**LAB Resource Management**

**Software Requirement Specification**

**Authors : Ajay A Jampale, Mithun B S**

Contents

[1. Purpose 1](#_Toc525382025)

[2. Definitions 2](#_Toc525382026)

[3. Stake Holders 2](#_Toc525382027)

[4. Characteristics of requirements 2](#_Toc525382028)

[5. System Requirements – Engineers 2](#_Toc525382029)s

[6. System Requirements – Resource Managers 3](#_Toc525382030)

[7. System Requirements – IT Team/Maintenance operators 3](#_Toc525382031)

[8. System Requirements – Supply chain team 3](#_Toc525382032)

[9. References 3](#_Toc525382033)

[10. Revision History 3](#_Toc525382034)

# Purpose

With lot of testbeds/resources spread across different departments/teams located across different geographies, there is a need for reserving a testbed to avoid multiple developers/testers using the same testbed at same time. Most of the times, developers/testers forget the time for which the testbed was reserved and keeps on using it after the prescribed amount of time. So, developers/testers have to be notified that their reservation is going to expire and then they can take actions to either stop using it or extending the reservation.

In some departments, few testbeds (of a device type) would be underutilized but in few other departments, there is a need for those types of testbeds. So, there is a need for admin to figure out the usage patterns and distribute testbeds uniformly across departments. Also, this information will be useful to determine if the business/company needs further devices/testbeds to be procured.

The testbeds should not be a flat list of devices because often developers need testbeds which are connected to each other to form a certain topology. So, there is a need for maintaining the topology and reserving all testbeds (of that topology) together for specified amount of time.

Sometimes, it is difficult to physically locate a testbed. So, the physical location like the Geography, Building, Floor, Rack etc information also has to be known for admins to manage testbeds.

So, to handle all these problems at a common place, there is a need for fast performing application to maintain the inventory of devices and reserve the same.

# Definitions

Testbed – A resource/device that should be reserved and used by developers and testers.

Reservation – Blocking a testbed, so that no others are supposed to use it.

# Stake Holders/Actors

Following are the main stake holders that are identified for the proposed lab test bed reservation system

Testbed Users/Engineers (TBU): These are the main customers/users of the system who needs to reserve a testbed.

Testbed owners (TBO): They are the owners of testbeds who can give access to TBUs based on their requests.

Rack owners (RO) : Each testbed resides in a rack and racks are managed by rack owners. They are responsible for adding inventory to the system. Any topology requests by TBU/TBO are handled by Rack owners and they update the topology information in the system.

IT Team(IT): These are maintenance operators of the test machines. Addition and deletion of role for individual users.

Supply chain team(SCT): Anyone who is involved in supplying the lab machines or another inventory. The reason for adding this stack holder is because the usage statistics collected from this proposed system would help supply chain team to understand if the current inventory is adequate or not.

# Characteristics of requirements

The aim of this section is to gather all the requirements from all involved stake holders and all the requirements should be

* **Documentable** – Each requirement should have a specific unique id with the following convention

SR-TBU-XX – System Requirement by Testbed users with number xx

SR-TBO-XX– System Requirement by Testbed owners with number xx

SR-RO-XX– System Requirement by Rack owners with number xx

SR-IT-XX – System Requirement by IT team with number xx

SR-SCT-XX – System Requirement by Supply chain team with number xx

* **Testable**
  + Each requirement should enable in helping to figure out a test case which can then test the system
* **Actionable**
  + Each requirement should be stated in an unambiguous way which can then be directly used for implementation
* **Measurable**
  + Each requirement can then be used to argue about the performance of the system

# System Requirements – Engineers

* SR-TBU-01: Easy to use user interface with account creation and login for each user.
* SR-TBU-02: Ability to reset password at any time by the user
* SR-TBU-03: Ability to subscribe for updates via registered email
* SR-TBU-04: Ability to view, filter, sort the inventory of testbeds
* SR-TBU-05: Ability to reserve a testbed (which is currently not reserved) for specified amount of time.
* SR-TBU-06: TBU are not allowed to reserve and use all Testbeds. So, System should give a provision to request access for a testbed which TBO should grant it.
* SR-TBU-07: TBU should be notified that his/her reservation is getting lapsed. Also a notification after the reservation lapsed.
* SR-TBU-08: Notify a free slot on a day 2-day basis
* SR-TBU-09: Notify on request all free slots for the requested duration (e.g given date, time etc..)
* SR-TBU-10: Ability to queue the jobs in case the test bed is occupied
* SR-TBU-11: Ability to reserve multiple testbeds(topology) together.

# System Requirements – Resource Managers

# System Requirements – IT Team/Maintenance operators

# System Requirements – Supply chain team

# References

# Revision History

|  |  |  |
| --- | --- | --- |
| **Revision No** | **Description** | **Revised By** |
| **0.1** | **Initial Draft, Purpose** | **Mithun B S** |
| **0.2** | **Update Requirements after internal discussion with Ajay** | **Mithun B S** |
|  |  |  |