

UFT Digital Lab

Micro Focus UFT Digital Lab provides a centralized, enterprise-level, end-to-end lab and management gateway of distributed real mobile devices and emulators that helps enterprise teams develop, debug, test, monitor, and optimize their mobile applications.

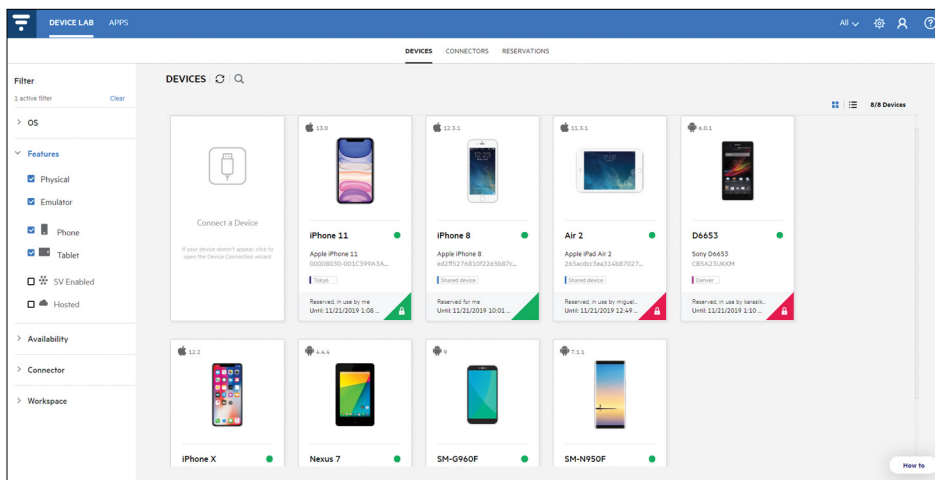


Figure 1. Build a lab of mobile devices and emulators, enabling teams to reserve and control remotely.

Product Overview

How UFT Digital Lab Can Help

Micro Focus UFT Digital Lab amplifies team productivity by providing an enterprise-level, end-to-end lab and management gateway of distributed real mobile devices and emulators that helps teams develop, debug, test, monitor, and optimize their omnichannel mobile applications to promote an enhanced user experience across all digital touchpoints.

Developers and Testers can validate all aspects of the mobile user experience including functionality, performance, and security using services simulations and network virtualization. UFT Digital Lab supports continuous testing and drives continuous improvement

and optimization by analyzing availability and performance of mobile application via production monitoring.

UFT Digital Lab provides centralized access to either:

- Physical mobile devices (Android and iOS) hosted locally, or as-a-service ([Micro Focus Managed Services](#), [Micro Focus Professional Services](#), [Amazon Device Farm](#))
- Device emulators (Google SDK, Genymotion)

It enables mobile app remote development, debugging, and testing using local development environments (IDEs), testing via Micro Focus or open source automated testing tools, and

Key Features

- **Enterprise-grade lab and management gateway**—flexible solution for mobile devices, emulators, and applications to support continuous delivery for omnichannel applications
- **Comprehensive app and browser testing and monitoring**—run manual and automated functional testing, performance testing, security testing, and interactive testing directly from a web browser
- **Remote development, debugging, and testing**—access remote devices in preferred tool/IDE (commercial or open source) and eliminate the need for physical device access
- **Scalable deployment and configuration models**—hybrid architecture and connectors; access to device emulators or physical mobile devices (Android and iOS) hosted locally or as-a-Service
- **Embedded virtualization**—execute tests with simulated APIs and Virtual Services; virtualize mobile sensors, interfaces, and network conditions
- **Exploratory testing**—Test your mobile app manually, and capture actions performed on the device, along with screenshots, device log, and test details that can be used for defect reporting and test case creation.
- **Open source integrations**—Appium and Selenium
- **Production monitoring**—analyze availability and performance of mobile apps

interactive testing directly from a web browser. UFT Digital Lab is part of the industry-leading UFT family of functional testing solutions which delivers AI-driven automation to test any technology, through any browser, and on any mobile device, operating system or form factor, from the cloud or on-premises.

Key Benefits and Features

Increase Team Productivity with an Omnipresent Mobile Devices Lab

CENTRALIZED MOBILE DEVICES LAB WITH REMOTE ACCESS

UFT Digital Lab provides a centralized enterprise-grade mobile devices lab that helps Line of Business and geographically distributed teams develop, debug, test, monitor, and optimize their omnichannel mobile applications to promote an enhanced user experience across all digital touchpoints.

CONFIGURATION MODELS

UFT Digital Lab offers complete deployment and configuration scalability to meet the needs of medium-size companies to global enterprises. It supports a distributed architecture where different test clients can all interact with the same UFT Digital Lab server instance. Connectors can be installed on multiple machines in distributed locations and managed devices can be connected locally, inside a corporate network, or as-a-service in Micro Focus SaaS Private Cloud, Genyotion Cloud, Amazon Device Farm, or an externally hosted devices provider.

