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Move Beyond RPA to Deliver Hyperautomation

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Enterprise architecture and technology innovation leaders lack a defined strategy to scale automation with tactical and strategic goals. They must deliver end-to-end automation beyond RPA by combining complementary technologies to augment business processes. Gartner calls this "hyperautomation."

Overview

Key Challenges

- EA and technology innovation leaders can create a myopic view of tactical routine automation over a long-term strategic roadmap. This risks their credibility within the organization.

- There is a lack of guidance helping organizations to assemble robotic process automation (RPA) with other tools. This hinders end-to-end process automation, causing these organizations to miss out on strategic business values.

Strategic Planning Assumption

By 2022, 65% of organizations that deployed robotic process automation will introduce artificial intelligence, including machine learning and natural language processing algorithms.
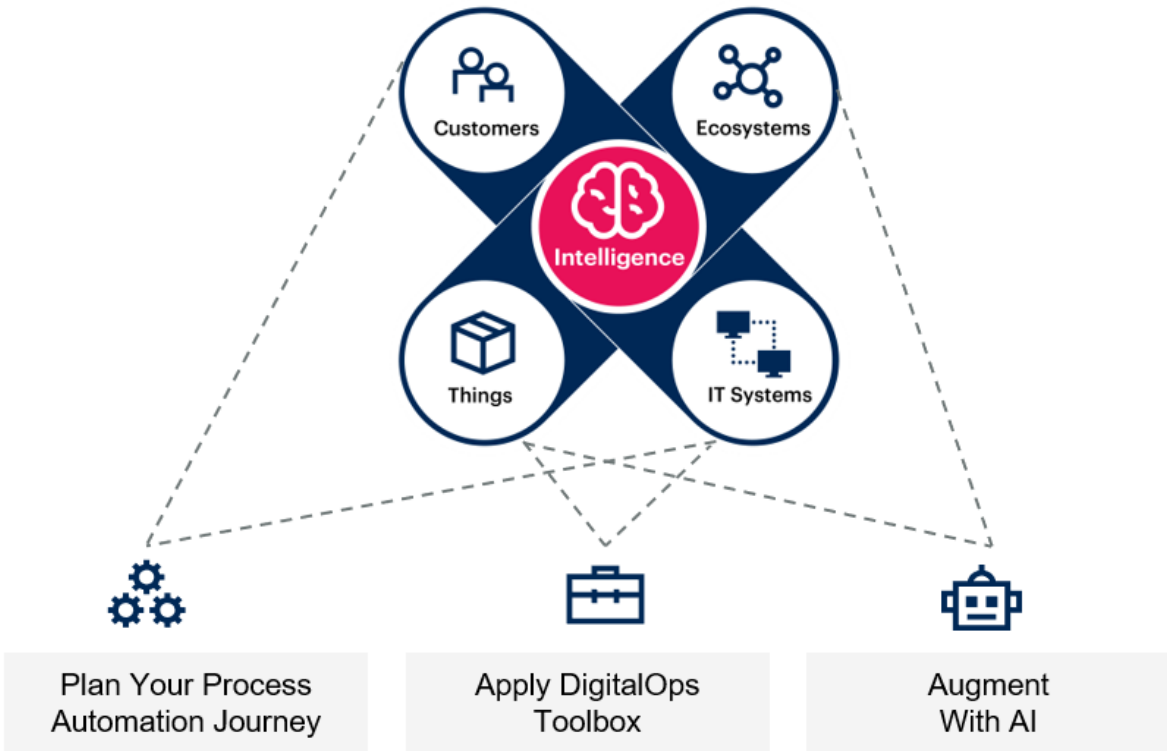
Introduction

Enterprise architecture (EA) and technology innovation leaders often get pressured by their business partners to focus on the tactical needs of routine process automation with RPA. RPA may provide quick relief as a noninvasive form of integration. However, processes are not always simple, routine, repetitive and stable. They may be long running, and they often involve intelligent automated decision making and optimization. The real challenge — to scale beyond the initial few low-hanging fruits of routine processes — cannot be solved by a single tool or with siloed strategies.

Hyperautomation refers to an effective combination of complementary sets of tools that can integrate functional and process silos to automate and augment business processes. Gartner has named hyperautomation among the top 10 strategic trends for 2020 (see "Top 10 Strategic Technology Trends for 2020").

Hyperautomation can be enabled by DigitalOps — which is a business process framework designed to simplify, measure and manage processes across the enterprise (see "DigitalOps Helps Connect Business Models to the Digital Business Platform"). The DigitalOps toolbox offers a wide array of technologies beyond RPA, such as BPM, workflow engines, decision management suites, process mining, low-code application platforms (LCAPs) and others.

