

LRS
USER GROUP

TECHNICAL PRESENTATION

10.2025



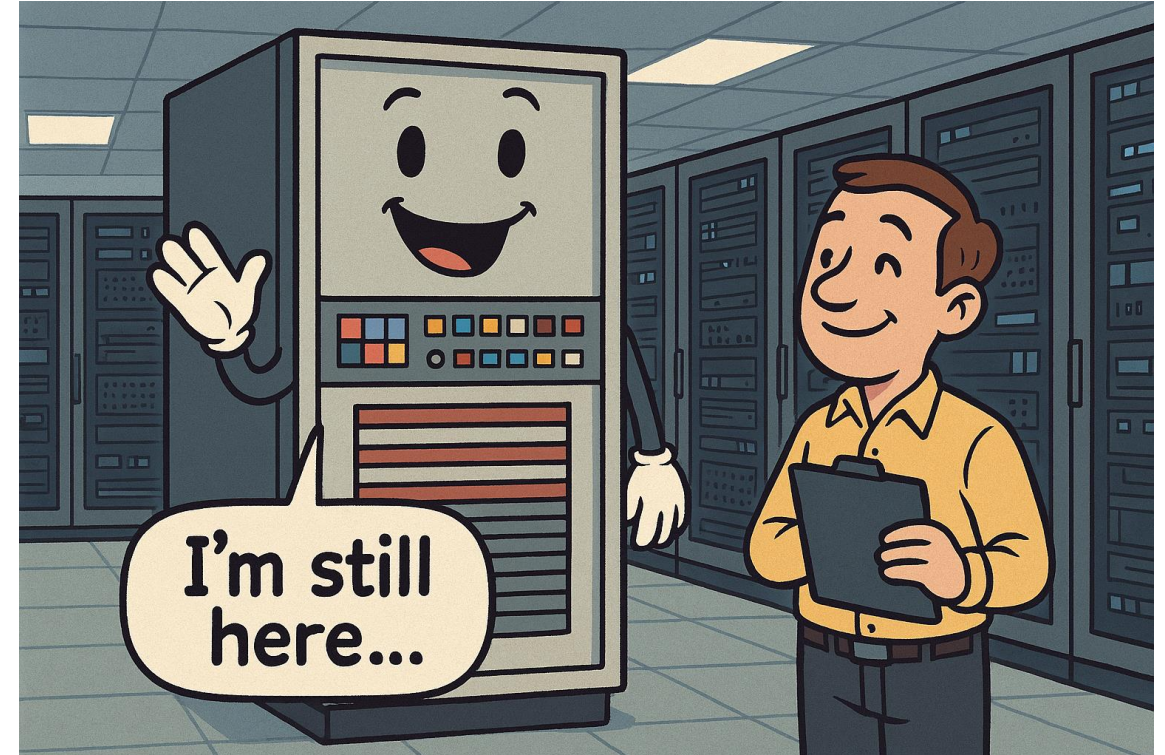
AGENDA

Technical Session

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

AGENDA

Mainframe



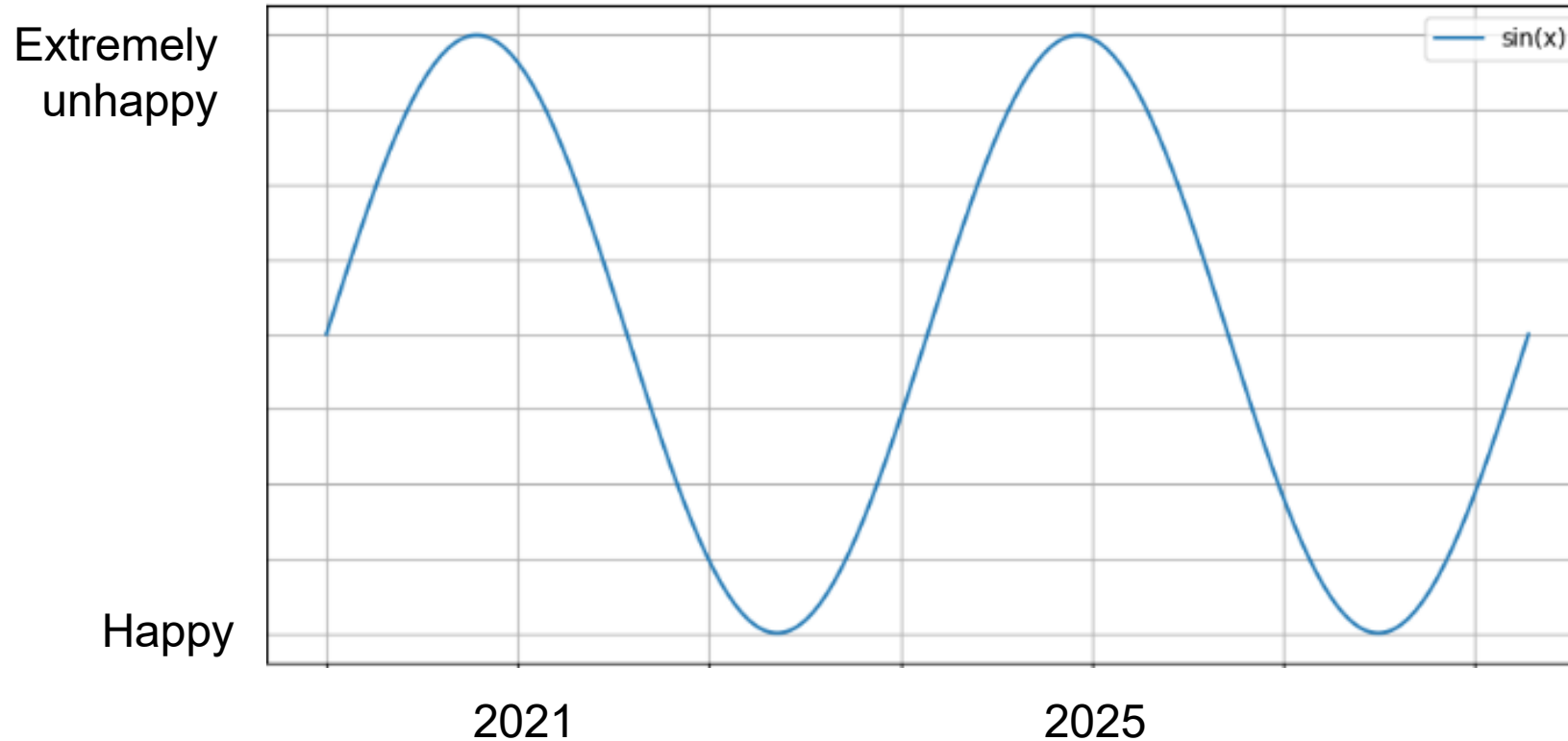
The Mainframe...

- 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...



Broadcom:

CA/Spool
CA/View
CA/Deliver
CA/Bundl
CA/Dispatch
Others...

BMC:

Control/D

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

VPS

VPS/TCPIP

VPS/EMAIL

PageCenter

Gateway

VPSX

Transform

Innovate/Mill

MFPsecure/Print

Audit

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
 - This brings VPSX/PCX into play

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	
TOTAL	100		

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

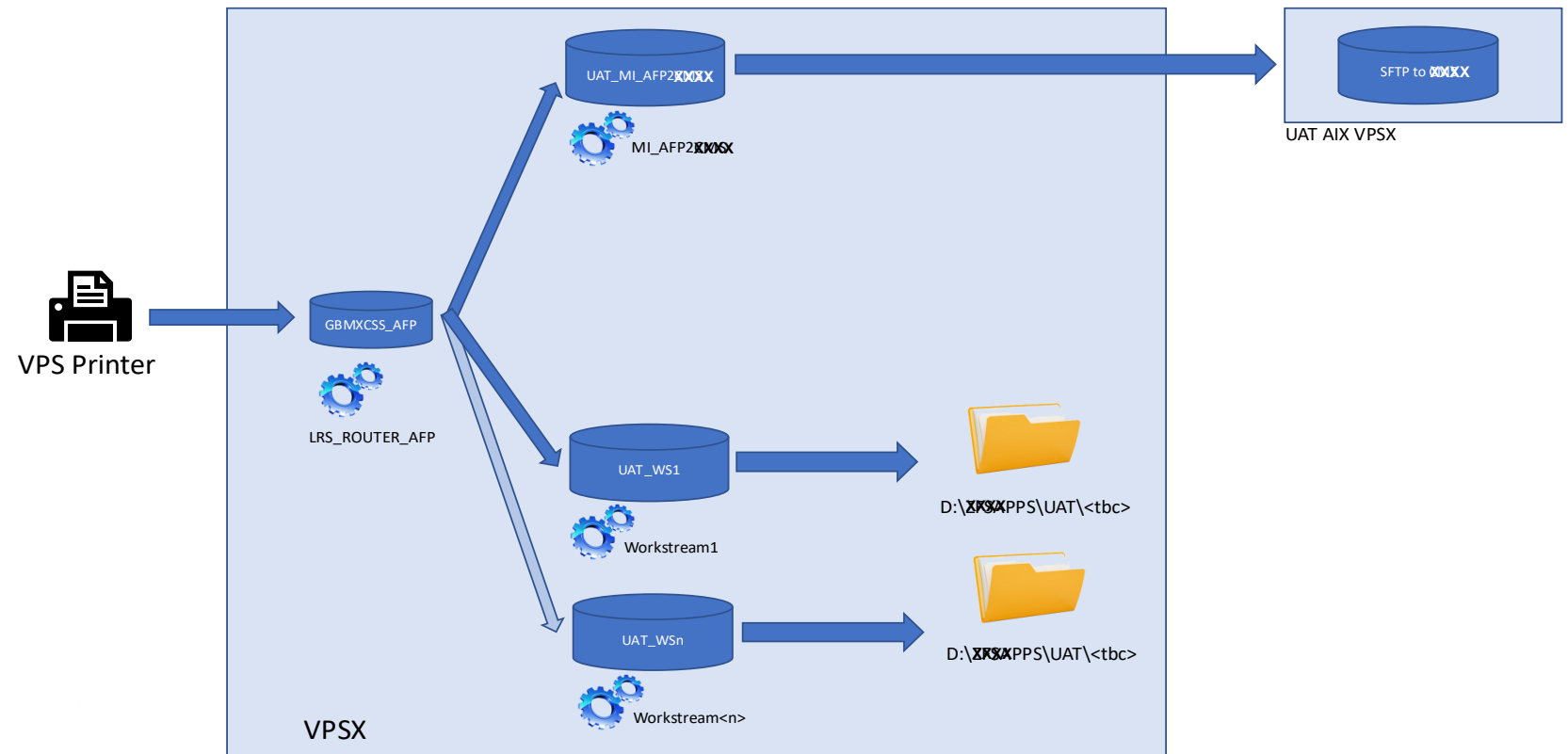
Customer insurance policy documents are generated on mainframe as AFPDS print files

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

0101000004300000

Policyholder
Our reference
Date
19.9.25

**IMPORTANT: Confirmation of your Direct Debit Instructions
(including future payment schedule)**

Dear Sir/Madam

Thank you for insuring with us. Please find detailed below the financial details supplied by you, and the schedule of payments. Please check the details shown below.

