OTC Device Testing Lab

Our Capability

1. **Comprehensive Testing:** The lab's extensive range of devices covering various platforms demonstrates our commitment to thorough testing, reassuring potential clients about product reliability and compatibility.

2. **Real-world Scenarios:** Testing across a diverse range of devices simulates real-world user experiences. This showcases our device's ability to function seamlessly across different ecosystems.

3. **Platform Expertise:** The lab's coverage of platforms like Tizen, WebOS, Android, Roku, and more, highlights our in-depth knowledge and expertise across different ecosystems. This instils confidence in clients seeking compatibility across multiple platforms.

4. **Device Management Portal:** The development of a device management portal showcases our commitment to innovation and streamlining processes. This portal allows efficient monitoring, updates, and configuration management, making clients' lives easier post-deployment.

5. **Firmware Updates and Compatibility:** Regular firmware updates keep devices current and compatible with the latest technology trends, ensuring a longer product life cycle and reducing the need for frequent replacements.

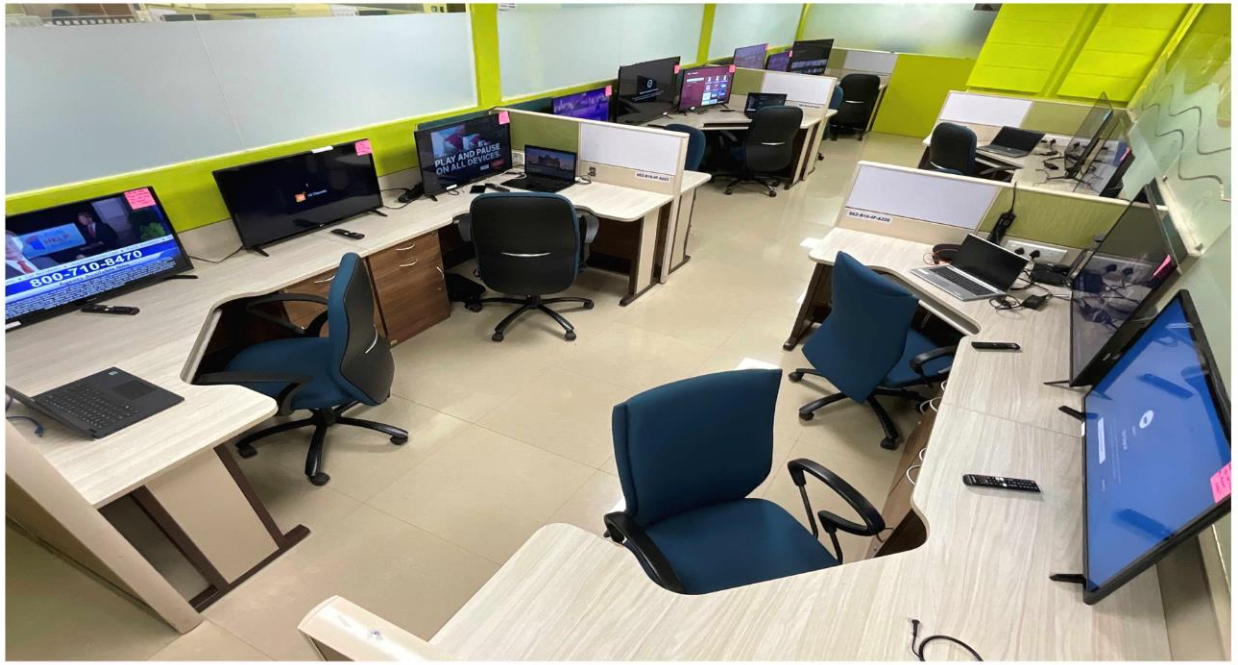
6. **Efficient Troubleshooting:** Remote management capabilities of the portal aid in quick issue identification and resolution, minimizing downtime and user frustration.

7. **Customized Testing:** Our lab's ability to tailor testing scenarios based on specific client requirements, underscoring our flexibility and dedication to meeting unique needs.

