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WELCOME

Connect.
Create.
Collaborate.

RPA in the Context of SAP Licensing

THE BEST RUN **SAP**
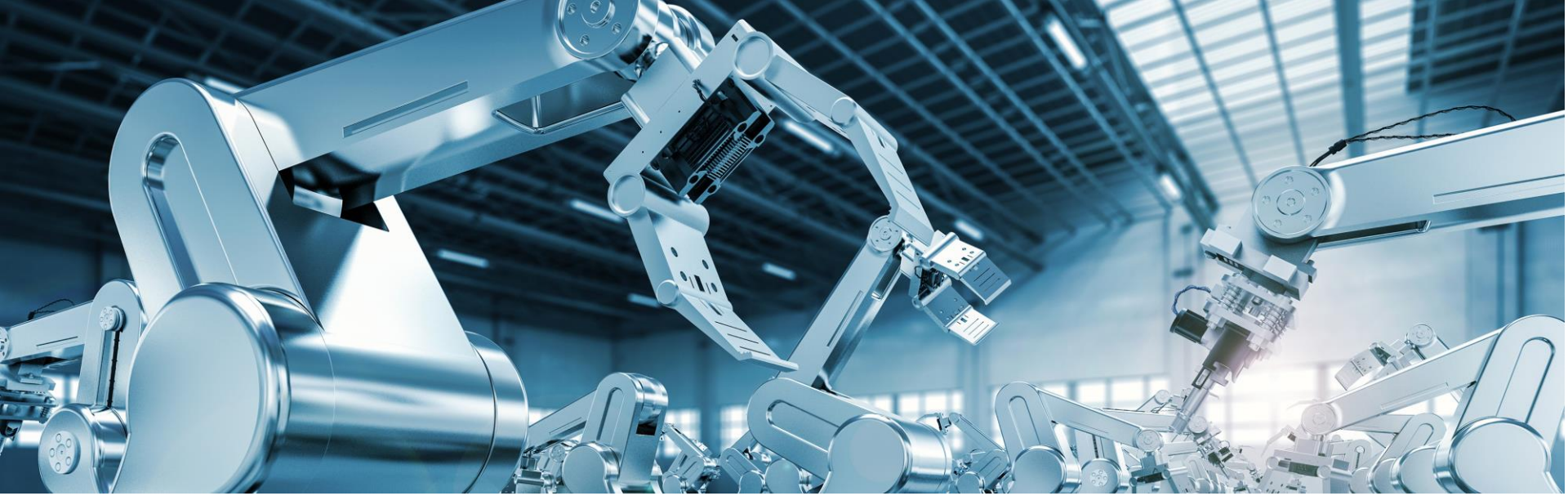
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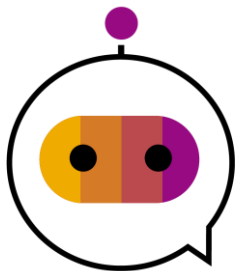
RPA in the Context of SAP Licensing
SAP Licensing info-series 103b

Topics	Time
Introduction	5min
Differentiation of unattended vs. attended RPA scenarios	5min
RPA in the context of Indirect Use / Digital Access	15min
Measurability of RPA scenarios	10min
Summary	5min
Q&A	20min

Robotic Process Automation

Attended vs. unattended bots

Unattended

Fully automated process, where **robots are working autonomously** with human supervision only

Example:

Purchase Orders are sent in to an inbox and have to be read, identified, information has to be taken and brought into ERP system to create the PO reference. A bot can run the full process autonomously.

Attended

Partially automated process, where **robots are co-working with humans**, also called Robotic Desktop Automation
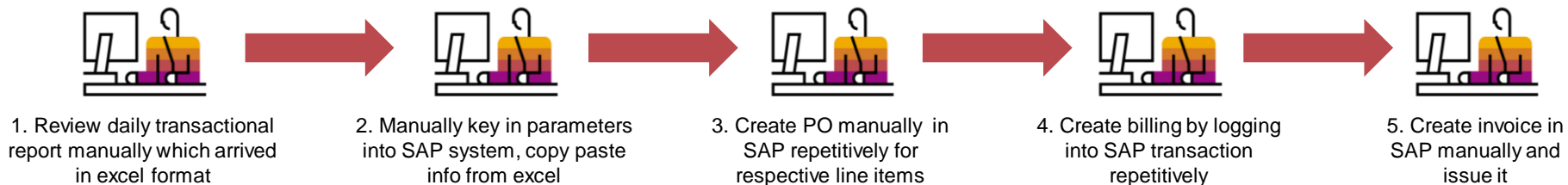
Example:

An insurance clerk is called by a customer who has an accident. He doesn't want to click through X different systems to get to his data, however, wants to have an overview / dashboard of the results of many sub steps needed to get the required data.
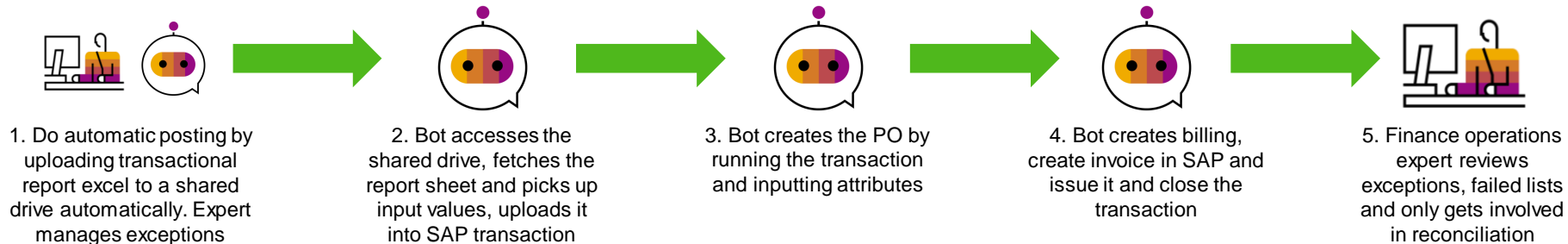
Invoice automation with SAP Intelligent RPA

