ARBIN
INSTRUMENTS

Introduction

Arbin's MITS Software delivers cutting-edge capabilities for **advanced battery testing solutions.** With over **30 years** of continuous innovation, we maintain a **robust, industrial-grade architecture** known for its **security, performance, and reliability.**
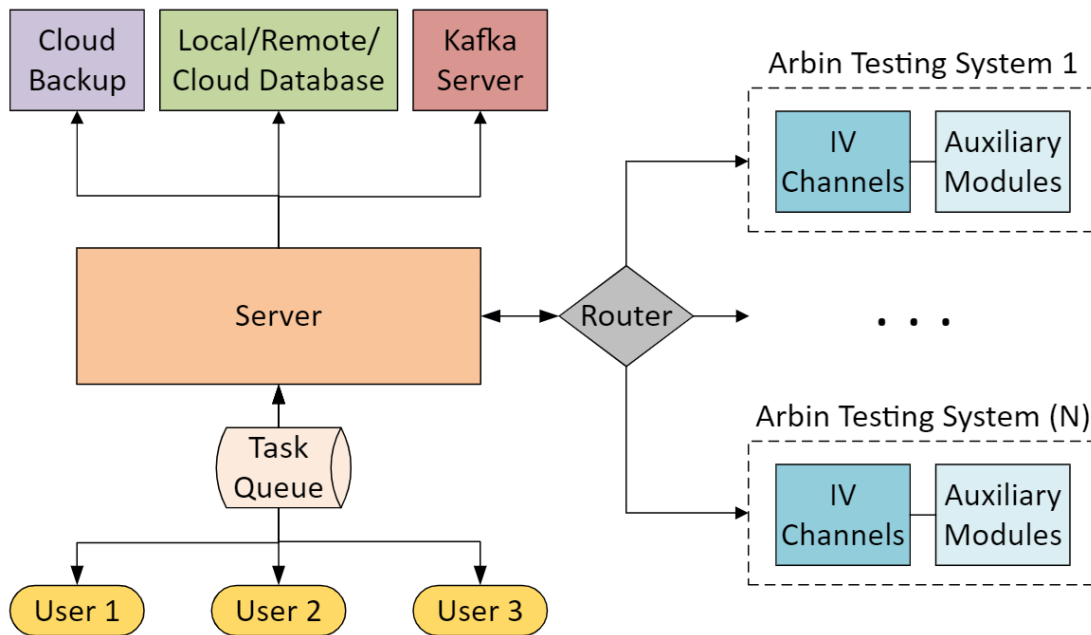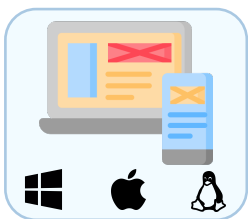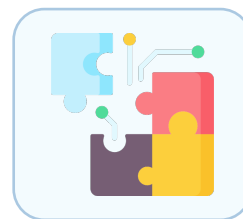

Fig. 1 Arbin Centralized Testing Solution

Cross-Platform

Real-Time Monitoring

API Integration

Role Management

3 Easy Steps to Run Your Experiment with Arbin Cycler Using MITS

STEP 01

Test Plan Setup
Create your schedule for the experiment

STEP 02

Experiment Execution
Run your experiment with configured settings

STEP 03

Data Review/Export
Analyze with Arbin's tools or export for your use

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Testing Schedule Solution

Next-Generation Features

Arbin is launching new software with innovative features that enhance technology and set new benchmarks for performance and efficiency.

