

HCL BigFix

HCLSoftware

Runbook AI

Autonomous IT Issue Resolution



Large enterprises are turning 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, an acute shortage of Subject Matter Experts (SMEs), and high ticket handling and resolution times. The result is high operational costs and increased business downtime. HCLSoftware addresses this with an intelligent runbook automation product driven by Generative AI (GenAI), Machine Learning (ML), and Natural Language Processing (NLP).



Introduction to 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 issue resolution lifecycles. It covers incidents, service request tasks, change request tasks, and events, and works with a variety of ITSM, event management, and orchestration tools already deployed in your environment.

It analyzes and understands the context of a specific issue, recommends the most relevant solution from the runbook repository, and triggers execution, thereby enabling Zero-Touch Remediation. Every action is tracked in real time for auditing and governance.

It also provides AI-driven Knowledge Recommendations by suggesting relevant knowledge articles from repositories, both internal and external, when human agents need them. If no runbook is available for automated remediation, it searches and downloads relevant executable code and scripts for SMEs to validate, customize, approve, and publish for future use.

Key Features

1

Experience GenAI powered IT Automation

- Generative AI redefines the user experience, enabling proactive issue resolution and greater productivity
- Generation of knowledge articles through a chat window
- Playbook generation for Ansible (AWX and CLI), HCL BigFix, and VMware vRO
- Recommendation of related tickets to enhance the user's ability to understand and resolve issues
- Document summarization for faster comprehension
- Enhanced knowledge article recommendations with GenAI

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Knowledge management & assistance

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

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ML & NLP-enabled remediation

- Uses NLP to understand and analyze the context of the issue, recommends the most relevant solution from the repository, and triggers that solution automatically for remediation
- Applies supervised, unsupervised, and feedback learning-based mechanisms across the stages of the IT issue resolution lifecycle
- Flexibility to switch between NLP and rule-based recommendations per ticket flow
- Automatic grouping of noisy tickets by Configuration Item (CI), with threshold tracking, automatic problem record creation, and configurable release rules
- Flexible runbook scheduling with minute-level intervals, multiple executions within a one-time schedule, and configurable execution delays

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Self-service driven identification of automation candidates

- Intelligently analyzes ticket data from IT Service Management (ITSM) platforms to identify potential automation candidates in hours rather than days or weeks
- Offers users the flexibility to register and run this analysis themselves through an intuitive Graphical User Interface (GUI)

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Out of the Box (OOB) runbook repository

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

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Real-time updates

- Tracks the actions automations perform on target endpoints in real time
- Uses that data for auditing, governance, and future knowledge recommendations
- Visualize the complete ticket flow from intake through execution
- Upload device inventories in CSV or Excel format with built-in validation, and track post-execution status for every device
- Capture execution remarks in inventory logs, with a Remarks History view for traceability and troubleshooting

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Intuitive dashboard

- Captures automation metrics and tracks platform performance
- Network automation patching dashboards and compliance reports with graphical and tabular views to visualize patching execution status, track compliance using inventory and CVE data, and generate detailed post-patching reports
- Monitoring widget for Noisy CI detection, automated problem creation and ticket release metrics

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Enterprise-grade security

Secures your closed-loop automation through mechanisms including:

- Data encryption
- Token-based authentication for integrations
- Security Assertion Markup Language (SAML) based authentication
- Key rotation to limit exposure from compromised keys
- Group Managed Service Account (gMSA) support for applications and services, for centralized credential management
- Transport Layer Security (TLS) 1.3 for services and API integrations
- Role-based ad hoc execution control through user-to-runbook mapping

