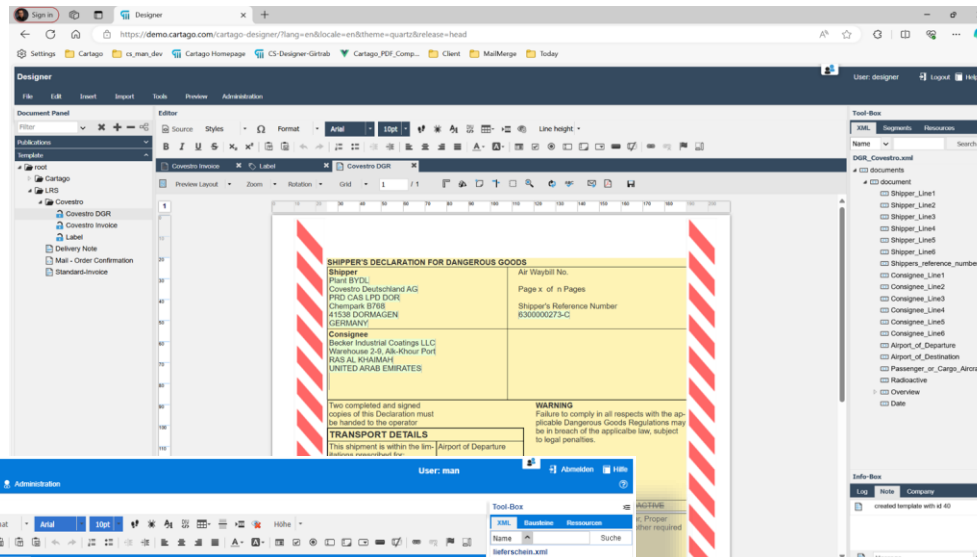
# Cartago is ...

- Very modern, state of the art software
- Web Based editor
- Runs in the cloud, on site, or hybrid
- Container based
- Highly flexible API... RDI, SAPGOF, XML
- Synchronous Multi-Channel Output





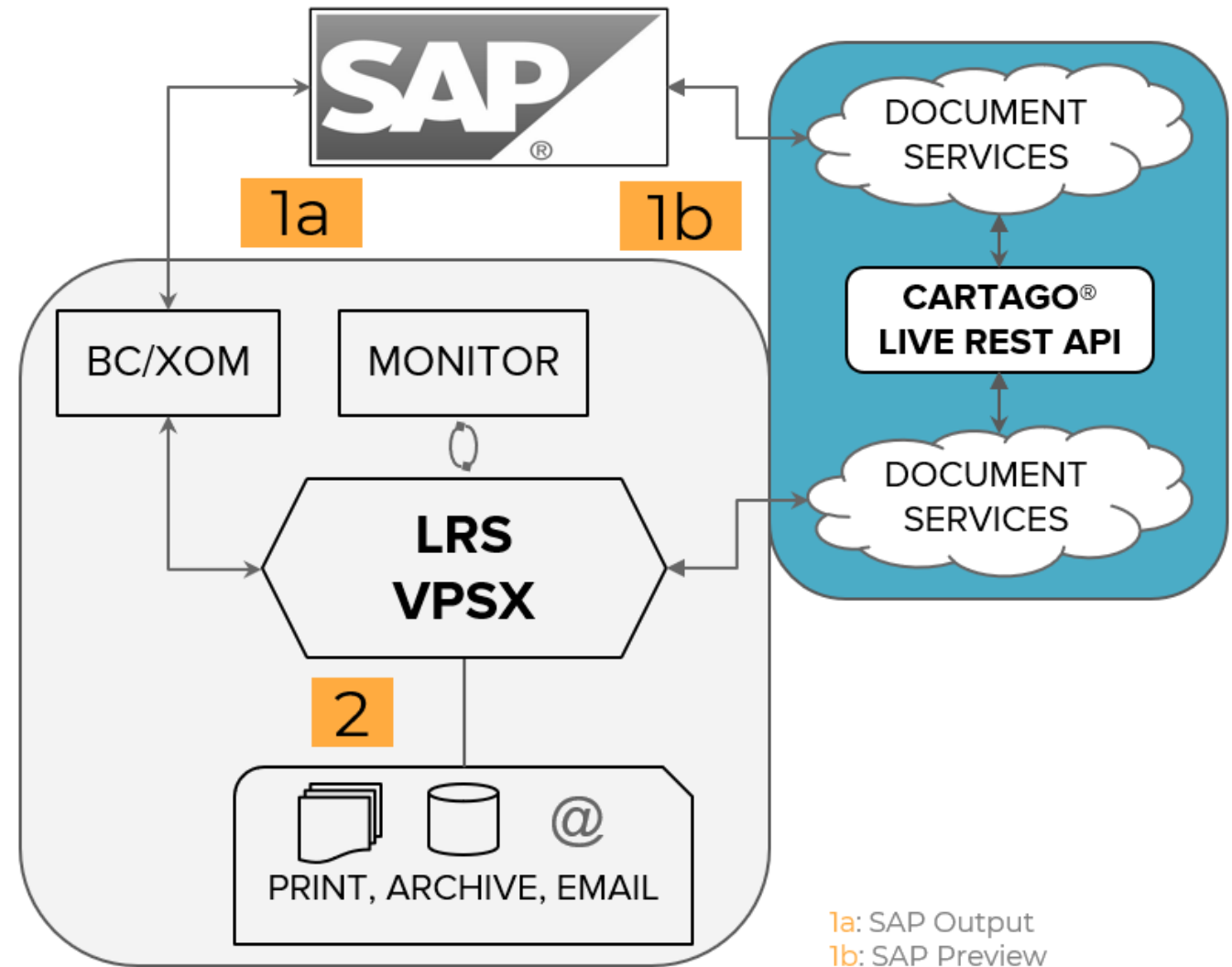
# Cartago®Live Designer





## SAP Connectivity

- SAP
- LRS / VPSX
  - Enterprise Output Management
  - Central Monitoring and Control
- Cartago
  - **Document Generation Services**
  - SAP Preview Services