Bank Account Name: [REDACTED] Bank Sort Code: [REDACTED]
Future Payment Day: [REDACTED] Bank Account Number: [REDACTED]
Premium Due: [REDACTED] Interest Rate: [REDACTED]
Total Payable: [REDACTED]
Amount Paid: [REDACTED]
Balance to be collected: [REDACTED] (rounded down where applicable)
Date of next collection: [REDACTED] Amount of next Debit: [REDACTED]
followed by 11 Monthly Instalments of: [REDACTED]

If any of the details are incorrect, please call your [REDACTED] as soon as possible. If the details are correct, you need do nothing, and your Direct Debits will be generated to your Account within 3 working days of the dates specified. You have the right to cancel your Direct Debit instruction at any time.

The Direct Debit will appear on your Bank Statement under the name of [REDACTED] and the Reference Number held by the Bank is your Policy Number, under our Service User Number [REDACTED]

If your Policy is covered by the Consumer Credit Act 1974, we are obliged to issue you a Consumer Credit Act Agreement, which is enclosed. This is your copy of the agreement - please sign it and keep in a safe place. A copy of the Direct Debit Guarantee is detailed below.

Yours faithfully

[REDACTED]

The Direct Debit Guarantee

This Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debits.

If there are any changes to the amount, date or frequency of your Direct Debit payment, we will notify you 5 working days in advance of your account being debited or as otherwise agreed. If you request [REDACTED] to collect a payment, confirmation of the amount and date will be given to you at the time of the request.

If an error is made in the payment of your Direct Debit, [REDACTED] or your bank or building society, you are entitled to a full and immediate refund of the amount paid from your bank or building society.

If you receive a refund you are not entitled to, you must pay it back when [REDACTED] asks you to.

You can cancel a Direct Debit at any time by simply contacting your bank or building society. Written confirmation may be required. Please also notify us.

Private and confidential
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXX
XXXXXXXXXXXXXXXXXXXX

19th September 2025

Your Instructions

Policyholder
Policy number [REDACTED]

Hello,

Thank you for insuring with us.

Below you will find confirmation of your payment details and payment schedule.

Please check the details carefully and call us as soon as possible if there are any errors.

Bank account name	XXXXXXXXXXXX
Bank sort code	XXXXXX
Bank account number	XXXXXX
Future payment day	[REDACTED]
Premium due (including IPT)	[REDACTED]
Interest amount	[REDACTED]
Interest rate	[REDACTED]
Total payable	[REDACTED]
Amount paid to date	[REDACTED]
Balance to be collected	[REDACTED] (rounded down where applicable)
Date of next payment	[REDACTED]
Next payment amount	[REDACTED]
Followed by	[REDACTED] monthly instalments of [REDACTED]

Contact details

Call us on [REDACTED]

We may record or monitor calls to improve our service.

Email us at [REDACTED]

Visit us at [REDACTED]

Write to us at [REDACTED]

Mainframe product futures

- VPS support for IPP and IPPS printing
- Expansion of LRS Transforms to mainframe platforms
 - Z/OS Container Extensions (zCX)
 - Move transform process to IBM LinuxOne
 - Initially AFP to PCL5, PCL6, PDF, PS, ZPL, IFF
 - Later LCDS(DJDE) to AFP, PCL5, PCL6, PDF, PS, ZPL, IFF
- DRS support for spool file encryption
- VPS V2R13. Target date: end of 2025

SUMMARY

- Mainframe is still very important to you...
...and to LRS!
- LRS mainframe products actively developed and supported
- LRS seeing trends to
 - replace existing m/frame 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 is this "a thing"?

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.

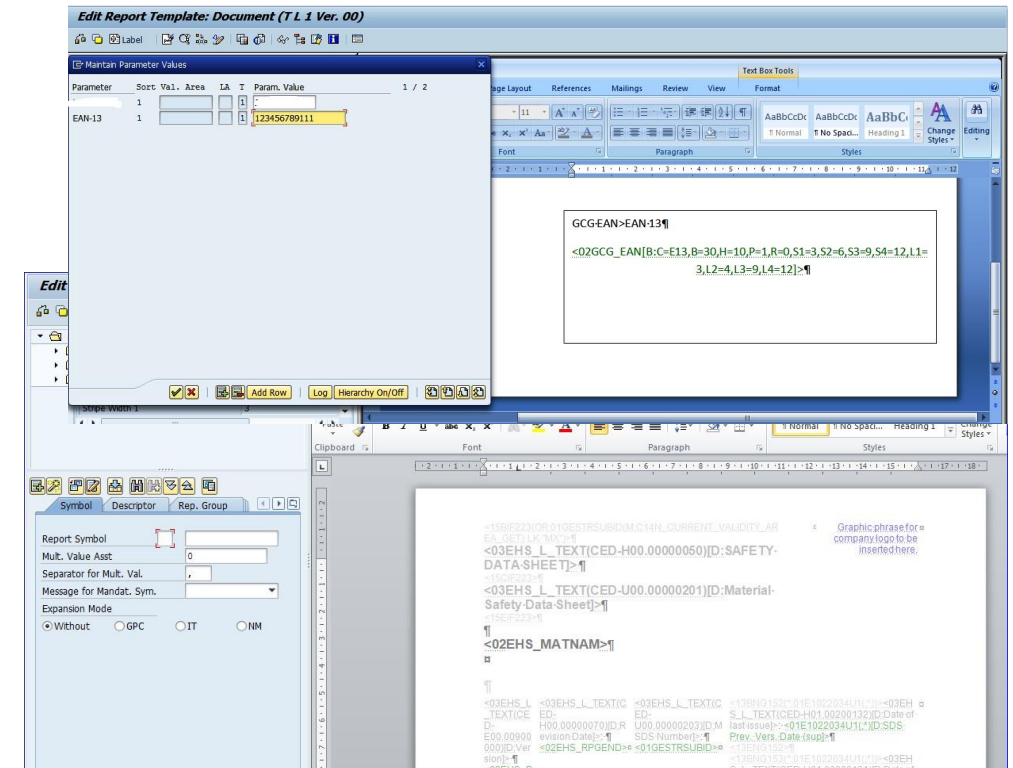
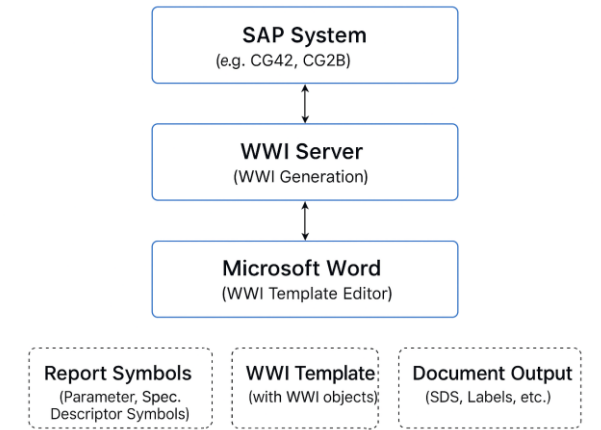


Why is this "a thing"?

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.**)



Why is this "a thing"?

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.

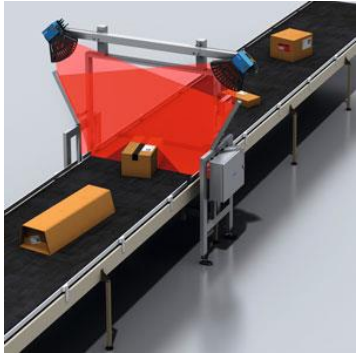


Why is this "a thing"?

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



Assured delivery

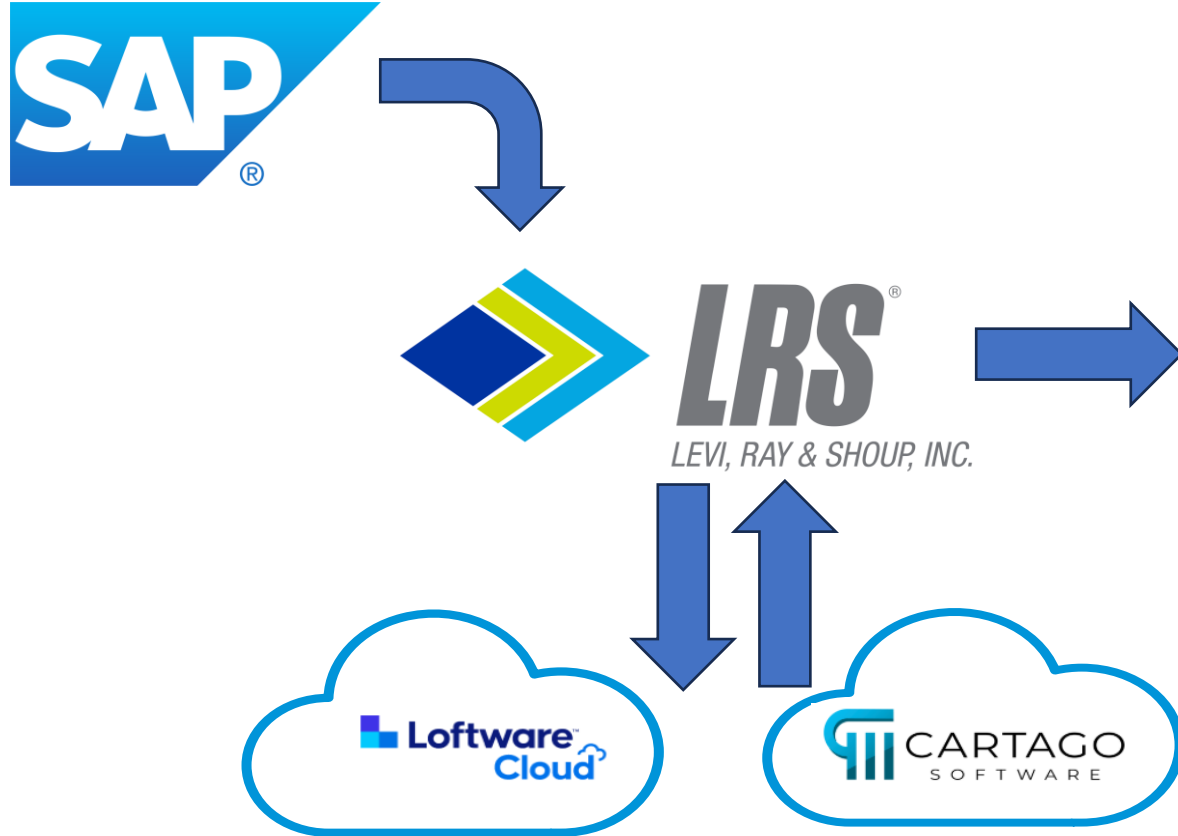


Perfect Integration with Production Line software, all available papers for a given package are requested from VPSX at the scan point, consolidated into a single print job and printed.



