SAP INTELLIGENT RPA

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External
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Agenda

- WHAT IS ROBOTIC PROCESS AUTOMATION (RPA)?
- WHAT ARE THE USE CASES FOR RPA / BUSINESS VALUE OF SAP INTELLIGENT RPA
- SOLUTION ARCHITECTURE & OVERVIEW FOR SAP INTELLIGENT RPA
- EXAMPLE INTEGRATION SCENARIO DEMO
- KEY TAKEAWAYS AND ADDITIONAL MATERIALS
- Q&A
Virtualizing workforce and maintaining business continuity
SAP Intelligent RPA for remote worker automation

Urgent challenges

Scattered workforce and business disruption
• Efficiency loss towards demanding SLAs
• Supporting employees to achieve more with less resources and maintain balance
• Physical unavailability of staff

Workforce digitization

Enable remote services and automation
• 24 x 7 conversational serviceability
• Reduced human errors and burn out
• Digital assistants & touchless execution
• Free staff to perform non-repetitive, high-value actions
Next Generation Process Excellence
Integrate process automation technologies end to end

Understand | Improve | Automate | Monitor
Process Excellence combining Technologies & prebuilt Content

**Easy access to ML services**
ML provides easy processing of documents and unstructured data to be embedded into RPA workflows
Use ML Services to improve RPA training

**Conversational User Experience**
Process Intelligence assistance with SAP Conversational AI
Natural user interaction with the bot

**Monitoring & Process Intelligence**
Integrated Monitoring and Process Visibility
Co-Offering with SAP Process Mining by Celonis, cloud edition
Stakeholder satisfaction using SAP Qualtrics at any stage

**Robotic Process Automation**
Intelligent Robotic Process Automation helps run repetitive, tasks that span across systems (SAP and non-SAP)
Intelligent RPA runs on SAP CP Workflow as bot runtime

**Prebuilt Content**
Best practice content for S/4HANA DBS, Industry packages

**Digital Experience**
Usage of Inbox for user interactions and decisions
WHAT IS ROBOTIC PROCESS AUTOMATION (RPA)?
What is SAP Intelligent RPA?

Robotic Process Automation (RPA)
Software robots **mimicking human users** for manual process tasks on user interface for automating process execution. It can bring new speed, efficiency in process execution and free up human workers from **repetitive tasks** for more time availability towards **high-value tasks**.

**Unattended (Digital Worker)**
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 (Digital Assistant)**
Partially automated process, where robots are co-working with humans

*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 collect and display the customer data in a 360 view.*
Criteria for Processes Automation with SAP Intelligent RPA

**Focus Area** | **Criteria**
--- | ---
**Collect Data** | • consolidate and manipulate data from multiple data sources, such as excel, vendor portal, SAP systems  
• multiple applications touched by the user during process execution. E.g. excel, outlook, web application, S/4HANA, ECC, non-SAP systems

**Collaborate, trigger user action and communicate** | • approval follow-up with multiple stakeholders  
• workflow trigger  
• automatic service ticket resolution  
• monthly reports  
• email integration

**Improve user productivity** | • process can be accelerated and improved by a digital assistant. For example the integration of chat bots and RPA bots to perform operational work on user’s behalf.  
• part of the processes are completely executed by bots, e.g. 24/7 execution
SAP Intelligent RPA in a Nutshell

Typical use cases

- Extract data through various connectors e.g. Excel, pdf, external apps, Web sites, 3rd-party apps and enter in a finance system
- Log in to 15 SAP instances, collect purchase requisitions and distribute to SSC teams
- Download various reports, collate and save in shared drive
- Search invoices by reference number in various ERP instances
- Check ticket inbox in a shared service center and route to bots
Example: Purchase order creation – Manual steps

Incoming purchase orders
You receive tons of purchase orders via email every day.
You need to identify and filter them.

Analyzing and extracting the content
You need to understand the information and extract the relevant data from the documents and store it in a task list.