**Bots eliminate manual steps in highly transactional invoice creation process
Humans focus on high value tasks, achieve higher efficiency gain %**

Today's process

1. Review daily transactional report manually which arrived in excel format

2. Manually key in parameters into SAP system, copy paste info from excel

3. Create PO manually in SAP repetitively for respective line items

4. Create billing by logging into SAP transaction repetitively

5. Create invoice in SAP manually and issue it

After SAP Intelligent RPA

1. Do automatic posting by uploading transactional report excel to a shared drive automatically. Expert manages exceptions

2. Bot accesses the shared drive, fetches the report sheet and picks up input values, uploads it into SAP transaction

3. Bot creates the PO by running the transaction and inputting attributes

4. Bot creates billing, create invoice in SAP and issue it and close the transaction

5. Finance operations expert reviews exceptions, failed lists and only gets involved in reconciliation

Robotic Process Automation

RPA in the context of Indirect Use / Digital Access

If sensors, devices, RPA use SAP software in a customer environment etc. SAP's **strong recommendation** is that the **customers move to Digital Access**. In our experience this is the better solution for most customers from a cost efficiency and transparency perspective.
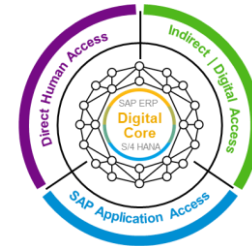
Outcome-Based
- Document License

If a customer insists on leveraging Named Users, a **fair ratio** (of required Named User Licenses per bot/sensor/device/…) needs **to be calculated for each scenario**. As such there is a need to verify each of these cases individually in order to find a **fair commercial solution**. The customer should contact their Account Executive who can assist them in determining the proper licensing required for their unique situation.
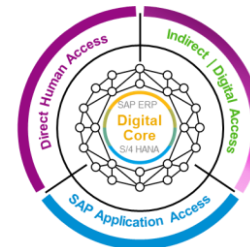

User-Based (primarily)
- User License
- Order License

SAP Digital Access in the RPA context
Clarification on Scenarios


EXECUTIVE SUMMARY

- Use of **SAP Intelligent RPA bots without additional licensing** for both API and UI based access to Digital Core

- Access to Digital Core with **attended third-party RPA bots** is considered as human access for scenarios where the bot is acting on behalf of this human

- Access to Digital Core with **unattended third-party RPA bots requires additional licensing (Digital Access)**
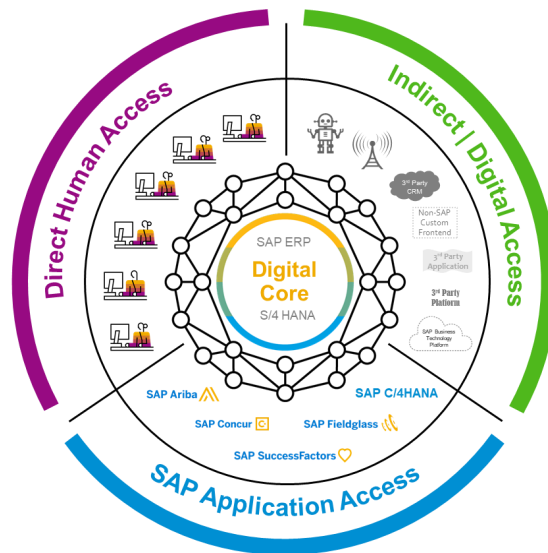
Access Type to Digital Core	SAP Intelligent RPA	Third-Party RPA
Unattended Bot	**SAP Application Access** via passport ⇨ No additional licensing	**Digital Access** either due to API call without passport or registered BOT user ⇨ Additional licensing
Attended Bot	**SAP Application Access** via passport or named user ⇨ No additional licensing	**Direct Human Access** with link to a user license ⇨ No additional licensing

