



Tarpon Health

RPA Technology Brief

Defining RPA (Robotic Process Automation)

Robotic process automation (RPA) is technology that automates digital systems and software. It mimics human actions (robotic) by following a prescriptive set of steps to achieve a desired outcome (process) without human intervention (automation). The software can do actions similar to a human, such as identify items on a screen, pull data, complete keystrokes, etc. These processes are programmed into a script that can be executed on a schedule. Scripts are commonly referred to as 'bots' or simply as an 'automation'.

RPA typically comes in two forms: attended and unattended

- **Attended** - Requires some human interaction or input. Typically a human will "start" an automation rather than it running on a predefined schedule. For example, a human may encounter a denial on a claim and then start an automation to fill out an appeal letter.
- **Unattended (most common)** - Does not require any human interaction or input. Typically these automations run on a predefined schedule. For example, a claim statusing automation that runs at midnight based on an open accounts receivable report.

Advantages of RPA

RPA should be used when the digital process being automated is repetitive and follows consistent business/application logic. RPA's main advantage is that it can pull any data element exposed to an end-user (i.e. through a graphical user interface). This is especially beneficial in healthcare software as APIs are less common and have less information available than what is exposed on the graphical user interface. In some cases, RPA can be faster to implement than other integration methods such as APIs, websockets, and EDI.

Building RPA allows staff to focus on more complex and beneficial tasks, which also increases employee satisfaction. Organizations benefit by filling staffing gaps, reducing turnover and achieving more output with less (or the same) amount of workforce.

Disadvantages of RPA

Stability and speed are the two main disadvantages of using RPA. RPA is unstable due to its reliance on a graphical user-interface which, when updated by the host organization, will "break" the RPA code. This general instability means that RPA automations require more maintenance



and quality assurance reviews after they are built. Further, while RPA is faster than a human, it will never be faster than other technologies such as an API or EDI because it needs to perform the same steps in the process. APIs / EDI bypass the user interface altogether which dramatically increases their speed.

What's under the RPA umbrella?

RPA commonly uses a variety of technologies, which are commonly encompassed in the term "RPA". Below are a few common examples (not an exhaustive list).

- **Integration:** An automation typically involves integration with different software systems. There are many different types of integration, but the goal is the same: transferring inputs and outputs across software systems. For example, an automation may require the daily exchange of reports via a secure file transfer system (sFTP).
- **Business / application logic:** Business logic or application logic is how engineers translate an organization's process into code. For example, an automation may use a "if - then" statement to complete a field on a webpage.
- **Navigation / actioning approaches:**
 - **Selectors:** Selectors are a common technique to navigate web pages or native applications. RPA software uses the underlying HTML code (most common) to make decisions. HTML structures a webpage and tells the browser how to display content, which is actioned by the automation. The HTML code that an automation will use can be viewed by clicking 'select' on a web-page.
 - **Key strokes:** RPA can code common keystrokes/mouseclicks/macros to navigate web pages or native applications the same way a human completes the same task. These shortcuts are standard within web browsers or software applications.
 - **Screen scraping:** Capturing data present on a screen (e.g. an application or web page) for use with another system is known as screen scraping. It is used across many industries and deployed when other means of gathering data are not available, such as an API. Screen scraping is critical to solving the business problem that automation is trying to achieve. For example, capturing the status (Pending, Denied, Accepted) of a prior-authorization.
 - **Image recognition:** Image recognition is a common technique to navigate web pages or applications. RPA software is trained to recognize a distinct image (down to the pixel level) and make decisions based on that image. For example, RPA can enter a username/password based on where the login box is located on the screen.