

About Green Hat

Green Hat is a testing technology leader, operating worldwide with a Global 2000 customer base. Green Hat makes automated testing simple for complex systems relying on Cloud, Web Services, messaging, SOA (Service Oriented Architecture), ESB (Enterprise Service Bus), BPM (Business Process Management), CEP (Complex Event Processing), SAP and other distributed computing technologies.

Make constant transformation sustainable with reusable tests and virtualization. Boost quality and performance to exceed business requirements. Automate now. Make business better. Learn more at www.greenhat.com

Adopted by leading companies around the world

Green Hat is in use by...

50% of the world's top 20 European and American banks

Source: Banker's Almanac, 2010

4 out of 5 of the top UK cellular phone operators

Source: www.wordiq.com, 2010

The largest railroad operator in North America

Source: www.railroadfocus.com, 2011

Germany and Europe's largest consumer electronics retailer

Source: www.billboard.com, 2009

North America's best managed insurance company

Source: Forbes, 2008

2 out of 3 of the world's largest publicly traded energy companies in the world

Source: Forbes Global 2000, 2009

**Dependencies on third party applications and systems delaying your project?
Wasting money on access fees, licences & equipment for end-to-end testing?
Want to run what-if scenarios during performance testing?**

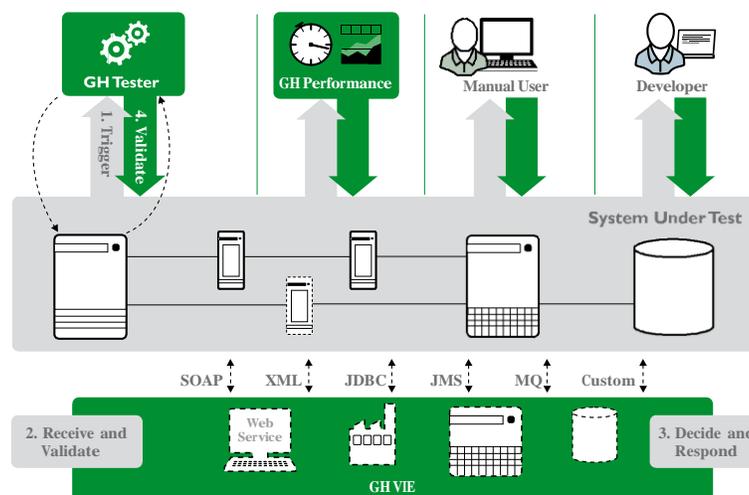
GH VIE (Virtual Integration Environment) addresses all of these issues and more, allowing you to create understandable, virtualized applications without relying on teams of developers for coding.

Testing of integration projects has always been complicated by multiple dependencies, such as: deliverables from different teams, systems owned and managed by third parties, and systems that are simply not available in the test environment, either due to expense or complexity.

The historic approach to these complications has been the creation of "stubs", simulating the part of the system that is not available for testing. "Stubbing" has traditionally been undertaken by developers and requires coding knowledge and specialist skills. This has often resulted in sparsely documented and poorly understood testing environments that rely on key individuals, and make continuous integration testing unachievable or prohibitively expensive to maintain. Green Hat's GH VIE (Virtual Integration Environment) changes all of this: testers can now take control of their own destiny without needing any programming language knowledge, creating virtualized applications in a commonly understood form that can be readily shared and easily updated as underlying systems and data change.

GH VIE - Architecture

GH VIE can be used in multiple scenarios. The use of virtualized applications is not restricted to tests executed by GH Tester: Manual testers and developers can also get the full benefit of VIE as it can run stand alone in any testing scenario or any development environment.



GH VIE and GH Tester work together seamlessly.

1. Trigger – the tester sends a message to the system under test that needs to talk to other systems
2. The virtualized application receives the request from the system under test and can validate that the message received is as expected
3. The virtualized application decides how it will respond to the message (e.g. error, look up request, timeout)
4. The system responds to the original request and GH Tester can validate that the response sent back is correct.

