

The Value Proposition of Redwood Robotics Software

A process-centric approach to robotic process automation

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Saurabh Sharma

Summary

In brief

Repetitive structured business processes represent a low-hanging opportunity for enterprises to realize strategic benefits via robotic process automation (RPA) implementation. A process-centric approach to robotic automation combined with dedicated process expertise is key to realizing true value from RPA.

This white paper is aimed at enterprise IT leaders, solution/process architects, process owners and experts, and digital transformation leaders. It outlines Redwood Software's robotic process automation proposition and key differentiators, as well as providing key observations from three implementations of the Redwood Robotics platform.

Ovum view

RPA software is frequently used to automate repetitive administrative tasks that typically require a human being to interact with multiple IT systems. But RPA as a technology discipline is evolving to support the automation of increasingly sophisticated processes (and not just swivel chair processes) at scale within enterprise architectures rather than on the desktop.

A process-centric approach to robotic automation can overcome the limitations of traditional RPA products relying on user interface (UI) integration and ensure a close alignment between the objectives for an RPA implementation and an enterprise's process automation strategy. In the end, the true value of RPA lies in its ability to automate end-to-end processes at scale (though not necessarily 100% automation) and not just mimic an end user to perform specific tasks in a prescribed manner. An end-to-end process often involves multiple users performing activities across different functions that need to be coordinated. For example, new employee onboarding would span activities performed by people across HR, line management (core business), and IT functions.

Redwood Software has progressed well on two key facets – dedicated process expertise and core RPA platform features and capabilities – enabling a process-centric approach to robotic automation. This has established their credentials in terms of automation of enterprise-scale back-office processes. Redwood Robotics software can deliver significant time (including agility) and cost benefits over traditional RPA products and is suited to the requirements of robotic automation of sophisticated end-to-end processes.

Redwood offers a process-centric approach to robotic automation

Time to consider RPA as a tactical solution to automation of structured processes

Changing business requirements and persistent budget constraints continue to force enterprises to “do more with less.” In every enterprise, a significant number of employees are involved in critical but mundane business processes and tasks, which need to be completed in a time-efficient manner

without any scope for inaccuracy. Such business processes and tasks do not necessarily require human decision-making capabilities, but there is still no room for errors. It is clear that such types of processes and tasks will benefit from RPA, and there is more to this shift than just cost savings. In simpler terms, RPA software can be considered as a toolkit that enables rapid configuration of software robots for automation of rules-driven structured processes. RPA can enable 24x7 execution of rules-driven structured processes at a fraction of the cost associated with human counterparts.

The value that RPA brings to the table in terms of automation of back-office processes involving repetitive and routine tasks undertaken by knowledge workers is quite easy to understand. Such tasks could include those associated with back-office operations in finance, procurement, supply chain management, accounting, customer service, and human resource departments or, for that matter, remote management of IT infrastructure and usual service-desk operations.

RPA has moved beyond the days of basic “screen scraping” and scripting to automate repetitive tasks and can function alongside existing enterprise application integration (EAI) solutions and business process management suites (BPMS) to automate more complex processes. The first wave of RPA adoption was driven by the need to reduce the costs and errors associated with involvement of humans in mundane repetitive tasks under service centers or back-office functions. RPA allows execution of a large number of tasks in a highly predictable way, and in case of an increase in the number of tasks, enterprises have the option of deploying additional robots instead of having to recruit, train, and accommodate more staff.

While BPMS is a strategic solution to broader process management and automation initiatives, RPA is simply a tactical solution to automation of structured processes. For semi-structured processes, there is always an option of using a BPMS to route requests or tasks to knowledge/case workers for scenarios requiring human judgement once a specific set of sub-processes have been automated via RPA software.

It is time business and IT leaders developed a rational view of RPA and identified areas where it could be applied to achieve better process efficiency, cost savings, and other strategic objectives. Lastly, drawing parallels with Darwin’s theory of evolution, it makes sense for humans (i.e. knowledge workers) to upskill and focus on more-strategic and higher-priority initiatives and leave repetitive, mundane process tasks to software robots.