BOT Registration Functionality
Currently in development
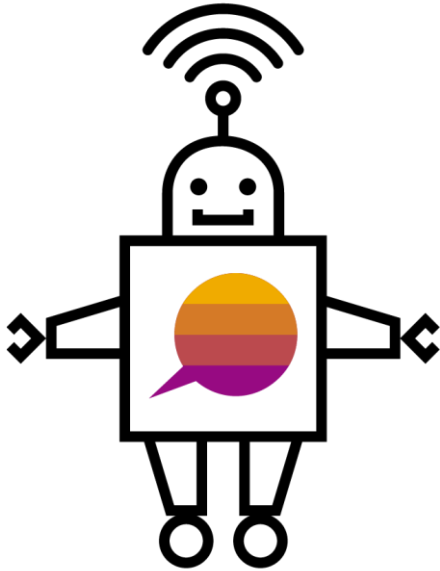
In order to identify unattended RPA usage, customers need to register their technical users in a system table. Every document which is created by one of these technical users needs to be logged by the SAP passport tool so that these count as digital access documents and are thereby subject to digital access licensing.
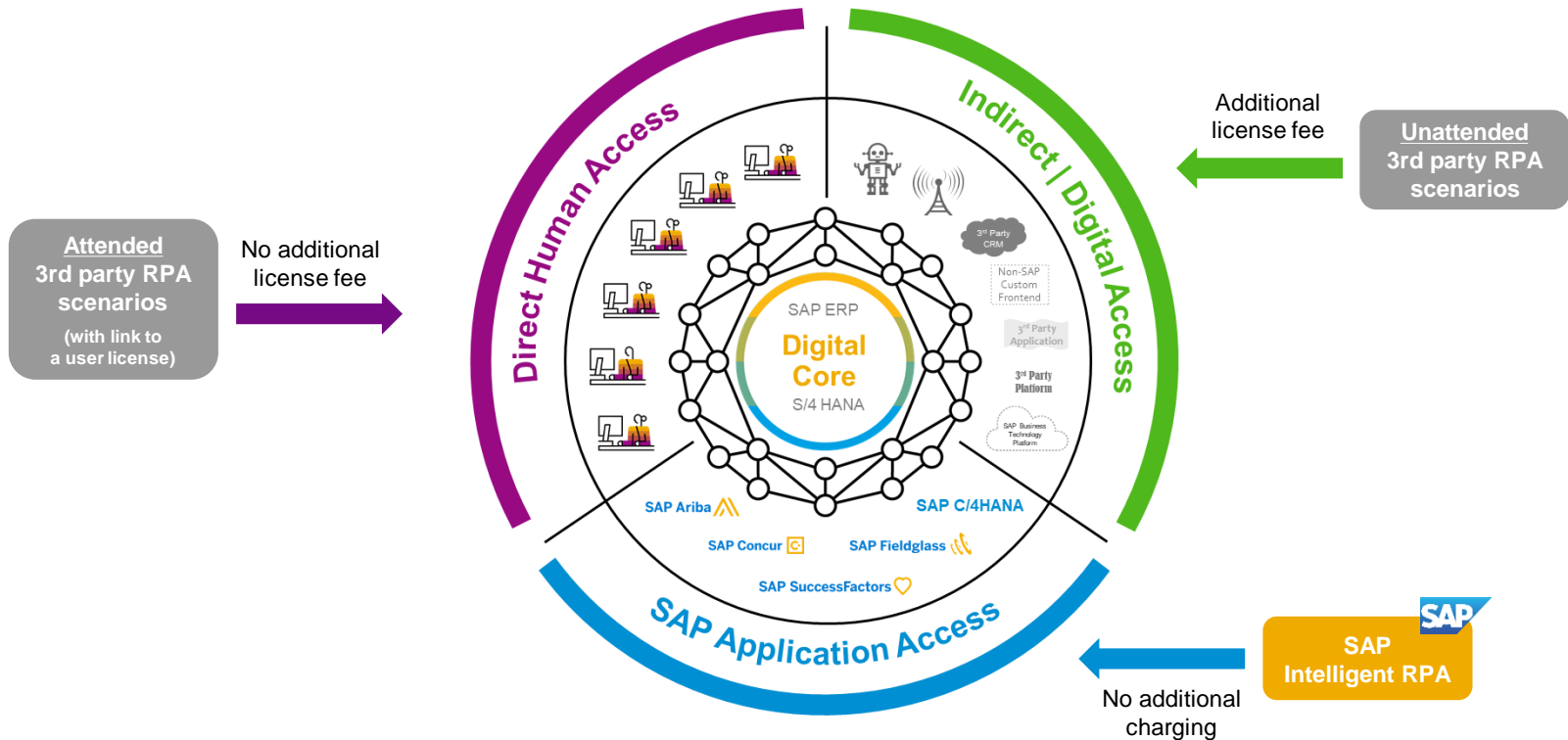
The registration functionality will include

→ Simple database table maintenance

→ Maintenance view for OnPrem & SSC UI for Cloud

Only scenarios/users which are not coming in via anonymous API calls require maintenance.

SAP Digital Access in the RPA context
High-level Summary

Direct Human Access

Indirect / Digital Access

SAP Application Access

SAP ERP
Digital Core
S/4 HANA

3rd Party CRM

Non-SAP Custom Frontend

3rd Party Application

3rd Party Platform

SAP Business Technology Platform

SAP Ariba
SAP C/4HANA
SAP Concur
SAP Fieldglass
SAP SuccessFactors

Attended
3rd party RPA
scenarios
(with link to a user license)

No additional license fee

Additional license fee

Unattended
3rd party RPA
scenarios

No additional charging

SAP
Intelligent RPA

SAP

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Note: In response to a question – this content at help.sap.com may help varying clarify use cases / scenarios where Digital Access Documents would be counted or not:

SAP Licensing info-series

▼ 101: SAP GLAC – service portfolio

   ▼ 1 September 2021 09:00 – 10:00 CAT

▼ 102: SAP license measurement, LUI, LUPA & SyMPA

   ▼ 16 September 2021 09:00 – 10:00 CAT

▼ 103a: RISE with SAP – a licensing revolution?

   ▼ 30 September 2021 09:00 – 10:00 CAT

▼ 103b: RPA in the context of SAP licensing

   ▼ 7 October 2021 09:00 – 10:00 CAT

▼ 104: SAP License Rights Management

   ▼ 20 October 2021 09:00 – 10:00 CAT

THANK YOU

mark.hughes@sap.com
SAP Global License, Audit and Compliance

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Supporting slides

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Core principles of SAP licensing

Licensee must be appropriately licensed as stated in the Use Terms for any individuals that Use the Software, including employees or agents of Affiliates and Business Partners. **Use may occur by way of an interface delivered with or as a part of the Software, a Licensee or third-party interface, or another intermediary system**

SAP ERP is at the heart of many core business processes

Lead to Cash
Source to Pay
Design to Operate
Recruit to Retire
etc.

Sales Orders
Pricing
Availability

SAP ERP

Sales Team

Customers

SAP ERP is at the heart of many core business processes

Lead to Cash
Source to Pay
Design to Operate
Recruit to Retire
etc.

Master Data

Universal Journal

Purchase Orders

Payroll

Materials

Sales Orders
Pricing
Availability

SAP ERP

LoB

IS

Users

D2O

Production / Operations

S2P

Buyers

Suppliers

Middleware
(SCP, PI/PO, etc.)

