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RESEARCH

ASSESSING THE APA HYPE

A MIX OF POWERFUL POTENTIAL, RISK, AND HYPE

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1 IS APA OVERHYPED?

APA HYPE AND RPA'S CAUTIONARY TALE

A decade ago, Robotic Process Automation (RPA) generated significant hype that drove rapid growth for RPA vendors. Despite many critics dismissing it as little more than screen scraping with scripting and macros. RPA vendors promised to replace established technologies like digital process automation (DPA) in automating sophisticated processes. However, RPA ultimately proved most effective for task-specific functions, such as document processing, rather than full-scale business process automation. The reality is that RPA works best when integrated with DPA and low-code development platforms as part of a comprehensive automation strategy.

Today, Agentic Process Automation (APA) follows a similar path, offering great promise that's amplified by mushrooming hype. Drawing lessons from RPA's journey, it's crucial to evaluate APA with a realistic perspective. APA's use cases significantly expand beyond those of RPA but, customers still need to carefully assess APA to maximize business value, mitigate potential risks, and support broader automation goals.

As often happens with emerging tech, different organizations and individuals define APA differently. We define APA as enabling a system to learn and react in real-time by determining optimal task actions and as an AI-based, probabilistic means of task automation. We refer to the original academic paper that outlined the concept, PROAGENT: FROM ROBOTIC PROCESS AUTOMATION TO AGENTIC PROCESS AUTOMATION. The November 2023 paper describes an approach using a large language model (LLM) to feed JSON data, providing structured data flow and Python code for control. While the architecture of APA will likely evolve as vendors embrace the concept, the core idea will remain.

2 APA IS TASK FOCUSED FOR NOW

TASK FOCUSED FOR THE TIME BEING

A key challenge with RPA was that initial hype blurred the distinction between process automation and task automation. RPA's strength was originally concentrated on two main use cases: (1) rapid automation of repetitive manual tasks and (2) data access when server-level access was unavailable. As organizations began shifting budgets and resources from other automation initiatives like DPA, hype grew, fueling claims that RPA would replace DPA (and its predecessor, BPM). However, RPA lacked critical automation capabilities: process modeling, orchestration, state management, and application development, including end-user interfaces.

One of APA's notable advantages is the ability to string multiple tasks together to form basic task flows—yielding a more versatile task automation capability than RPA, yet task automation, nonetheless.

A similar trend is emerging with APA. For the foreseeable future, APA's primary strength lies in more flexible task automation. One of APA's notable advantages is the ability to string multiple tasks together to form basic task flows—yielding a more versatile task automation capability than RPA, yet task automation, nonetheless. Is it possible that a structure will emerge in which these tasks can be linked to mimic a process orchestration engine? Possibly, but at this point there is no defined architecture to enable that level of process sophistication or manage the inherent risk that comes with probabilistic outcomes.

3 PROBABILISTIC OUTCOMES

PROBABILISTIC OUTCOMES: GREAT POWER & RESPONSIBILITY

APA's primary differentiator from RPA is that it does not rely on pre-programmed, hardwired instructions for every task. Instead, APA's relies on probabilistic outcomes. However, the logic driving these outcomes is not always transparent. Deploying APA in production requires a nuanced understanding of the costs and benefits of potential errors. Errors could result from LLM hallucinations or incorrect guesses. In some cases, the agent may determine the best action but be unable to say why. For instance, decisions involving credit denial or fraud flagging often require explanations for legal or regulatory compliance. Developers of APA agents must ensure that probabilistic outcomes are appropriate in specific contexts.

This chart provides an overview of where APA's probabilistic nature can be advantageous and where it might introduce significant risk.

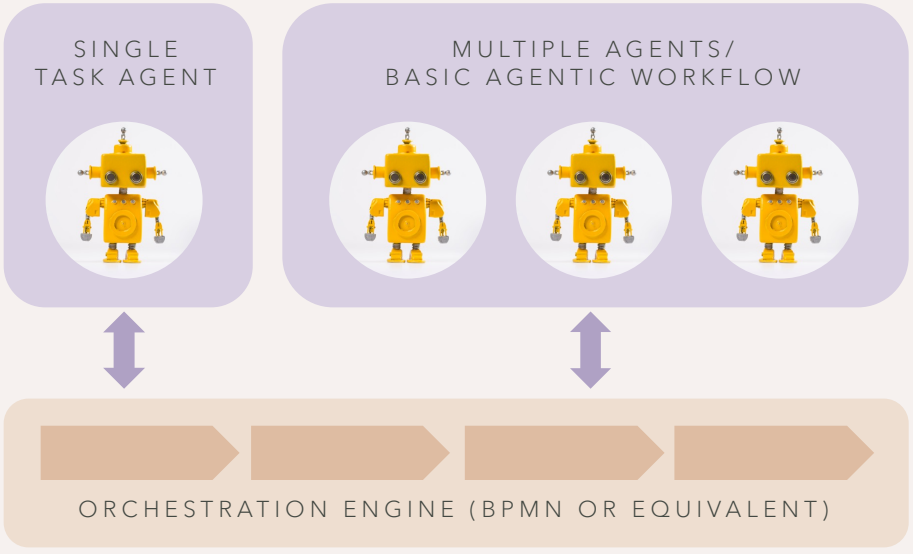
BUSINESS REQUIREMENTS	CAUTIONARY ADVICE FOR APA
Transparency is required	Use with caution, specific technology guardrails or human in the loop may be required to ensure that decisions are within risk tolerance levels
Opacity is tolerable	APA could be used with appropriate accounting for cost of risk
Outcome must adhere to rules to avoid risk	Avoid APA and use a more deterministic approach like RPA, rules engine
Risk of probabilistic outcome accounted for	Use APA if it provides significant efficiency and/or more effective business outcomes
Business operation is task focused	Use APA if above issues are accounted for
Business operation requires sophisticated orchestration of tasks and processes	Use APA in the context of platform that can manage a more sophisticated process like a DPA platform

4 APA AS PART OF AN OVERALL STRATEGY

PART OF AN OVERALL PROCESS STRATEGY

APA's power is amplified when integrated into a broader process strategy. Many processes include parts where a deterministic approach is crucial, either for business reasons (e.g., legal or regulatory compliance) or because the business requires consistent outcomes from automated processes. Introducing probabilistic technology like APA, when carefully managed within the context of broader process goals, can enhance these existing processes. APA agents can also work alongside humans, providing insights that support decision-making. For instance, an APA agent in an insurance claims system might assess vehicle damage from a photo, recommending next steps for the adjuster. In this setup, APA agents become valuable assets, guided by the existing orchestration system within a comprehensive process framework.

CURATED AGENTS CONSUMED THROUGH A BROADER PROCESS THROUGH ORCHESTRATION



5 RECOMMENDATION

ASSESS APA WITHIN AN OVERALL PROCESS STRATEGY

APA is a very compelling emerging approach to task automation. The upside in both efficiency and effectiveness of outcomes should be assessed within your organization. For the foreseeable future, it should be assessed as part of an overall process automation strategy, not a replacement for more sophisticated DPA and process orchestration. Proper risk and cost/ benefit analysis must be applied toe APA even at the task automation level as with any probabilistic technology.

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