Schedule Management

Version controlled schedule files to track every changes. For collaboration and reduced risks, schedule files are **shared through databases.**

Sub-Schedule

Modular schedules can be embedded within a main schedule, enabling a verified process with independent updates and reuse across various tests or projects.
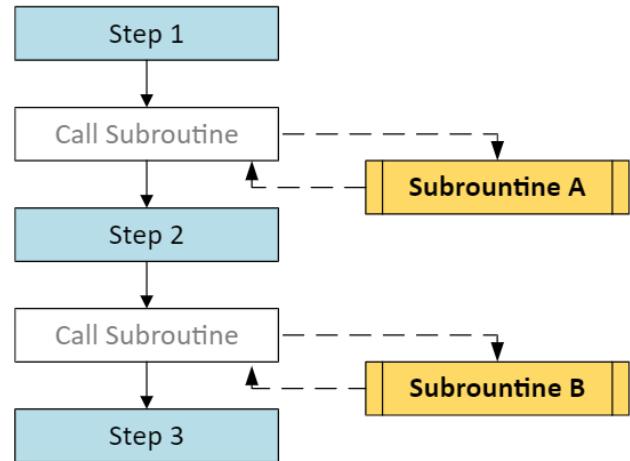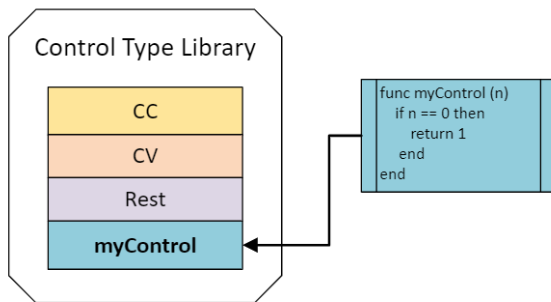
Fig. 2 Sub-schedule Workflow

Fig. 3 Lua-based Scriptable Control

Build-in Schedules

Pre-designed and tested templates with adjustable variables, which simplify the testing and ensure accuracy.

Lua-based Scriptable Control

Customizable control type with real-time parameter adjustments and data logging.

Trusted Testing Solutions

At Arbin, we consistently refine our system for improved consistency, reliability, and safety, with each update boosting performance and preserving legacy features.

- **Command execution in 20 ms** from MITS to microcontroller (MCU)

- **Safety prioritized** with auto-calculated parameters from Device Under Test (DUT) specifications

- **Quality assurance protocols** with End-Of-Line (EOL) testing

- **Human-centric instructions** guide step-by-step construction

MITS System Features

Data Treatments

Arbin offers flexible data treatment solutions designed for efficient management, processing, and analysis, empowering organizations to harness the full potential of their data.
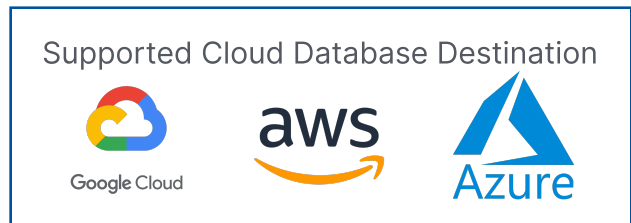
Database

- **High throughput** over 100K data points per second
- **Distributed replicas** ensure durability and reliability
- **Fault tolerance** with automatically managed failures
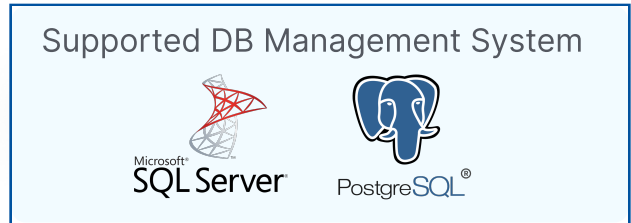
Data Streaming Services - Kafka

- **High throughput** with the ability to scale horizontally on demand.

- **Real-time organize & analyze** data with steaming service

Supported DB Management System

Microsoft® SQL Server®

PostgreSQL®

Supported Cloud Database Destination

Google Cloud

aws

Azure

Data Analysis

MITS includes a **built-in tool** for easy **analysis and comparison** of tests and test cycles. With simple import/export functions, it provides accurate insights for better decision-making.
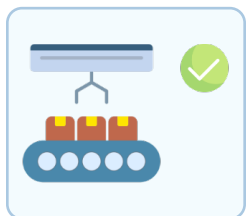
Further Capabilities
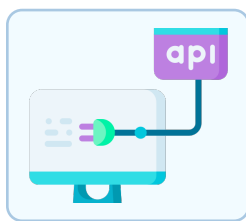
Programming Interface

Manage Arbin Systems using **Python, C#, or RESTful APIs** for adaptive programmable control.
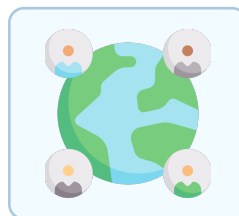
OTA Firmware Update

Dedicated built-in tool for **firmware management** and updates with release notes and versioning.

