

14/11/2017

[FAQs and Clarifications]

RFP REF: LIC/CO/IT-BPR/HW/ULP-CENTRAL/17-18/03 Dated: 23/08/2017

1. What is expected growth?

LIC expects business growth up to 10% YOY in ULIP portfolio. Vendor should design and plan for scalable architecture. In case of storage the de-duplication and compression technologies should be able to provide sufficient space for project period. In case business growth is more than expected then there should be provision to add required nodes.

2. What is existing ULIP architecture?

ULIP portfolio is an integral part of existing eFeap project present in 113 divisions. eFeap is a three tier architecture on Intel x86 hardware, powered by home grown application in Java-MFCOBOL-MySQL.

In the proposed ULIP centralization, ULIP related data from all 113 divisions is to be extracted, modified to suit the new database design and merged into a single database hosted at three sites.

3. What is the data size?

There is about 100 GB of ULIP data per division present inside MySQL database. After consolidation the total size of database is expected around 10 to 12 TB.

The consolidated 10 to 12 TB of database will be sharded across 5 MySQL databases hosted on five virtual machines. The sharding logic is simple application level without any dependency on third party hardware or software.

The daily incremental data change is about 1 GB per day per division.

4. What is Migration Plan?

LIC will provide the Extract-Transform-Load programs for migration purpose.

The migration process will extract the ULIP data from existing 113 divisions and transform as per the new data design. The loading programs will consolidate all ULIP data present in all the 113 divisions in new single MySQL sharded database hosted at centralized site with near and far DR sites.

Vendor to propose for suitable migration approach, which should factor in all the logistics, resources and other requirements.

Vendor cannot assume use of any existing resources at source in divisional office like compute, storage and network connectivity to centralized site. This limitation is for all working days of the week. There is some scope on weekends for utilizing compute, storage and network connection.

The migration exercise and go live with centralization is required for all sites, without any pilot. Testing can be done before hand in labs. The Maximum downtime window for going live could be Saturday 2 pm to Monday 9 am.

There is significant amount of data (approximately 12 TB) present in archival form in all the data centers. The archival type of data will not be loaded immediately at the time of go live. Once the system is stabilized, archival type data will be extracted from all 113 data centers and merged into single MySQL database at centralized site. This archival consolidation is also part of the migration activity and vendor needs to propose suitable approach and factor the cost involved.

Vendor can propose to host the required application and database virtual machines for migration purpose using HCI platform at three sites before going live.

If there are any assumptions, it should be clearly stated in the migration approach.

5. What type of virtual machines are required?

Total 36 virtual machines to be hosted per site. 15 Java virtual machines serving as web and app servers VMs having 8 Cores, 16GB RAM, 150 GB Storage without High Availability(HA)

There will be 21 MySQL database virtual machine. There will be four sets of sharded consolidated database for CRUD operations, Read operations, MIS type jobs and transaction writers. Each set of consolidated database is sharded into five MySQL database virtual machines. The sharding is based on application logic without any dependency on third party hardware or software.

21 MySQL Database VMs with 16 Cores, 64 GB RAM, storage requirement for each database VM is 150 GB for Operating system and 2.5 TB for database, out of 21 database VMs 11 VMs requires high availability (5 VMs of CRUD set, 5 VMs of transaction writer set and one archival VM), vendor to calculate necessary resources for all the VMs as per the proposed solution.

All database instances will be updated using native MySQL replication from CRUD set to read and MIS set in primary site, near site and far site VMs.

6. What are storage specifications?

48 TB of enterprise class full SSD storage is required per site. The projected growth and other space requirements should be provided by additional space provided by de-duplication and compression technologies.

Minimum IOPS required for Application is 1,00,000 with 10 millisecond latency (expected Read Write Ratio of 60:40). All the other IOPS requirements should be calculated by vendor.

7. What are backup related specifications?

D2D2T strategy is required for backup operations. Use of D2D backup appliance is required instead of using space inside HCI appliance. The D2D backup should provide Point in time recovery with protection window of 35 days.

The tape backup should be performed as full backup on weekly, monthly and yearly.

It is informed that use of Netvault backup software is recommended as sufficient licenses are already available with LIC. There is no need to provide additional space at near DR site for backup purpose. Disk to Disk backup appliance should take care of all the backup needs as per the backup policy and should be able to integrate with the Netvault software. The



**Information Technology – Central Office, 'Yogakshema', Jeevan Bima Marg, P.B.No.19953, Mumbai- 400021,
Tel: (022)22841109, 66598675, Fax : (022)22851915, Email : ed_itbpr@licindia.com**

total backup requirement is 12 TB of consolidated database and 12 TB of archival database as per backup policy. LIC is having sufficient capacity based license of Netvault software for this purpose.

8. What are J2EE server related specifications?

J2EE server specifications are as under

- a) It should be OEM supported open source solution with defined SLA
- b) It should be completely Java EE 7 Compliant – with Web and Full profile both
- c) It should have High Availability feature, Monitoring and Administration, Operations and Management console, Security compliant and scalable.

8. What are load balancer related specifications?

We note that many hypervisors offer software based load balancing, but in case any bidder wants to propose physical load balancer then it should find place in respective Gartner's magic quadrant for leaders and challengers.

9. What are 10G SFP and L3 switch related specifications?

Bidder should propose 10G SFP and L3 switch which is present in respective Gartner's magic quadrant for leaders and challengers.