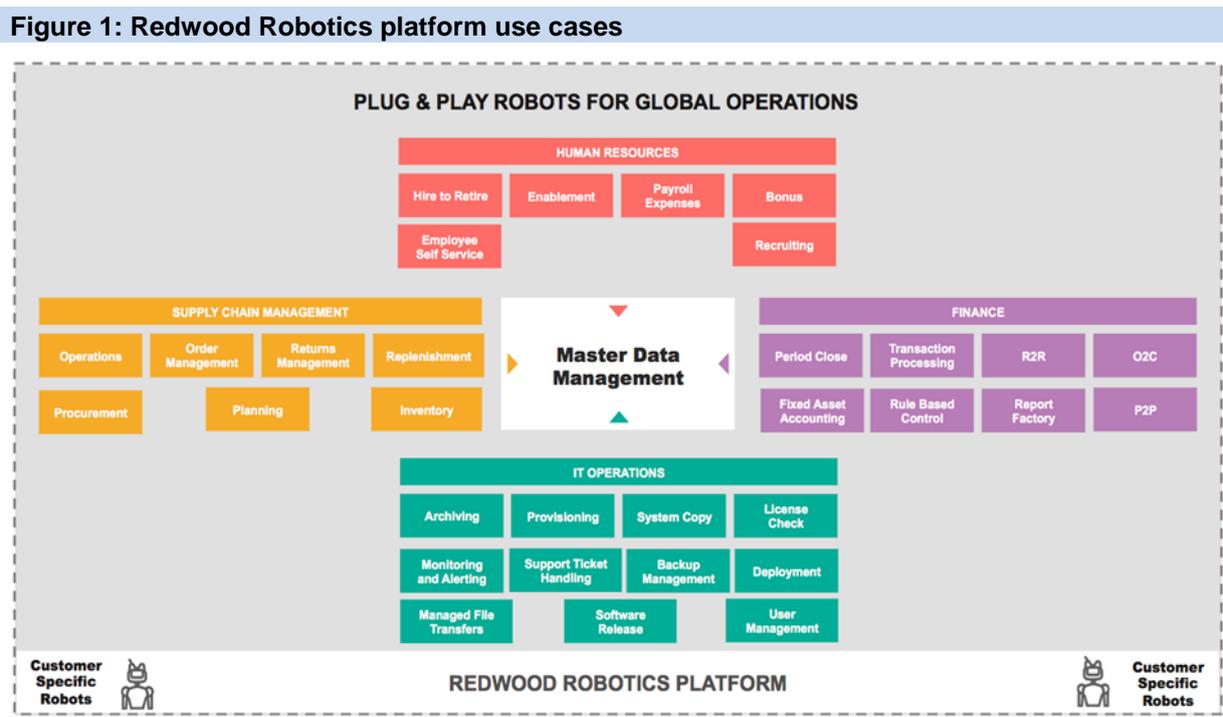
Redwood Robotics platform: a comprehensive approach to RPA

Redwood Software has over 20 years of experience in helping enterprises eliminate the costs and time associated with the execution of manual tasks by humans across business and IT processes. Over this period, it has developed extensive expertise in automation of enterprise resource planning (ERP)-based processes, with a key focus on enabling automation of end-to-end back-office processes.

Redwood Robotics software offers an extensive catalog of thousands of pre-built “plug-and-play” robots exploiting the know-how of its process experts who have analyzed and cataloged the knowledge gained from numerous transactions involving ERP (e.g. Oracle, SAP, PeopleSoft, JD Edwards) and other enterprise applications and tools. From a functional perspective, Redwood defines a “robot” as a software component capable of executing a distinct transaction using ERP and

other enterprise applications, workflow, Microsoft Excel, email, PDFs, etc. Redwood's Robotic Process Studio provides users with the flexibility to “drag and drop” robots at appropriate locations/steps to reduce development costs and enable faster time to value.

