HCLSoftware

Introduction to HCL BigFix Runbook AI

HCL BigFix
Runbook AI

To ready large enterprises for the changing times and exacting customer demands, businesses are looking to technology for improved outcomes and increased revenues. But the rising complexity of the IT landscape is putting immense pressure on IT Operations leaders and their teams as they grapple with increased service requests, acute shortage of Subject Matter Experts (SMEs) and high ticket handling and resolution time. As a result, the enterprises experience high operational costs and increased business downtime. This is where an intelligent runbook automation product driven by Generative AI (GenAi), Machine Learning (ML), and Natural Language Processing (NLP) capabilities and delivered by HCLSoftware can help.

Introduction of HCL BigFix Runbook AI

HCL BigFix Runbook AI is an Intelligent Runbook Automation product equipped with Generative AI (GenAI), Machine Learning (ML) and Natural Language Processing (NLP) capabilities for simplifying and automating IT Operations issues and resolution lifecycles. This includes incidents, service request tasks, change request tasks and events. It leverages NLP capabilities for analyzing and understanding the context of a specific issue, recommends the most relevant solution and triggers the execution, thereby enabling Zero-Touch Automated Remediation.

It also provides AI-driven Knowledge Recommendations by suggesting relevant knowledge articles from various repositories, both internal and external, as required by human agents. If no runbook is available for automated remediation, it searches and downloads relevant executable codes and scripts for subject matter experts (SMEs) to validate, customize, approve and publish for future use.

Key Features

1

Experience IT Automation with Generative AI

- Injected with Generative AI capability, it redefines user experience with enhanced capabilities around proactive issue resolution and driving greater productivity
- Generation of knowledge articles with chat window feature
- Ansible playbook generation
- Recommendation of related tickets to enhance user's ability to understand and resolve issues
- Document summarization for ease of understanding
- Enhanced knowledge articles recommendation with GenAI capabilities

2

Self-service driven identification of automation candidates

- Intelligently analyze ticket data from IT Service Management (ITSM) platform to identify potential automation candidates in hours – rather than days or weeks.
- Offers the flexibility for users to register themselves and conduct this exercise on their own through an intuitive Graphical User Interface (GUI).

3

Knowledge management & assistance

- Knowledge aggregated from multiple enterprise sources, internal and external, to build a unified knowledge base with continuous updation at configured intervals.
- GUI-driven knowledge search and analysis capability to visualize the knowledge available across repositories.
- Proactive knowledge assistance to users in the context of the issue at hand, for faster debugging / troubleshooting and identification of the right solution.
- Human feedback-driven learning mechanisms to re-rank and index the document artifacts for improved and accurate search experience.

4

ML & NLP enabled remediation

- Leverage NLP to understand and analyze the context of the issue, recommend the most relevant solution from the repository, and trigger the solution automatically for remediation.
- Leverage various supervised, unsupervised, and feedback learning-based mechanisms throughout the various stages of the IT issue resolution lifecycle.

5

Out of the Box (OOB) runbook repository

- 4000+ reusable and configurable runbooks available out of the box.
- Customizable based on client's existing processes and other requirements.
- Creation of non-existent automated runbooks on the fly.

6

Real-time updates

- Track the actions performed by automations on target endpoints on a real-time basis.
- Leverage the data for auditing and governance and for future knowledge recommendation.

7

Intuitive dashboard

- Capture metrics for your automation and track the performance of the automation platform.

8

Enterprise-grade security

- Ensure security of your closed-loop automation through various mechanisms such as:
- Data encryption
- Token-based authentications for integrations
- Security Assertion Markup Language (SAML) based authentication
- Key rotation mechanism to avoid eavesdropping

System Requirements (Hardware & Software)

Hardware Requirements

The hardware requirements to implement HCL BigFix Runbook AI depend on the scale and size of the client environment. The deployment sizing can be put into three categories based on the incoming ticket volume and the number of configuration items:

- **Small**

- **Medium**

- **Large**

The table below represents the hardware sizing for a medium-sized deployment (without high availability) for reference purposes.