End-of-Line Testing

Optimize **quality assurance** with fully customized checks.

Arbin Community

Discover shared testing schedules, and **engage with fellow users** to explore our interface, report bugs, and offer suggestions.

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Scalable, Reliable, and Centralized Testing Solutions

In modern testing environments, IT hardware failures can have serious consequences, leading to data loss and reduced productivity. Arbin's centralized testing setup minimizes risks by ensuring **uninterrupted operations**, **protecting your data**, and **optimizing performance** through its resilient design.
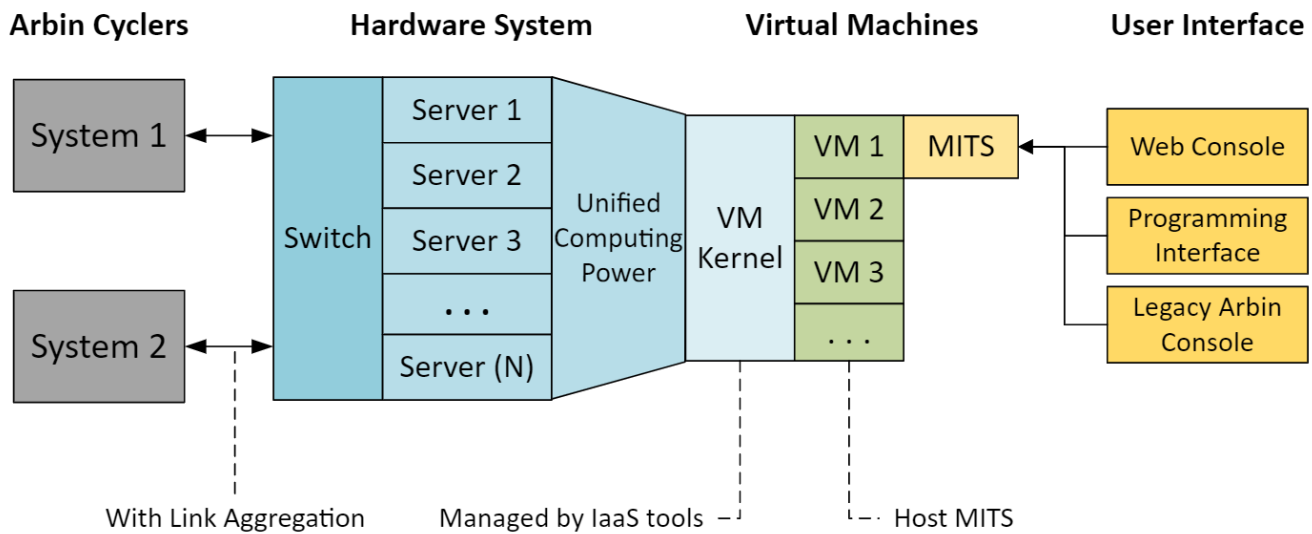

Fig. 4 Infrastructure Diagram: Arbin Centralized Solution

Key Benefits of Arbin's Centralized Battery Testing System

Scalability

Physical and virtual machines with easy management to meet growing testing demands.

High-Availability Servers

Minimal downtime and consistent performance are secured by servers during battery tests.

Network Reliability

Link aggregation between the Arbin Cyclers and servers enhances network reliability.

VLAN (Virtual LAN)

Isolated traffics enhance network security and efficiency for all Arbin Systems.

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Rev: Oct 2024