L2C

Sales Team

Customers

R2R

Employees
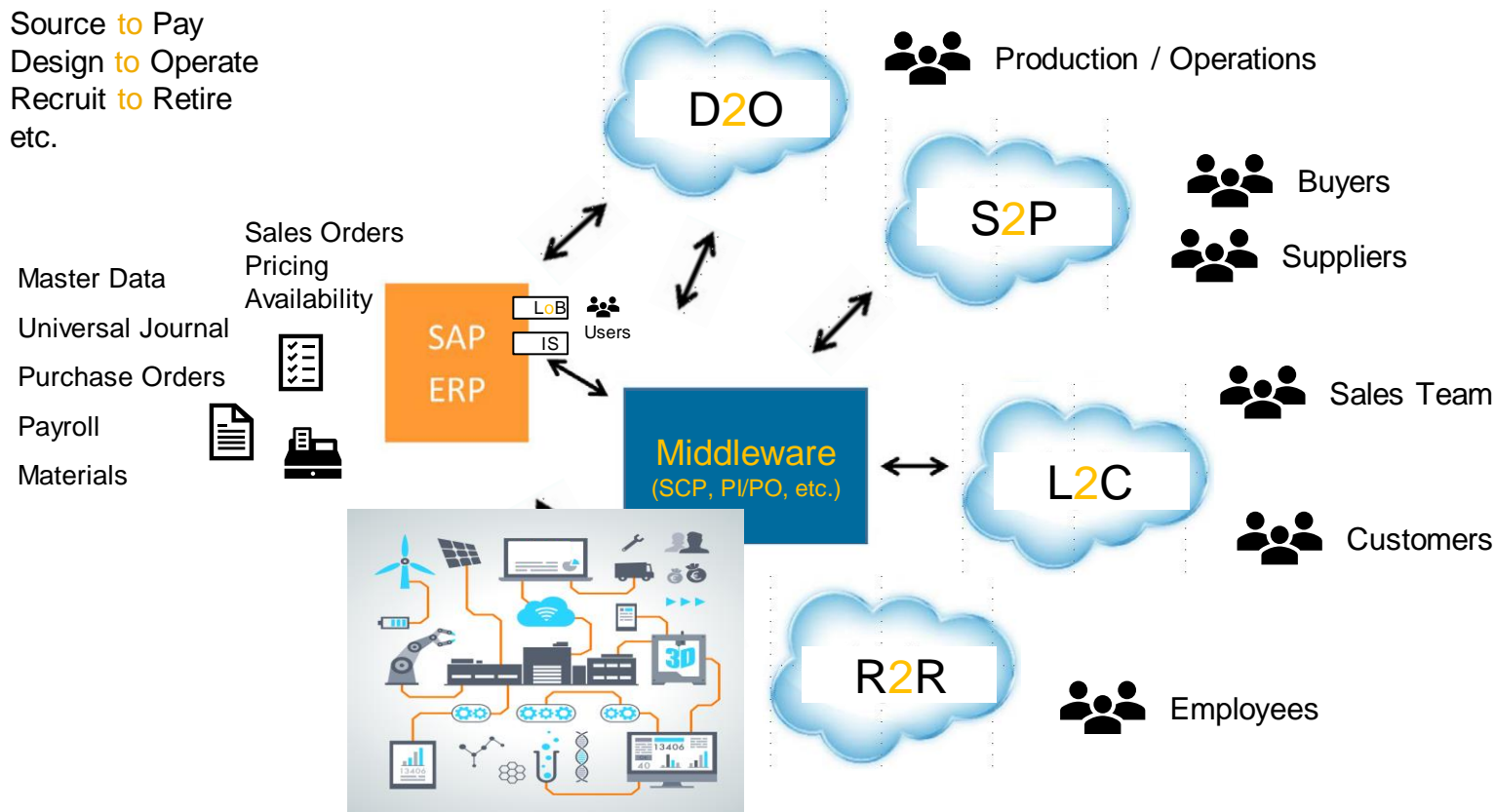
Use of SAP ERP and types of access
One definition of use and three types of access

"Use" is defined as: "to activate the processing capabilities of the software, load, execute, access, employ the software, or display information resulting from such capabilities".
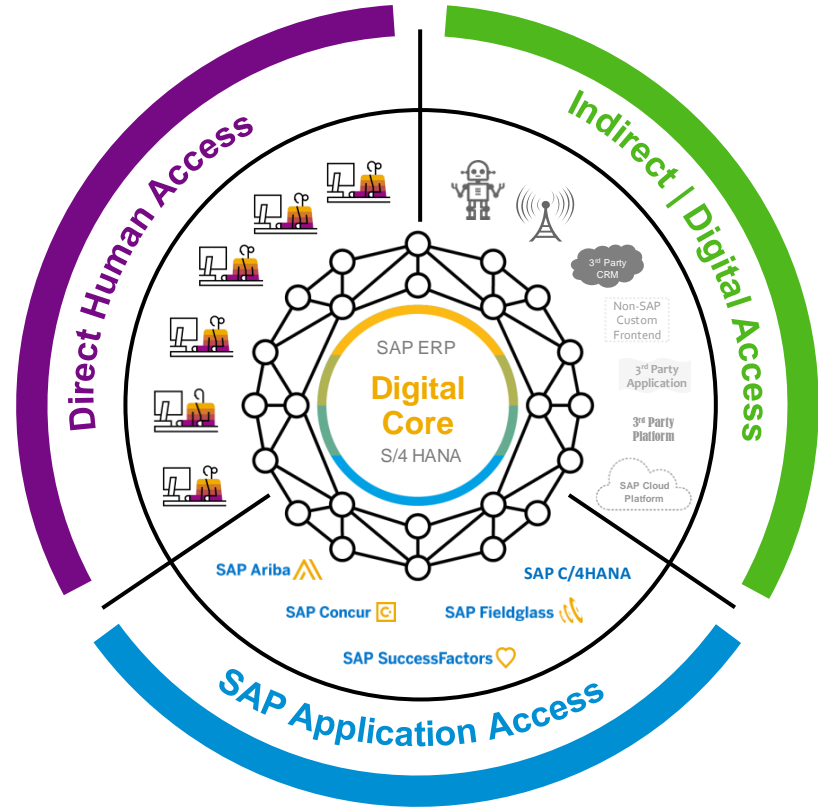
SAP modernized SAP ERP pricing for 21st century use