With iKnowledge & iScrape Component

Server Name	Tier	Server Count	Server Type	Recommended Hardware Configuration	Minimum RAM requirement (HCL BigFix Runbook AI components only)	Database requirement	Storage Additional D: Drive (Additional D: Drive)	Other requirements	Remarks
Web Server	Web Tier	01	Virtual	2 vCPU, 8 GB RAM	4 GB RAM	NA	50 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	
Application Server	Application Tier	01	Virtual	4 vCPU, 8 GB RAM	4 GB RAM	NA	100 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	
Database Server	Data Tier	01	Virtual	4 vCPU, 8 GB RAM	Not Applicable	Microsoft SQL Server 2016, 2019 – Standard Edition	300 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	Alternate Options: – AWS Relational Database Service (RDS) – GCP SQL Server 2017 PaaS service
Document Storage		01	Virtual	4 vCPU, 8 GB RAM	4 GB RAM	MongoDB	100 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	Alternate Options: – MongoDB as a service can be used from AWS and GCP marketplace
Indexer						Solr			
Advanced AI Server	Application Tier	01	Virtual	4 vCPU, 8 GB RAM	4 GB RAM	NA	100 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	This is required for hosting Script Analysis (iScrape) and Knowledge Analysis & Search (iKnowlede) components.

Customers will have to bring their own Azure Open AI LLM subscription for generative AI component

Without iKnowledge & iScrape Component

Server Name	Tier	Server Count	Server Type	Recommended Hardware Configuration	Minimum RAM requirement (HCL BigFix Runbook AI components only)	Database requirement	Storage Additional D: Drive (Additional D: Drive)	Other requirements	Remarks
Web Server	Web Tier	01	Virtual	2 vCPU, 8 GB RAM	4 GB RAM	NA	50 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	
Application Server	Application Tier	01	Virtual	4 vCPU, 8 GB RAM	4 GB RAM	NA	100 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	
Database Server	Data Tier	01	Virtual	4 vCPU, 8 GB RAM	Not Applicable	Microsoft SQL Server 2016, 2019 – Standard Edition	300 GB	Operating System – Windows Server 2016, 2019, 2022 64-bit	Alternate Options: – AWS Relational Database Service (RDS) – GCP SQL Server 2017 PaaS service

Software Requirements

The software requirements to
implement HCL BigFix Runbook AI
in a client environment are as follows:

	Required Software	Source
Web Tier (Web Component)	IS 10.0 or above Dot Net Framework 4.8.x	Part of Windows feature set
	Microsoft ACE OLEDB 12.0	Available as part of HCL BigFix Runbook AI installer package

	Required Software	Source
Application Tier (Application Component)	Dot Net Framework 4.8.x	Part of Windows feature set
	Python 3.10.11 64-bit	Available as part of HCL BigFix Runbook AI installer package
	NLTK 3.8.1	Available as part of HCL BigFix Runbook AI installer package
	Apache Server 2.4	Available as part of HCL BigFix Runbook AI installer package
	VC++ 2022 64-bit Redistributable package	Available as part of HCL BigFix Runbook AI installer package

	Required Software	Source
Advanced AI Component	Python 3.10.11 64-bit	Part of Windows feature set
	Apache Server 2.4	Available as part of HCL BigFix Runbook AInstaller package
	NLTK 3.8.1	Available as part of HCL BigFix Runbook AI installer package
	VC++ 2022 64-bit Redistributable package	Available as part of HCL BigFix Runbook AI installer package
	Java JDK 21 (Required only for Solr installation) Oracle distribution of java version 21	Available as part of HCL BigFix Runbook AI installer package
	AntiWord	Available as part of HCL BigFix Runbook AI installer package
	Spacy 9.5.0	Available as part of HCL BigFix Runbook AI installer package
	Google Chrome Browser	Download from Google website

	Component	Required Software	Source
Data Tier	Data SQL Component (MainDB, CustomerDB' s)	MS SQL 2016, 2019, 2022 (+) Enterprise/ Standard edition 64 bit	Licensed Version
	Data MongoDB Component (DocumentDB)	MongoDB 4.0.25	Community / Enterprise Version
	Indexer SOL (DocumentIndexer)	SOLR 9.5.0	https://archive.apache.org/dist/lucene/solr/

	Required Certificates	Source
Certificates (applicable for all Tiers)	SSL Certificates	Available as part of HCL BigFix Runbook AI installer package

Key Integrations

HCL BigFix Runbook AI supports integration with four types of tools:

ITSM tools

The purpose is to fetch the ticket data from the ITSM tool to read or understand the ticket and make any changes to the ticket, such as updating the status, work notes, transferring to a different queue or closing the ticket. Integration is offered with:

HCL **BigFix** Service Management	servicenow.	**bmc**
bmc Remedyforce	cherwell Acquired by Ivanti	Jira

Event management tools

The purpose is to fetch the event data from the Event Management tool to understand the issue and recommend or trigger the relevant runbook for remediation. Integration is offered with:
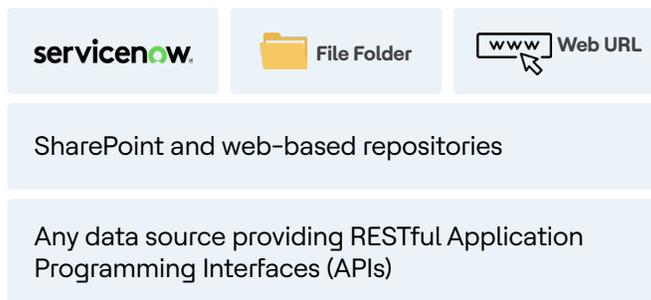
moogsoft	zenoss

Run Book Automation (RBA)/ Orchestrator tools

The purpose is to direct the RBA or orchestrator tools to trigger the runbook for resolving the incident after HCL BigFix Runbook AI has identified the appropriate runbook. HCL BigFix Runbook AI also continuously pulls the execution status from the RBA tool and reports it in its Logs section. Integration offered with:

ca A Broadcom Company technologies	ANSIBLE	Microsoft System Center
StackStorm	HCL **BigFix**	servicenow.
bmc Atrium Orchestrator	MICRO FOCUS	

Knowledge repositories

The purpose is to direct the RBA or orchestrator tools to trigger the runbook for resolving the incident after HCL BigFix Runbook AI has identified the appropriate runbook. HCL BigFix Runbook AI also continuously pulls the execution status from the RBA tool and reports it in its Logs section. Integration offered with:

servicenow.	File Folder	www Web URL

SharePoint and web-based repositories

Any data source providing RESTful Application Programming Interfaces (APIs)

Deployment Options

HCL BigFix Runbook AI supports various deployment models for the customer to choose from:

1. Managed hosted offering

(shared via DRYiCE MTaaS) mainly for small or mid-sized customers in the following regions:

A. North America
B. Europe
C. APAC

The tenant is created in the pre-configured instance and set up for the customer to use. Hence, the customer does not need to worry about any infrastructure or license requirement to run the HCL BigFix Runbook AI product.

2. On-Premises deployment

is in the customer environment either in their private cloud data center or in their public cloud data center (Azure, AWS or the GCP) The customer can choose between single or multiple tenancies within a selected deployment model.

Implementation Timeline

Due Diligence	Infrastructure Readiness	Use Case Development	Integrations	Go Live
• Preparation of HLD & LLD for HCL BigFix Runbook AI implementation • Requirement gathering of third-party applications • Gathering of detailed SOPs	• Provisioning of servers for Dev & Prod • Base build & initial configuration • Implementation of application in Dev • Integration with third-party applications in Dev • Integration with ITSM & RBA in Dev	• Development of use cases in Dev • Unit testing of use cases • Use case configuration & testing • Demo of use cases	• Implementation of application in Prod • Base build & initial configuration – HCL BigFix Runbook AI • Integration with third-party applications in Prod • Integration with ITSM & RBA in prod • Use case configuration, testing, & UAT	• Go live • Use case handover & documentation

HCL BigFix Runbook AI Benefits

When enterprises adopt the HCL BigFix Runbook AI product, their end-users, IT and Operations landscape, and the overall business all stand to benefit from its cutting-edge capabilities.

End-user benefits include:

- **Enhanced ease of use:** Simplified self-service approach for ticket analysis.

- **Automation of incident remediation:** Up to 53%* incidents are automated, ensuring quicker turnaround.

- **Faster resolution:** Up to 85%* reduction in Mean Time to Recovery (MTTR) through knowledge assistance.

- **Effort reduction:** Up to 60%* decrease in the manual effort through automation of tasks.