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.

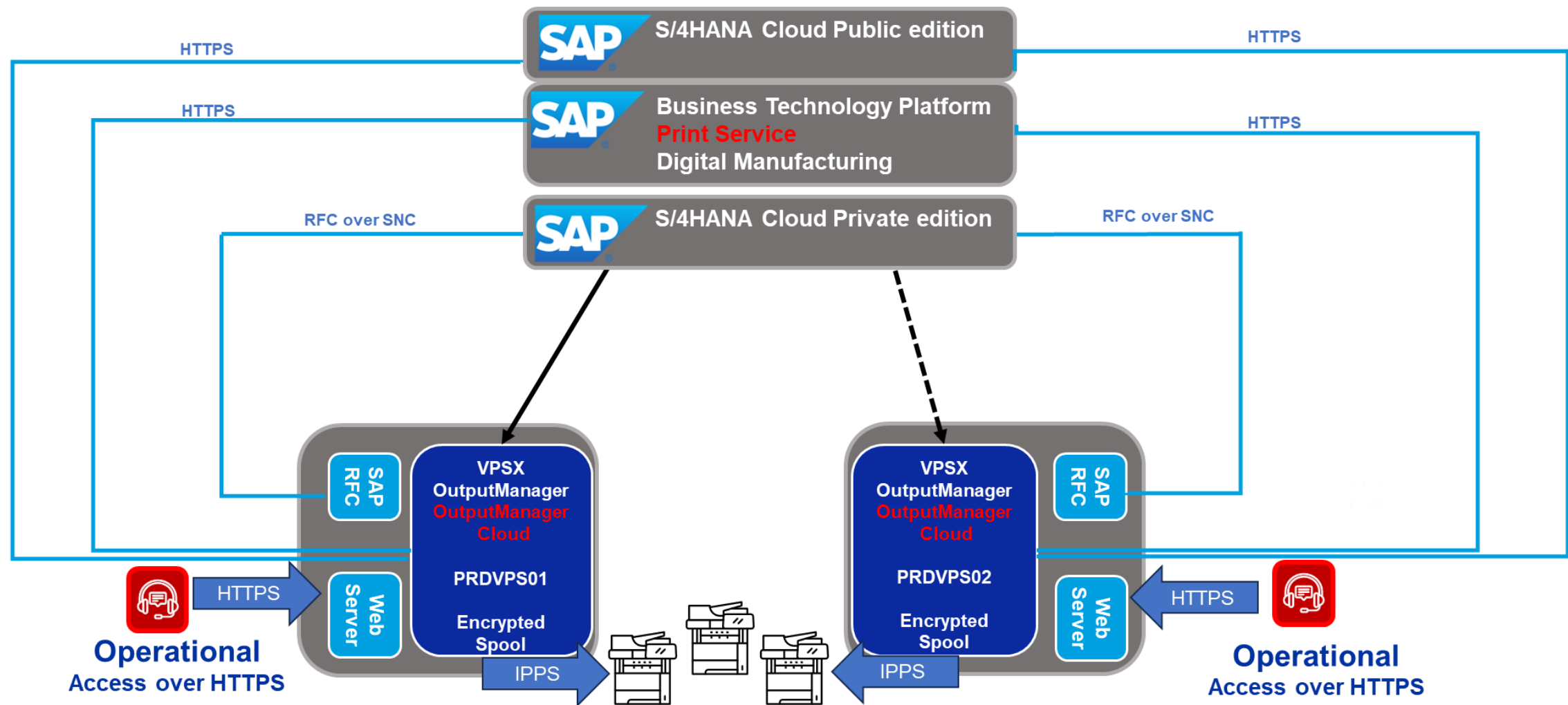
Is there another way? Oh, Yes!



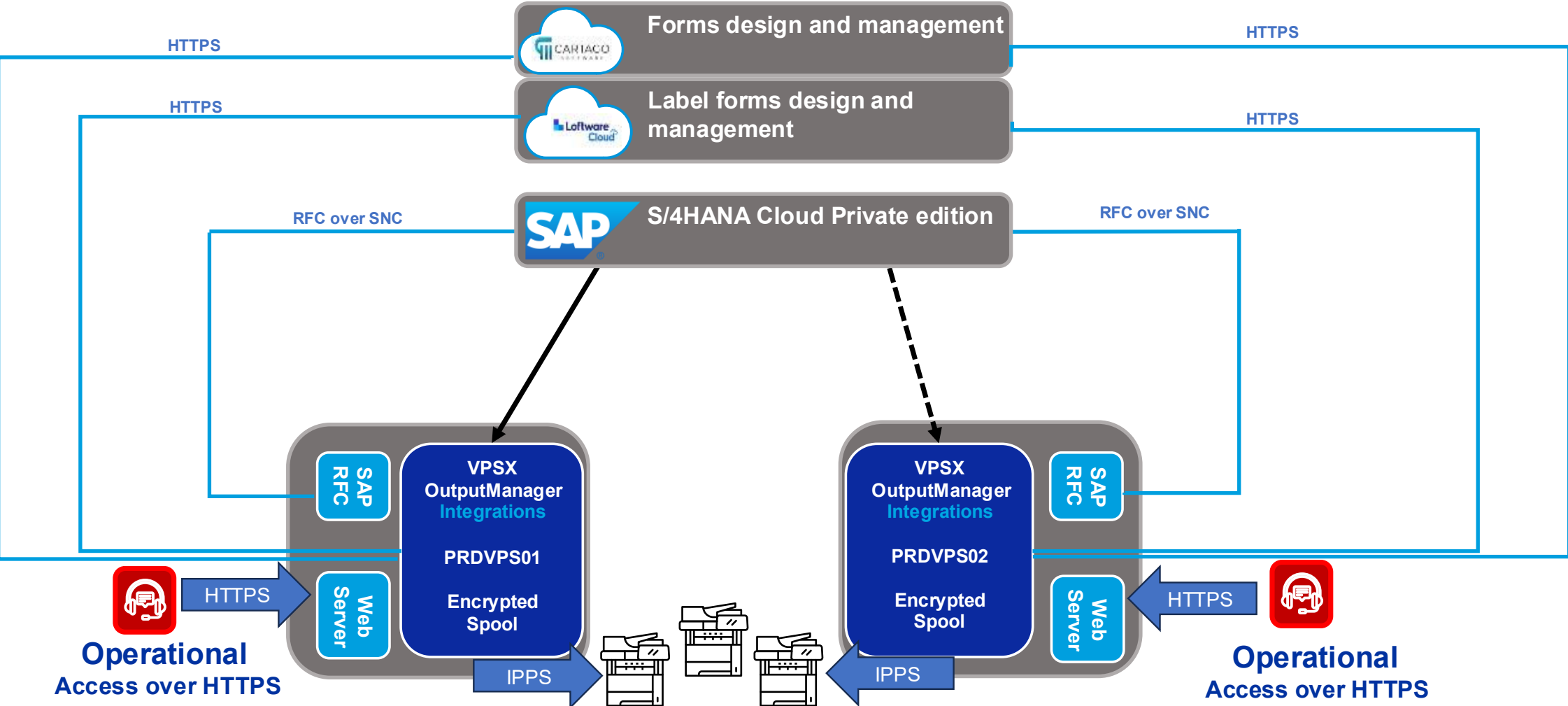
Presentment (Composition) Systems



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



Integrate Presentment systems





(NiceLabel)

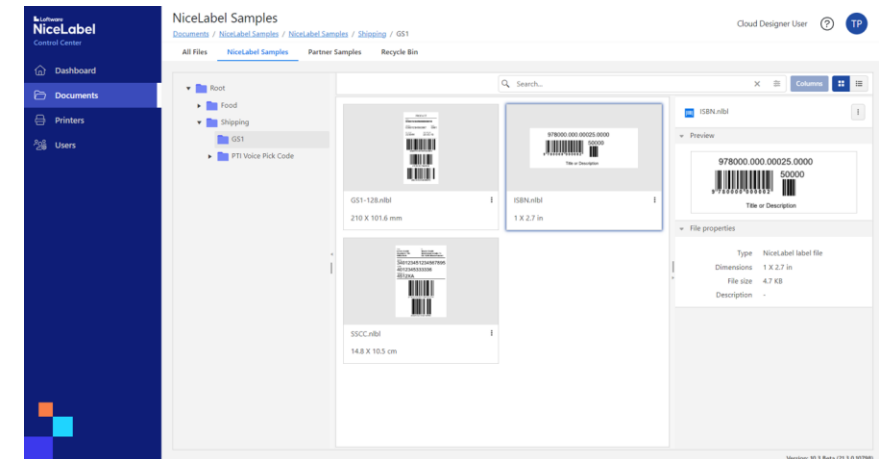
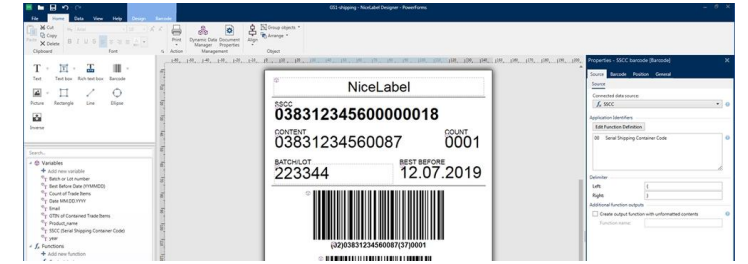