Entering in ERP
You need to manually record the purchase order in your ERP system, navigating through different screens and typing the order information.

Repetitive order creation
Manual, tedious, repetitive, error-prone task leads to long queues and frustrated employees and customers.
Why Intelligent Robotic Process Automation?

**Shared Service Automation**
Execute faster, reduce errors, optimize processes & resources by automating manual tasks

**Financial Transformation**
Faster financial closing, lower manual efforts & optimize resources

**Customer Service Automation**
Increase customer satisfaction and higher throughput

**Operation Automation**
Manual task automation, monitoring & visibility

**Data Management**
Faster onboarding for employees and customers, consistent master data
OVERVIEW OF SOLUTION ARCHITECTURE
Solution Overview

SAP Intelligent RPA

Cloud Factory
Orchestration & Monitoring

Desktop Studio
Development

Desktop Agent

Servers

Desksops

SAP^® Cloud Platform

SAP Applications
- Digital Core
- Pre-defined content for SAP S/4HANA
- SAP C/4HANA

Intelligent Technologies

Interaction via UIs and APIs
- SAP SuccessFactors
- SAP Ariba
- SAP Concur
- SAP Fieldglass

Non-SAP Applications
- Third-party tools
- Legacy applications
- Web applications
- Internet portals

Interaction via UIs

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Suite of tools for process automation development

Application capture
- Capture application pages for any technology (Web, Windows, Java, …)
- Detect changes for easier maintenance

Workflow designer
- Graphical designer for simple automations
- Generate JavaScript scenarios for runtime execution

Advanced integration
- JavaScript editor for advanced usage
- Enrich functionalities with libraries
- Easy navigation between script and graphical design
- Snippets and code generation

Test and validation
- Local debugger (step by steps, watches, …)
- Recorder / re-player for remote investigations and off-line analysis
Bot management

- Manage customer landscapes and create test/dev/prod environments
- Deploy prebuilt content
- Manage projects and packages them for attended and unattended execution
- Distribute and orchestrate execution on agents
- Monitor execution
Runtime module on customer desktops and servers

- Multi-technology for UI automation
  - Web, Windows, Java, emulators, …
- Same product and skills for attended / unattended
- Parallel or sequential execution on applications
- Scenarios with mix of UI and API automations,
- Fast and robust automations
- Secured connectivity with the Cloud Factory
- UI assistance for attended mode
  - Training / Contextual Help / 360° View / Quick Launch / …
SAP Intelligent RPA

Integration Summary

Universal approach on RPA
- Wide Range of UI / API technologies for end to end automations on any business process
- Connect to Web, SAP GUI, Windows, Java applications

Build Automation Scenarios
- Application captures : easier to maintain and enhance
- Graphical Workflow Designer and advanced JavaScript Editor for automations

API Trigger & Notifier
- Connect to any web services (ML Foundation, …)
- Expose Automation Scenarios to the outside world

Integration with SAP Intelligent Services
- SAP Machine Learning APIs including Intelligent OCR
- CAI Chatbot integration

Integration with SCP Workflow
- Uniquely combine BPM and RPA automations

Store
- SAP provided content

SAP Intelligent RPA

Integrates with
- Any underlying application
- Intelligent BPM via its API trigger framework
- CAI via its API and notification framework
- SAP GUI and SAP UI5 connectors for easier bot building
- SAP Data Intelligence

Commonly available with/in
- SAP Cloud Platform
- CPEA
- Intelligent Technology Packages
- SAP Services
- Pre-built bot content
Connectors & Capture Application Pages

Wide range of supported UI & API Technologies

- Web, Windows, Java, Emulators, Office applications, …
  - Advanced support for SAP applications: SAP GUI, SAP UI5, S/4 HANA …
  - Works also with non-SAP applications
- Support for hybrid virtualized architectures (Citrix / Remote Desktop)
API Triggers