- **Knowledge assistance:** Helps users choose the best solution for their issues.

Business benefits include:

- **Enterprise-grade security:** Improved security with the help of end-to-end data encryption.

- **Complete compliance:** Up to 20%* improvement in service-level agreement (SLA) compliance.

- **Rapid implementation:** Quick deployment in 6-8 weeks ensures faster time to value (TTV) and savings on the cost of downtime.

- **Zero-touch automation:** As organizations achieve a zero-touch automation state within 4-5 months, significant cost savings and high ROI are realized.

IT and Operational benefits include:

- **Task automation:** A whole array of IT tasks is automated, resulting in the reduction of burden on the IT team as manual effort goes down by 30% to 60%.

- **Cost reduction:** Up to 30%* reduction in service desk-related costs with the help of automation and reduced MTTR.

- **Customizable workflows:** 4,000+ reusable and configurable runbooks available out of the box.

- **Ticket data analysis:** Identification of potential automation candidates by analysis of data on the ITSM platform.

- **Exhaustive repository:** Recommendation for the most suitable solution for any issue.

- **Knowledge aggregation & assistance:** Aggregation of data from various sources to create a unified knowledge repository for knowledge search and recommendations.

- **Monitoring & visibility:** Real-time visibility into automation task performance with reports delivered on mail.

To learn more about HCL BigFix Runbook AI click here or write to us at **aiops-pmg-team@hcl-software.com**

* These numbers are subject to client environment.
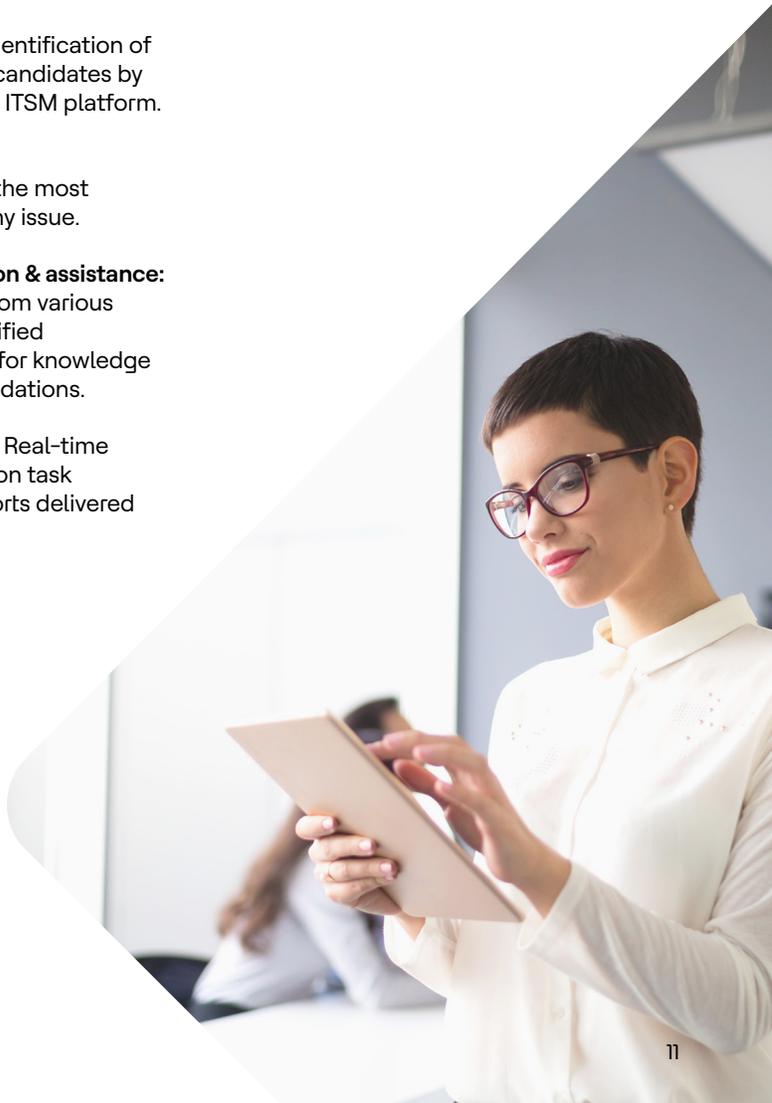
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