1a: SAP Output  
1b: SAP Preview  
2: Document Delivery

## Leading Document Composition solution

- comprehensive forms-design
- available as a cloud service

## Leading Output Management Solution for SAP

- supporting and certified for all SAP
- end-to-end workflow control and monitor
- assured delivery and feedback to SAP
- layers of functionality:
  - pull-print
  - print to internet-only locations
  - print to Affiliate/non-corporate printers
  - Transform
  - Audit

# SUMMARY

LRS has proven integration with Document  
Presentation Solutions for SAP as alternative solutions  
and architecture

... and for any other document composition requirement

Business processes can benefit from end-to-end  
control and monitoring with assured delivery





# LRS CUSTOMER STORIES



## Stories from the Field

# Document Information Redaction

**TOP SECRET**



# Healthcare Redaction

Medical Documents which require scanning may contain information which should be redacted in an archive copy

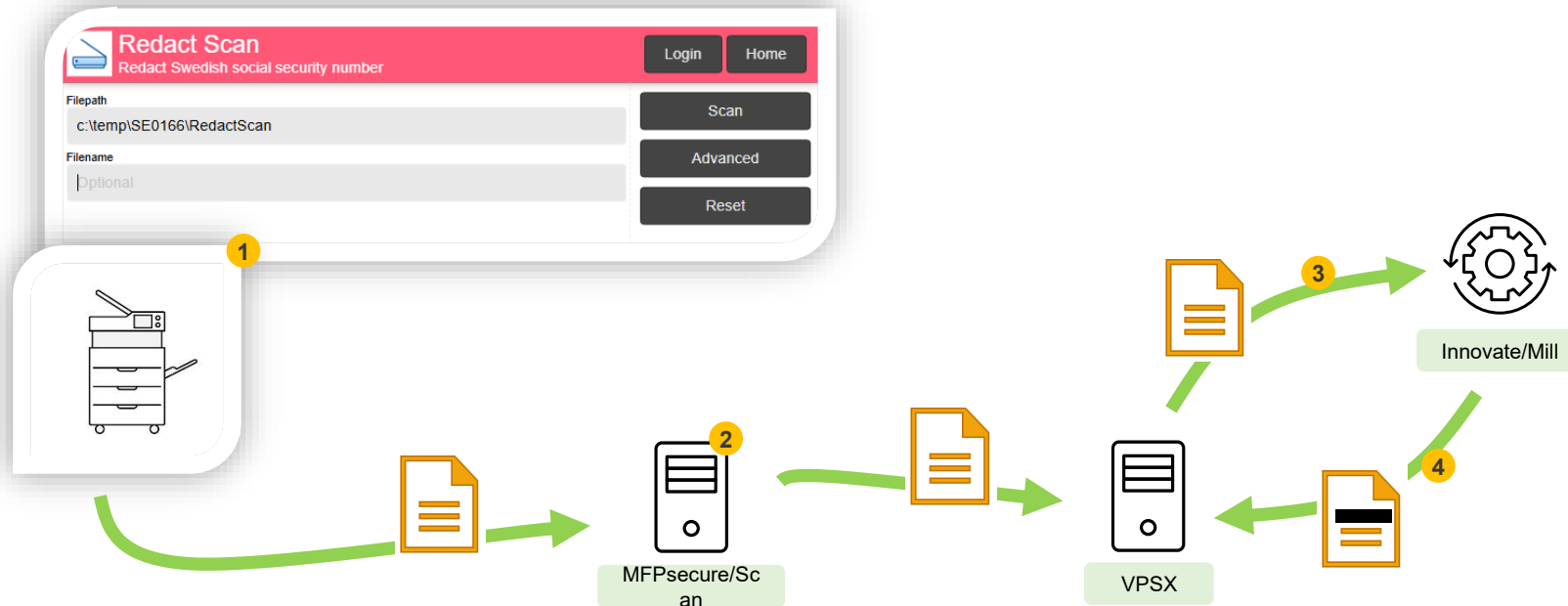
- no view of text in image
- no text-search result

19 650420-3792

Närhälsan Bergfot vårdcentral VC vägen 1 52161 Stenstorp tel: 010-47 32 275 fax: 010-123 45 67		JOURNALBLAD 10000016T01 19 650420-3792 Jönköping Testperson 1 Testgatan 8c Lgh 1101 562 Jönköping Tel: 0315-48018	Utskrift: FBY HELGR13 N5455 Sida 1 av 1 <b>KOPIA</b>
VARNING! Se i slutet av utskriften.			
* 2015-09-07 10:09 Lena Knutsson, Ssk VC väst 1 (signerad)			
<b>ANTECKNING</b>			
<b>Kontaktyp</b>	Mottagningsbesök planerat		
<b>Kontaktorsak</b>	Hosta		
<b>ANAMNES</b>			
Socialt			
Sysselsättning - Patientbakgrund	Yrkesverksam heltid		
Vapenlicens - Patientbakgrund	Nej		
Körkort - Patientbakgrund	Ja		
Hälsa- och sjukdomshistoria	Hälsa och sjukdomshistorieuppgifter skrivs här		
Aktuellt	Aktuella uppgifter om patienten.		
Alkoholvanor	Tar ett glas varje helg		
<b>Registrering av KVÄ</b>	XV016 Läkemedelsgenomgång, fördjupad (i)		
----- VARNING -----			
-BLODSMITTA- 2016-07-01 Ja			
-ÖVERKÄNSLIGHET- 2016-07-01 Tvättmedel			
----- slut utskrift -----			
Journalkopia uttagen 2025-02-25 kl 13:54		Uttagen av HELGR1	

