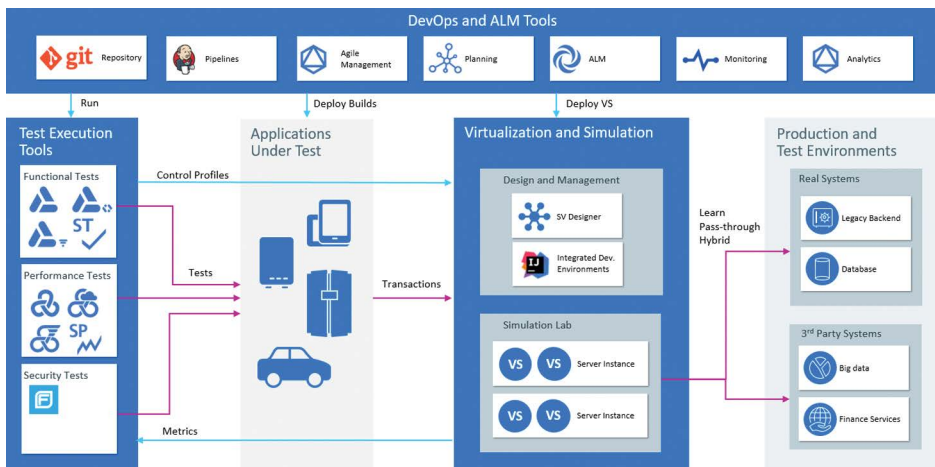


Service Virtualization

Easily eliminate the development and testing “wait time” that slows application delivery by enabling teams to quickly create realistic simulations of APIs and Virtual Services. Now, teams can focus on service quality rather than resource constraints.



Key Features

- **One solution for unit, functional and performance testing**—built-in data and performance modelling capabilities; pre-built integrations to ALM, UFT and LoadRunner family of products
- **Cross-vertical usage**—proven in multiple industry sectors including financial services, telecom, utilities, insurance manufacturing and more
- **Data-oriented simulation**—broad built-in enterprise protocols coverage and modelling techniques independent of customers technical background and skills
- **Large-scale load testing**—build for scale and load testing of realistic performance simulation scenarios without impacting production or 3rd party systems
- **Dev focused API simulation**—new simulation technology with innovative approach to solving advanced simulation use cases in testing of enterprise applications spanning across Web, Mobile and Internet of Things
- **Flexible infrastructure**—deployment of multiple simulation nodes depending on performance or test environments needs with multiple licensing options
- **Comprehensive technology stack**—100+ technologies and protocols available for virtualization and simulation, as a combination of transport and message parts
- **Design, publish, and run in minutes**—achieve faster time to value with the industry’s most user-friendly solution to design, publish and run enterprise Virtual Services and API simulations

Product Highlights

Today’s composite app initiatives often create a difficult dilemma for development and testing teams: meet the project deadline OR deliver a high-quality service. The core issue: growing interdependency among functional components leads to reliance on resources from third-party vendors, which leads to wait time and extra cycles.

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.

Major impediments addressed by Service Virtualization:

- Non-availability of production and 3rd party systems for development, functional and performance testing causing delays
- Increased complexity in building and maintaining testing environments with high maintenance costs
- Inability of developers to quickly identify and replicate the root cause of failure and deliver fixes in a timely manner

By using Micro Focus Service Virtualization, development and testing teams can achieve:

- Faster time-to-market by speeding up release cycles
- Increase efficiencies by eliminating bottlenecks caused by application complexity and dependencies
- Shorter test and reproduction cycles with earlier detection of defects
- Improved overall product quality with fewer defects reaching production
- Reduce costs by eliminating the requirement for access to constrained business-critical infrastructure, third-party systems, or pay-per-use cloud components for testing

The net result of using Service Virtualization is not only the ability to "shift-left" and execute tests earlier in the delivery cycle, but also to focus on service quality attributes such as performance, reliability, and scalability. In short, Service Virtualization delivers both faster delivery times and higher quality services. In the process, it creates significant benefits for all application delivery stakeholders.