Key Strategies for Enabling Hyperautomation in Your Organization

Source: Gartner
ID: 433853

Roadmap for Hyperautomation

① Define the Desired Business Outcome	**② Optimize the Process**	**③ Assemble DigitalOps Tools With Others**
💵 Revenue	🔄 Assess/Rightsize	🗂 DigitalOps Toolbox
💲 Costs	〰 Industrialize and Scale	🌐 iPaaS
⚠ Risks	📊 Enhance	🧠 AI

iPaaS = integration platform as a service
Source: Gartner
ID: 433853

Define the Desired Business Outcome

It is important to define your digital ambitions. Enterprise architects and business process owners must collaborate to set a vision for their digital business initiatives (see "Digital Business Ambition: Transform or Optimize?").

Align your process automation goals to three key objectives:

- **Revenue —** What are your key drivers for revenue? For instance, you may choose to focus on

Identify use cases for optimizing processes by focusing on:

- Rightsizing your process IQ (see "Eight Dimensions of Process IQ Determine How Smart Your Process Needs to Be").

- Industrializing and scaling the core processes that drive products and services delivered via a digital business platform (see "How to Industrialize and Reuse Core Product Capabilities and Processes With DigitalOps Initiatives").

- Enhancing your process with structured and standardized data inputs, and decision intelligence.

Plan to Apply DigitalOps Tools With Others Tools

Identify the DigitalOps tools that are closely aligned to your automation roadmap. Assess different technology markets and create a progressive investment plan to effectively deliver tactical and strategic business values.

Assemble DigitalOps Tools

A DigitalOps toolbox that is aligned to business-model-driven process automation comes with many options to address the different steps of process automation (discover, analyze, design, automate, measure, monitor and reassess). Inspect your use cases and your long-term business objectives to identify the optimal combinations of these tools (see "Navigate Optimal Routes for Process Automation With RPA, iBPMS and iPaaS"). The scope of this research is limited to some of the

DigitalOps Toolbox
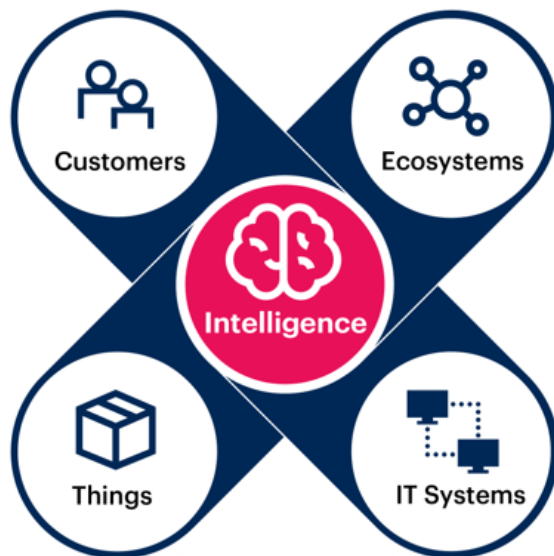
iBPMS = intelligent business process management suite; RPA = robotic process automation
Source: Gartner
ID: 433853

To assess and compare the individual capabilities of different process automation tools, see

- Providing direct integration services/APIs to other enterprise platforms, applications and devices.

See "Magic Quadrant for Intelligent Business Process Management Suites" and "Critical Capabilities for Intelligent Business Process Management Suites."

RPA

RPA is a noninvasive integration technology used to automate routine, repetitive and predictable tasks through orchestrated UI interactions that emulate human actions.

Use RPA to focus on the following:

- Delivering quick wins by automating routine and repetitive tasks.

- Creating API facades with legacy applications. Use the noninvasive means of RPA to interact with legacy applications where building traditional integration will be complex, time-consuming and expensive.

- Transporting, consolidating and validating data from disparate sources in a large-scale ERP migration project.

- Rapidly experimenting with a process prototype. Apply RPA to experiment rapidly and perform quick proofs of concept before launching a new service or process.

- Exploiting the broad set of connectors to automate tasks related to applications that have existing APIs. However, the set of supported protocols is smaller than that of an integration platform or a BPM suite. The connectors in LCAPs primarily focus on HTTP REST API-based connectivity or connectors to common enterprise and SaaS (such as ERP systems).

Process Mining and Discovery/Analytics

Process mining is designed to discover, monitor and improve real processes by extracting knowledge from the event logs readily available in application systems (see "Market Guide for Process Mining"). Process mining includes automated process discovery, conformance checking and other advanced analytics features.

Apply process mining tools to:

- Identify process inefficiencies at a granular level.

- Discover, monitor and configure tasks that can be automated by bots/scripts.

- Extract knowledge from events readily available on a workstation or captured from screens.

