

Scope of Work for Linux Operating System Support

Synonyms

DC=Datacenter,	OEM=Original Equipment Manufacturer
SOW=Scope of Work	SI= System Integrator
DR=Disaster Recovery	SLA=Service Level Agreement
HO=Head Office (Natraj)	RCA=Root Cause Analysis
OS=Operating System	SCD= Secured Configuration Document
SBIL=SBI Life Insurance	VA= Vulnerability Assessment

Objective:

To manage Linux Operating System Support operation of SBI Life Insurance Co. Ltd., from Belapur location. To ensure optimal performance and desired level of availability of all IT Linux Server infrastructure components. The service shall ensure a reliable and end to end management of Linux Infrastructure setup located at DC-Belapur, HO-Andheri-Seawoods & DR- Hyderabad.

A. **BRIEF DESCRIPTION**

➤ **Service & Operation Management for Linux Servers**

❖ **Level-1 (L1)**

- 1) **Linux Server Management**
- 2) **Change Management**
- 3) **Incident Management**
- 4) **Skill Set Requirement**

1) **Linux Server Management**

- ⇒ Installation of Enterprise Linux (Red Hat, Oracle, SuSe etc) & Community (Opensource) edition Linux OS (Ubuntu, CentOS etc).
- ⇒ Day-to-day works to manage/upgrade/troubleshoot of Linux servers
- ⇒ Ensure 99.9 % uptime & availability of Linux servers DC & DR locations
- ⇒ Ensure timely implementation of secure configuration document (SCD)
- ⇒ Ensure timely implementation of patches released by OEM as per patch management cycle
- ⇒ Support team should follow-up daily checklist defined for monitoring & health check-up of Linux server activities.
- ⇒ Ensure user management & user access review as per Information Security Guidelines.
- ⇒ Team should follow the process as per defined SOP & SOP to be update if any occurrence of change or modification in process.
- ⇒ Update & maintain Linux server inventory with all relevant details.
- ⇒ Ensure to use of IT helpdesk for daily call handling, incident management, change management etc.
- ⇒ Team should support & ensure execution of DR drill process.

- ⇒ Take follow-up with security team (IST) for SCD, VA & PT point closure.
- ⇒ Coordinate & follow-up with all application owner & SPOC to understand & fulfil their requirements.
- ⇒ Prepare & submit monthly report to reporting manager & to higher authority or delegates in absence of reporting manager.
- ⇒ Ensure for monthly review meeting with SBI Life & submit MoM report of review meeting.
- ⇒ To work on root cause analysis (RCA) for incident occurred & document preparation
- ⇒ Timely coordinate & follow-up with OEM (Red Hat) for open cases
- ⇒ Ensure to follow handover process with teammate and team leader
- ⇒ Coordinate with SOC team for security alerts closure
- ⇒ Coordinate with other IT departments to avoid delay in process & timely execution
- ⇒ Coordinate with DC Team, application Team, DB Team to collect & share logs for further analysis.
- ⇒ Notification to concerned Owner on Alert received during monitoring.
- ⇒ Follow-up until Alert is been resolved.
- ⇒ Team to ensure that all backups happen smoothly as per the Backup Policy defined by SBI life. (Daily, Weekly, Monthly, Yearly).
- ⇒ Backup Restoration: Restore the data as per process & Approvals defined by SBILIFE.
- ⇒ Ensure compliance of Backup is followed with proper records of evidences
- ⇒ Coordinating with DC Team for troubleshooting related to backup process.
- ⇒ All process SOP to be prepare & update as and when required.
- ⇒ Management & administration of Secure FTP servers, File Servers etc.

Vendor will make all efforts to ensure that there is 99.99% up time calculated on monthly basis for HA related servers and services and 99.50% for Non-HA components mentioned in SOW. The downtime however will not be in effect under the following conditions:

- ✓ Downtime due to Network failure.
- ✓ Downtime due to any other infrastructure failure.
- ✓ Planned downtime scheduled by SBIL for Activity like Patch management, DR Drill, Maintenance Downtime

2) Change Management

- ⇒ The Entire change management should be in adherence with the ISO 27001:2019 ISMS guidelines & audit recommendation.
- ⇒ Preparing “Change Management” forms and implementing approved configuration changes for Changes related to Linux Operating System operations.
- ⇒ Coordinate with DC Team for periodic configuration backup of all Linux Servers in DC, DR, HO & CPC –Seawoods, Belapur & Servers.
- ⇒ Configuration backup where necessary prior to implementation of configuration changes.
- ⇒ Rollback configuration when and if required with Maintenance and Configuration Activity.