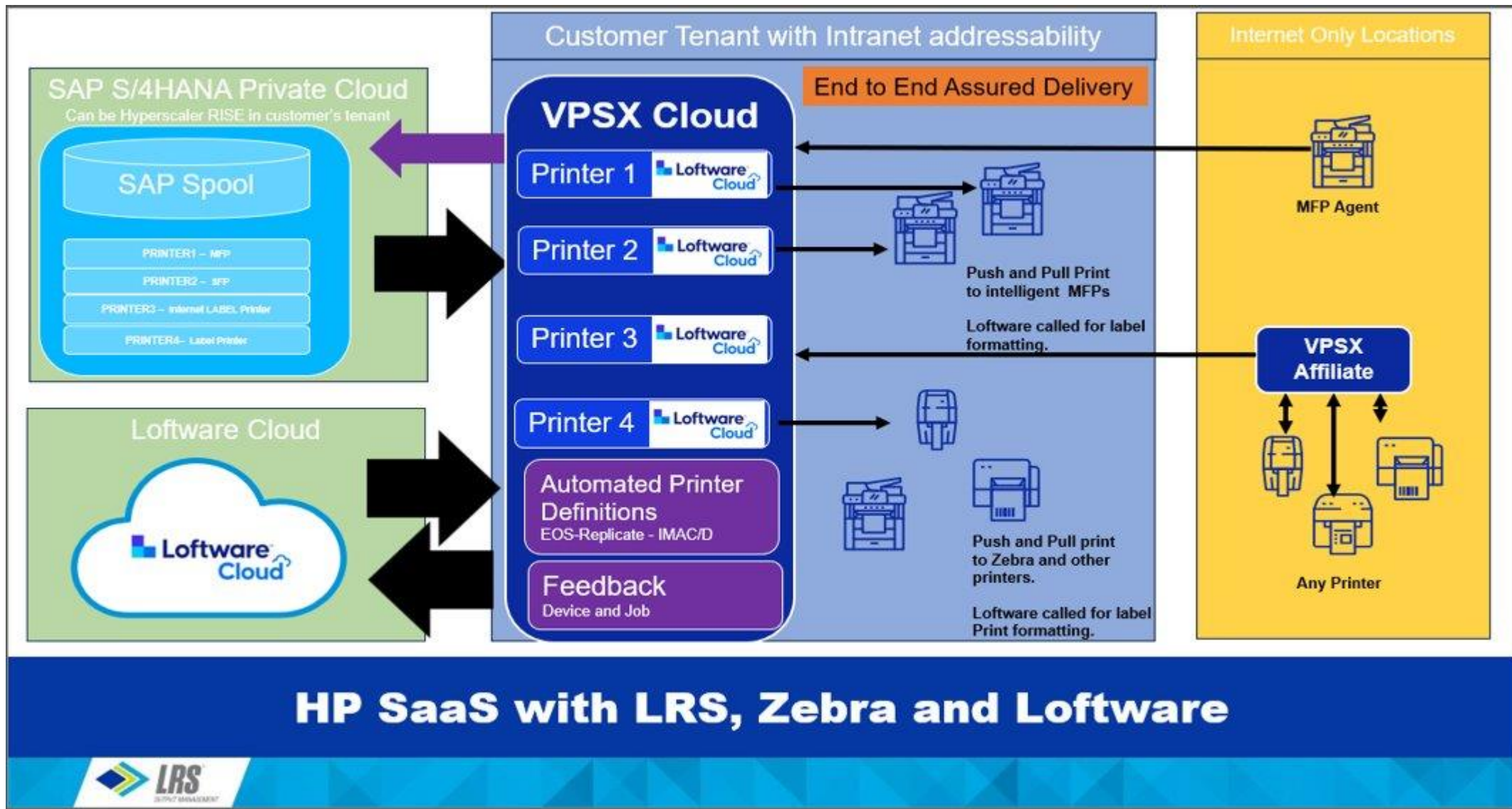
Loftware Cloud is a cloud-based labeling and artwork management platform that integrates seamlessly with **SAP S/4HANA Cloud** and **SAP Business Technology Platform (BTP)**.

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

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

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





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/)

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

Request will be -inputfile C:\LRSROOT\vpsxroot\spool\LOFTWARE_FILTER\00007882.dat -
outputFile C:\LRSROOT\vpsxroot\tmp\filter\LOFTWARE_FILTER00007882.tmp -pdfaMode
pdfa_3a -formatType pdf -templateID -inJobName -inOwner e1351 -inTitle -inSpool 7882 -
inPrinter LOFTWARE_FILTER -retain_Loftware 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://EOMDE162.lrsinc.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

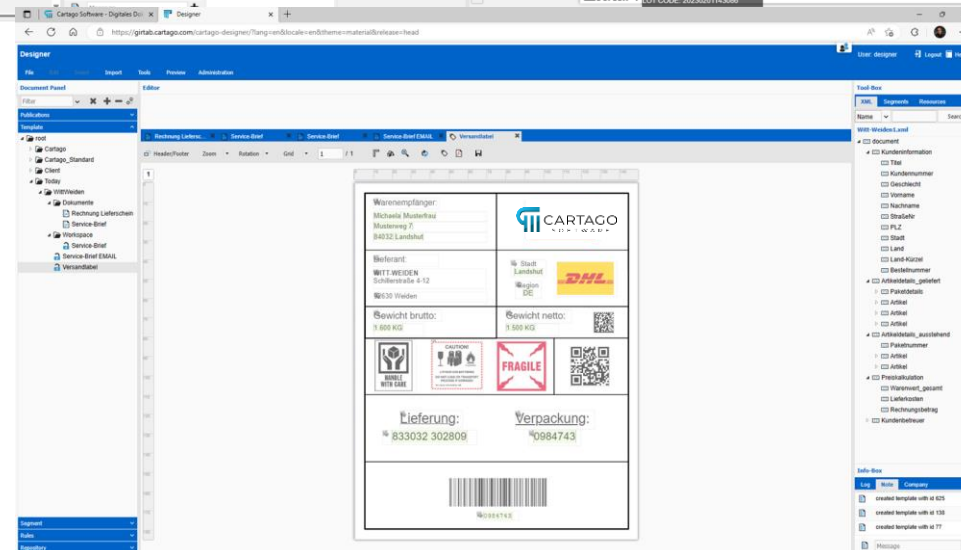
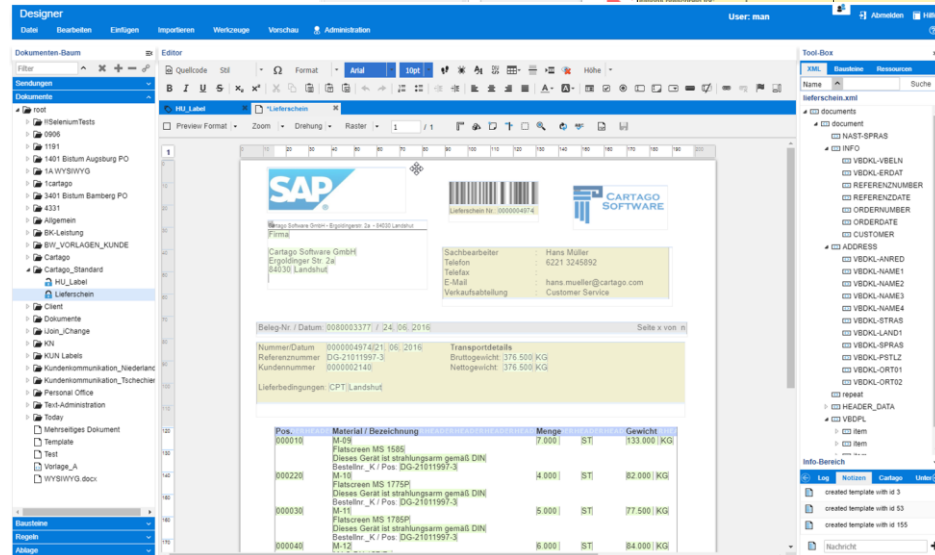
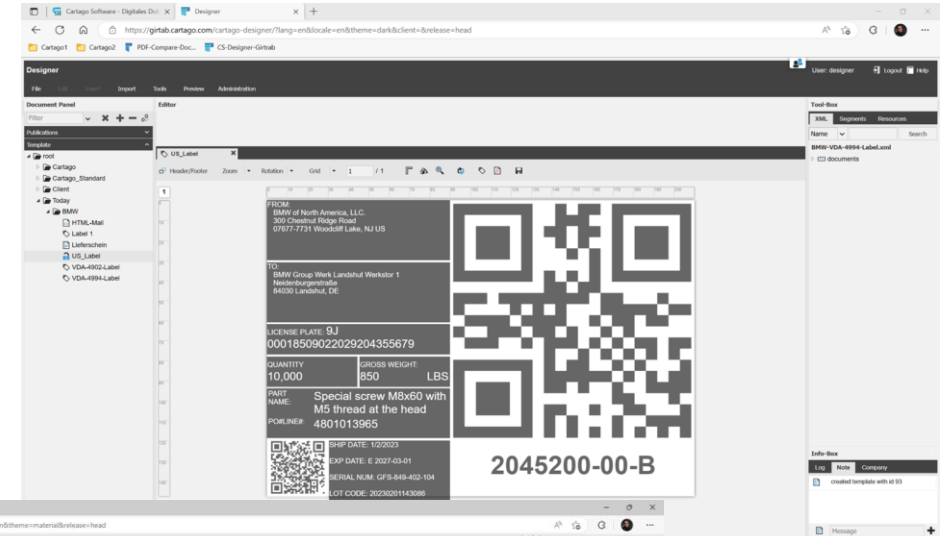
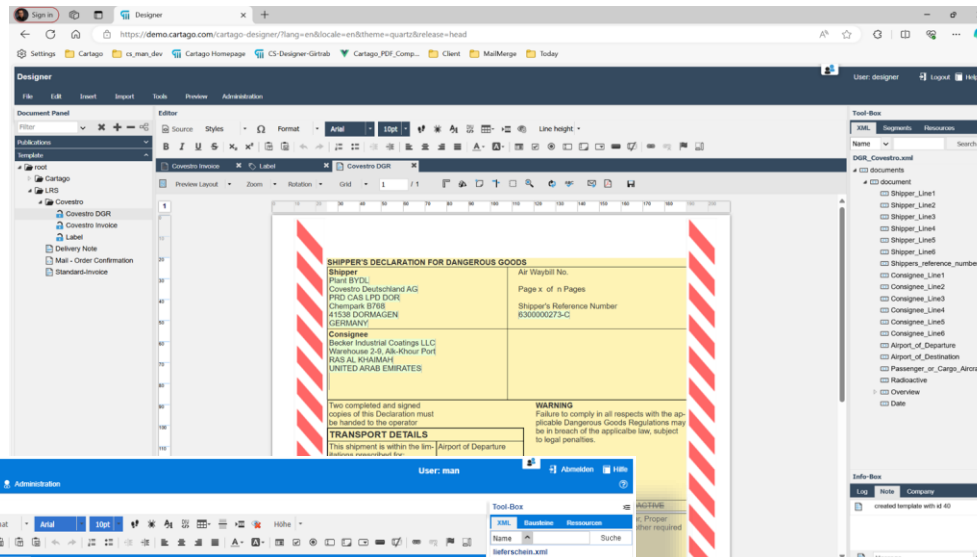


Cartago is ...