Key Benefits and Features

Increase Efficiency: Shift-Left and Execute Tests Earlier in the Delivery Cycle

INDUSTRY'S MOST USER-FRIENDLY SOLUTION TO DESIGN AND PUBLISH VIRTUAL SERVICES

Service Virtualization (SV) provides an intuitive design IDE with data-oriented modeling independent of the customer's technical background and skills. SV capabilities include learning, data and samples imports, manual scenario modelling, data driving from database or files, advanced scripting, and interactive, on-the-fly simulation model creation. The easy-to-use design IDE contains an embedded simulation runtime for quick simulation debugging and local use.

Users can quickly model access to dependent application components and shared services, expose unfinished components to testing teams and other projects for dev/test and eliminate the need to create and maintain programming stubs.

OUT-OF-THE-BOX BROAD PROTOCOL AND SIMULATION COVERAGE

SV comes with a range of pre-built industry-wide protocols enabled for out-of-the-box simulation. SV provides dynamic data generation, auto-parameterization to increase simulation robustness, and built-in data masking to ensure data security. Advanced simulation capabilities like hybrid simulation and performance batch processing cover even the most complicated testing scenarios.

DEVELOPER-FOCUSED SIMULATION WITH EXTENDED MOBILE AND IOT CAPABILITIES

SV comes with complementary SV Lab technology providing developers and test engineers with a powerful set of new capabilities to solve advanced simulation use cases in testing of enterprise applications spanning web and mobile user interfaces, from legacy back-ends to cloud-native applications, connected devices, and Internet of Things. SV Lab provides dev testers the use of simulation language, simulation of publish-subscribe pattern, and the ability to use simulation models as invocation scenarios, streams of data, or API tests. SV Lab is highly portable and embedded in other test automation tools.

Improve Quality: Conduct More Realistic, Scalable, and Secure Tests with Fewer Defects Reaching Production

ONE SOLUTION FOR UNIT, FUNCTIONAL AND PERFORMANCE TESTING

SV comes with built-in performance modelling capabilities on top of functional and data models. Ready-to-use integration to performance

testing tools and scalable simulation runtime allows easy simulation of extreme backend services behavior that are hard to achieve on limited physical infrastructure, helps to mitigate constraints, and test performance within application dependencies. Users can stand up working test environments faster and with lower costs and conduct more realistic tests by modelling backend functional, performance, and network behavior.

SCALABLE AND SECURED SIMULATION INFRASTRUCTURE

SV comes with a flexible simulation infrastructure capable of handling large numbers of concurrent simulations while delivering thousands of transactions per second. Virtual Services are deployed in SV Server nodes serving multiple Virtual Services and controlled over API, command line interface, or web-based portal. The access to SV Server is secured by authentication and Virtual Services can be restricted using Access Control Lists (ACLs).

WEB-BASED MANAGEMENT

Web-based Service Virtualization Management Interface brings visibility and control to Virtual Services across multiple server nodes. It allows provisioning and control of virtual environments; management and configuration of protocol agents; parameterized search and filtering; and access to Virtual Service and server statistics, event audit, logged messages and simulation reports. Server and Virtual Service statistics can be exported to an external file in .xlsx format.

FLEXIBLE DEPLOYMENT

SV's infrastructure allows deployment of multiple SV Servers depending on performance requirements, test environments, system architecture, or organizational needs. Users can choose either to use direct OS installation or containerized deployment with pre-created Docker images.

Faster Time to Market: Accelerate the Software Release Cycle with End-to-End Testing Tool Integrations

PRE-INTEGRATED FOR USE WITH FUNCTIONAL AND PERFORMANCE TESTING TOOLS

SV comes with pre-built integrations to the UFT Functional Testing and LoadRunner Performance Testing portfolios. Test engineers can easily provision and control Virtual Services directly from automation tools and collect metrics during test execution and simulation time. SV integration to LoadRunner tools allows real time capture and visualization of Virtual Service simulation and server metrics directly in LoadRunner tools. Auto deployment of associated Virtual Services is provided once the script is executed and also provides the ability to change simulation conditions on the fly when the script is already running.

MOBILE TESTING WITH SIMULATION

Micro Focus UFT Mobile includes a built-in capability for Dev Testers and Developers to execute their tests with simulated APIs within test automation tools. SV Lab enables mobile application teams to easily create Virtual Services that can replace targeted services in a composite application or multi-step business process. The SV lab is deployed together with UFT Mobile and allows simulation of REST API and communication to physical devices over NFC and Bluetooth services that Application Under Test (AUT) consumes.