Using the built-in development studio, Redwood customers and partners can build customized plug-and-play robots to their specific requirements, and these robots can then be added to personal catalogs. Redwood Software has thousands of customers using its platform to automate finance, supply chain, human resources (HR), and IT-specific processes (see Figure 1), and many of these implementations were part of the enterprise digital transformation agenda. Redwood supports the following range of deployments: on-premises, cloud, and hybrid.



Source: Redwood Software

Redwood robots can be exposed as a web service and invoked via a web service/API call. This allows customers to use the same robotics process in multiple use case scenarios, thereby enabling greater agility and scalability. Redwood promotes an API-led approach to integration and offers a range of pre-built connectors to key enterprise applications, such as SAP, Oracle, Salesforce, PeopleSoft, and JD Edwards. Other connectors are available for Microsoft Excel, email, PDFs, databases, and web and low-level IT infrastructure. Integration with command line interfaces (CLIs) on Linux, Unix, Windows, and AS/400 is also supported. Moreover, if required, Redwood can also offer UI integration capability.

A low-level approach to RPA, focused on automation of specific tasks or sub-processes, is inadequate from the perspective of end-to-end process automation. Redwood follows a top-down approach that focuses on enabling end-to-end process automation from a business function perspective. It is a process-centric approach to robotic automation that focuses on enabling rules-based orchestration of activities within a specific process to produce the desired outcome. This, of course, is very different from a user-centric approach focused on mimicking users executing specific tasks.

With such a process-centric approach, enterprises can robotize not only tasks that were previously executed by humans, but also application- and system-specific tasks (e.g. those involving ERP and other enterprise applications), which together result in a greater degree of automation of an end-to-end process. Consequently, Redwood Robotics solutions can enable process automation in the range of 70–100%, with the average being 80% automation.

Another consideration is the amount of time and effort involved in the automation of an end-to-end process – such as a record to report (R2R), procure to pay (P2P), or order to cash (O2C) process – if software robots need to be taught the handling mechanism for each step/sub-process. Redwood offers robots that already have knowledge of such end-to-end processes and of the steps/directions to be followed (e.g. artifacts and process maps) for effective execution. This facilitates the implementation of a process-centric approach to robotic automation.

Instead of focusing on generic swivel chair processes, Redwood has developed expertise in automation of back-office processes specific to finance, supply chain, HR, and IT functions. Redwood's expertise in function-specific processes ensures that small variations in otherwise standardized processes (e.g. a small variation in a P2P process) can be readily supported to deliver guaranteed outcomes.

Redwood's key differentiators address pressing enterprise requirements for RPA

Key features and capabilities of Redwood Robotics platform

One of the inherent limitations of traditional RPA products using screen scraping is their inability to readily adapt to changes in UI, which often results in errors. Needless to say, there is no scope for such errors in the case of mission-critical processes (e.g. financial processes). In such cases, it is important for concerned enterprises to set up control towers to handle changes in systems that can have an impact on UI. Redwood robots can adapt to such changes to ensure accuracy of results. While Redwood can also support UI integration for automation, this approach is used only as the last resort. Redwood Robotics supports API-led agile integration with enterprise applications and other information systems, as well as addressing the issues related to version compliance.

The limitations of desktop-based robotic automation in the context of multiple interdependent processes are hard to ignore. While it is possible to interface with multiple UIs, interdependent processes would require a proper mechanism to tie different UIs together. In the case of desktop-based robotic automation, the complexity of automation will increase with greater interdependencies between processes. Clearly, such use cases will require human intervention.

Moreover, if several dozens of processes need to be run simultaneously, a greater infrastructure capacity (i.e. equivalent number of desktops or virtual machines [VMs]) is required for scalability. Treating each UI as a specific unit of work for RPA is a misleading notion that cannot deal with the scalability requirements of complex process orchestrations. Redwood robots can scale up to support specific requirements of such use cases.