- Create process documentation and autogeneration of simulation models.

- Repair or extend a model.

- Make process recommendations based on historical data.

- Multiple stakeholders, sometimes with different objectives

If you already have a DMS platform, focus on the following:

- Building your decision model — for example, conceptual and logical models, such as those defined in DMN or similar decision modeling notations (see "Develop Good Decision Models to Succeed at Decision Management").

- Improving the decision authoring or maintenance tools — for example, through decision metaphors that make it easier for the business to author or modify rules and analytics without help from IT.

- Supporting predictive analytics scoring services — such as the capability to import or connect with PMML, PFA, R, Python or other models from data science platforms (or similar advanced analytics tools).

See "Innovation Tech Insight for Decision Management."

EA and technology innovation leaders should look to transition from a loosely coupled RPA ecosystem with complementary technologies, to a more-connected DigitalOps toolbox. From 2020 onwards, many vendors will provide a single platform with an integrated offering. For instance:

- Microsoft have launched Power Automate RPA solution with their Power Apps low-code and

Evolution From Task-Based to Complemented RPA (CoRPA) to Digital Ops Toolbox
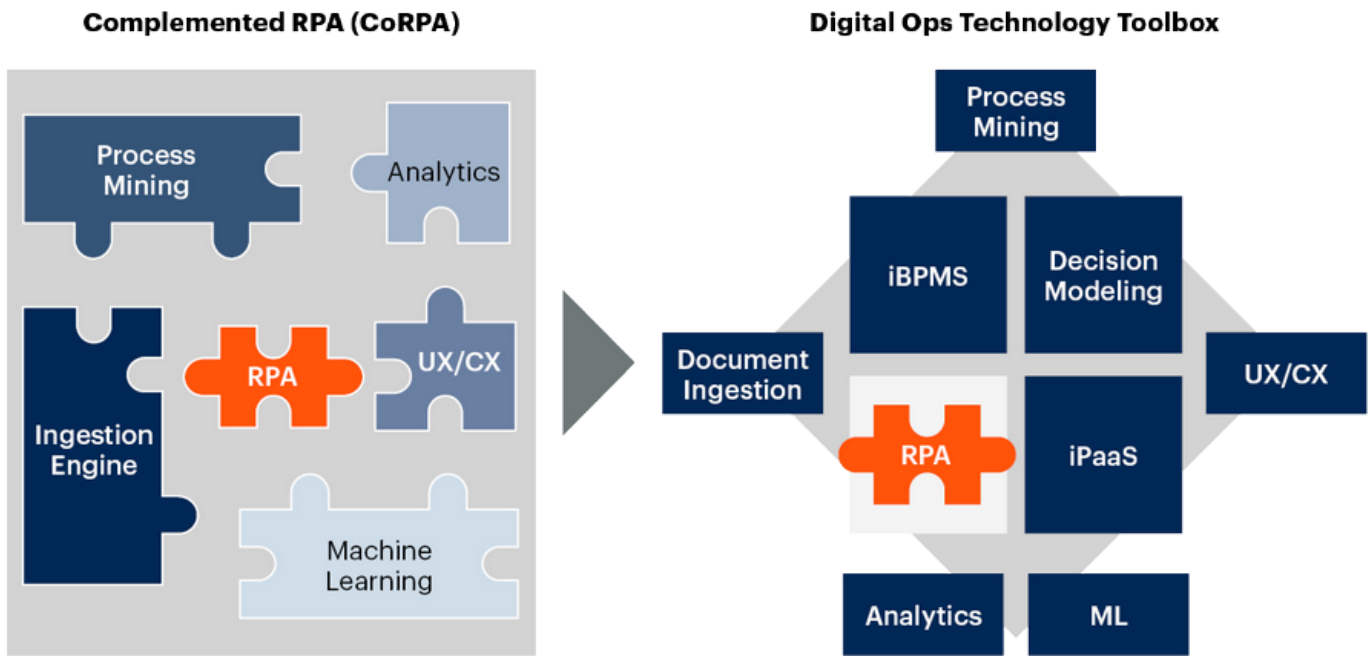
Source: Gartner
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Integrated System of Intelligence With Artificial Intelligence, Machine Learning and Natural Language Processing
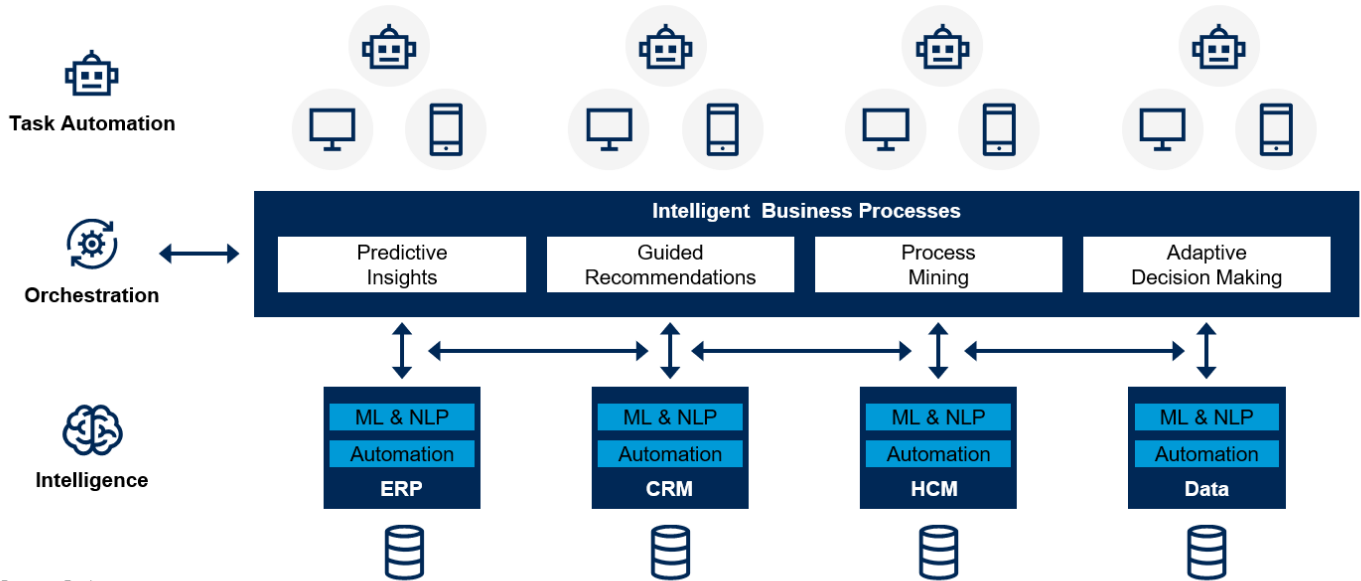
Source: Gartner
ID: 433853
HCM = human capital management; ML = machine learning; NLP = natural language processing

