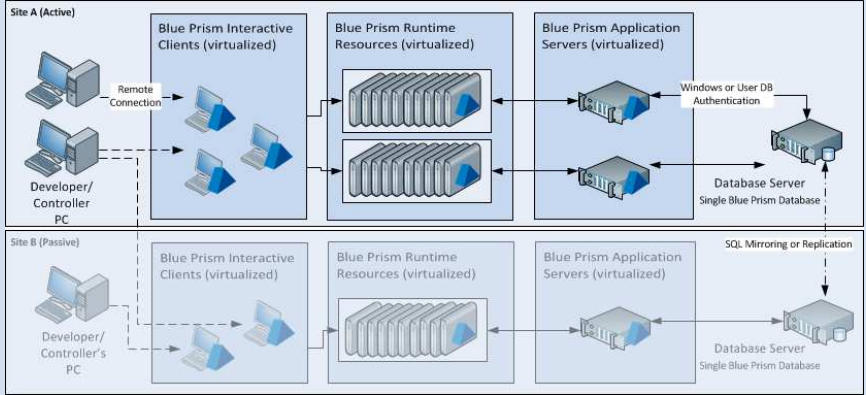


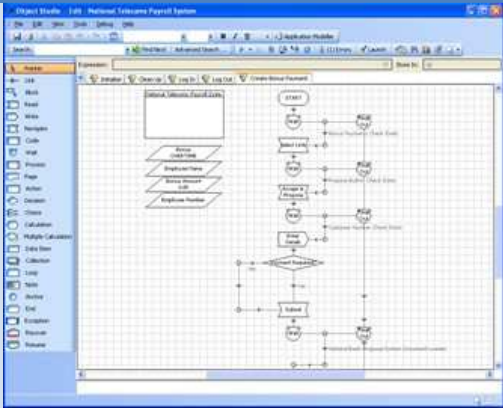
# Robotics Automation Process (RPA) – Technology Assessment

## Requirements from SG:

- ❑ Windows 7 – Desktops 2: For developers to train the robots
- ❑ 1 or more VMs to host Blue Prism(BP) 4.2 software - BP runtime resource PC, BP app server, BP SQL server db
- ❑ 5 VMs for robots to execute the processes, LAN-login for the robots, Browser, MS office and Outlook software installed
- ❑ Access to SG systems for the robots: BDR, CM Workflow tool, Documentum

Area	Description
<b>Architecture</b> <ul style="list-style-type: none"> <li>- The technology used for building RPA application</li> <li>- The deployment model (i.e. 3-Tier Architecture)</li> <li>- Hosting model</li> </ul>	<p>Blue Prism has four main components that make up the infrastructure. These are:</p> <ul style="list-style-type: none"> <li>• Blue Prism Interactive Client - This is used by Blue Prism developers to build and test processes and by Process Controllers to monitor runtime resources in the production environment. This can be a thick client or hosted on a virtual infrastructure.</li> <li>• Blue Prism Runtime Resource PC – This represents the ‘Robot’ and is a standard user desktop image with business applications and Blue Prism installed. It runs automated Blue Prism processes, usually “headless”. This can be a thick client or hosted on a virtual infrastructure.</li> <li>• Blue Prism Application Server (service) – The ‘Application Server’ is used to schedule processes, authenticate users and encrypt data as well as marshalling database connections.</li> <li>• Blue Prism Database - This SQL Server Database, is the centralised repository that holds process definitions and audit information.</li> </ul> <p style="text-align: center;"><i>Figure 1 - Basic Architecture Example</i></p> <p>Blue Prism can be deployed in a variety of ways to suit requirements from basic low level implementations to full DR and Failover environments. This is typically Implemented on premise within customers own infrastructure.</p>
<b>Information Security</b> <ul style="list-style-type: none"> <li>- Security around password encryption, how its stored / managed</li> <li>- Management and governance of user / Robots credentials</li> </ul>	<p>The Blue Prism Credentials Management functionality provides a secure repository for login details used to access target applications. Credentials are stored in the Blue Prism database, but are encrypted using TripleDES encryption in such a way that only those who are authorised can retrieve them. The encryption key is stored separately, on the Blue Prism Application Server machine, and is used to provide credentials to validated clients by the application server.</p>