Automation of an end-to-end process would require synchronization and sequencing of sub-processes, tasks, and steps to be executed by different users. Traditional RPA products often involve

a manned control tower to enable such types of process orchestrations. The Redwood Robotics platform has built-in workflow capabilities for supporting sequencing of tasks/steps and process orchestration to simplify automation of end-to-end processes. Likewise, the platform can coordinate the handover between process participants (i.e. robots and humans) when human intervention is essential, without any need for a manned control tower for managing robots. Redwood also allows customers to create and maintain templates of robotic processes and corresponding interdependencies.

Enterprises interested in using RPA software must not simply jump to total cost of ownership (TCO) calculations after a proof-of-concept (PoC) evaluation. We advise enterprise decision-makers to factor in other costs apart from the cost of implementing hardware and software for RPA (as applicable), including the following:

- monitoring costs: tools for proper operation of robots and performance analysis for driving further improvement
- development/support/maintenance costs for RPA software
- upgrades and testing costs: software upgrades for adding new features and testing for proper functioning
- infrastructure management costs (including disaster recovery)
- costs of VM and desktop/software licenses (e.g. Microsoft Office)

True TCO savings can be calculated only by considering all applicable costs associated with the implementation and maintenance of RPA platforms.

In the case of the Redwood Robotics solution, the TCO for RPA is reduced by a significant extent, as customers do not need a large number of VMs with windows and office licenses for scalability. As a standard part of its offering, plug-and-play robots with built-in knowledge of process tasks are developed, maintained, and fully supported by Redwood. These can be easily configured by users, which greatly reduces the bot development effort. Redwood Robotics enables business users to define business rules and decision matrices via easy-to-configure parameters, and there is not any need for coding.

Pre-built connectors offered with Redwood Robotics simplify integration with enterprise applications and other information systems, and users do not need to invest a lot of time and effort in custom-code development for achieving application/data integration. Moreover, generic robots can be customized by business users to their specific requirements, and processes can be cloned and adapted to reduce time to value.

Security and governance are frequently cited as key concerns for enterprise-scale RPA implementations. Many back-office processes are commercially sensitive, so it is important to ensure that deployed processes meet the enterprise's security requirements. Integration with enterprise directories will make it easier to manage authentication and authorization, and the VMs that run the robotic processes must be secured against tampering. These security measures also need to be backed by a robust auditing service that makes it possible to review the actions taken by the RPA platform.

With desktop-based robotic automation, users need to embed credentials across several distributed desktops, and this can amount to a significant overhead as well as increasing the security risk. As

Redwood supports direct integration with enterprise applications and other information systems involved in the processes, there is no need for a dedicated identity and access management (IAM) solution. Redwood Robotics supports integration with lightweight directory access protocol/active directory (LDAP/AD), single sign-on (SSO) with active directory federation services (ADFS), or PingFederate for IAM. Role-based access control (RBAC) is also supported.

Redwood provides governance visibility reports with complete audit trail of the functional output (e.g. robot identity, process run time and details, evidence from back-end systems, human interactions – where applicable – and results of process execution) and not just technical robot logs. Redwood robots are centrally managed under a fault-tolerant setup and there is provision for specifying and tracking service-level agreements (SLAs) for processes in terms of deadlines or key performance indicators (KPIs).

Redwood customers have realized significant benefits via robotic automation

The following section includes key observations from three implementations where Redwood's enterprise customers have realized strategic benefits via robotic automation.

Royal DSM achieved greater agility and transformed financial shared services function with Redwood Robotics

Royal DSM (Koninklijke DSM N.V.) is a Dutch multinational company operating in the fields of health, nutrition, and materials. As part of its objective of becoming a more agile, focused, and cost-efficient organization, Royal DSM decided to establish a global shared-services function for finance, having already created IT and HR global shared-services functions. Its plan was to establish five regional business service offices and a large captive center in India. However, given the legacy IT systems and processes attained from several mergers and acquisitions, migration of all business units to financial shared services (FSS) would have required at least four to five years to complete.