- Attached to a scenario/process in a deployment
  - Can be added, modified or removed at any time

- Dedicated API endpoint protected by API key

- Provides input for bot execution
  - Defined by scenario input schema

- Can provide invocation context for call correlation
  - Invocation context is available in notifiers
API Notifiers

- Attached to a trigger
  - Can be added, modified or removed at any time

- Reacts on activation event
  - Job Start/Success/Failure/Cancel
  - Different variables are available for different events

- Rest Call configuration
  - Callback URL
  - Authorization
  - Headers

- Payload
  - Custom JSON structure
  - Use `${invocation_context}` sent with API trigger
  - Use variables available for the notifier event
    - `${output}`
    - `${error}`
EXAMPLE SCENARIO INTEGRATION EXAMPLES
Integrate SAP Intelligent RPA with Chatbots
Example Scenario: Trigger a BOT from Conversational AI and receive feedback

**Interact**

Conversational AI (CAI)

Chatbots to interface and hand-over to execution bot

**Execute**

Intelligent RPA

Multiple bot workflows for execution (attended + unattended)

Interfacing

Performing Tasks
Example Scenario: Trigger a BOT from Conversational AI and receive feedback
API Trigger – open Intelligent RPA bot endpoint

- Attached to a scenario/process in a deployment
- Dedicated API endpoint protected by API key
- Provides input for bot execution
  - Equipment number
- Can provide **invocation context** for call correlation
  - Conversation ID
CAI Notifier – notify users about the bot execution status

- Choose notifier activation event
  - Success/Start/Failure
- Configure notifier
  - Conversation id
  - Chat bot authorization token
- Select action to be performed
  - Send a text message to conversation
  - Modify conversation state
- Configure action parameters
  - Message to be sent
  - Memory and language to be updated
Integrate SAP Intelligent RPA with ML services
Example Scenario: E-Mail to Invoice

Incoming e-mail with attached invoice → Extract invoice and send to OCR → SAP Leonardo Machine Learning → OCR API to extract invoice data → Create invoice in S/4 HANA

Key Takeaways:
SAP Intelligent Robotic Process Automation
- Can be used to read E-mail and extract attachments
- Offers integration to SAP Leonardo Machine Learning and SAP API Business Hub. (Document Information Extraction service is used in this example)
- Integrates seamlessly with S/4
Automated Supplier Invoice Processing
Integrate SAP Intelligent RPA with MS tools
DEMO : example Scenario : Excel to Sales Order

Key Takeaways :
SAP Intelligent Robotic Process Automation
• Can process MS Excel and extract information
• Supports automation of SAP GUI in SAP ERP and other SAP applications
• Loop over Excel row to create jobs to be distributed by Cloud Foundry
Excel to Sales Order in SAP ERP

Sales Order data in MS Excel

Sales Order in SAP ERP
Integrate SAP Intelligent RPA with BPM
BPM and RPA | Two sides of the same “Intelligent Automation” coin

<table>
<thead>
<tr>
<th>BPM (Workflow)</th>
<th>RPA</th>
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<tbody>
<tr>
<td>• Business Process Management</td>
<td>• Robotic Process Automation</td>
</tr>
<tr>
<td>• Deals with orchestrating the end-to-end process</td>
<td>• Deals with automating specific tasks within a process</td>
</tr>
<tr>
<td>• Strategic initiative, holistic, structured approach</td>
<td>• Tactical initiative, focused, agile approach</td>
</tr>
<tr>
<td>• Fosters teamwork, streamlines collaboration and production workflows</td>
<td>• Frees employees from tedious repetitive tasks, leverages their human skills</td>
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</table>
Intelligent RPA - SCP Workflow Integration
UI to design your SAP workflows in RPA executed by SAP Cloud Platform Workflows

1. User tasks integrated SAP WFL Universal Inbox

![Workflow UI]

2. Author Workflow using IRPA visual editor

![Workflow Editor]