TEST ASSET MANAGEMENT

SV comes with pre-built integrations to Application Lifecycle Management (ALM) and Source Code Management (SCM), allowing storage and management of Service Virtualization projects as test resources in ALM or together with testing assets in SCM. Shared SV asset management allows easier maintenance and versioning, and, facilitates re-use of the Virtual Services by other users and other testing tools.

DEVOPS AND CONTINUOUS INTEGRATION

Integration with Continuous Integration (CI) tools using SV management API and CI plugins such as Jenkins or Bamboo allows SV to be part of the continuous integration process. 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.

“With Service Virtualization, we test earlier and gain more confidence in our end-to-end capabilities. We’ve replaced unreliable systems, increased staff efficiency, and launched new customer services with complete success.”

ALAN ABERNETHY

Principal Engineer
Sky

Customer Success

Service Virtualization software has been tried, tested, and proven at real-world customer sites around the world—in virtually every vertical market segment. Here are just a few examples of the benefits achieved:

Major Telecommunications Company

The ability to test earlier and more effectively with Service Virtualization eliminated third-party dependencies and helped the company record a 100% gain in efficiency.

Fortune 100 Global Bank

The SV software significantly improved the efficacy of its performance testing, catching issues that weren't identified by other simulation tools.

Utility Company

The utility company stopped missing service delivery deadlines due to a lack of available systems. With Service Virtualization, it was able to develop/test code calls against systems that did not currently exist.

Leading Electronics Retailer

Expensive stub solutions from the dev team were slow and had no integration to performance tools. Service Virtualization processed ~2.5 times more SAP IDOC messages per second than competitive solutions.

Hospitality Organization

The ease of use of SV and its seamless integration to the ALM performance and functional testing stack provided a comparable production-like environment when production was not available for testing. SV provided the ability to test varied response values for un-configured sites or endpoints to gain visibility of the impact on the SOA bus.

Financial Services

Service Virtualization helped solve the challenges of testing 50 to 100 apps per year with third-party dependencies such as government regulation and electronic payment brokers and various protocols such as ISO8583—so that the company could meet agile team needs and implement a continuous delivery model.

Key Software Components and Licensing

Service Virtualization Software consists of the following applications:

SV Designer

The SV Designer is a client application enabling creation of Virtual Services and run simulations of real service behavior. The Service Virtualization Designer is used for design and validation of Virtual Services within the same desktop environment and includes an embedded server for hosting virtual services.

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SV Server

The SV Server is a standalone server application that hosts the running of Virtual Services. The Service Virtualization Server is optimized for performance, can contain many more services than the SV Designer, and can be accessed by multiple Designers.

SV Lab Server

The SV Lab Server is a standalone application that can run a subset of protocols and only Virtual Services defined by simulation language—in context of API, mobile and IoT testing.

SV Management Interface

The SV Management Interface is a web application enabling management of Virtual Services and configuration on SV Servers, without opening the Designer or individual projects. The Service Virtualization Management interface is installed by default when you install the SV Server.

Flexible Licensing

SV offers two editions and two SV Server licensing options to accommodate almost any organizational need.

EXPRESS EDITION

- SV Designer: 3 VS, 10 TPS (free)

ENTERPRISE EDITION

- SV Designer: seat, unlimited VSs, 10 TPS
- SV Server:
 - Static: server instance, unlimited VSs
 - Dynamic: VSs in simulation, unlimited SV Server nodes, 3 VS types
 - Includes limited capacity of SV Lab Virtual Services

System Requirements

Supported Operating Systems:

- Windows: Windows 8.1, 10, Windows Server 2012/R2, 2016, 2019
- Linux (SV Server only): Red Hat Enterprise Linux 7.3, Oracle Linux 7.3 and CentOS 7
- Database: MS SQL 2008 R2, 2012, 2014, 2016, Azure SQL, Oracle 11g/12c, PostgreSQL 9.x/12.x
- SV Lab Server: Open JDK 8u112, Oracle Java 1.8.111
- Containers: Docker (Windows and Linux), VMware

Learn More

For additional information about Micro Focus Service Virtualization:

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