Royal DSM had several ERP applications, including 13 different SAP implementations, and instead of implementing a single, global instance of an ERP application, it opted to develop a gateway on top of the legacy systems. The captive center in India found that there were about 485,000 manual activities involved in the monthly financial closure process and the initial estimate indicated that about 60% of manual tasks could be automated. Royal DSM required an RPA solution with built-in controls and checkpoints to verify a successful run of the concerned business process. The DSM FSS function was using SAP's Financial Closing Cockpit and Redwood Software was selected because of its significant expertise in financial services, which included automation of this specific SAP system's background tasks.

A PoC evaluation involving the month-end closure process for one of the business groups demonstrated that the software robots produced correct figures in significantly less time. With the PoC establishing the financial and technical feasibility of RPA, the FSS function initiated a two-phased implementation of the Redwood Robotics platform. The first phase was implemented over a four-month period and involved three Royal DSM employees (two business process experts and a project manager) and three technical experts and a financial expert from Redwood Software.

A key aspect was to document tasks performed by humans in such a manner that this information could be readily used to create rules for the RPA software. The process for automation was redesigned, a few activities were re-sequenced, and some tasks were eliminated from legacy processes to ensure that process execution was not transferred between software robots and humans on a constant basis. At the end of the first phase of implementation, the FSS function was able to automate 89% of manual tasks. With RPA, journal entries were fed directly to the software robots, with each entry evaluated, posted, and sent back to the business units without any human involvement.

The second phase of implementation focused on migrating six more business groups and about 130 country codes from across these business groups to Redwood Robotics, simplifying R2R processes. Based on the knowledge gained from the first phase of implementation, the FSS team was able to take charge of implementing business rules. The first three business groups went live within a month and the remaining three business groups were migrated over the next few months.

With the RPA implementation, Royal DSM was able to cut down the time required for financial closure from 15 days to just three days, and about 45 full-time employees (FTEs) were released to focus on more valuable or strategic tasks. Within nine months, Royal DSM was able to realize return on investment (RoI) on the Redwood Robotics platform implementation. Royal DSM has also benefitted from the greater accuracy and increased compliance enabled by the Redwood Robotics platform.

Automation of the revenue recognition process for a major software vendor

The revenue recognition process of a major software vendor headquartered in Germany was manually executed about 10 times a year and for each of its 105 legal entities. The revenue recognition process involved 68,000 manual steps, with each iteration requiring at least 54 employees and 197 man-days of effort per closure or 2,362 man-days of effort on an annual basis. As the revenue recognition process could only be executed within a specific period, some revenue recognition was at times deferred to a subsequent closure cycle.

With Redwood Robotics software, the vendor could automate 100% of the tasks involved in the revenue recognition process, thereby saving 197 man-days of effort per closure. Employees that were earlier involved in manual tasks are no longer hard pressed to finish closures on time and can now focus on analyzing and making the right decisions based on the data available from various closures. The software vendor employees are involved only in exception cases that require human intervention.

RPA has also enabled the software vendor to execute two iterations of the revenue recognition process every month, which ensures that all applicable revenue is recognized in the nearest closure cycle and there is minimal, if any, revenue recognition deferral. This also ensures compliance with US generally accepted accounting principles (GAAP) requirements and their global task list is updated automatically and made available to all relevant stakeholders.

A major financial services provider benefited from automation of R2R processes

A major financial services provider, headquartered in Germany and having its core business in the insurance and asset management sector, was looking for an RPA solution to eliminate repetitive

manual tasks. Using Redwood Robotics, the financial services provider was able to reduce the number of manual steps in its R2R processes by 86% (more specifically, from 139 to 10 steps), thereby streamlining and improving the consistency of critical processes.

Appendix

Author

Saurabh Sharma, Principal Analyst, Infrastructure Solutions

saurabh.sharma@ovum.com

Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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