# Workflow solution

Solution involves multiple LRS products in a workflow to deliver required result



1 Scan document and deliver to Secure Scan

2 Output "Application" to transfer to VPSX via IPPS (COM API)

3 Examine all TEXT objects from PDF search strings  
Compare TEXT strings to redaction target(s)  
For matches,  

- capture x,y position
- place black marks at x,y for string length \* estimated character width
- remove text object from PDF

4 Back to VPSX for its final destination:  

- Folder
- Onward VPSX queue
- Printer (redacted copy)

# MFPsecure/Scan

Scan image with OCR to PDF. PDF will contain:

- original scan image
- searchable 'hidden' text strings

JOURNALBLAD  
Journalkopia uttagen av  
Utskr.id: FBY HELGR13 N5455  
2025-02-25 kl 13:54 HELGR1  
Närhälsan Bergfot vårdcentral  
VC vägen 1  
52161 Stenstorp  
tel: 010-47 32 275 fax:010-123 45 67  
VARNING!  
Se i slutet av utskriften.  
19 650420-3792  
Jönköping Testperson1  
Testgatan 8c Lgh 1101  
Tel: 0515-48018  
567 56 Jönköping  
Sida 1 av 1  
KOPIA  
10000016T01  
\* 2015-09-07 10:09 Lena Knutsson, Ssk VC Test 1 (signerad)  
ANTECKNING  
Kontakttyp Mottagningsbesök planerat  
Kontaktorsak Hosta  
ANAMNES  
Socialt  
Sysstättning - Yrkesverksam heltid  
Patientbakgrund  
Vapenlicens - Nej  
Patientbakgrund  
Körkort - Ja  
Patientbakgrund  
Hälso- och sjukdomshistorieuppgifter skrivs här  
Aktuellt Aktuella uppgifter om patienten.  
Alkoholvanor Tar ett glas varje helg  
Registrering av KVÅ XV016 Läkemedelsgenomgång, fördjupad (i)  
VARNING  
-BLODSMITTA-  
2016-07-01 Ja  
-ÖVERKÄNSLIGHET-  
2016-07-01 Tvättmedel  
slut utskrift

Närhälsan Bergfot vårdcentral VC vägen 1 52161 Stenstorp tel: 010-47 32 275 fax:010-123 45 67 VARNING! Se i slutet av utskriften.	10000016T01	<b>JOURNALBLAD</b> Utskr.id: FBY HELGR13 N5455 Sida 1 av 1 <b>19 650420-3792</b> Jönköping Testperson1 Testgatan 8c Lgh 1101 567 56 Jönköping Tel: 0515-48018	<b>KOPIA</b>
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\* 2015-09-07 10:09 Lena Knutsson, Ssk VC Test 1 (signerad)

**ANTECKNING**

**Kontakttyp** Mottagningsbesök planerat

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Hälso- och sjukdomshistoria Hälso och sjukdomshistorieuppgifter skrivs här

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**Registrering av KVÅ** XV016 Läkemedelsgenomgång, fördjupad (i)

----- VARNING -----

-BLODSMITTA-  
2016-07-01 Ja

-ÖVERKÄNSLIGHET-  
2016-07-01 Tvättmedel

----- slut utskrift -----

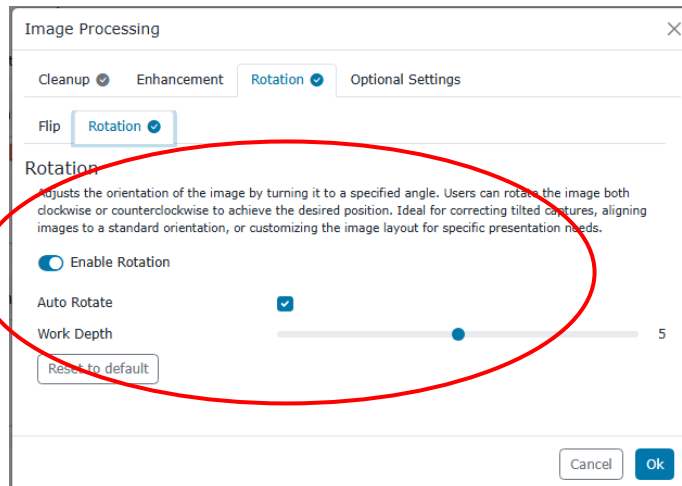
Journalkopia uttagen  
2025-02-25 kl 13:54

Uttagen av  
HELGR1



# Transfer to VPSX

- Output is File to temporary folder
- Run Application on the File
- **VPSX\_PrintJobFromScan.exe**
  - v "https://<vpsx\_server>:631"
  - p "ipp://<vpsx\_server>:5443/<queue>"
  - f <Filepath>\\<Filename>.pdf



## Profile SE0166 Redacted Scan Workflow

Details Input Processing **Output** Options Scan Settings

### Output

Identifier	DefaultDistributor
File Name	<Filename>

#### Hidden

Name	Filepath
Description	temporary file storage for submission to VPSX
Default Value	C:\tmp\mpsecure_scans
Evaluate at input stage	<input type="checkbox"/>

File

Output CSV XML Applications

Path <Filepath>

Create Folder ☒

Create OCR text file ☐

Append to existing file ☐

File Name <Filename>

C:\Program Files\LRS\MPsecure\securecan\DefaultC

Service account

Cancel Ok

File

Output CSV XML Applications

☒ Run Application

Run for each document ☒

Applications

+ Add

c:\LRSROOT\vpsxroot\filters\VPSX\_

Applications

Executable c:\LRSROOT\vpsxroot\filters\VPSX\_PrintJobFromScan\VI

Commandline Parameter -v "https://eomthunberg02.lrsinc.org:631" -p "IPP://eomthunberg02.lrsinc.org:5443/se0166-scan-processing" -f <Filepath>\\<Filename>.pdf -u TRUE -