Devices in OTC Lab

Platform/Devices	TV	Mobile	Tablets	STB	Streaming Device	Xbox	Mac	VR	Witbox	Total
Roku	2				19					21
Apple		7	4		4		8			23
Android	5	5	8		1					19
Fire	1		3		11					15
Samsung Tizen	13									13
LG WebOS	10									10
STB				1						1
Gaming Stations						3		1		4
Google Chromecast					6					6
WebCTV	14									14
Remote Access Solution									1	1
Total	45	12	15	0	41	3	8	1	1	127


Welcome to Live TV
ASTEROID CITY
Keyboards
Mouse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PLAY AND PAUSE
ON ALL DEVICES


Roku


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Remote Access Solution

1. Advocating the Time shifting/Place Shifting Approach for Accessing Geo-Restricted or Immobile Devices
2. Supporting the Latest Video/Audio Codecs for Optimal Performance
3. Enhancing Device Coverage to Reduce Procurement Costs
4. Enhance the capability to remotely manage tangible devices deployed in various locations.
5. Enhance and expand the concept of unified device management, accessible from any location and at any time.

Optimized device distribution

To optimize device coverage while certifying 49,000 unique test cases across different platforms within 48 hours, we followed below:

1. Identify Test Case Distribution:
   - Divide the 49,000 test cases into 6 equal parts, one for each shift, to ensure workload distribution.

2. Productivity Calculation:
   - Given productivity is 15 test cases per hour per person.
   - Each shift is 8 hours long.

3. Total Team Output per Shift:
   - Team size: 35 members.
   - Total team output per shift: 35 (team size) * 15 (test cases per hour) * 8 (hours) = 4,200 test cases.

4. Required Shifts to Cover 49,000 Test Cases:
   - 49,000 test cases / 4,200 test cases per shift = approximately 11.67 shifts.
   - As we can't have a fraction of a shift, we need 12 shifts to complete the certification.

5. Device Allocation Strategy:
   - Since there are 6 shifts, we have optimized the coverage by having at least 2 shifts share devices.
   - Allocated devices to 2 consecutive shifts. For example, Shift 1 and Shift 2 share devices, Shift 3 and Shift 4 share devices, and so on.

6. Minimum Device Requirement Calculation:
   - To cover 2 shifts per set of devices, we will need 6 sets of devices (12 shifts / 2 shifts per set).
   - Each set of devices will need to cover 4,200 test cases (output per shift) * 2 (shared shifts) = 8,400 test cases.

7. Device Procurement Strategy:
   - Determined the number and types of devices required to cover 8,400 test cases effectively.
   - Procure devices based on the popular platforms and devices used by our target audience.

8. Task Distribution and Coordination:
   - Divided the test cases within each set of devices among the team members for efficient testing.
   - Ensured proper coordination and knowledge sharing among team members to cover a wide range of test cases.

By implementing this approach, we have efficiently covered the required 49,000 test cases within the specified time frame by optimizing device usage, maximizing team productivity, and ensuring comprehensive coverage across different platforms. Adjustments might be necessary based on factors like test case complexity, testing duration, and potential overlapping tasks.

Best Practices

Device Procurement

- Quality Assurance: Prioritized purchasing devices from reputable manufacturers or authorized vendors to ensure high-quality and reliable devices
- Compatibility: Considered the streaming platform's requirements and compatibility with the devices to avoid potential issues.
- Future-proofing: Chosen devices with sufficient capabilities to handle potential future upgrades and advancements in streaming technology.
- Volume Discounts: Negotiated with suppliers for volume discounts when procuring devices in large quantities.
- Warranty and Support: Opted for devices with extended warranties and comprehensive support to minimize downtime and ensure timely resolutions.

Device Management

- Inventory Tracking: Implemented a robust system to track all streaming devices, including serial numbers, locations, and usage status.
- Configuration Management: Maintained standardized configurations and settings across devices to ensure consistency and ease of management.
- Remote Management: Utilized remote management tools to efficiently monitor and troubleshoot devices, reducing the need for on-site interventions.
- Security Measures: Implemented security protocols, such as encryption, access controls, and regular software updates, to protect devices from potential threats.
- Performance Monitoring: Continuously monitored device performance metrics to identify potential issues and optimize streaming quality.

Device Maintenance

- Regular Inspections: Scheduled periodic inspections to check for physical damages, connectivity issues, or any signs of wear and tear.
- Cleaning and Dust Prevention: Regularly clean the devices to prevent dust buildup, which can affect performance and longevity.
- Firmware Updates: Stayed up-to-date with the latest firmware releases if needed and ensure timely updates for enhanced functionality and security. Stopped auto update for some of the devices as per customer needs
- Component Replacement: Kept a stock of critical components to facilitate quick replacements and minimize downtime in case of hardware failures.
- End-of-life Planning: Developed a strategy for device replacement when devices reach the end of their useful life to ensure smooth transitions.
- Kept all the required batteries and devices charged for the testing. Arranged the TV’s in a order to avoid dominos effect.