3. Monitor Workflow execution

![Workflow Monitoring]
Example Scenario: Open a bank account
Intelligent RPA / BPM integration

**KEY TAKEAWAYS**

- Use RPA to automate manual tasks
- Use RPA when no system API is available
- Automate access to multiple applications (applications mashup)
- Use API trigger endpoint to launch a bot
- Use API notifier to receive updates
- Exchange information and context through API triggers and notifiers payload
MORE PREDEFINED BOT EXAMPLES
More Bots Available Ready to Use: SAP Intelligent RPA Store

- ~76 bots available ready to adopt
  - Generic as well as S/4 specific bots

Browse, Filter and Search Content
- Category
- Line Of Business
- Industry
- Free search

Get a look of the content provided
- Summary
- Short and Full Description
- What’s New
- Content Detail

Available on a public website here: https://store.irpa.cfapps.eu10.hana.ondemand.com/#/home/order=asc/search=/tag=
SAP Intelligent RPA in a Nutshell

Business value

Improve Operation
- Remove manual tasks
- Mobilize resources for high-value tasks
- Allow parallelization

Reduce Cycle Times
- Improve overall process efficiency
- Cut process execution time
- Generate immediate savings

Increase Compliance & Service Quality
- Reduce human errors
- Gain efficiency with bots running 24/7
- Focus on valuable error-handling

Gateway to AI
- Support unstructured data
- Self-healing bots
- Exception-handling history
CURRENT SUCCESS CUSTOMER TESTIMONIALS
Main Objectives

- Digital Automation to ease manual effort in mass upload of AR posting. Reduce human error and better use of human capital on strategic initiatives.
- Digital workers to execute the batch job to set production orders to be technical completed/Close/Delete, in order to
  - Faster process execution, Ensure transparent timely reporting of manufacturing planning.
  - Optimize period-end closing

Key Facts

- 1000 FI documents per month will be uploaded automatically, Intelligent RPA turns 4 days’ workload into 10 mins.
- Working as Digital Worker, this bot can automatically proceed approx. 3000 Production orders for all TECO, Closure and Deletion change per month.
- Process 500 orders per batch to close the orders, it used to take 1 day for human work, now only 2 mins 18 seconds for Intelligent RPA.
- Basically no manually interference needed.

Customer Voice

“SAP Intelligent RPA and the pre-defined bots in S/4HANA help REHAU to realize intelligent, automatic and accurate process execution. Free up employee’s capacity to focus on more high value tasks and improve the user experience.”

--- Chengbo Yu, Rehau APJ CIO
HR Offer Letter Generation – Lucy Bot with SAP Intelligent RPA

Have candidate’s information ready → Lucy generates employment offer letter packages → HR Services verifies the packages before dispatching

Fetches data and rules from various documents → Selects appropriate contract templates based on the candidate’s metadata and rules → Populates each contract template based on the candidate’s metadata → Sends out email notification to HR Services

<1 minute taken to generate one package by Lucy

At least 8x faster as compared to the As-Is process

24/7 availability without human supervision

Improved Efficiency → High-Quality Output → Faster Time-To-Value → Co-Innovation Leading to Success

Business process automation with reduced manual steps → Eliminating potential human errors → Ease of implementation and roll-out → SAP’s journey towards Intelligent Enterprise

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With routine tasks handled by bots, Villeroy & Boch can focus on delivering great customer service and maximizing business value.

By deploying SAP® Intelligent Robotic Process Automation technology with SAP Cloud Platform, Villeroy & Boch Group:

- Enabled tight process integration with the SAP ERP application and productivity solutions
- Created “attended” bots (under staff supervision) that complete simple, frequently occurring tasks such as responding to standard e-mail inquiries and making general ledger postings.
- Helped customer service staff spend more time assisting wholesale customers with nonroutine inquiries
- Freed up finance and purchasing staff to focus on strategic tasks
- Began to evolve the bots to trigger tasks autonomously and leverage SAP Leonardo AI Business Services such as Document Classification and Document Information Extraction for automation of more complex tasks

“Although we’re just at the beginning of our journey with SAP Intelligent Robotic Process Automation, we are already realizing its potential to help us work more efficiently, serve customers better, and gain competitive advantage.”