<ul style="list-style-type: none"> <li>- Security around access to third party UI / Client UI accesses</li> </ul>	<p>The Credentials Management system is responsible for determining which processes, Resource PCs and users are able to access this information, and for providing it on request if allowed by a set of permissions controlled via System Manager.</p> <p>Used in conjunction with Active Directory integration and the Blue Prism server, the Credentials Manager creates a secure and fully audited access control capability for enterprise implementations.</p>
<p><b>Scalability</b></p> <ul style="list-style-type: none"> <li>- How application scalability is achieved</li> <li>- Key design factors which drive scalability</li> </ul>	<p>The Blue Prism Architecture is defined with scalability in mind.</p> <p>Each 'Robot' runs on a virtual PC and accesses Process information from a central server. To scale up the work force it is simply a question of adding additional virtual machines. Typically a system is sustainable up to 100 'robots' at which point it is advisable to simply add an additional Application Server to manage the additional workforce demands</p>  <p style="text-align: center;"><b>Scalable Architecture (example showing DR)</b></p>
<p><b>Operational Model</b></p> <ul style="list-style-type: none"> <li>- Governance around change control, run-time monitoring, exception handling</li> </ul>	<p>Blue Prism is designed for a multi-environment deployment model (Development, Test, Staging, and Production) with both physical and logical access controls.</p> <p>A centralized release management interface is included to handle transition and promotion of Processes to final publication to the Production System.</p> <p>Blue Prism Control Room provides an interface for the management and reporting on processes at runtime which include identification of exceptions.</p> <p>The handling of exceptions can be defined as part of the process design to meet whatever requirement suit the specific situation. Typically an exception is identified and logged to a list. Depending on the exception type the process may be halted, or simply move on to the next line item to be handled. Conditions can then be applied so that if a specific number of exceptions occur a particular action may take place such as a notification.</p>
<p><b>Robot Training &amp; Deployment</b></p> <ul style="list-style-type: none"> <li>- Ability of end users to define new process definitions / robot training</li> <li>- Toolsets which has been built to compliant this functionality</li> </ul>	<p>Blue Prism configuration is code free, logical and highly visual. Processes are designed to be created, maintained and managed by business users, process excellence engineers and subject matter experts.</p> <p>Building blocks are designed for re-use and are interlinked to produce end to end processes which are stored centrally, and:</p> <ul style="list-style-type: none"> <li>• Accelerate the development of new processes.</li> <li>• Aid in the standardisation of operating procedures across business areas and operational teams</li> <li>• Lower the cost of maintenance.</li> <li>• Reduce the time required to adapt to third party system changes.</li> </ul> <p>This object orientated approach allows for all processes to be updated by modifying a small number of centralized objects.</p>

	 <p style="text-align: center;">Code Free Process Definition</p>
<p><b>Reliance on Technology</b></p> <ul style="list-style-type: none"> <li>- Technical expertise required to define and enable new process definition for end-users vs technical expertise required</li> <li>- Level of self-service vs technical build required</li> <li>- Required technical expertise for end users</li> </ul>	<p>A typical Blue Prism user has an operations background but probably has a good understanding of the applications in use for the processes in question.</p> <p>Blue Prism is focussed to allow business teams to self-serve in respect to the control manage and definition of their processes whilst adhering to IT security policies and access requirements. To this end Blue Prism configuration is code free, logical and highly visual.</p> <p>Technical expertise is more around process knowledge and the applications in use. Full user training is available and training courses are delivered via the self-led online training platform, or alternatively in a more formal classroom environment. In addition post training users are supported and mentored where individuals or organisations are seeking to gain recognized certification.</p>
<p><b>Demand Management</b></p> <ul style="list-style-type: none"> <li>- Scaling up and down on demand</li> <li>- <b>Ability to</b> marshal and redeploy robots based on business trend / peaks for a given day.</li> </ul>	<p>The component based architecture of Blue Prism provides a high degree of flexibility and adaptability to the rapid deployment model along with options for scaling the deployment overtime.</p> <p>Blue Prism Control Room provides an interface whereby users can manage their robotic workforce in the same way that they might manage a human team. Each 'robot' can be assigned to any defined process, meaning that at peak times additional resources or 'team members' can be deployed to meet a requirement and once that has been met they can go back to normal day to day tasks, all under the control of the Operation team leads.</p>
<p><b>Analytics</b></p> <ul style="list-style-type: none"> <li>- Analytics capability &amp; management dashboards</li> </ul>	<p>Blue Prism provides high quality data that can be used to drive meaningful BI and MI reporting and identifies both inline process statistics and real-time operational analytics by recording each and every:</p> <ul style="list-style-type: none"> <li>• System login.</li> <li>• Change management action.</li> <li>• Decision and action taken by each robot.</li> </ul> <p>This data includes all time stamps which enables analysis of both system and robot performance.</p> <p>Version 5 of Blue Prism, which is due to be released later this year, will include a fully flexible management dashboard highlighting selected metrics and process information.</p>

<p><b>Others</b></p> <p>- Other key capabilities</p>	<ul style="list-style-type: none"> <li>• Virtual workforce – Controlled by the business, governed by IT.</li> <li>• Enterprise scalability</li> <li>• Works with existing infrastructure with no restrictions in systems/application access <ul style="list-style-type: none"> <li>- BP can interact with Green screen, web, desktop etc, and is code free.</li> </ul> </li> <li>• Automated solution can work 24/7</li> <li>• Lights out workforce – minimal supervision.</li> <li>• Task lists and ‘team’ working – Robots initiated through scheduled, event driven, manual triggers.</li> <li>• Additional security due to ‘headless’ robots - Greater control, governance and IT security.</li> <li>• Greater operational agility</li> <li>• Increased efficiency and productivity</li> <li>• Reduction in operational risk</li> <li>• Quality and accuracy</li> <li>• Enhanced business insight</li> </ul>
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