64 bit ☒

Wait until application exits ☒

Returns pre-defined JSON format ☒

Timeout (sec) 180

Cancel Add

# The VPSX processing queue

- Remote queue destination (optional)
- Filter with arguments
- Licenses:
  - Innovate/Mill
  - Transform PDF to PDF

The screenshot displays the VPSX configuration interface, divided into several sections:

- Basic Parameters:** Contains fields for Printer Name (\*), VPSX ID (\*), and CommType (\*). The Printer Name is set to "SE0166-SCAN-PROCESSING", VPSX ID to "VPS2-JT", and CommType to "TCPIP/LRSQ". Below these are tabs for Basics, Licenses, SNMP, Filters, and Advanced.
- Basic Parameters (Expanded):** Shows Remote Port (5500), Remote Queue (PPQ1), HOST/IP Address (localhost), and Device (Discover).
- Filter Parameters:** A table with columns for Filter, Data Type, Command, and Arguments. The first filter is named "Filter 1", has a Data Type of "PDF", a Command of "C:\LRS\Convert1\nlrsdvr.exe", and a long Arguments string.
- Licenses:** A section with three columns of license options. The first column lists VPSX licenses (Enterprise, Workplace, DirectPrint). The second column lists transformation licenses, with "Innovate/Mill" selected. The third column lists output format licenses, with "Transform/PDF to PDF" selected.

Filter	Data Type	Command	Arguments
Filter 1	PDF	C:\LRS\Convert1\nlrsdvr.exe	INVMILL &KEYINVMILL -s -uREDACT -Dlogmode="D" -Dmerge="Y" -Ddump="N" -Dbox="Y" -Dtext="Y" -Dinfile="&INFILE" -Doutfile="&OUTFILE" -Doutdir="&TMPDIR\filter" -Dprofdir="C:\LRS\Convert1" -Dintype="PDF" -Douttype="PDF" "C:\LRSROOT\vpsxroot\filters\VPSX_PrintJobFromScan\cs-se0166-mill-v1r104.pro"

License	License	License
<input type="checkbox"/> VPSX Enterprise	<input checked="" type="checkbox"/> Innovate/Mill	<input type="checkbox"/> Transform/PDF to PCL6
<input type="checkbox"/> VPSX/Workplace	<input type="checkbox"/> Transform/AFP to AFP	<input checked="" type="checkbox"/> Transform/PDF to PDF
<input type="checkbox"/> VPSX/DirectPrint	<input type="checkbox"/> Transform/AFP to IFF	<input type="checkbox"/> Transform/PDF to PRT

# Innovate/Mill

For each PAGE

- Capture all objects from the page
- For each TEXT object
  - Match each text string against target REGEX(s)
  - If matched,
    - get text (X,Y) co-ordinates
    - get font size (H)
    - get text character count and font spacing (W)
    - create a black Rect object (H x W)
    - place Rect at (X,Y) to redact visible text
    - remove text object from page to prevent text search

```
Page[1] item[37] position(14,05,63,25) text string:'2015-09-07'  
Page[1] item[37] string '2015-09-07' matched with regex[1] '^\\s*([0-9]{4})-([0-9]{2})-([0-9]{2})\\s*$' match items[37]  
item [37] details: x(14,05) y(63,25) font(PictureBackupFont) sz(10,632pt) w(0) spc(1)  
removed searchable text item[37] string '2015-09-07'  
redactionBox: text font metrics: n(GoPictureBackupFont) s(10,632pt) sp(1) sw(0) av_cw(2)  
redactionBox: adding redaction box: x,y(14,05,63,25) w(20) h(3,2) offy(60,05)  
redacted image area item [37] string '2015-09-07'
```

Närhälsan Bergfot vårdcentral 10000016701

VC vägen 1  
52161 Stenstorp  
tel: 010-47 32 275 fax:010-123 45 67

WARNING!  
Se i slutet av utskriften.

JOURNALBLAD Utskrift: FBV HELGR13 N5455 Sida 1 av 1

**KOPIA**

Jönköping Testperson1  
Testgatan 8c Lgh 1101  
567 56 Jönköping  
Tel: 0515-48018

\* 10:09 ena Knutsson, Ssk VC Test 1 (signerad)

ANTECIPERING

Kontakt / p Mottagningsbesök planerat

Patent bakgrund Nej

Vapenlicens -

Patent bakgrund Ja

Kö kort -

Patent bakgrund

Hälsa- och sjukdomshistoria Hälsa och sjukdomshistorieuppgifter skrivs här

Aktuellt Aktuella uppgifter om patienten.

Alkoholvanor Tar ett glas varje helg

Registrering av KVA XV016 Läkemedelsgenomgång, fördjupad (i)

WARNING

BLODMÄTTA Ja

ÖVRIGA ANSLICHT Övriga anslutna Tvättmedel

slut utskrift

Utskrift kl 13:54

Utskrift av HELGR1

# Innovate/Mill

Never that easy!!