UFT Digital Lab allows an unlimited number of connected devices. Once connected, devices are pooled and available to users automatically. Devices can be connected to the UFT Digital Lab server machine, or using the standalone connector, to a different machine.

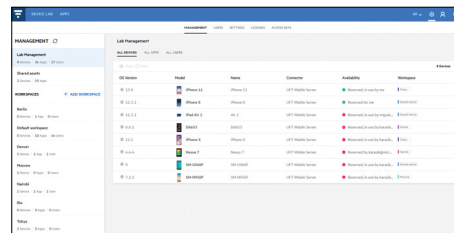
DEPLOYMENT OPTIONS

UFT Digital Lab is available as both an on-premises license as well as a Software as a Service (SaaS) subscription that allows full deployment

flexibility. For details about Micro Focus Software as a Service, see the [SaaS Data Sheet](#).

ENTERPRISE MANAGEMENT GATEWAY

UFT Digital Lab's enterprise management gateway includes workspaces and devices reservations as well as license allocation. This allows UFT Digital Lab administrators to segregate or share the devices and apps to assure equitable usage and protect privacy while improving utilization rates. Administrators will see all the devices (not just shared devices) that have been connected to UFT Digital Lab.



ID	Name	Platform	OS Version	App	Availability	Release
10.0.0.1	Phone 1	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.2	Phone 2	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.3	Phone 3	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.4	Phone 4	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.5	Phone 5	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.6	Phone 6	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.7	Phone 7	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.8	Phone 8	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.9	Phone 9	iPhone 11	14.0	UFT Mobile App	Available	1.0.0
10.0.0.10	Phone 10	iPhone 11	14.0	UFT Mobile App	Available	1.0.0

USER MANAGEMENT

UFT Digital Lab administrators have a number of ways to manage users. They can manage them independently within UFT Digital Lab, and import them using a CSV file. UFT Digital Lab integrates with LDAP, with the option to synchronize and distribute users to workspaces using LDAP groups. Single sign-on (SSO) integration is also available using SAML2.

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REMOTE VIEWER

Users of UFT Digital Lab view devices and apps available to their workspace through a supported testing tool or in a web browser.

Using a remote viewer, users can interact with devices without the need for physical access while maintaining the ability to interact with a device's sensors and multimedia capabilities. Improved access to devices enables teams to work more efficiently and thereby increase productivity.

Accelerate Velocity by Eliminating Bottlenecks for Developers and Testers Alike

REMOTE DEVELOPMENT, DEBUGGING, AND TESTING

The UFT Digital Lab lab includes a capability for Dev Testers and Developers to directly access the mobile devices lab from within their preferred Integrated Development Environment (IDE). Developers can quickly and efficiently execute and debug their code or review a defect fix on a wide range of emulated and physical devices, hosted on-premises or in the cloud, directly from their IDEs. This eliminates the need to connect physical devices to their workstation, or to use additional tools.

EXPLORATORY TESTING

Testers can perform exploratory testing, by performing actions manually on the mobile device. As the tester interacts with the mobile device, UFT Digital Lab tracks and captures the tester's actions, device logs and snapshots. The actions can then be saved as a manual test script, which can be used as a test case, or to reproduce defects found during exploratory testing. Defects can be submitted to ALM Octane, and automatically includes relevant details, such as the steps performed, screenshots, and the device log.

DEVICE HEALTH MONITORING

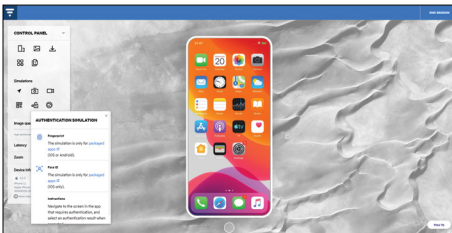
UFT Digital Lab continuously monitors key health metrics, such as WiFi connectivity, battery, temperature, thermal state, disk space, and screen brightness, of each connected device. An alert is raised if a metric deviates from the configured threshold.

EMBEDDED SERVICE VIRTUALIZATION

The UFT Digital Lab lab also includes a built-in capability for Dev Testers and Developers to execute their tests with simulated APIs and Virtual Services powered by [Micro Focus Service Virtualization](#). Service Virtualization enables application teams to easily create Virtual Services that can replace targeted services in a composite application or multi-step business process. By accurately simulating the behavior of the actual component, it enables Developers and Testers to begin performing functional or performance testing right away, in parallel—even when the real services are not available, when data access is restricted, when data is difficult to attain, or when the services are not suitable for the particular test. The Service Virtualization lab is deployed together with UFT Digital Lab (SV Lab component) and allows simulation of REST API, NFC, and Bluetooth services that Application Under Test (AUT) consumes.

VIRTUALIZE SENSORS AND INTERFACES

Many times, native mobile and web app test automation can be difficult if the apps use sensor and interface capabilities. UFT Digital Lab's support for sensors and enhanced interfaces includes photo and video simulation; fingerprint simulation; capturing audio output; phone call and text interruption; GPS injection; and, gestures. Audio streaming for iOS is supported, allowing you to hear audio from the remote device on your workstation.