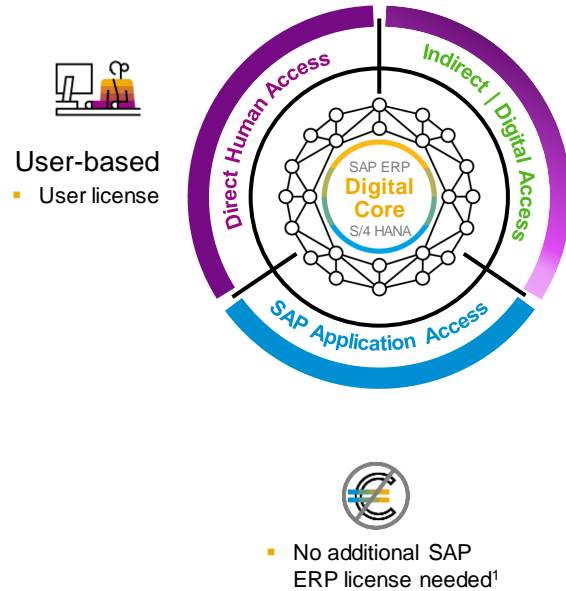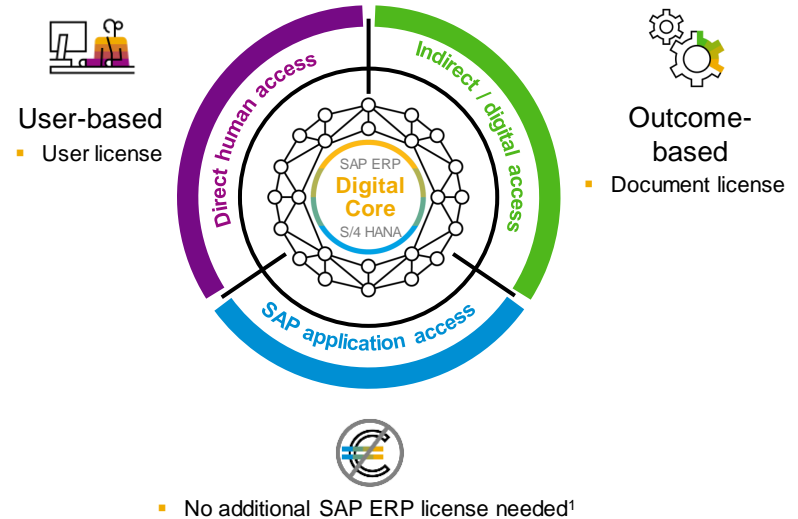New model for indirect / digital access was introduced in April 2018

Legacy model

Direct Human Access
Indirect / Digital Access
SAP Application Access

SAP ERP
Digital Core
S/4 HANA

User-based
- User license

User-based (primarily)
- User license
- Order license
  - Sales and service orders
  - Purchase orders

- No additional SAP ERP license needed[1]

SAP Digital Access model

available April 2018 onwards

Direct human access
Indirect / digital access
SAP application access

SAP ERP
Digital Core
S/4 HANA

User-based
- User license

Outcome-based
- Document license

- No additional SAP ERP license needed[1]

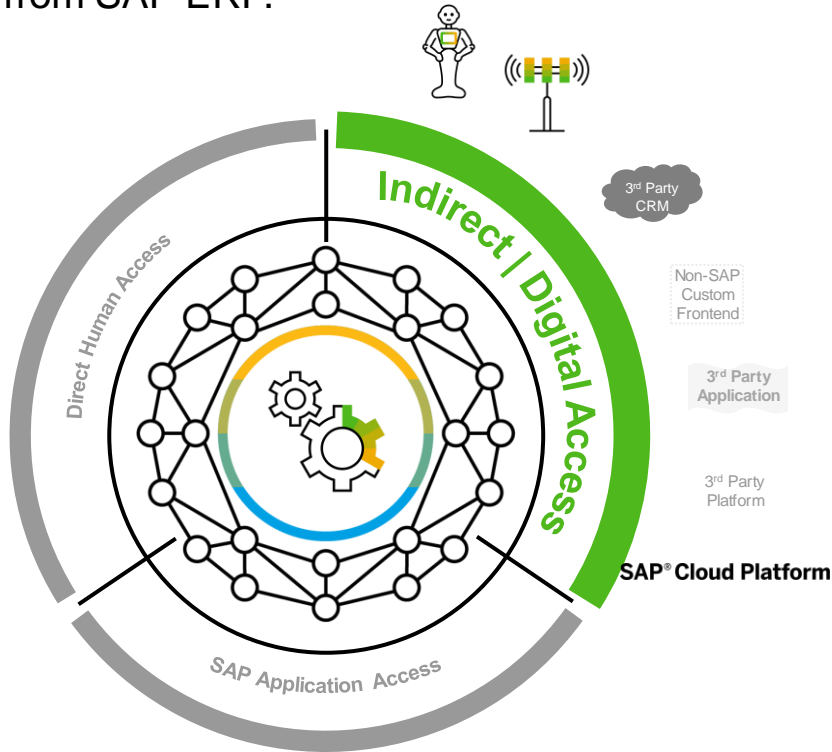[1] SAP applications refer to line of business and industry applications (cloud and on premise), as well as SAP Solution Extensions containing the required measurement functionality. This does not apply to technology solutions, such as platform, database, middleware integration, and SAP solutions for enterprise information management. Provided ERP is otherwise licensed, no additional ERP User license is needed for use resulting from access by properly licensed SAP applications.