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Roster Management

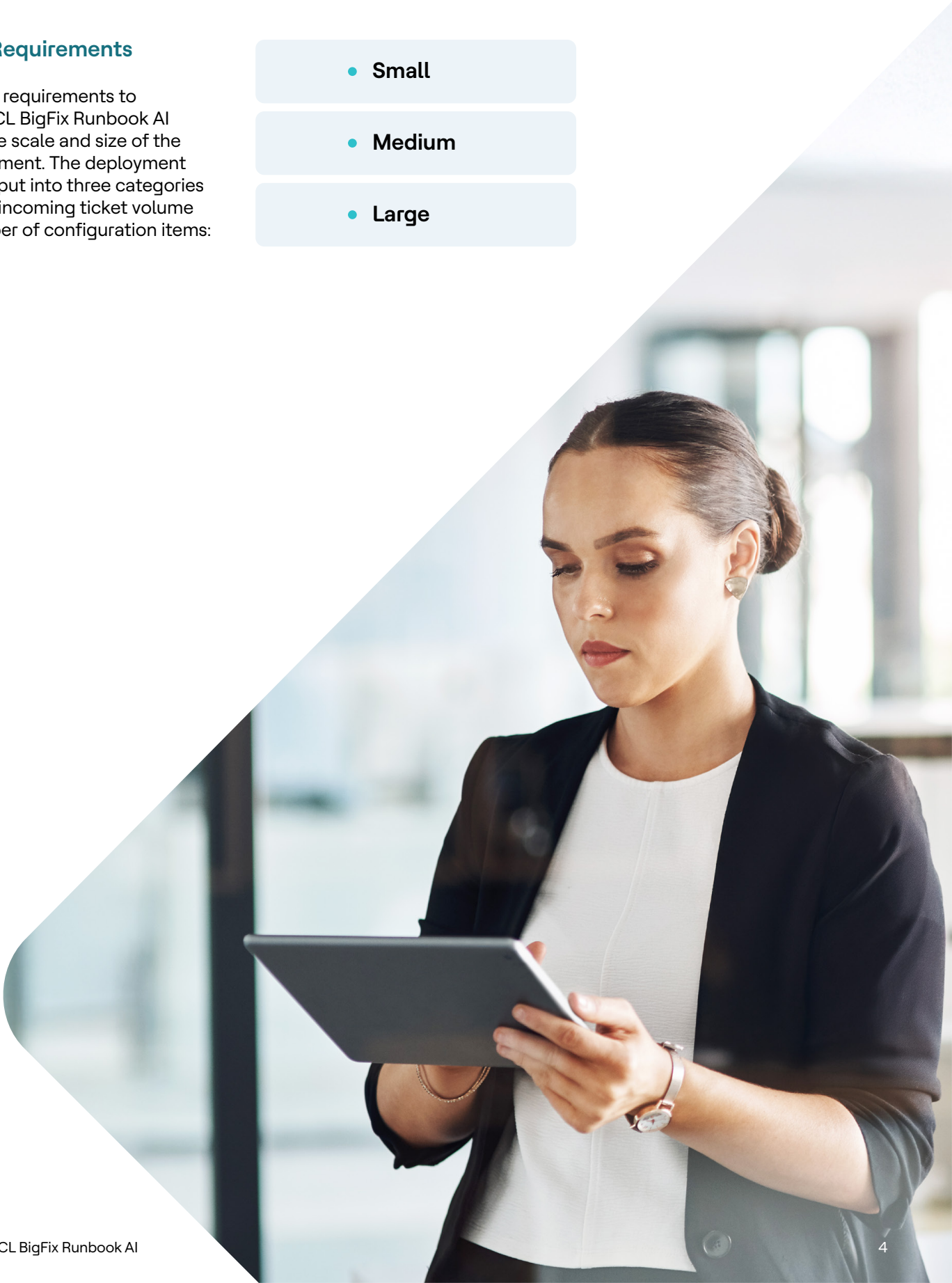
- Routes tickets to the best-suited agent based on skills, assignment groups, and the severity tagged to each user profile
- Break-aware allocation prevents ticket assignment during a user's logged break and buffer period
- Automated shift scheduling and group-based workload distribution to support SLA adherence

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 (iKnowledge) 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

For GenAI Component

Server Name	Server Count	Recommended Hardware Configurations	Minimum RAM Requirements	Database Requirement	Data Disk Storage	Operating System Requirements
Kubernetes Master Nodes	1	4 vCPU, 16 GB RAM	16 GB RAM	NA	150 GB	Operating System - RHEL 9.6+
Kubernetes Master Nodes	4	4 vCPU, 16 GB RAM	16 GB RAM	NA	50 GB 100 GB (NFS)	Operating System - RHEL 9.6+
Database Server (MongoDB)	1	2 vCPU, 8 GB RAM	4 GB RAM	8.2.2 (Community Edition)	150 GB	Operating System - Windows Server 2022 - 64 bit
Database Server (PostgreSQL)	1	2 vCPU, 8 GB RAM	4 GB RAM	V17 + pg_vector17 (extension)	150 GB	Operating System - RHEL 9.6+
Gateway Client (Optional)	Depends on use case	4 vCPU, 8 GB RAM	8 GB RAM	-	150 GB	Operating System - Windows Server 2022 - 64 bit

** NFS storage size will be evaluated on the basis of retention period as per customer requirement.

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)	IIS 10.0 or above	Part of Windows feature set
	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 3.12.10 64-bit	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 3.12.10 64-bit	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
	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 3.8.7	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 8.0.17	Community / Enterprise Version
	Indexer Solr (DocumentIndexer)	Solr 9.7.0	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
technologies Company

ANIBLE

System Center

StackStorm

HCL BigFix

servicenow

bmc
Atrium
Orchestrator

**MICRO
FOCUS**

vmware vRO

Knowledge repositories

The purpose is to aggregate knowledge from multiple internal and external repositories to build a unified knowledge base and to provide contextual knowledge recommendations and search to users. Integration is offered with:

servicenow

File Folder

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:** 4000+ 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 by email.

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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About HCLSoftware

HCLSoftware is a global leader in software innovation, dedicated to powering the Digital+ Economy. We develop, market, sell, and support transformative solutions across business and industry, intelligent operations, total experience, data and analytics, and cybersecurity. Built on a rich heritage of pioneering spirit and unwavering commitment to customer success, we deliver best-in-class software products that empower organizations to achieve their goals. Our core values of integrity, inclusion, value creation, people centricity, and social responsibility guide everything we do. HCL Software serves more than 20,000 organizations, including a majority of the Fortune 100 and almost half of the Fortune 500.