EMBEDDED NETWORK VIRTUALIZATION

Mobile network conditions are dynamic and vary by provider, location, and time of day. Hence, the test environment must accurately

recreate multiple network scenarios to analyze application performance and the effect of network conditions on different user populations. The embedded Micro Focus Network Virtualization software can virtualize real-world network conditions including bandwidth, latency, jitter, and packet loss on multiple platforms alongside all test activities.

While Network Virtualization software supports accurate prediction of the networked performance of applications before deployed, Network Virtualization Analytics drill down into the root cause of performance issues and provides recommendations for optimizing mobile apps.

INTEGRATION WITH CI SERVERS

UFT Digital Lab further enables mobile testing as part of the build process by integrating with CI servers such as Jenkins. When combined with test automation, these capabilities enable enhanced workflows for Developers and Testers through shortened feedback cycles in Continuous Integration, Continuous Testing, and DevOps practices.

Reduce Overall Spend with Integrated Open Source Testing

APPIUM INTEGRATION

With UFT Digital Lab, open source test automation teams can work with more flexibility, more efficiently. They can also conserve time with improved access to devices, reduced maintenance requirements, and lower technical barriers.

UFT Digital Lab eliminates the need for maintaining Appium Grid environments for mobile testing. UFT Digital Lab facilitates Appium testing for iOS apps by eliminating platform dependencies. Since devices are available to any authorized user, costs are reduced by pooling devices and improving utilization rates. The UFT Digital Lab server acts as an Appium server so that existing scripts can be updated and devices can be selected by choosing the desired capabilities.

FLUTTER SUPPORT

UFT Digital Lab supports record and replay of Android and iOS apps built using the Google Flutter SDK.

Drive Continuous Improvement and Optimization through Production Monitoring

EMULATE AND MEASURE END-USER ACTIONS

The Business Process Monitor (BPM) integration with UFT Digital Lab enables businesses to measure application performance and availability on end-user physical mobile devices. These measurements are delivered in near real time allowing IT staff to proactively react to performance alerts from different locations and isolate mobile service issues quickly.

Virtual User Generator (VuGen) is a primary tool for creating testing scripts using TruClient protocol that emulate behavior of real mobile users on your system.

UFT One is an automated functional testing tool that helps Testers to execute automated tests in order to identify any errors, defects or gaps in contrary to the expected results of the Application Under Test.

Additional UFT Digital Lab Benefits

UFT DIGITAL LAB ADD-IN FOR LOCAL DEVICES

The [UFT Digital Lab Add-in for Local Devices](#) integrates UFT One and the mobile devices connected directly to the UFT One host machine. In just a few steps, UFT One users can start designing and running mobile app and web tests on local mobile devices without purchasing an additional license.

This type of tight integration will allow UFT One users to:

- Execute omnichannel content strategies using the same script for desktop and mobile web
- Support mobile testing in companies that do not yet have a lab management solution in place

“With the new Micro Focus UFT Digital Lab solution in place, we will undoubtedly find more application defects. The eventual outcome will be higher quality mobile applications in days rather than weeks, providing the business with a competitive edge.”

DANIJEL RISTIĆ

Test Automation Leader, Application Software Division
Privredna Banka Zagreb

Contact us at:
www.microfocus.com

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- Run mobile tests without requiring a new tool for mobile devices

FLEXIBLE LICENSING

UFT Digital Lab offers flexible licensing to accommodate almost any organization. Every edition entitles customers concurrent access to a specified number of devices where the total number of connected devices is uncapped. Professional, Enterprise, and Ultimate include Network Virtualization (NV) capabilities and UFT One licenses to enable a complete mobile testing solution.

- **Express:** 1 device, limited to manual and open source testing, 1 SV Virtual Service—Web, Mobile, and IoT
- **Professional:** 4 devices, 2 NV, 4 SV Virtual Service—Web, Mobile, and IoT, and 1 UFT
- **Enterprise:** 30 devices, 30 NV, 30 SV Virtual Service—Web, Mobile, and IoT, and 1 UFT
- **Ultimate:** unlimited devices, 100 NV, 100 SV Virtual Service—Web, Mobile, and IoT, and 1 UFT

Additional devices may be added to Express, Professional and Enterprise.

When delivered on SaaS, UFT Digital Lab is available with tiered volume licensing of packages of ten concurrent runs.

System Requirements

Supported Operating Systems

- **Linux:** Red Hat Enterprise Linux and CentOS 6.5-7.4
- **Windows:** Windows 8.1 and 10 (x86-64), Windows Server 2008 and 2012 (R2)
- **MacOS (Connector-only):** OS X 10.11–10.14

Minimal Hardware Requirements

- 2.2 GHz or higher dual-core CPU
- 4GB RAM
- 20GB disk space

Learn More

For additional information about Micro Focus UFT Digital Lab:

[UFT Digital Lab Product Page](#)

[UFT Digital Lab Help](#)