NEW Indirect | Digital Access Licensed Using Documents

Nine document types that represent system generated records and cover most valued outcomes from SAP ERP.

Indirect / Digital Access

3rd Party CRM

Non-SAP Custom Frontend

3rd Party Application

3rd Party Platform

SAP® Cloud Platform

Direct Human Access

SAP Application Access

Document Types	Multiplier
▪ Sales Document (counted at line item level)	
▪ Invoice Document (counted at line item level)	
▪ Purchase Document (counted at line item level)	
▪ Service & Maintenance Document	1.0
▪ Manufacturing Document	
▪ Quality Management Document	
▪ Time Management Document	
▪ Financial Document (counted at line item level)	0.2
▪ Material Document (counted at line item level)	

License Calculation
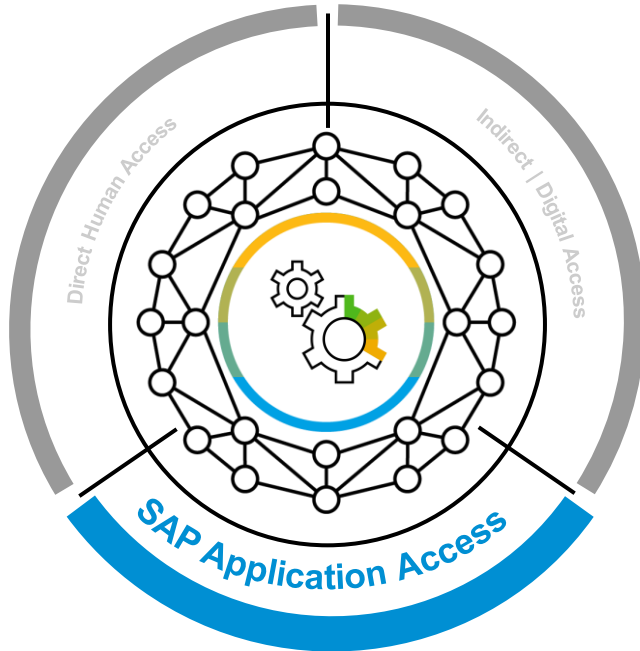
License calculation based on *initial Document created*
Read, Update, or Delete Documents are not counted

(Document (#) * Multiplier) + … + (Document (#) * Multiplier)

Where (#) is the Document Type from 1-9

SAP Application Access
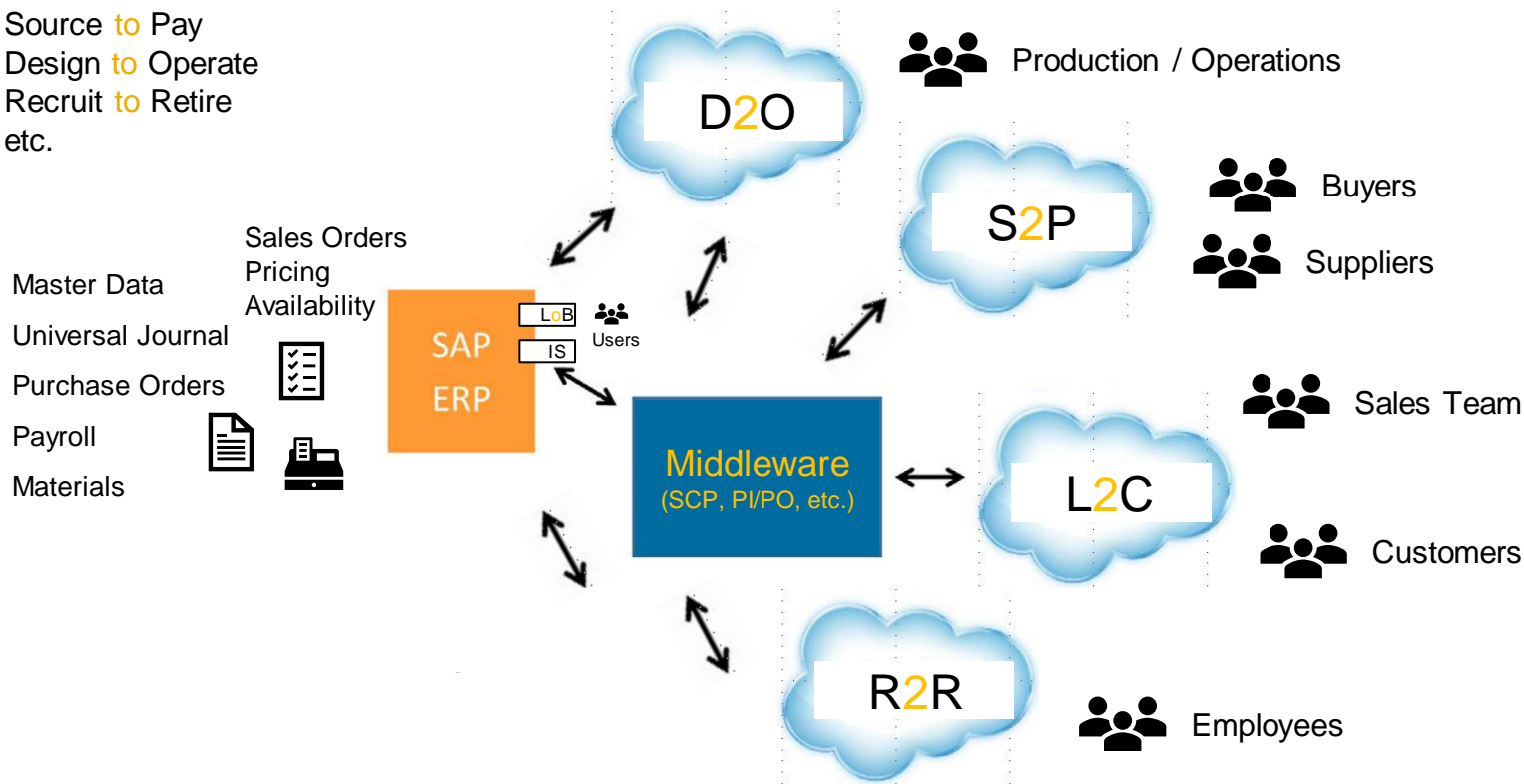
SAP Application Access: Summary of Key Points