- Printed text may be split into separate Text objects
  - eg Social Security Number "19 650420-3792" is split "19" and "650420-3792"
- Combine Text objects with same Y co-ord (ie same line) and Regex again
  - Image may have been de-skewed and Y co-ordinate not EXACTLY the same
  - Allow tolerance for Y co-ord

```
Page[1] item[17] position(102.53,20.74) text string:'19'  
... no match, merging with next item if on same line range(19.74 - 21.74)  
Page[1] item[17] type[18]  
... next item[18] position(108.71, 20.57) text string:'650420-3792'  
... same line (19.74<=20.57<=21.74) merged into '19 650420-3792'  
Page[1] item[17] string '19' matched with regex[0] '^\\s*([0-9]{2})\\s*([0-9]{6}-[0-9]{4})\\s*$' match items[17,18]  
item [17] details: x(102.53) y(20.74) fn(GdPictureBackupFont) sz(9.792pt) w(0) spc(1)  
... removed searchable text item[17] string '19'  
redactionBox: text font metrics: n(GdPictureBackupFont) s(9.792pt) sp(1) sw(0) av_cw(1.5)  
redactionBox: adding redaction box: x,y(102.53,20.74) w(3) h(2.4000000000000004) offy(18.339999999999996)  
... redacted image area item [17] string '19'  
... removed searchable text item[18] string '650420-3792'  
redactionBox: text font metrics: n(GdPictureBackupFont) s(10.536pt) sp(1) sw(0) av_cw(2)  
redactionBox: adding redaction box: x,y(108.71,20.57) w(22) h(3.2) offy(17.37)  
... redacted image area item [18] string '650420-3792'
```

- If combined match, then remove and redact both Text objects

Närhälsan Bergfot vårdcentral		10000016T01		JOURNALBLAD		Utskr.id: FBY HELGR13 N5455 Sida 1 av 1	
VC vägen 1 52161 Stenstorp tel: 010-47 32 275 fax:010-123 4567		VARNING! Se i slutet av utskriften.		<div style="border: 2px solid red; padding: 2px;">[REDACTED]</div>		KOPIA	
				Jönköping Testperson1 Testgatan 8c Lgh 1101 567 56 Jönköping Tel: 0515-48018			
* [REDACTED] 10:09 Lena Knutsson, Ssk VC Test 1 (signerad)							
ANTECKNING							
Kontakttyp		Mottagningsbesök planerat					
Kontaktsak		Hosta					
ANAMNES							
Socialt		Yrkesverksam heltid					
Sysselsättning - Patientbakgrund		Vapenlicens - Patientbakgrund					
Nej							
				shistorieuppgifter skrivs här			
				om patienten.			
				ilg			
				s genomgång, fördjupad (i)			
				----- VARNING -----			
				HET- edel			
				- slut utskrift -----			
Journalkopior uttagen [REDACTED] kl 13:54				Uttagen av HELGR1			

# VPSX Delivery

- Delivery by VPSX to final destination:
  - Redacted Archive PDF
  - Redacted COPY printed back to printer where it was scanned
  - Redacted COPY stored in PPQ for later release



The screenshot displays the LRS VPSX interface. On the left, a sidebar titled 'Printers' contains buttons for 'PersonalQs', 'PPQ1', 'Output Queue (1)', 'Retained Queue (0)', and 'Configure'. The main area shows a job queue table with columns: Spool ID, Class, Copies, Creation Time, Data Type, Filename, and Host. A single job is listed with Spool ID 00000207, Class, 1 copy, Creation Time 2025/06/05 12:56:38, Data Type PDF, Filename 2025-06-05-12-56\_Secure\_Scan.pdf, and Host eomthunberg02.lrsinc. Above the table, there are controls for 'Bulk Actions', 'Queue Command', 'Table Columns', 'Job upload', and 'Refresh'. At the top right, a summary row shows the job name '2025-06-05-12-56\_Secure\_Scan.pdf', the date modified '2025-06-05 14:56', and the type 'Adobe Acrobat D...'.

Spool ID	Class	Copies	Creation Time	Data Type	Filename	Host
<a href="#">00000207</a>		1	2025/06/05 12:56:38	PDF	2025-06-05-12-56_Secure_Scan.pdf	eomthunberg02.lrsinc

Summary Row:

Name	Date modified	Type
2025-06-05-12-56_Secure_Scan.pdf	2025-06-05 14:56	Adobe Acrobat D...

# Solution is...

- Generic 
  - Works with all MFPsecure/Scan devices
  - Works with VPSX or HPA
  - Works with mobile VPSX Print App / Scan
  - Works for print output as well - AFPDS, PCL, PS, PDF, ...
  - Simple to change
    - add the REGEX to match the required redacted text
    - update scaling factors to suit font size for redaction Rect (if necessary)
    - update Y variance for deskew (if necessary)
- Multi-purpose 
  - Archive redacted print and/or scan
  - Print a redacted paper copy

```
// --- REGULAR EXPRESSIONS -----  
// - regular expressions to match text for redaction  
// - this needs to return a capture group so include ( ) in your regex to  
regex_redaction_text_list = new Array(  
  
    // text  
    "(Project Ignite)",  
  
    // SE social security number  
    "\\s*([0-9]{2}\\s*[0-9]{6}-[0-9]{4})\\s*",  
  
    // dates YYYY-MM-DD  
    "\\s*([0-9]{4}-[0-9]{2}-[0-9]{2})\\s*",  
  
    // email addresses  
    "\\s*([a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\\.[a-zA-Z]{2,})\\s*",  
  
    // LRS email addresses  
    "\\s*([a-zA-Z0-9._%+-]+@LRS+\\.[a-zA-Z]{2,})\\s*",  
  
    // some regex  
    "regex-for-some-redactable-text"  
);  
  
// --- REDACTION BOX SIZING FACTORS  
// - we don't know character font width/height so have scaling factors to  
// - estimate redaction box width as = number of chars * font_size * char_  
// - estimate redaction box height as = font_size * char_height_factor  
  
char_width_factor = 0.5;  
char_height_factor = 0.8;  
  
// --- MERGING SPLIT TEXT ELEMENTS ON THE SAME LINE  
  
// --- LINE VARIANCE  
// - if the scan is not 100% desked/horizontal, we may get a variation of  
// - when comparing items to determine Y-coord for same line, add a +/- ma  
  
line_ycoord_variance = 0.5;  
  
// --- MAX MERGE ITEMS  
// - the maximum number of items to merge in same line  
  
max_merge_items = 1;
```