- 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

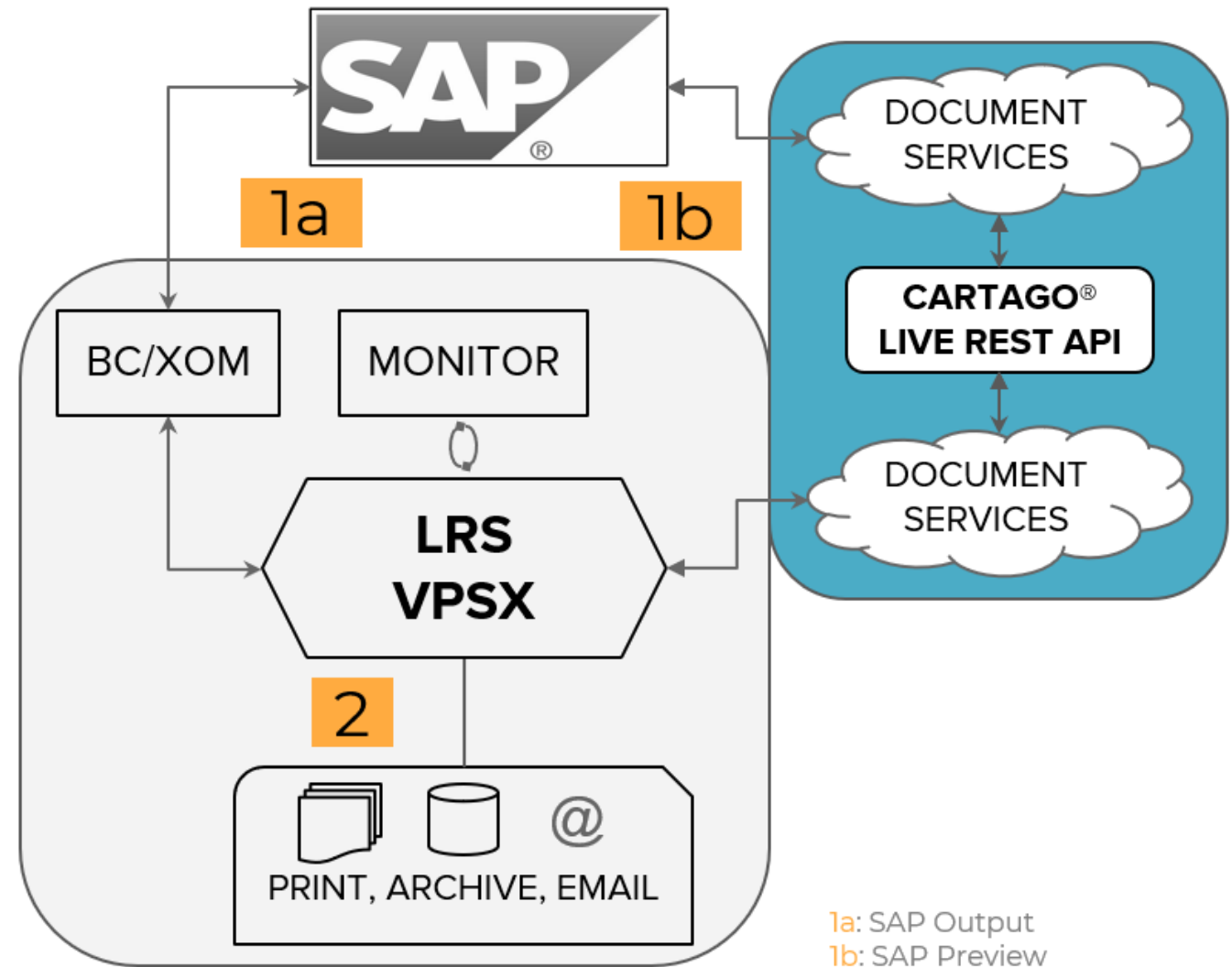


Cartago®Live Designer



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:
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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



AGENDA

Digitisation and Scanning



Scan Complexities

LRS Observations

- Print vendors focus on workplace printing solutions
- Scanning is often overlooked
- Print manufacturers often include device scan applications at no cost
- User experience is inconsistent in mixed fleet deployments
- Scanning typically requires intranet deployment; not suited for internet-only setups
- Embedded scan applications are often unsecure and outdated
- Decentralized administration



Devices



Multi-Vendor

Security



End User Experience



Scan Workflows



Define Scan

Business Applications



Integration and Feedback

Tracking and Compliance

Simplified Global Infrastructure

Field Name	Data Type	Sample Data	Source	Comments
printer	65	P25178	DBA	
username	65	JOR123	DBA	
pagesize	65	A4	DBA	
color_impressions	33	4	DBA	Total no. of color impressions (clicks)
mono_impressions	33	2	DBA	Total no. of mono impressions (clicks)
duplex_pages	33	2	DBA	Total no of duplex pages (sheets paper)
simplex_pages	33	2	DBA	Total no of simplex pages (sheets paper)
time	49	2018/06/04 12:43:43.00 -01:00	DBA	Record Date/Time
event_type	33	0 (DBA-PRINT)	DBA	0 - DBA-PRINT 1 - DBA-COPY 2 - DBA-SCAN 3 - DBA-FAX
event_Info	65	Microsoft Word Doc1	DBA	File Name for Print Jobs, Photocopy or Scan for other job types, will be treated as filename in reporting

MFPsecure/Scan

AGENDA

Stories from the Field



Document Information Redaction



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 123456-3792

Närhälsan Bergfot vårdcentral 10000018701

VC vårdcentral
S [redacted]
T [redacted] 123 45 67

VARNING!
Se i slutet av utskriften.

JOURNALBLAD Utskrift: FBY HELGR13 N5455 Sida 1 av 1

19 123456-3792
Jonköping Testperson 1
T [redacted]
S [redacted]
T 0515-48018

KOPIA

* 2015-09-07 10:09 L [redacted] Ssk [redacted] Test 1 (signerad)

ANTECKNING

Kontakttyp Mottagningsbesök planerat

Kontaktorsak Hosta

ANAMNES

Socialt

Sysselsättning - Yrkesverksam heltid
Patientbakgrund

Vapenlicens - Nej
Patientbakgrund

Körkort - Ja
Patientbakgrund

Hälsa- och sjukdomshistoria Hälsa 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

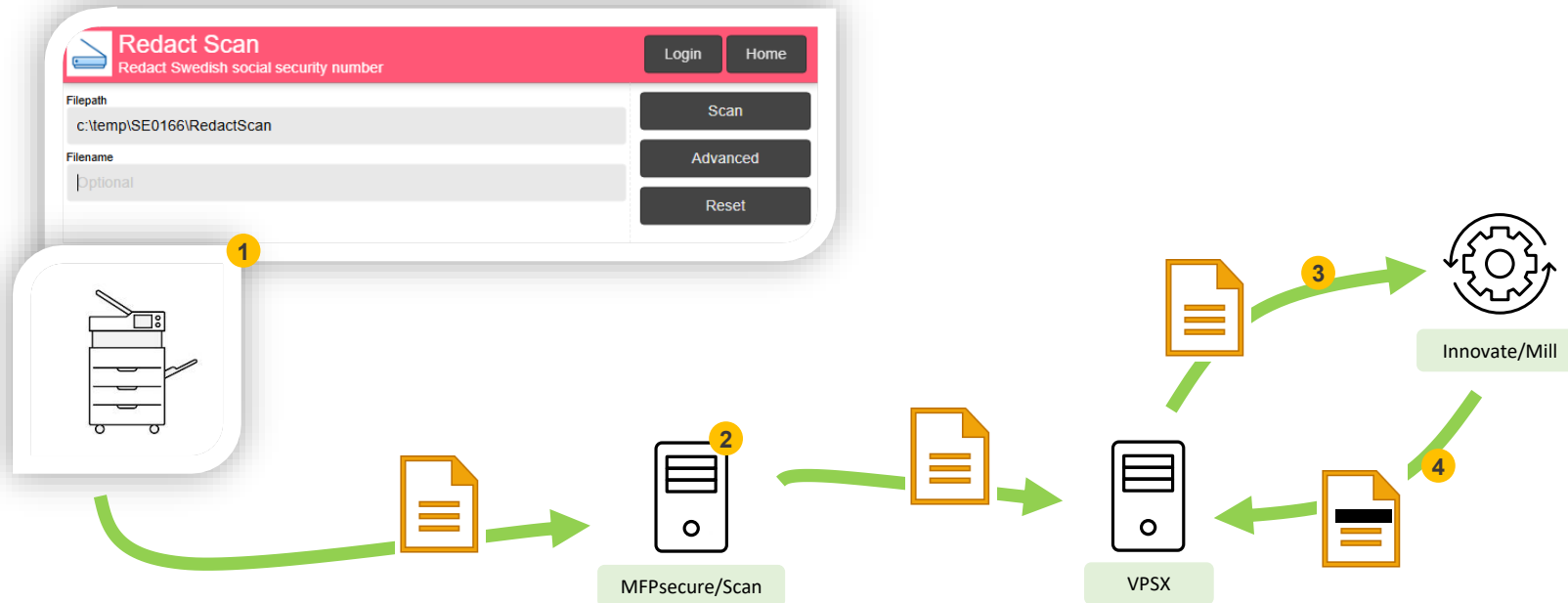
----- slut utskrift -----

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:

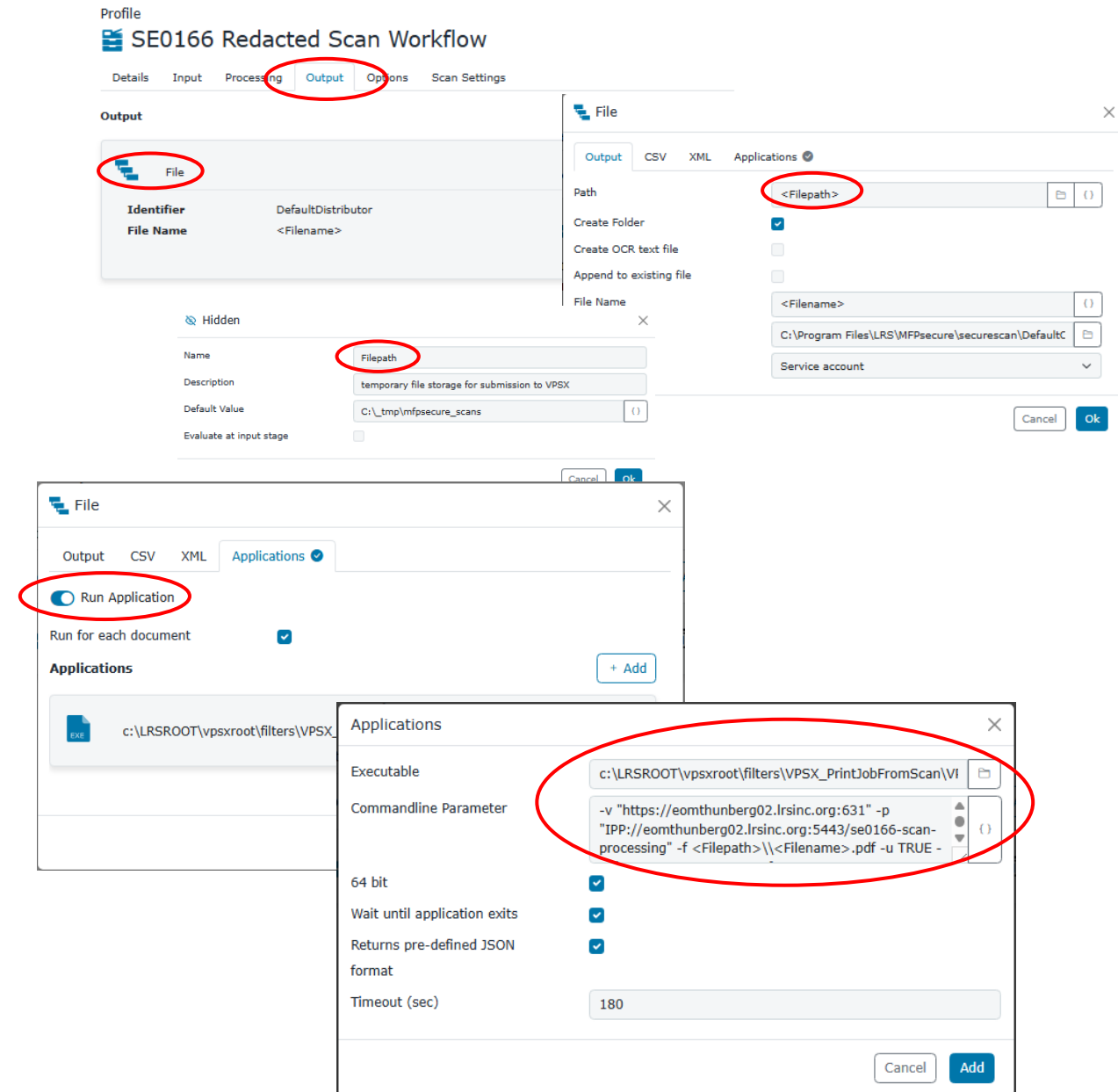
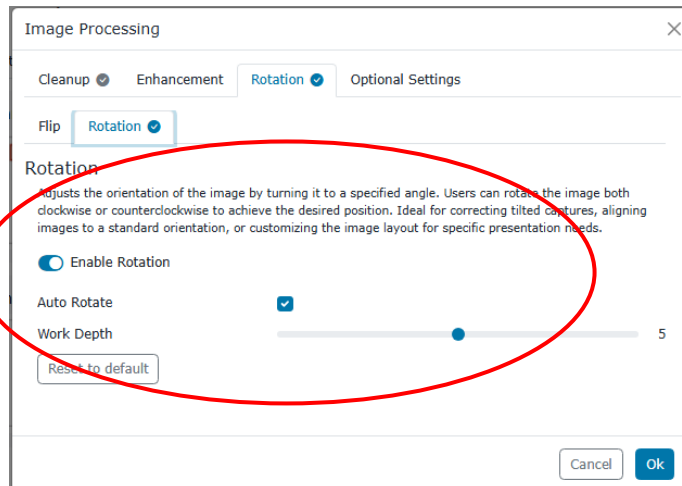
- original scan image
- searchable 'hidden' text strings

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Journalkopia uttagen Uttagen av
Utskr.id: FBY HELGR13 N5455
2025-02-25 kl 13:54 HELGR1
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VC vägen 1
52161 Stenstorp
tel: 010-47 32 275 fax:010-123 45 67
VARNING!
Se i slutet av utskriften.
19 123456-3792
Jönköping Testperson1
Testgatan 8c Lgh 1101
Tel: 0567 56 Jönköping
Sida 1 av 1
KOPIA
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* 2015-09-07 10:09 Lena Knutsson, Ssk VC Test 1 (signerad)
ANTECKNING
Kontakttyp Mottagningsbesök planerat
Kontaktorsak Hosta
ANAMNES
Socialt
Sysselsättning - Yrkesverksam heltid
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Hälso- och Hälso och sjukdomshistorieuppgifter skrivs här
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VARNING
-BLODSMITTA-
2016-07-01 Ja
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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	JOURNALBLAD Utskr.id: FBY HELGR13 N5455 Sida 1 av 1 19 123456-3792 Jönköping Testperson1 Testgatan 8c Lgh 1101 567 56 Jönköping Tel: 0567 5-48018 KOPIA
* 2015-09-07 10:09 Lena Knutsson, Ssk VC Test 1 (signerad)		
ANTECKNING		
Kontakttyp	Mottagningsbesök planerat	
Kontaktorsak	Hosta	
ANAMNES		
Socialt		
Sysselsättning -	Yrkesverksam heltid	
Patientbakgrund		
Vapenlicens -	Nej	
Patientbakgrund		
Körkort -	Ja	
Patientbakgrund		
Hälso- och sjukdomshistoria	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		
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



The VPSX processing queue

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

Printer Name *
SE0166-SCAN-PROCESSING

VPSX ID *
VPS2-JT

CommType *
TCPIP/LRSQ ▼

Basics Licenses SNMP Filters Advanced

Basic Parameters

Remote Port Remote Queue
5500 PPQ1

HOST/IP Address Device
localhost Discover

Filter Parameters

Filter 1 Data Type PDF

Command C:\LRS\Convert1\nlrsdrv.exe

Arguments 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"

☐ VPSX Enterprise ☒ Innovate/Mill ☐ Transform/PDF to PCL6

☐ VPSX/Workplace ☐ Transform/AFP to AFP ☒ Transform/PDF to PDF

☐ VPSX/DirectPrint ☐ Transform/AFP to IFF ☐ 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(PictureBackupFont) 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

VARNING!
Se i slutet av utskriften.

JOURNALBLAD Utskrift: FBY HELGR13 N5455 Sida 1 av 1

KOPIA

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

* [REDACTED] 10:09 Jena Knutsson, Ssk VC Test 1 (signerad)

ANTECIPERING

Kontakt /p Mottagningsbesök planerat

Patent bakgrund
Vägenhet s - Nej
Patent bakgrund
Kort kort - Ja
Patent bakgrund
Hälsa- och sjukdomshistoria Hälsa och sjukdomshistorieuppgifter skrivs här
Aktuellt Aktuella uppgifter om patienten.
Alkoholvanor Tar ett glas varje helg

Registrering av K 7 Å XV016 Läkemedelsgenomgång, fördjupad (i)

VARNING

BLODDPROVA [REDACTED] Ja

ÖVRIGT LÄSSELIGT [REDACTED] Tvättmedel

slut utskrift

Uttagen av HELGR1

[REDACTED] kl 13:54

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

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VARNING!
Se i slutet av utskriften.

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KOPIA

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

10:09 Lena Knutsson, Ssk VC Test 1 (signerad)

ANTECKNING

Kontakttyp Mottagningsbesök planerat

Kontaktersak Hosta

ANAMNES

Socialt

Sysselsättning - Yrkesverksam heltid

Patientbakgrund

Varanlicens - Nei

istorieuppgifter skrivs här

patienten.

en gång, fördjupad (i)

- VARNING -

T-
tel

slut utskrift

Journalkopior uttagen
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

Printers

PersonalQs

PPQ1

Output Queue (1)

Retained Queue (0)

Configure

Idle

Command

Bulk Actions

Queue Command

Table Columns

Job upload

Refresh

Spool ID	Class	Copies	Creation Time	Data Type	Filename	Host
00000207		1	2025/06/05 12:56:38	PDF	2025-06-05-12-56_Secure_Scan.pdf	eomthunberg02.lrsinc

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 +/- m

line_ycoord_variance = 0.5;