SAP Application Access occurs when humans, devices or RPA/bots use the Digital Core via another licensed SAP application.

SAP Application Access does not require any additional ERP licenses provided (1) ERP is otherwise licensed, and (2) use of ERP results from access by properly licensed SAP applications.

"SAP applications" refers to line of business and industry applications (**cloud and on premise**), as well as SAP Solution Extensions. This **does not** apply to technology solutions such as platform (e.g., **SAP Cloud Platform**), database, middleware integration (e.g., **XI, PI, PO**) and Enterprise Information Management.

SAP ERP is at the heart of many core business processes

Lead to Cash
Source to Pay
Design to Operate
Recruit to Retire
etc.

Sales Orders
Pricing
Availability

Master Data

Universal Journal

Purchase Orders

Payroll

Materials

SAP ERP

LoB

IS

Users

Middleware
(SCP, PI/PO, etc.)

D2O

S2P

L2C

R2R

Production / Operations

Buyers

Suppliers

Sales Team

Customers

Employees

Customer Quick Reference Sheet
SAP Digital Access document sizing based on SAP passport

SAP passport enables an end-to-end system tracing and monitoring in distributed system landscapes and represents a data structure that is transported as additional header fields by communication protocols (for example, RFC, http). It contains additional information about the communication between the systems (for example, component name, action).

High-level architecture

SAP passport identifier is available for main technologies like SAP ABAP, SAP NetWeaver for Java, SAP Cloud Platform (Neo), SAPUI5 and SAP S/4HANA. Each SAP application, service, or its communication layers adds SAP passport identifier information to each **outbound call.** Non-SAP system calls are delivered without SAP passport identifier.
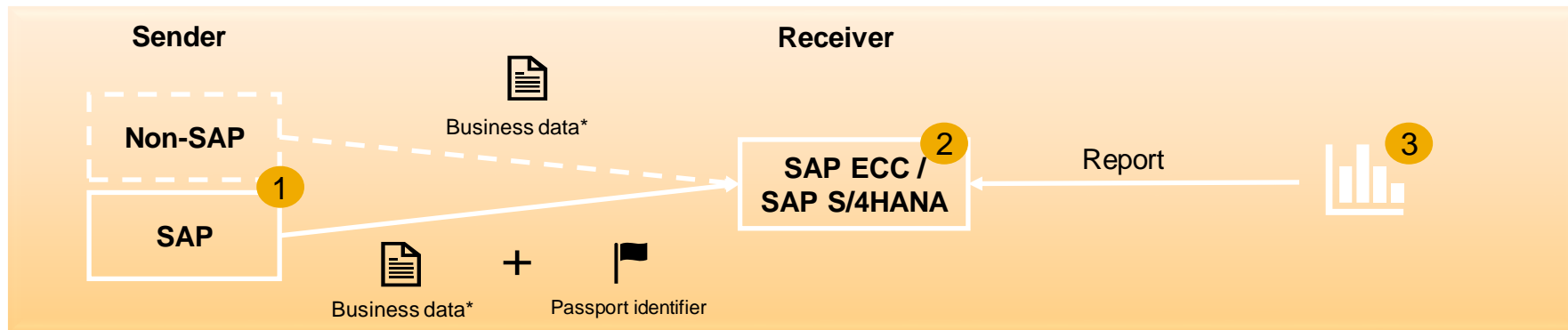
Process steps

1. **Identify:** distinguish documents created by other SAP solutions from those coming from non-SAP applications

2. **Log:** store information about externally created documents persistently in the receiver system (SAP ECC / SAP S/4HANA)

3. **Report:** provide possibilities to measure and verify the number of external documents

Further information

To enable the SAP passport please follow the central technical guide note 2738406 the guideline summarizes the technical requirements needed.

For more information about SAP passport please visit SAP's help portal for digital access.

Extended Passport (EPP)

Extended passport (EPP) enables you to analyze call sequences within distributed system landscapes.

Purpose

Today's system landscapes can consist of several integrated SAP and non-SAP systems. This makes the monitoring and analyzing of the communication between the systems difficult.

With the extended passport (EPP) you can evaluate call sequences, correlate log traces and error messages, and do an end-to-end tracing in distributed system landscapes.

EPP is created when a new user session is opened. It represents a data structure that is transported by communication protocols (for example, RFC, HTTP). EPP is always sent forwards from client to server.
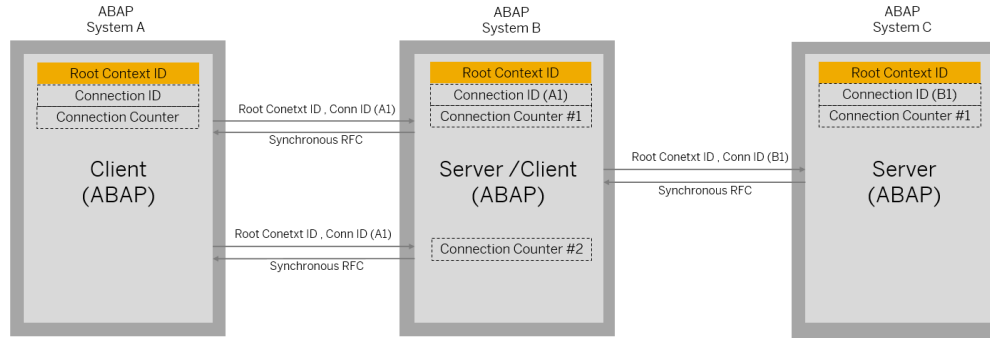
Advantages of EPP

- You can identify single systems and individual requests that are part of a call sequence.