**Print from  
Secure  
document  
repository**

**Copy-marked  
reprint**







# Data loss protection

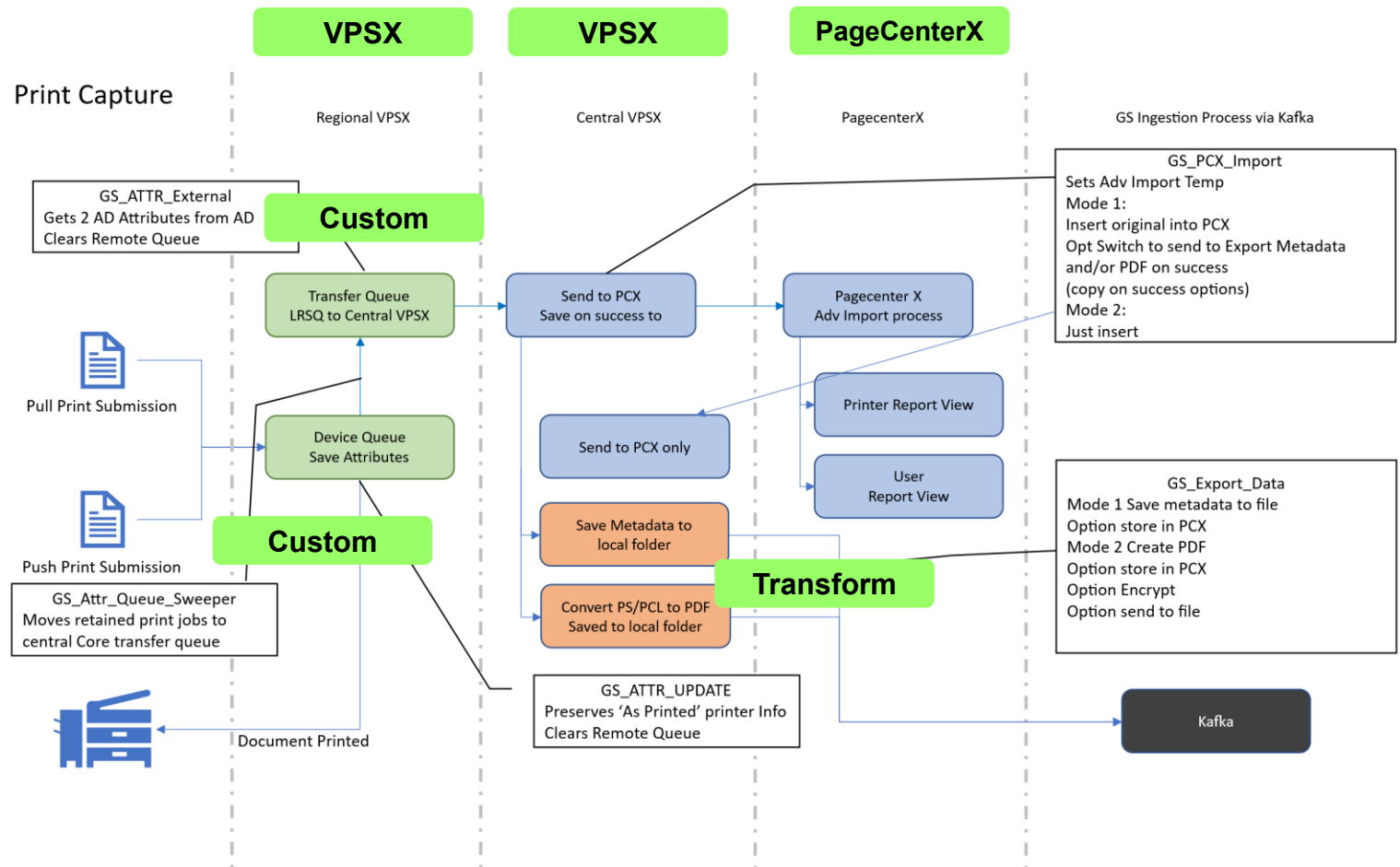


# Data loss protection

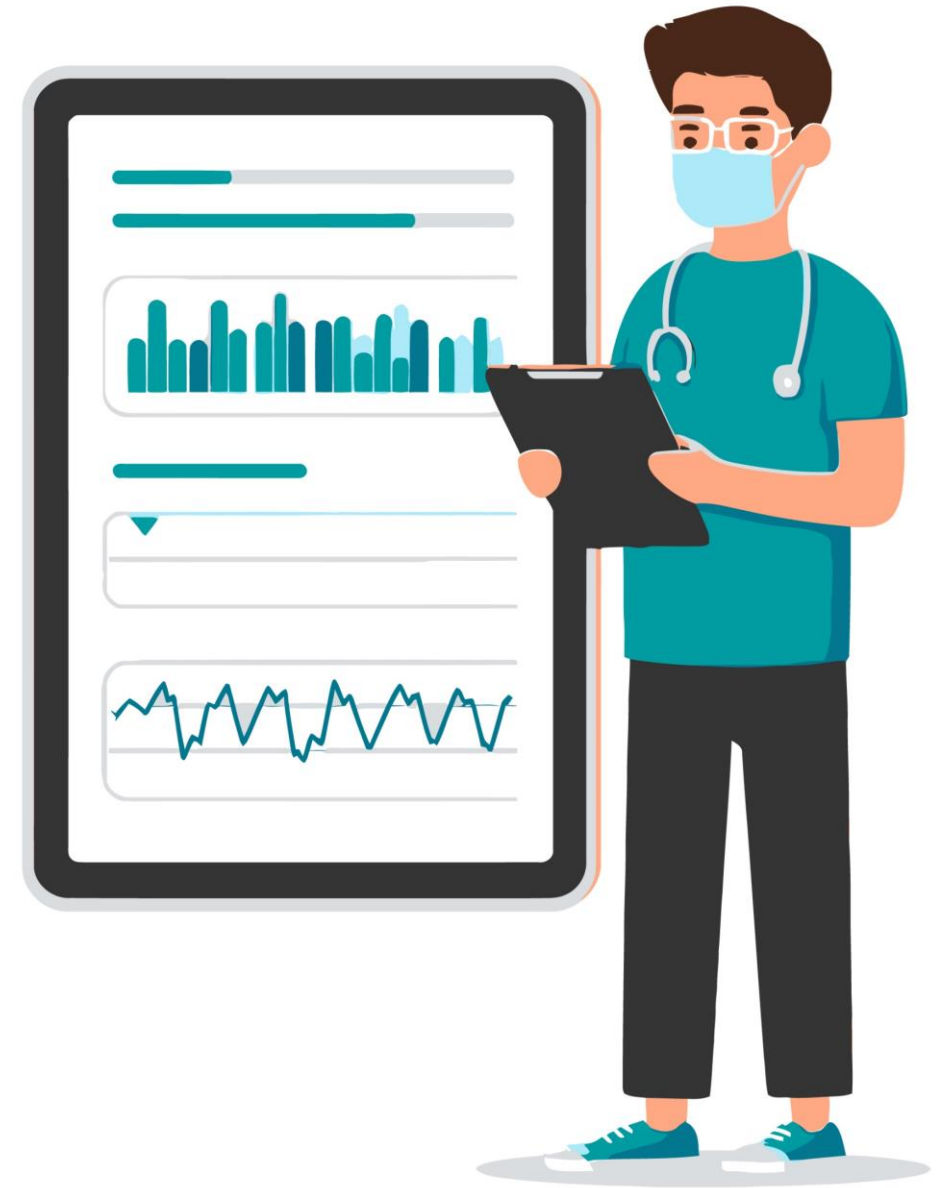
## Global Bank

### Data Loss Protection program:

- Take a copy of every print job to regional and then central VPSX
- On successful print:
  - Transform to encrypted PDF with unique key per file
  - create original user/printer/date/time meta-data file
  - store to PageCenterX
    - compliance view
      - eg print analysis for leaving employees
    - content display
    - report trends
  - copy to Kafka Data Lake storage
    - content analysis
    - AI training

