



POINT OF VIEW | BUSINESS PROCESS OUTSOURCING

Still Building Bots Tied to a Single Process?

It's time to maximize bot productivity and execute multiple processes in your automation environment

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Maximizing bot productivity



No matter the industry, using robotic process automation (RPA) can help create a powerful digital workforce — and it's only growing in popularity. But putting in place the infrastructure, people and processes to leverage RPA effectively across the organization and its various business units can be a challenge.

To begin with, it takes significant capital investment in the underlying infrastructure required to deploy bots in production. These expenses may include server, virtual machine (VM) and application license costs, as well as costs for other management tools.

Next, are the bot-related costs. Some bots work alongside humans — attended automation for processes targeted at front-office activities — while others interact with applications independent of human involvement — unattended automation with processes triggered by events or scheduled to execute specific tasks. Because unattended bots are tightly coupled with the process execution logic, one bot can usually execute only one process.

Unattended bots may run without human interaction, but they still need to be monitored to ensure successful process execution. Experts, known as bot administrators,

must be assigned to both manage the infrastructure and monitor the bots for exceptions. When a problem occurs, these administrators determine the underlying issues, fix the problems and restart the bots to continue processing.

Then, consideration must be given to the financial and operational cost of underutilized — or even unutilized — infrastructure when there's no inventory for bots. As executables in a VM, unattended bots require a dedicated VM log-on. Because these bots run 24x7, whatever the load, this log-on must remain open throughout the day. As such, administrators must intervene to utilize idle bots. Managing multiple VMs and bot log-ons is a cost- and resource-intensive concern, and it still doesn't ensure optimum server and capacity utilization.

Runtime licenses are another consideration. RPA vendors charge runtime license fees for every bot, so it doesn't make financial sense to keep bots idle. All this significantly increases operational costs — and may decrease server capacity utilization.

To achieve the desired return on investment, organizations deploying RPA need to use all their resources — human, IT and bot — effectively. This paper focuses on how to maximize bot productivity.

Keeping bots busy

Several factors impact the performance of a bot, or even halt it. For example, failing to determine how dynamic the process is or letting a bot encounter a scenario for which it wasn't trained. However, the biggest issue is not taking into account post-implementation or ongoing maintenance.

One approach to ensure always busy bots is to design them to handle multiple processes. As in, if there is no demand for process 1, the bot can execute process 2 or 3. However, the added complexity of building such bots often outweighs any potential benefits.

Instead, bot administrators should monitor idle bots and utilize the infrastructure instance with another bot to make effective use of both the infrastructure and each bot's runtime licenses. However, manually switching bots in a VM instance often leads to lower server capacity utilization.

Manually assigning idle bots to handle other active automation processes requires bot administrators to:

- Gather insights on inventory and monitor all bots in the production environment
- Manage time in the event of a spike or dip in the incoming volume of business transactions to replace idle bots with other bot processes
- Handle network and capacity utilization, licensing, log-on management, optimum VM usage and version control
- Oversee encryption and obfuscation during bot deployments

To make the best use of the infrastructure, an automated and comprehensive solution will help optimize bot usage — keeping bots functionally busy and minimizing idle time. Organizations need a tool that:

- Analyzes and monitors the bots deployed across their RPA implementations
- Assists in running multiple automations within the single runtime infrastructure instance, with various schedules
- Allows them to reconfigure an idle bot on the run so it can be redeployed to automate another process

The RPA runtime dynamic middleware

NTT DATA Services has created a dynamic bot runtime middleware, the NTT DATA AFTE Runtime Designer, to help organizations effectively utilize resources and limit operational costs by implementing fewer VMs.

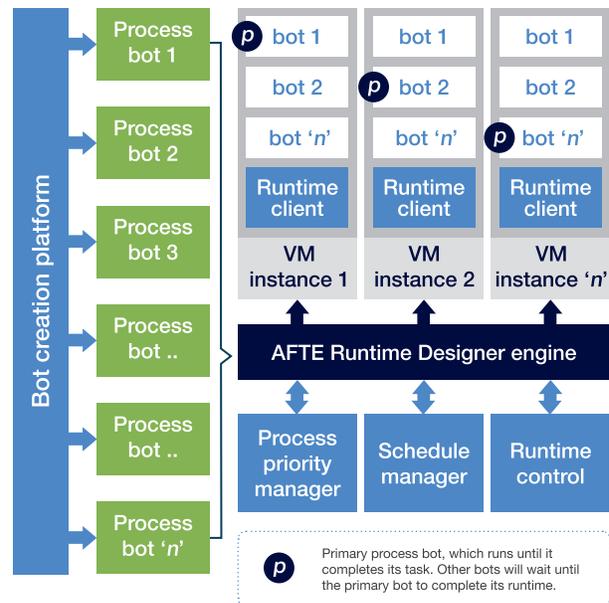


Figure 1: AFTE Runtime Designer architecture

The key features and components include:

- Single installation per server handles multiple automations; there's no need for multiple encryption/obfuscation during deployment.
- Runtime instance handles multiple automation processes with a single runtime bot instance.
- In-built schedule manager uses the automation VMs/instances effectively.
- Schedule viewer captures an overall view of bot usage and helps schedule bot start times for different/multiple automation processes.
- Intelligent scheduler assists in the effective usage of automation VM instances through its built-in bot scheduler.
- Status summary & control dashboard provides administrators with a detailed report on bot schedules and current running status.
- Version control has the flexibility to publish bots in previous versions and helps track the version in single snapshot.

Leveraging a dynamic RPA runtime environment helps streamline multiple automations within a single bot runtime instance executed at different schedules. For example, when deployed as a middleware solution in the RPA environment, one bot can be reconfigured to execute multiple processes by decoupling the bot execution steps and process logic steps right in the bot design phase. Based on the need, the bot loads and executes the desired/scheduled process steps. Processes are categorized as primary and secondary. If there is no demand for the primary process, the bot simply switches to the secondary process.



Utilizes capacity effectively, keeping bots “busier” by using an architecture where one bot executes multiple processes



Requires fewer VMs, because the system monitors idle VMs for effective utilization



Controls licensing costs through more effective VM utilization; plus, fewer bots run multiple processes



Requires no manual intervention to reassign idle bots to other active processes, maximizing utilization

It’s all about efficiency. Humans are good at multitasking, easily switching between two strikingly different tasks based on priority and need. Bots, on the other hand, are built for a specific process, and it’s challenging to use one bot to execute the processes of another bot.

The NTT DATA AFTE Runtime Designer can help. So, go ahead. Build bots that execute any process based on priority and business need. You’ll improve the productivity of all company resources — human, IT and bot — and save costs.

About the authors



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Let’s get started

It’s time to bring down operations costs by using IT infrastructure to its peak advantage and developing fewer bots that can be republished in the production environment to handle multiple active process automations.

Visit nttdataservices.com/rpa to learn how we can help you streamline your processes to gain enterprise efficiency.

Visit nttdataservices.com to learn more.

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