Dr. Daniel Neuhäuser, Head of ERP Core Solutions, Villeroy & Boch Group
SAP runs SAP – Account Creation with SAP Intelligent RPA

Simplifying Account Creation with SAP® Intelligent RPA

Before: Challenges and Opportunities

- Business cards scans that don’t typically provide all the required information to create a new account in the SAP® Master Data Governance application
- Need for a shared-services data agent to manually enter the missing information – after searching for it across multiple sources and systems
- Overall account creation process that is manual, time-consuming, and error-prone

Why SAP

- SAP Intelligent Robotic Process Automation (SAP Intelligent RPA) technology, which serves as a digital assistant to the shared-services agent
- Automatic account data enrichment for new requests in SAP Master Data Governance, including tax identification information and the Dun & Bradstreet D-U-N-S Number
- Automatic inclusion of marketing attributes, such as revenue, number of employees, and industry code – in turn leading to the correct market-unit assignments, including internal account classification, sales segment, market segment, and so on

After: Value-Driven Results

- Better experiences and increased efficiency for shared-services center agents – freeing up time for higher-value tasks
- More accurate and complete account data in SAP Master Data Governance and receiving systems

“SAP Intelligent RPA helps me collect data from different sources quickly, which helps me make informed decisions about data change requests. I can be sure I’m getting high-quality data quickly – right when I need it.”
Sayyed Hassan Nagra, Data Expert, SAP SE

“SAP Intelligent RPA is helping us bridge the gap between a long-term software implementation with a fast and simple solution. Our users see immediate automation benefits. It also helps us see areas we can improve across business processes.”
Christopher Reimann, Intelligent Data Operations Lead, SAP SE

33% Faster account creation process
~2,000 Hours per year saved for shared-services staff
SAP runs SAP – Data Management with SAP Intelligent RPA

Improving Data Management with SAP® Intelligent Robotic Process Automation

Before: Challenges and Opportunities
• Process data change requests more efficiently and transparently
• Reduce time spent on repetitive, manual tasks by employees in shared-services centers
• Eliminate data errors due to manual data entry
• Increase the amount of time that staff can spend on high-value tasks

Why SAP
• Rapid deployment of bots within a few days, enabling quick wins
• Intuitive functionality, enabling staff to rapidly gain bot-building skills
• Support for intelligent workplace processes for shared-services center employees

After: Value-Driven Results
• Enhanced customer service with faster response times
• Better employee experience with significantly less manual work
• Increased efficiency, with thousands of hours shifted to higher-value tasks
• Improved data quality, providing more accurate, consistent, and compliant information for use in enterprise processes

"It used to be time-consuming, inconvenient, and inefficient to make data changes. But now, automation bots created quickly and easily using SAP Intelligent Robotic Process Automation save us time and effort."
Tatevik Tadevosyan, Operations Associate, SAP SE

2x–8x Faster processing of data change requests
11,000 Hours saved and used for higher-value tasks
Results Data Management with SAP Intelligent RPA

Delivering Rapid Results to Help Meet Strategic Goals

Delivering efficiency gains
With five productive use cases, the data strategy and operations team has freed up 11,000 hours of manual work that it has reinvested in higher-value tasks. Depending on the use case, data change requests are also processed between two and eight times faster than before.

Enhancing data quality
Use cases cover a broad range of activities, including customer data enrichment, material data management, and the creation of consent forms. By automating tasks, the team has been able to improve on key data-quality indicators such as completeness, accuracy, consistency, and conformity.