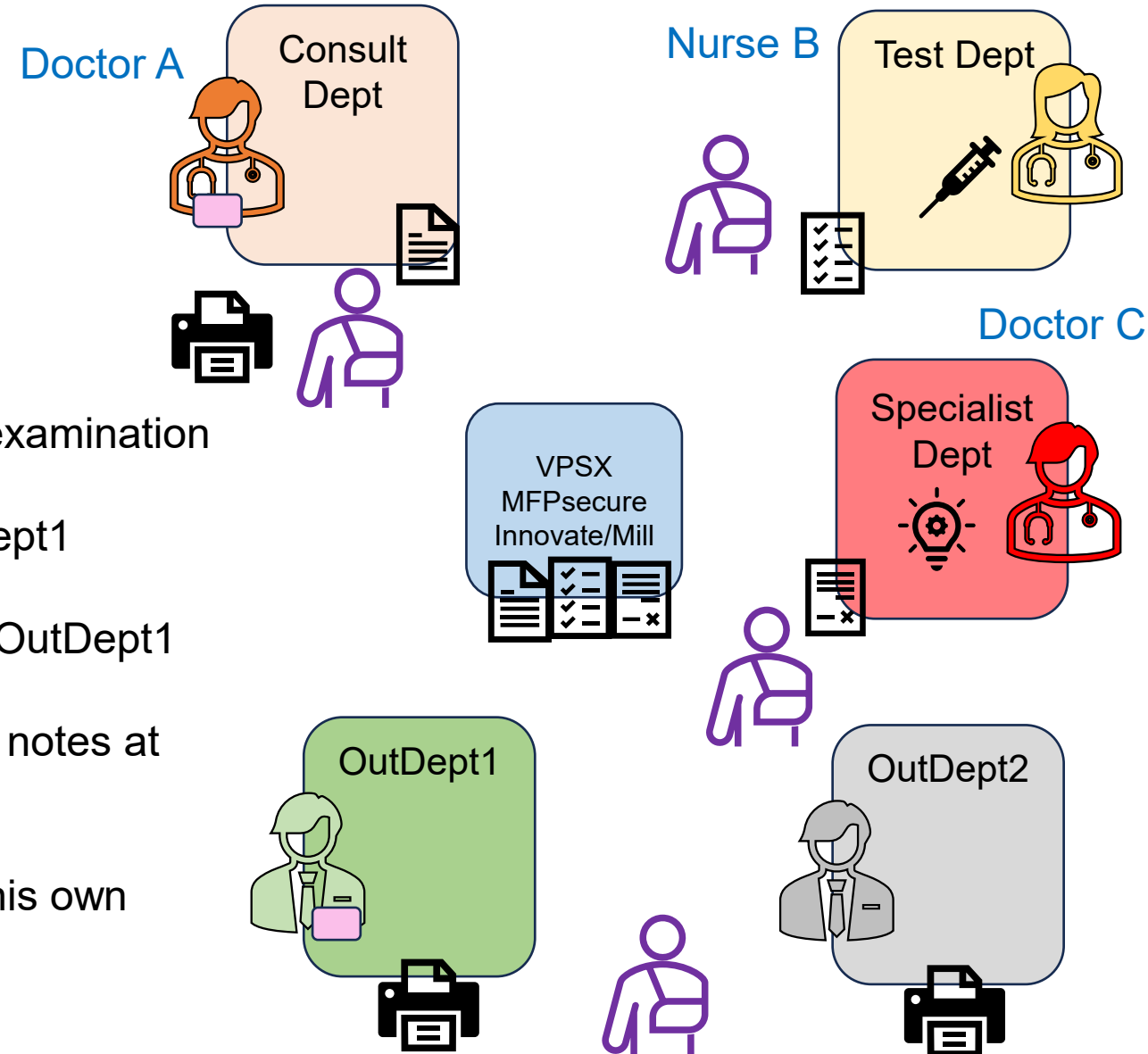


# Healthcare Patient Visit



# Healthcare Patient Visit

- Patient X visits a hospital for a checkup at OutDept1
- Patient X sees Dr A for a consultation
  - Dr A writes up the notes and prints to OutDept1
  - sends Patient X to Nurse B for test
  - sends Patient X to Dr C in Dept2 for specialist examination
- Nurse B takes test, notes results and prints to OutDept1
- Dr C examines Patient X, writes notes and prints to OutDept1
- Patient X goes to Reception to collect complete visit notes at OutDept1
- Dr A now also wants to print a copy of his notes for his own records



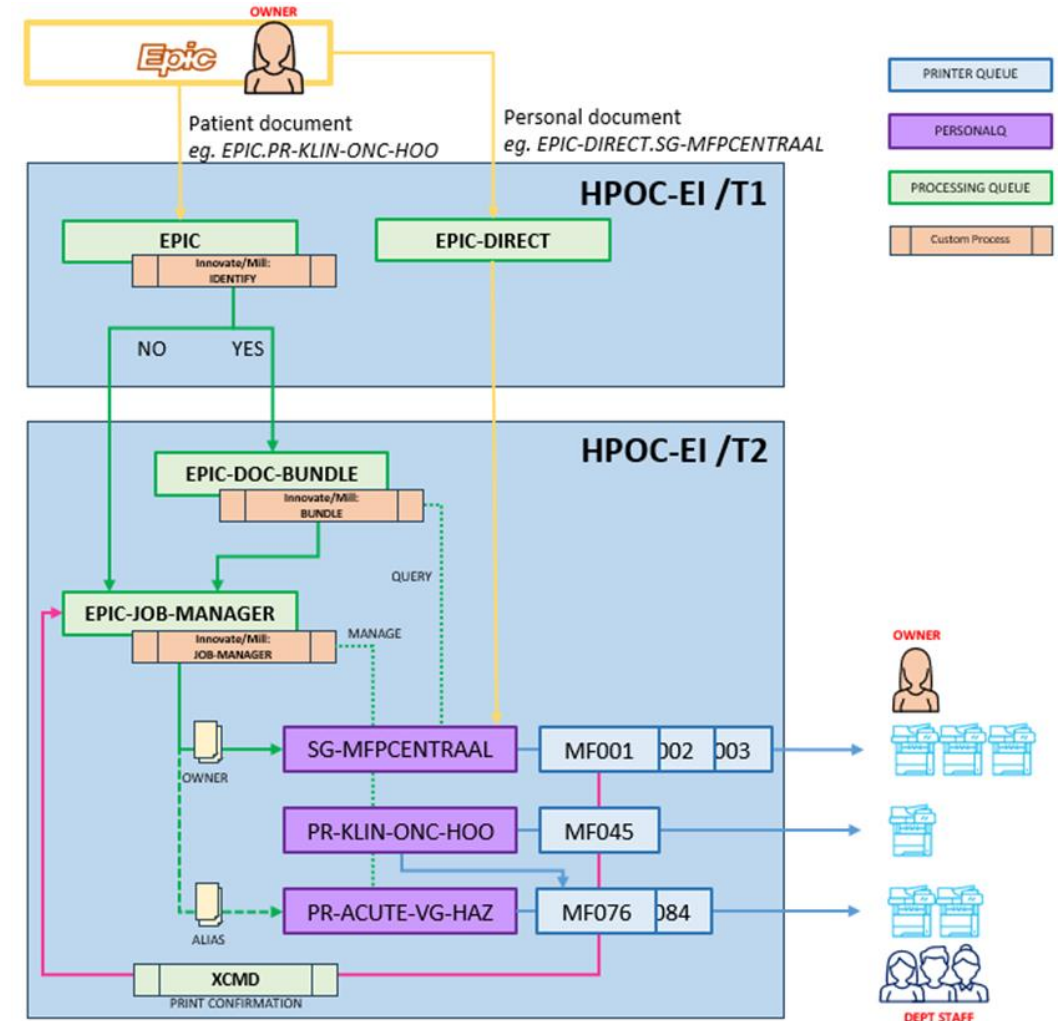
# Healthcare Patient Visit

## Document Processing

There are four steps of processing for the submitted EPIC documents:

- Identify the document
- Bundle the document with any other documents for the same patient
- Manage routing of the bundle to appropriate PersonalQs for release ONLY:
  - by the physician who submitted the document, at **any** printer
  - by **any** healthcare worker in the location/department chosen by the physician
- Manage printing events to ensure either the physician OR the healthcare worker print the bundle so it cannot be printed in multiple places

These processing steps are performed by passing the document through various HP Output Central printer queues configured with Filters - the Filters call HP Innovate/Mill or LRS Custom Scripts to perform the appropriate processing on the document.



# The LRS/HP solution ensured:

- All documents for a patient are delivered together
  - documents are printed only where needed by staff authorised to do so
  - reduced manual effort and opportunity for mistakes
  - enhanced and simplified the end-user experience for both medical staff and patient
- System is available 24/7 in a critical environment
- Staff credentials and access are managed
- Accurate real-time job status feedback to EPIC



# Questions?



# Thank You