// --- MAX MERGE ITEMS
// - the maximum number of items to merge in same line

max_merge_items = 1;
```

Demo

Redact LRS email addresses

Sample List of People

First Name	Surname	Email
Alice	Smith	alice.smith@LRS.com
Bob	Johnson	bob.johnson@example.com
Charlie	Williams	charlie.williams@LRS.com
Diana	Brown	diana.brown@example.com
Ethan	Jones	ethan.jones@example.com
Fiona	Miller	fiona.miller@LRS.com
George	Davis	george.davis@example.com
Hannah	Garcia	hannah.garcia@example.com
Ian	Martinez	ian.martinez@LRS.com
Julia	Taylor	julia.taylor@example.com

Sample List of People

First Name	Surname	Email
Alice	Smith	██████████
Bob	Johnson	bob.johnson@example.com
Charlie	Williams	██████████
Diana	Brown	diana.brown@example.com
Ethan	Jones	ethan.jones@example.com
Fiona	Miller	██████████
George	Davis	george.davis@example.com
Hannah	Garcia	hannah.garcia@example.com
Ian	Martinez	██████████
Julia	Taylor	julia.taylor@example.com

Print from Secure document repository

Copy-marked reprint

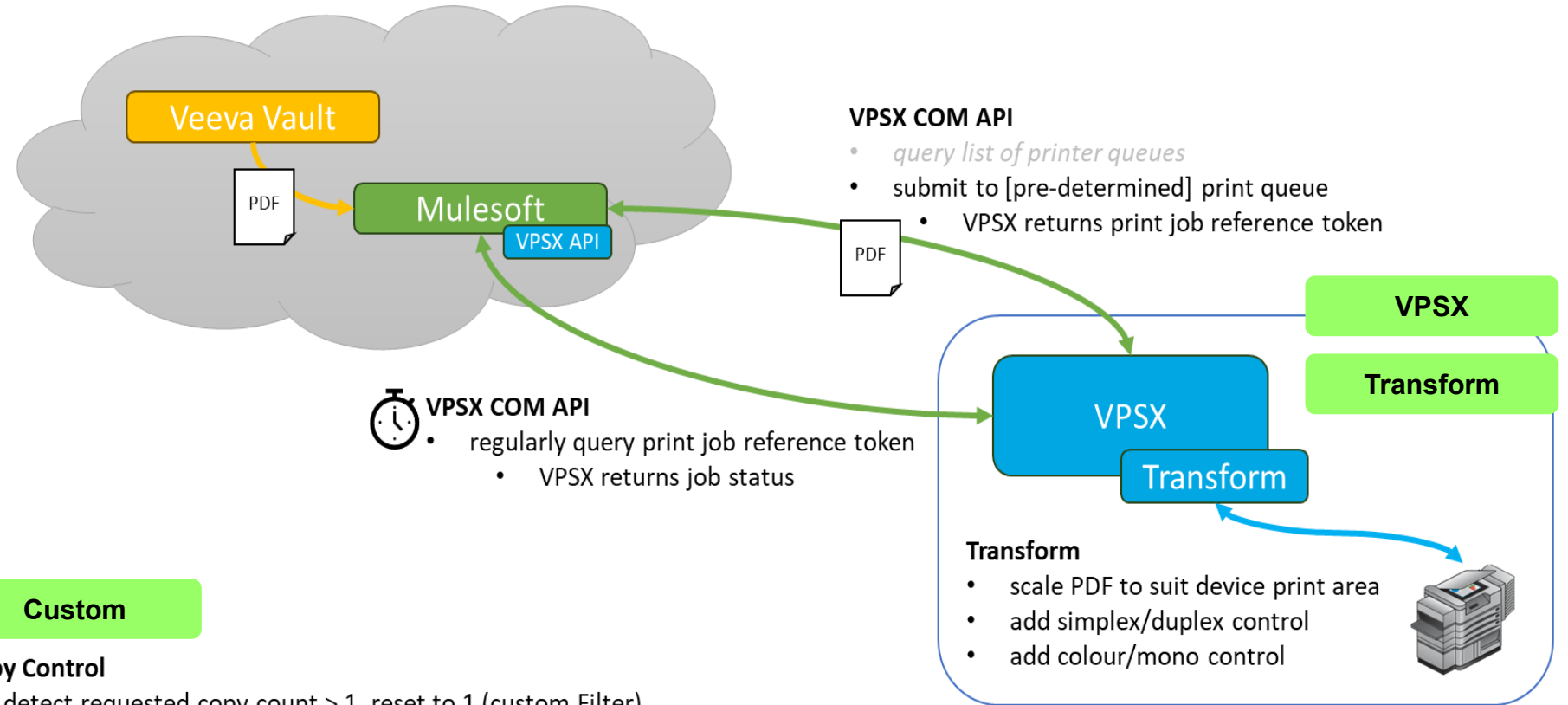


Copy control

Global Pharmaceutical

Document storage printing:

- Mulesoft
 - Extract a document from the Veeva document vault
 - Call VPSX API to submit document to VPSX for print
 - Query job status via job reference token
- VPSX:
 - receive job and provide job reference token
 - **Transform** to
 - scale PDF to fit paper
 - add print controls
 - limits print to 1 original copy
 - adds "COPY" watermark on any re-print

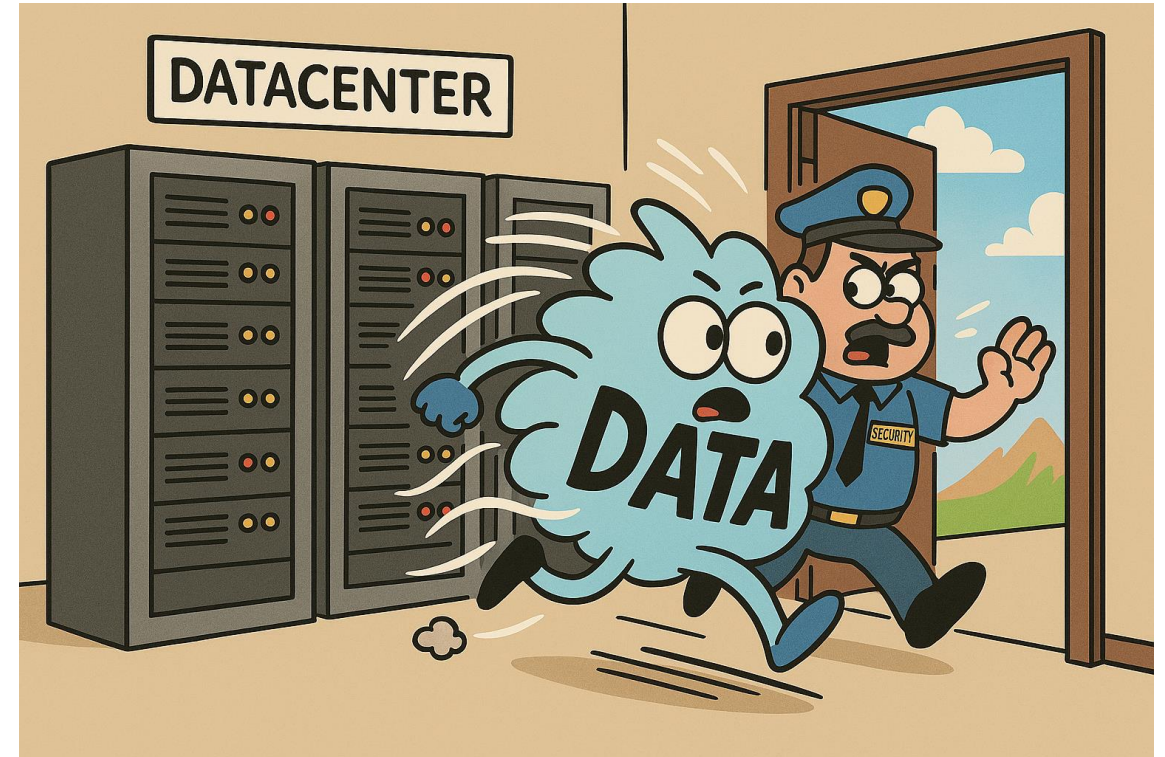


Custom

Copy Control

- detect requested copy count > 1, reset to 1 (custom Filter)
- print and delete (default, no option to reprint from VPSX)
- re-print option: copy-count printed noted, add overlay "COPY" for subsequent re-prints

Data loss protection