Improving employee experiences
The response from employees in the shared-services centers has been extremely positive. Hundreds of manual switches between applications and thousands of copy-paste steps and clicks are no longer necessary. In this way, staff time is freed up to focus on the shift from reactive to proactive data maintenance by spending more time in key programs with business stakeholders.

“Every initiative that the data strategy and operations team pursues contributes to our core strategic goals around experience, efficiency, and data quality. RPA proved to be the perfect fit for us to achieve tangible results in a short period of time.”
Bastian Finkel, Head of Intelligent Data Experience, SAP SE

100%
Accuracy for data management tasks completed by automation bots

1,000
Clicks eliminated for a single task, improving the employee experience
MORE TO KNOW & KEY TAKE AWAY
**Why SAP Intelligent RPA**

- Unrivaled ability to drive **SAP applications**, not only from technology but also from content perspective e.g. SAP S/4HANA Best Practices

- Strong and proven **Technology**, e.g. connectors to business applications and Office tools

- Our ability to **enhance the user experience** allows to work on the **added value**, not only on the saving

- Design & run SAP IRPA bots for both **attended & unattended** use cases in the same environment

- Provide a **complete** solution to **industrialize** the robotic approach

- Consumption based & simple **pricing** model to **ease** the adoption
How do we drive the roadmap vision

The best **integrated** RPA solution for automating SAP applications

**Stable** and **efficient** RPA, reducing implementation time and maintenance efforts

Expanding **AI** presence by embedding it in RPA core
HOW TO LEARN MORE & GET MORE INFO?
### Community Enablement & Social Media

#### SOCIAL MEDIA

<table>
<thead>
<tr>
<th>Platform</th>
<th>Members/Followers/Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP Intelligent RPA Community</td>
<td>12,400/2,800</td>
</tr>
<tr>
<td>Twitter</td>
<td>2,000</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>17,800</td>
</tr>
<tr>
<td>YouTube</td>
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#### VIRTUAL ENABLEMENT BY openSAP COURSES

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Providers/Modes</th>
<th>Learners/Subscribers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP Intelligent RPA in a Nutshell</td>
<td>(course provided in Sep/Oct 2019 – now available in self-paced mode)</td>
<td>22,300</td>
</tr>
<tr>
<td>How to build Bots with SAP Intelligent RPA</td>
<td>(course provided in Nov/Dec 2019 – re-launch in Mar/Apr 2020)</td>
<td>17,500/8,400</td>
</tr>
<tr>
<td>Business Process Automation in SAP S/4HANA with SAP Intelligent RPA</td>
<td>(course provided Feb/Mar 2020 – now available in self-paced mode)</td>
<td>16,600</td>
</tr>
<tr>
<td>What's New with Bot Building in SAP Intelligent RPA</td>
<td>(course will be launched in May 2020)</td>
<td>4,300</td>
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</table>
If you want to learn even more about **SAP Intelligent RPA**

Externally available sources

- SAP.com presence:
  

- SAP Community page:
  
  [https://community.sap.com/topics/intelligent-rpa](https://community.sap.com/topics/intelligent-rpa)

- **Product Documentation**

- SAP S/4HANA predefined content bots on **Intelligent RPA Store**

- **Technical Webinars on YouTube**

- **Learning Journey**

- Series of blog posts:
  
APPENDIX

WHAT IS SAP INTELLIGENT RPA?
Why Intelligent Robotic Process Automation?

Your employees have a high potential but they spend more time doing Copy/Paste?

Because …
• You have legacy systems
• Disintegrated entropic applications
• Complex processes to execute using multiple solutions

Now you can …
• Not let IT becoming a constraint for end to end process execution
• Improve your operations
• Free your resources from tedious tasks

Empower your best assets
• Augment human resources on your high value core business
• Focus more on added value operations
• Build up on your previous investments
• Do more with your current IT infrastructure

SAP Intelligent RPA offers you to empower your people to focus on meaningful work by automating repetitive tasks with software bots emulating humans