- You can detect performance bottlenecks in distributed landscapes by analyzing the sequence of requests and processes between client and server within integrated systems.

- You can monitor and analyze client-server communication in statistic records, logs, and traces such as ABAP trace, SQL trace, RFC trace, and developer trace.

EPP Structure

EPP provides the following information about user sessions that can be displayed via monitoring tools or specific APIs.

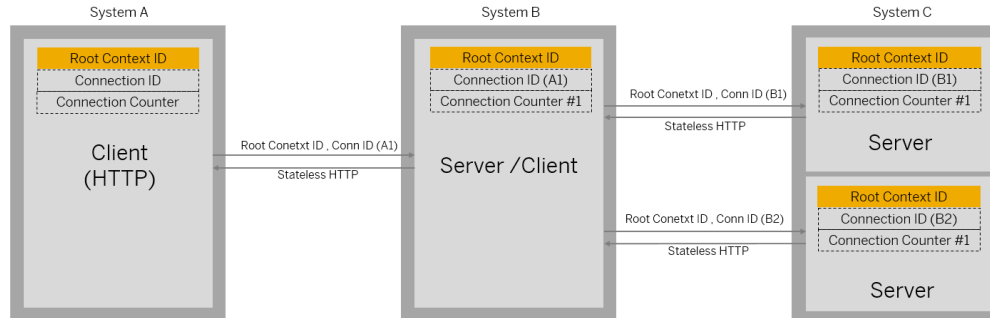| EPP fields	Definition
EPP root context ID	An UUID that clearly identifies the source of a call sequence. It is generated in the very first step of the sequence and remains constant until the end of it.
EPP connection ID	An UUID that identifies the connection that was established between client and server within a call sequence. In a server session, the connection ID gets the UUID of the connection to the server.
EPP connection counter	Counts the number of communication steps that were done between client and server within a call sequence using the same EPP connection ID. If in subsequent calls a server is accessed via a connection with the same connection ID, the connection counter of the server session is incremented.
EPP transaction ID	When user executes a new transaction, a transaction ID is assigned to it. In an ABAP system a transaction represents an SAP Logical Unit of Work (SAP LUW). The transaction ID remains constant for all actions within the transaction, and might change when the LUW is closed.
EPP component ID	Contains information about the system (system ID (SID) and application server instance number) where the EPP was initially created. The component ID remains the same for the entire call sequence.
EPP previous component ID	Contains information about the last system (system ID (SID) and application server instance number) that has forwarded the EPP to the server.

EPP Transport in Stateful Communication

ABAP
System A

ABAP
System B

ABAP
System C

| Root Context ID |
| Connection ID |
| Connection Counter |

Client
(ABAP)

Root Conetxt ID , Conn ID (A1)

Synchronous RFC

| Root Context ID |
| Connection ID (A1) |
| Connection Counter #1 |

Server /Client
(ABAP)

Root Conetxt ID , Conn ID (B1)

Synchronous RFC

| Root Context ID |
| Connection ID (B1) |
| Connection Counter #1 |

Server
(ABAP)

Root Conetxt ID , Conn ID (A1)

Synchronous RFC

| Connection Counter #2 |

In the example that is shown in the graphic, an ABAP client sends a request to an ABAP server via a synchronous RFC that is usually used in stateful client-server communication. The root context ID is created in the initial context, and is forwarded with the EPP to the server. While sending the first RFC request the ABAP client establishes an RFC connection with a **connection ID (A1)**. When the client sends a second request, the connection ID remains the same because the RFC connection already exists. The value of the connection counter increases from 1 to 2.

In the next system call via RFC, only the root context ID remains constant. The established RFC connection is identified by a new **connection ID (B1)** and the connection counter is set to 1.

EPP Transport in Stateless Communication

System A

System B

System C

| Root Context ID |
| Connection ID |
| Connection Counter |

Client
(HTTP)

Root Conetxt ID , Conn ID (A1)

Stateless HTTP

| Root Context ID |
| Connection ID (A1) |
| Connection Counter #1 |

Server /Client

Root Conetxt ID , Conn ID (B1)

Stateless HTTP

| Root Context ID |
| Connection ID (B1) |
| Connection Counter #1 |

Server

Root Conetxt ID , Conn ID (B2)

Stateless HTTP

| Root Context ID |
| Connection ID (B2) |
| Connection Counter #1 |

Server

In stateless client-server communication, normally the HTTP communication protocol is used. The graphic illustrates an example where a client sends an HTTP request to a server. As in stateful communication, the root context ID is created in the initial context and remains stable throughout the call sequence. The established HTTP connection gets the **connection ID (A1)**.

In the next system call, only the root context ID is forwarded. The client sends a new HTTP request to the server. The newly established connection between client and server gets the connection ID (B1). The connection counter is set to 1. After the client has received the response from the server, the connection is closed. When the next HTTP request is sent, a new connection with a new connection ID (B2) is established. The value of the connection counter does not increase.

Measurement with the SAP Passport

➢ Use transaction RSUVM_DAC to start the report

➢ Last measurement is displayed

➢ By starting new measurement old results will be overwritten