In an integrated ecosystem of DigitalOps tools:

- RPA enables task automation.

deploy a model. Look for vendors who provide this feature.

- Secure model privacy, ensuring that any client information used to train the model is abstracted from the reused learning models.

- Automate the training and building of ML models without requiring the manual process of training and selecting ML algorithms.

See "A Guidance Framework for Operationalizing Machine Learning for AI" and "How to Build Momentum for Machine Learning (ML) Initiatives (Iron Mountain)."

Common use cases of AI, ML and NLP within business process automation include many industry-specific instances, such as:

- Claims handling in insurance (e.g., extraction, classification of claims data)

- Anti-money-laundering efforts in banking (e.g., reconciliation, monitoring of transaction data)

- Product data matching in retail

There are many more examples of AI augmentation in:

- Case management

For example, if you are automating an anti-money-laundering process and implementing a fraud detection algorithm, you may need to understand the interfaces between your AI components and other automation tools. Many of these processes involve nonroutine tasks, decision intelligence and human judgment.

In this example, the process would involve the following steps:

1. An intelligent business process management suite and/or distribution management system tool manages the decision-driven workflow/orchestration of the process.

2. It triggers an RPA bot/script to perform some data collection and other routine labor work to validate customer records, etc.

3. The fraud detection algorithm — built on an ML model — is run on the consolidated data to identify patterns. This process could introduce human intervention, requiring that formal approval or e-signature be provided in order to move forward.

4. This then triggers another RPA bot to perform follow-up actions, such as sending emails and updating transactional systems (such as the ERP solution, CRM solution and other applications).

Similarly, for a contact center operation:

1. An NLP text analytics feature could be used to perform customer sentiment analysis based on call transcripts of customer complaints.

- Exploit AI accelerators from the major cloud service providers (CSPs) that might be included within your LCAP, DMS, BPM, RPA and iPaaS platforms. Common AI/ML libraries often available within these platforms include AWS Machine Learning, Google Cloud (TensorFlow), IBM Watson Studio, Microsoft Azure Machine Learning Studio, StanfordNLP, Natural Language Toolkit, and spaCy.

- Look for AutoML features to enable RPA processes to capitalize on ML and NLP accelerators. AutoML engines use input and output of data from completed manual tasks to pick algorithms, train the models and insert models into the automation in a nondisruptive fashion.

Acronym Key and Glossary Terms

AI	artificial intelligence
BPM	business process management
EA	enterprise architects
DMS	decision management suites
iBPMS	intelligent business process management suites

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