3) Incident Management

- ⇒ Incident management should be in adherence with the ISO 27001:2019 ISMS guidelines & audit recommendation.
- ⇒ This activity includes coordination between SBIL and its IT related vendors to follow up for resolution of problems related vendor supplied IT software and hardware and to verify timely OEM/AMC/ Warranty
- ⇒ Log calls with OEM and follow up for the resolution of the same.
- ⇒ Adherence to escalation matrix of OEM TAC and AMC vendors for all downtime and Troubleshooting activities related to Linux OS or Services.

4) Skill Set Requirement

- ⇒ Knowledge of Red Hat Enterprise Linux & flavours of Linux OS.
- ⇒ Knowledge of Red Hat OpenLDAP/LDAP
- ⇒ Knowledge of Red Hat Linux Satellite tool
- ⇒ Knowledge of NFS, Samba, LVM, Apache, Secure FTP etc.
- ⇒ Problem solving & troubleshooting skill set
- ⇒ Basic/Fundamental knowledge of Enterprise level storage (SAN/NAS)
- ⇒ Basic/fundamental knowledge of Oracle database
- ⇒ Basic/Fundamental knowledge of Networking
- ⇒ Basic/Fundamental knowledge of Antivirus
- ⇒ Knowledge of Data Center infrastructure, Hardware, devices, appliances etc.

❖ Level-2 (L2)

- 1) Information Security and compliance implementation**
- 2) Patch Management & Linux OS Management**
- 3) Skill Set Requirement**

1) Information Security and compliance implementation

- ⇒ To ensure timely implementation of secure configuration document (SCD), Vulnerability Assessment (VA) & Penetrating Testing (PT) on all Linux servers in SBIL environment
- ⇒ To review and ensure timely closure of all SCD, VA & PT points opened by Information security Team (IST)
- ⇒ To effectively coordinate with various SPOC of application owner, OS teams, Production team, DBA team etc towards timely closure of SCD, VA & PT open points with ensuring conveying meeting, developing confidence, closure implementation, impact management etc.
- ⇒ Team to take follow-up with IST team for confirmatory test with ensure dashboards should reflect closure point on security points (SCD, VA & PT).
- ⇒ To submit weekly status reports for all opened/WIP/ closed points under SOW.

Team will make all efforts to ensure to meet below TAT to close security open points –

- a) High point - 48 hrs
- b) Medium point - 4 days
- c) Low point -8 days

Note: Security points closure TAT is subject to change.

2) Patch Management & Linux OS Management

- ⇒ Ensure to discuss & submit patch details with reporting manager.
- ⇒ To identify and deploy patches released by OEM (Red Hat) as per patch management cycle defined by SBIL SOP
- ⇒ Ensure to upgrade Linux servers to higher/latest supported version of Enterprise Linux OS (Red hat, Oracle etc) to maintain Lifecycle of Operating System.
- ⇒ To coordinate with all teams in IT department to upgrade OS and patch management for timely upgrade, planning and execution
- ⇒ Ensure to help onsite Linux (L1) support team to troubleshoot the issues on as and when required.
- ⇒ Coordinate with Linux L1 team & other IT departments on root cause analysis (RCA) for reported incidences. Ensure maintaining document of RCA and Incidences.
- ⇒ Ensure to close audit points & produce required evidences for audit.

3) Skill Set Requirement

- ⇒ Red Hat Linux Certified.
- ⇒ Expertise in Red Hat Enterprise Linux & flavours of Linux OS.
- ⇒ Expertise in Red Hat OpenLDAP/LDAP
- ⇒ Expertise in Red Hat Linux Satellite tool
- ⇒ Expertise in NFS, Samba, LVM, Apache, Secure FTP etc.
- ⇒ Expertise in problem solving & troubleshooting skill
- ⇒ Knowledge of Enterprise level storage (SAN/NAS)
- ⇒ Knowledge of Oracle database
- ⇒ Knowledge of Networking
- ⇒ Knowledge of Antivirus
- ⇒ Knowledge of Data Center infrastructure, Hardware, devices, appliances etc.