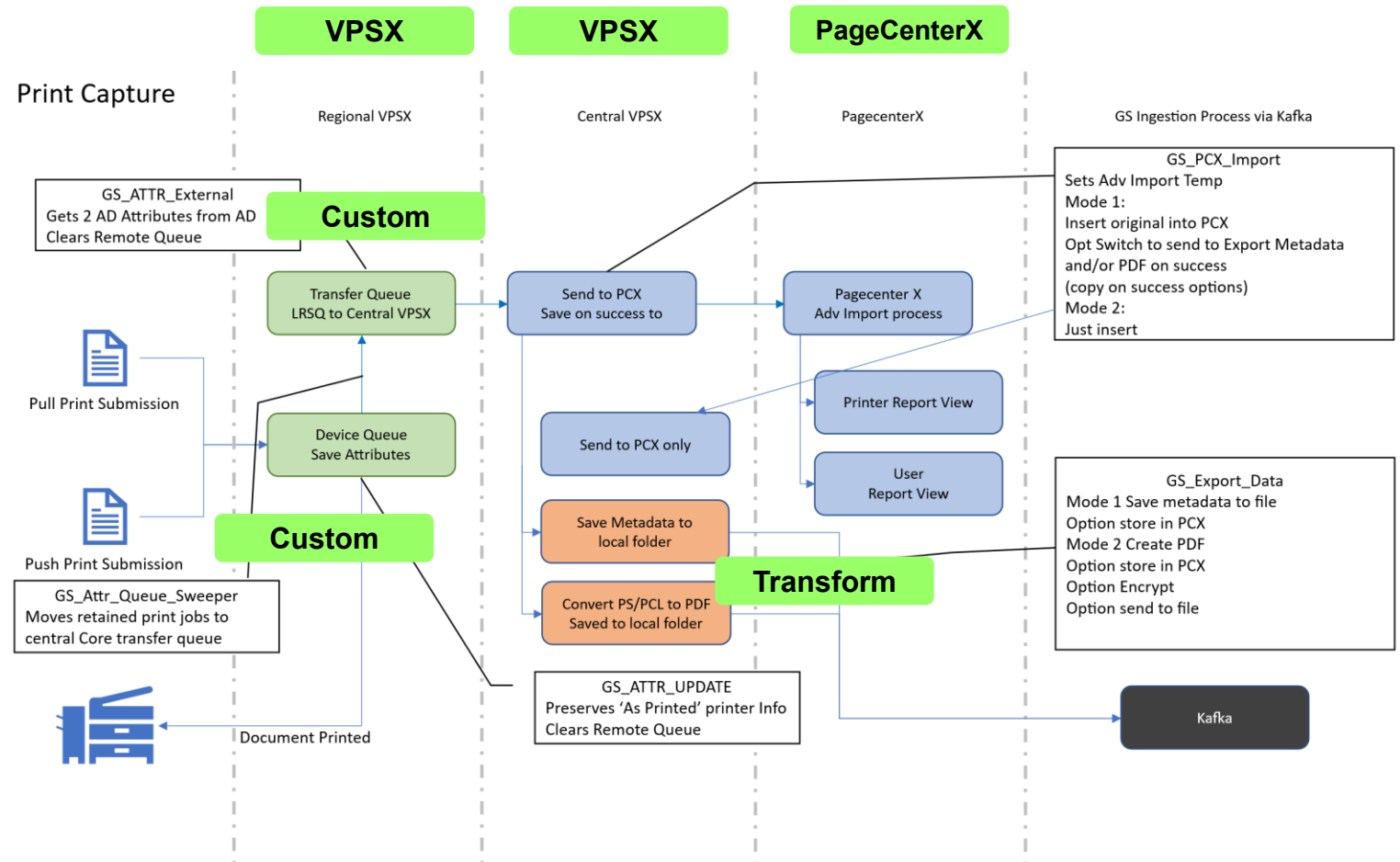


Data loss protection

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

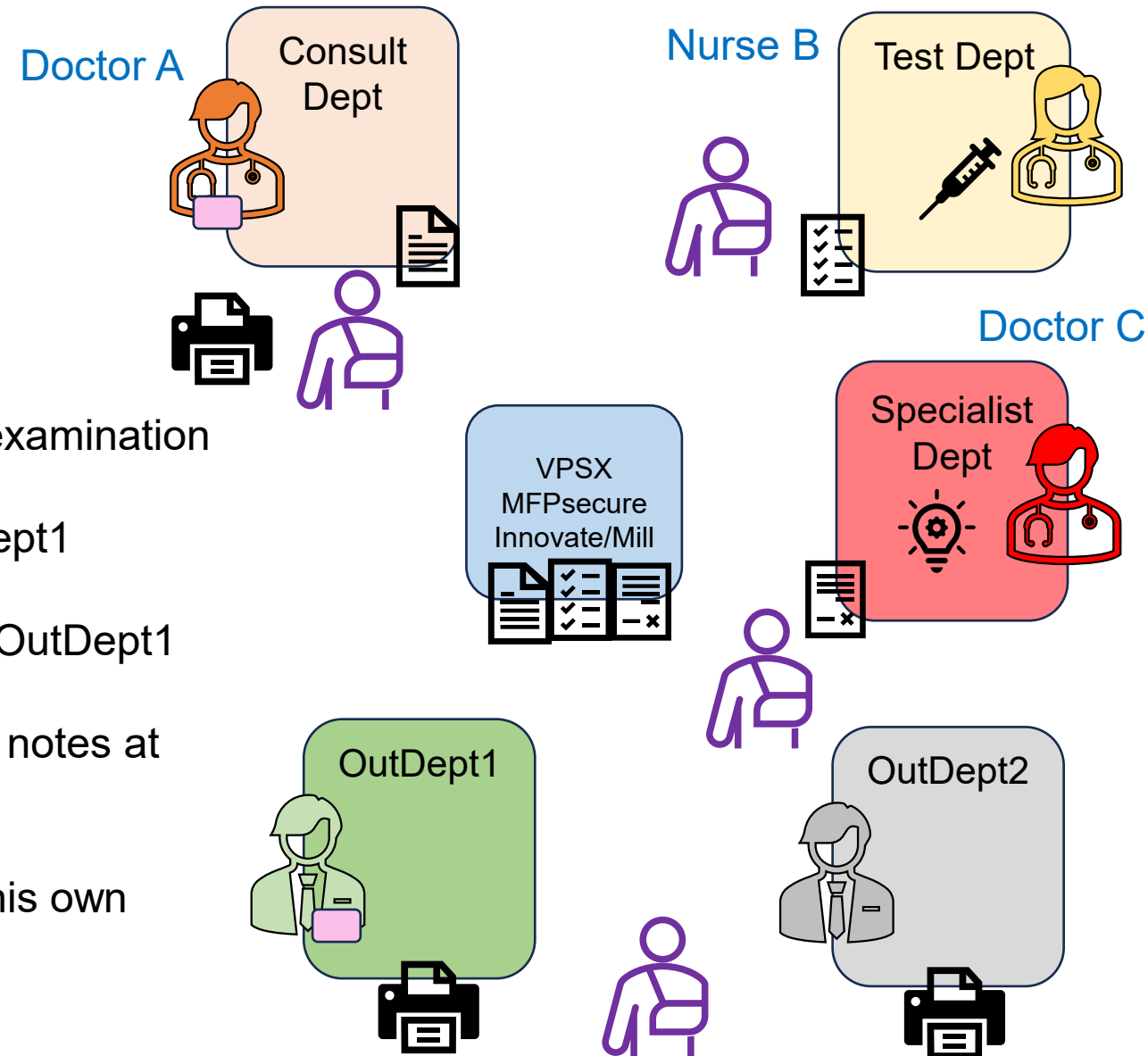


Healthcare Patient Visit



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



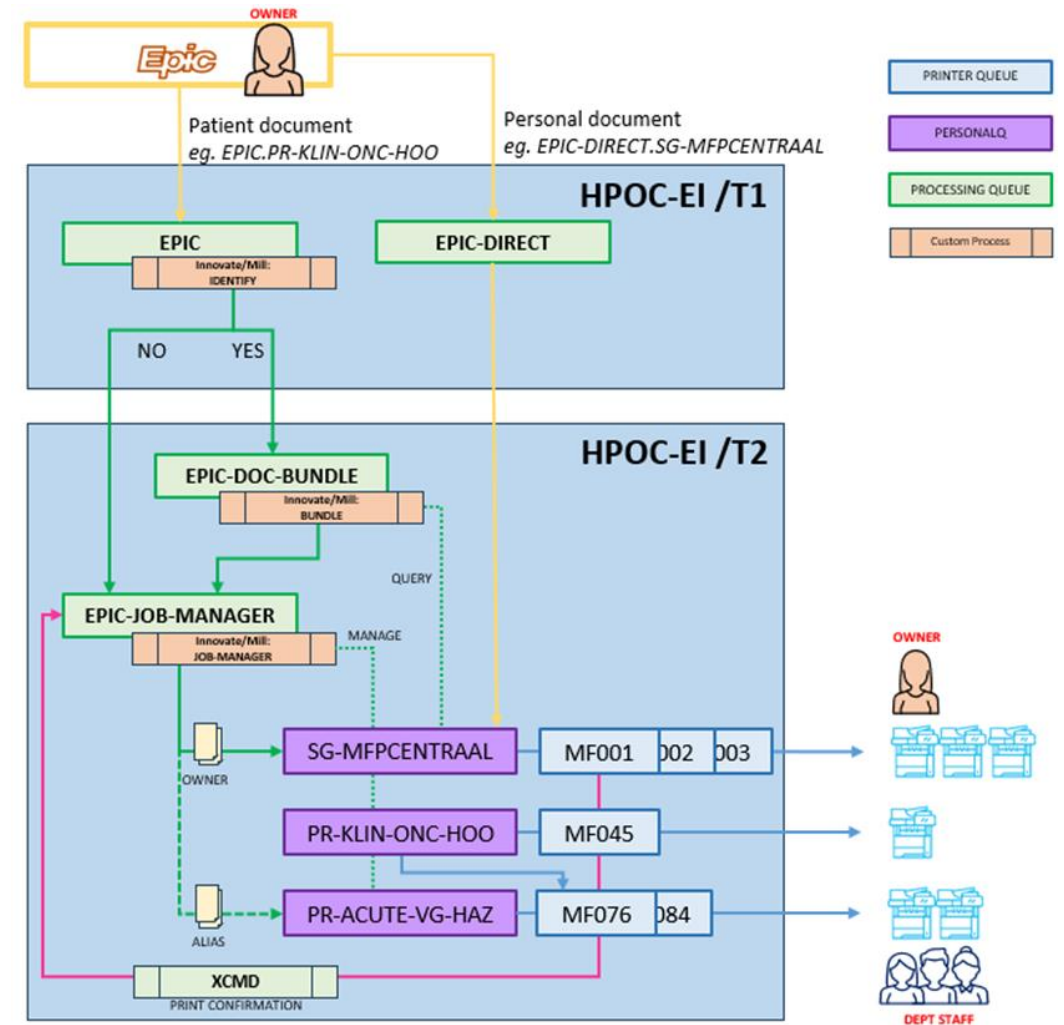
Healthcare Patient Visit

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.



SUMMARY

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

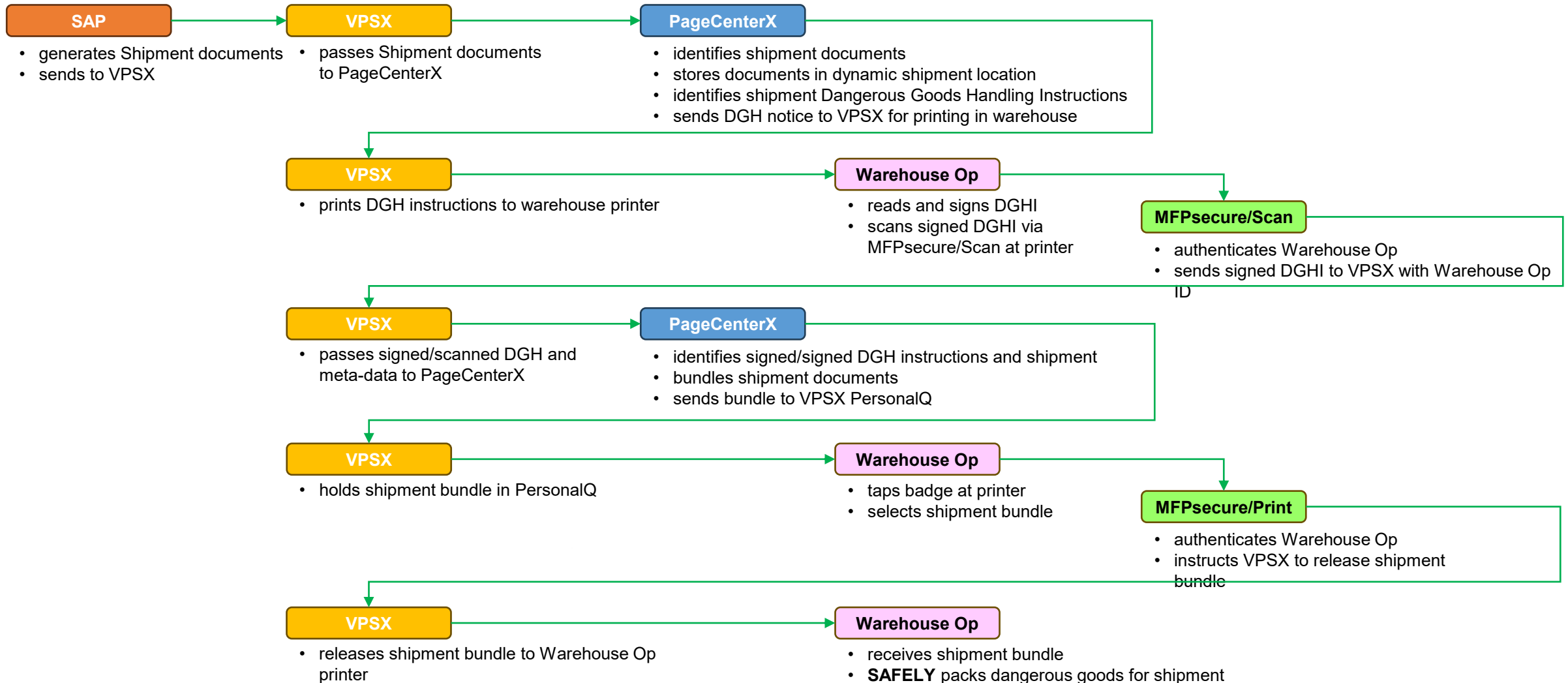
Sign-before-Print



Mining Company

Dangerous product handling in shipping process*

* hypothetical solution to stated problem, not validated/implemented (yet!)





Questions?

LRS EOM Notification Service for Direct Secure Release

LRS Notification Service

Outages:

10.03.2025

"The EOM Notification Service was unable to fully service requests due to Azure App Service constraints"

17.04.2025

"There was a DNS change made that inadvertently impacted the EOM Notification Service"

18.09.2025

"A Microsoft maintenance event performed on the IoT hub caused all PPM clients globally to be disconnected from the EOM Notification Service. As the reconnection attempts began, the volume of requests resulted in simultaneous connection throttling limits to be encountered, which added additional time until full recovery could be achieved."

LRS Notification Service

Lessons learnt and development changes.

Personal Print Manager V1R4.0.019

(01/10/2025)

*** What's New ***

- Added support for local release failover of a direct secure release print job is being processed while the system service is not connected to the EOM Notification Service.

Discussion with customer:

Options:

LRS EOM Notification Service vs MS SignalR

Fall-back:

Server-based pull-printing

New: PPM V1R4.0.019



Thank You