Testing Team Empowered

Once one codeless virtualized application, or a group of these, has been created, they can be stored in a central repository and accessed by all, developers and testers alike. If you have a SOA Governance solution, GH VIE makes an ideal companion, storing virtualized application definitions alongside service definitions. These virtualized applications can be centrally managed on a per-environment basis, allowing anyone to see at a glance how each Virtual Integration Environment is configured right now. Users can change the configuration of the environment quickly and easily to enable testing of different scenarios, whether they are using Eclipse, .Net or indeed any other development tool: all you need is a web browser. GH VIE is part of the GH Tester suite and provides the complete spectrum of virtualized application capabilities, including:

Pre-canned	The input is optionally validated, and a pre-determined response is returned in a user-controllable timeframe.
Parameterized	The virtualized application uses a dataset to return a rich number of different items of data from a spreadsheet, database or flat file. Data can also be persisted back into the source.
Stateful	The response returned can be based on previous pieces of data seen, e.g. in a session or conversation.
Model-driven	A library of behaviors, coupled with a powerful wizard that generates virtualized applications from schemas, provides complete support for persistence, data feed characteristics, B2B functionality and even trading environments. You can easily add your own or engage us to do it for you.
Recorded	Although it is not necessary for the system to exist in order to create a virtualized application for it using GHVIE, when it does, GH VIE offers powerful wizards to help you make a recording and then leverage it to build the virtualized application. Databases, SWIFT, HL7, IATA, JMS, Web Services, SOAP, REST, TCP/IP and many more are all supported.

Ideal for Agile

GH VIE enables you to realize the benefits of continuous testing, as you do not have to modify the system under test. There is no need to point your system at test services and as this step is removed, both developers and testers can change environments without changing the actual system itself. The result is complete confidence that the tested system will be the same as the one deployed.

Performance Testing

Virtualized applications have an additional role to play during performance testing, allowing you to test the theoretical limits of systems that might otherwise be limited by components too slow to cope with high transaction volumes, allowing the exploration of “what-if” scenarios without the expense, whilst also accelerating application testing cycles. GH VIE is available in industry versions, each with a set of special models and protocols requested by our customers in these sectors.

Your Production Environment Recreated without the Risks

For authentic testing, you may need to recreate the production environment so you don't create real issues with customers receiving test samples of bills, cancellation notices and orders they never made! GH VIE addresses this with an automated emulation of your infrastructure and processes which can reuse your GH Tester assets or easily create new ones.

Industry Specific Support

Green Hat virtual applications are not limited to XML, Web Services or databases. A wide range of out-of-the-box industry specific protocols offer additional support for HL7, IATA, SWIFT and FIX amongst others.

Start saving License Costs now

Third parties often charge for testing environments and for software licences installed into the test environment. That applies to enterprise applications and some Cloud services as well. Other third parties require you to book testing time, denying your need for continuous testing in the new agile world. Eliminate these costs and problems today with GH VIE.

Part of the GH Tester suite, not another “product”

When GH Tester starts a test, it can automatically start the necessary virtualized applications to go with it, ensuring that unresolved system dependencies can be satisfied. The user is in control of which virtualized applications are used, allowing a wide variety of different situations to be modelled, depending on the testing scenario. GH VIE is seamlessly integrated into GH Tester, with flexible, cost-effective pricing.

GHVIE Essentials or GHVIE Advantage?

With GH VIE, you can choose the best solution to meet your unique requirements. GH VIE Essentials is included with every copy of GH Tester, whilst GH VIE Advantage is an additional product that seamlessly integrates with GH Tester and allows for more advanced demands such as remote execution, virtualization of databases and Cloud support.

The table below shows the main differences between the two Editions.

	VIE Essentials	VIE Advantage
Codeless virtualized applications	X	X
Hard-coded responses	X	X
Data-driven responses	X	X
Use inputs as part of outputs	X	X
Calculated and derived fields	X	X
Support for functional testing	X	X
Remote execution		X
Cloud support*		X
Virtualization of databases		X
General IP virtualization		X
SAP support for virtualized applications		X
Use of virtualized applications during performance testing		X
Library of rich behaviours		X
Domain data model support		X
Data feed patterns		X
Serialization patterns		X
Financial services patterns		X
Advanced environment management		X

*Separate plug-in available at an additional cost

Faster Cheaper Testing

Project teams deploy GH VIE in various scenarios to gain multiple benefits:

- By simulating external systems, the integration environment can be isolated without potential variations
- The common response provided by the virtualized applications allows the reuse of tests to compare current and to-be versions
- Simulating BPM decision steps directs testing of specific process paths in a repeatable, reusable way that accelerates testing without needing people.

What else?

GH VIE (Virtual Integration Environment) puts testing teams in the driving seat by enabling them to create and manage the simulation of systems that are unavailable for testing. Whether your virtualization scenarios are simple or more complex, GH VIE can meet these demands. Contact us to see how you could be saving money and testing smarter.