❖ Level-Team Leader (TL)

- 1) Team Management**
- 2) Vendor Management Services**
- 3) Process Documentation (ISO & ITIL) & implementation**
- 4) Compliance management**
- 5) Project Management**
- 6) Skill Set Requirement**

1) Team Management

- ⇒ Ensure about all deliverables mentioned under Level L1 & L2 SOW.
- ⇒ Set clear team goal.
- ⇒ Delegate tasks and set deadlines. Ensure completion of delegated tasks on timely manner.
- ⇒ Managing & Oversee the day to day operations of teams
- ⇒ Monitor team performance
- ⇒ Motivate team members
- ⇒ Listen to team members feedback and resolve any issues or conflicts
- ⇒ Generate and share details reports about team performance, objectivise and deadlines
- ⇒ Interactive with other teams in IT & Risk departments for effective handling of requirements, complaints, concerns etc

- ⇒ Conduct team meeting and update them best practices and expectation for better performance
- ⇒ Manages inventories, asset management, incident management, change management, Documentation
- ⇒ Help L1 & L2 team members for troubleshooting the issues
- ⇒ Conduct monthly review meeting with SBIL reporting manager & Head of Department.
- ⇒ Leadership skill
- ⇒ Strong oral & written communication skill
- ⇒ Strong problem solving & Troubleshooting skill set
- ⇒ No open observation on quarterly cycle aligned with IST dashboard for VA, SCD, PT etc.
- ⇒ Reports & documents
- ⇒ Ensure smooth transition of Linux OS related support services & activities.

2) Vendor Management Services

- ⇒ Coordinate with SBI Life PMO team for vendor audit.
- ⇒ Ensure to close open audit points related to vendor management.
- ⇒ Onboarding of new resources with site specific orientation.

3) Process Documentation (ISO & ITIL) & implementation

- ⇒ ISO & ITIL process maintenance, adherence and documentations
- ⇒ Documentation update with version control as per SBILIFE defined frequency.

4) Compliance management

- ⇒ Ensure compliance is met for all managed services like OS, Patch, backup, password change etc.
- ⇒ Compliance reports to be submitted on request or made part of the MIS presentation on monthly basis.
- ⇒ Ensure all have attended security awareness training program conducted at SBI Life.
- ⇒ Ensure to close VA, PT, SCD open points as per defined TAT.
 - 1) High point - 48 hrs
 - 2) Medium point - 4 days
 - 3) Low point -8 days

Note: Security points closure TAT is subject to change.

5) Project Management

- ⇒ Project execution like Linux OS upgrade, software agents upgrade, other software upgrade, IT automation etc.
- ⇒ Implementation of any projects as required by SBIL.
- ⇒ Perform Proof of concept for software, utilities, application as per the standards; provide bench mark report to SBILIFE.

6) Skill Set Requirement

- ⇒ Red Hat Linux Certified.
- ⇒ Leadership skill
- ⇒ Strong oral & written communication skill
- ⇒ Strong problem solving & troubleshooting skill set
- ⇒ Expert in Red Hat Linux & other flavours of Linux OS
- ⇒ Expert in Redhat OpenLDAP/LDAP
- ⇒ Expert in Red Hat Linux Satellite tool
- ⇒ Expert in NFS, Samba, LVM, Apache, Secure FTP etc.
- ⇒ Knowledge of middleware platform like Jboss, Weblogic, Apache etc.

- ⇒ Knowledge of Enterprise level storage (SAN/NAS)
- ⇒ Knowledge of Networking, Antivirus, Oracle database
- ⇒ Knowledge of Windows OS
- ⇒ Knowledge of Data Center infrastructure, Hardware, devices, appliances etc.

B.

TEAM STRUCTURE

Linux Team	Count	Support Window	Location
Level L1	5	24x7	Belapur
Level L2	2	9x6	Belapur
Team Leader	1	9x6	Belapur

- ⇒ Performing the additional roles and responsibilities as per SBIL requirement.
- ⇒ Holidays as per SBIL Policy
- ⇒ Resources deployment as per SBIL policy and requirements weekly off for the support staff to be scheduled accordingly.
- ⇒ One-day week-off every week for all resources under contract
- ⇒ Shift will be decided as per the SBIL requirement.

Note: The above lists of activities are to be carried out by the resources but not limited to the above.

Note: list of activities mentioned in all above table is exhaustive but not comprehensive.