Device Safety

- Proper Ventilation: Ensured that devices have adequate ventilation and are not placed in enclosed spaces to prevent overheating and potential safety hazards.
- Electrical Safety: Used surge protectors and followed electrical safety guidelines to safeguard devices from power surges and electrical hazards.
- Safe Mounting: Securely mounted devices to prevent accidental falls or damage, especially if they are in elevated positions.
- User Training: Provided training to users or technicians on safe handling procedures for devices, including proper shutdown and startup routines

Business Continuity Plan for Device Management

- Redundancy: Implemented device redundancy where critical devices are backed up with duplicates to ensure uninterrupted streaming services in case of device failures.
- Data Backup: Regularly took back up device configurations and settings to enable quick recovery and restoration in the event of a system failure.
- Disaster Recovery Plan: Developed a comprehensive disaster recovery plan that outlines steps to be taken in case of major incidents affecting device functionality or data integrity.
- Emergency Response: Established clear protocols for addressing urgent device issues, including escalation paths and immediate response actions.
- Alternate Facilities: Identified alternative facilities or backup locations where streaming operations can be relocated if the primary device lab is inaccessible due to unforeseen circumstances

Benefits

1. **Credibility:** A well-equipped lab demonstrates LTIM's investment in quality assurance, boosting our credibility and separating us from competitors.

2. **Reduced Risk:** Clients appreciate products that have undergone rigorous testing, reducing the risk of post-launch issues and negative user experiences.

3. **Client Understanding:** Our testing lab showcases our understanding of the complex device landscape, allowing us to address clients' concerns more comprehensively.

4. **Time-to-Market:** The lab's efficiency in testing and updates can lead to quicker product launches, giving us a competitive edge.

5. **Problem Solving:** The lab's troubleshooting capabilities position us as a problem solver, reassuring clients that we are equipped to handle unexpected challenges.

6. **Differentiation:** Our lab's breadth of devices and platforms sets us apart, making our product a more attractive choice in a competitive market.

Procurement Approach - Online Procurement:

When considering the method of procurement, there are several key factors that play a role in the decision-making process. These factors include the availability and accessibility of devices, both in terms of local availability and remote access, as well as the lead time required to acquire the devices. Here are the two main procurement methods we've evaluated:

1. **Online Procurement**:
In this approach, devices are acquired through online channels. This method has distinct advantages and disadvantages.

Advantages:

- **Faster Turnaround:** Devices can be obtained relatively quickly, typically within 2 days to a maximum of 6 weeks.
- **Cost Savings:** Online procurement often comes with cost savings due to competitive pricing and potential discounts.
- **Model Selection:** We can choose the specific device models that meet our requirements.

Disadvantages:

- **Follow-Up and Tracking:** The delivery team needs to actively follow up and track the devices' delivery status, which can be time-consuming.
- **Warranty Management:** We are responsible for managing warranties and guarantees associated with the procured devices.

Procurement Approach - Vendor-based Procurement

This method involves acquiring devices through a vendor or supplier, providing a distinct set of benefits and challenges.

Advantages:

- **Accountability and Ownership:** Vendors take full ownership of the procurement process, ensuring accountability and a streamlined acquisition process.
- **Imported Devices:** Particularly suitable for importing devices from offsite locations.

Disadvantages:

- **Longer Lead Time:** This method typically requires a longer lead time, often exceeding a month or more.
- **Higher Costs:** The cost associated with vendor-based procurement can be relatively high due to various factors, including service charges.

Considering the strengths and weaknesses of these procurement methods, it's essential to align the chosen approach with the project's specific requirements and constraints. Both methods have their merits, and the decision should be based on factors such as the urgency of acquiring devices, the budget available, the availability of in-house resources to manage warranties, and the need for accountability in the procurement process.

Ultimately, the selection of the best procurement method depends on striking a balance between prompt device acquisition, financial considerations, and the resources available to manage the devices effectively.

Thank You

*Getting to the **Future**, **Faster**.*
Together.