

The Virtual-ATM® Solution

The **Virtual-ATM® Solution** aims to improve the quality assurance of ATM application software while reducing its cost. Testing execution of the clients' transactions and operators' functionalities (such as "cash replenishment operations") can be automated and guaranteed. The **Virtual-ATM® Solution** reduces the release cost, avoid delays, increases security and quality of the application (including fraud detection cases) and mitigates the risk of failure generated by untested situations.

The **Virtual-ATM® Solution** makes development and verification cycles faster and more reliable. It makes possible to execute a big amount of tests in a short period of time, reflecting on a significant productivity growth. For a comparative effect: in a usual situation, a professional manages 100 tests per day while, using the **Virtual-ATM® Solution**, the same professional is able to manage 5.000 tests per day.

The **Virtual-ATM® Solution** contains custom simulators that enable an ATM application to be executed normally on a PC or Notebook with no need for the ATM's physical devices.

The **Virtual-ATM Solution®** also includes a collection of tools developed for total documentation, storage and recovery of the tests. The process is totally automated (from execution to verification). It means that development and verification teams can quickly execute more and more tests cycles with precision and without the need for human interference during its execution.

The **Virtual-ATM Solution®** has been successfully used since February 2004 by TecBan, a Brazilian enterprise, with financial transactions amounting about US\$ 6.6 billions. TecBan is also responsible for the ATMs of Banco24Horas, Caixa Econômica Federal, Nossa Caixa and Bank Boston. In TecBan' project, the **Virtual-ATM® Solution** has reached a cost reduction from US\$ 21.25 to US\$ 1.29 per test case applied and; verification time reduction from 15 to 5 days (according to the Brazilian edition of the Computer World Magazine, November 11th, 2004).

Gesfor Brasil® is proud to be pioneer in ATM automation testing and verification process.

Expected Results

Investment Return Indicators

Indicator	Virtual-ATM® Solution Impact
Cost	Lower cost of an execution cycle
Quality	Higher amount of test cases
Time	Lower execution time
Efficiency	Higher amount of detected errors
Reliability	Lower amount of "non-precedent" defects
Productivity	Higher amount of managed tests per analyst
Restriction	Lower "time to market"
Process	Enhancement of testing culture maturity

Returns due to indicators improvement

Competitiveness Cost Reduction	Client Satisfaction Maintain clients Achieve new clients
Smaller risk of company reliability loss, caused by systems failures	Process Regularization Allows "Job Rotation" Less "turnovers" influence Intellectual work valuation Scalability: supports demand growth Easier to exchange development and verification teams Facilitates system "refactoring"
Differential of Service Specification adequacy Agility Stability	

Gesfor Brasil® offers a complete, tested and working solution.

The Virtual-ATM® Solution Components

Simulators	Administrators
<p>ATM Simulator (device simulator) Allows ATM terminal applications to run in a PC, without the ATM machine</p>	<p>Test Mass Administrator Test cases elements editing and version control</p>
<p>Host Simulator Replaces the “authorizer”. May run on the same machine together with the ATM terminal application</p>	<p>Execution Administrator Controls the automation and allows the selection of the cases to be tested according to various existing filters</p>
	<p>Result Administrator Test results confrontation with the baseline and “nonconformity” report elaboration</p>

Solidity and Specialization in ATM Test Automation

ATM Architecture Knowledge: In 2003 the **Virtual-ATM® Solution** had already the capability to execute 2.000 test cases per day in a normal PC. The simulator recreates the different behaviors of physical devices. There is no need to change de application source code. Today, **Gesfor Brasil®** accumulates about 2 years of experience in ATM test automation making the **Virtual-ATM® Solution** a mature architecture for a fast and reliable operation.

Test Processing Knowledge: **Gesfor Brasil®** holds a methodology that includes all phases and activities involved in a Test Project. It guides the professionals to follow the best rules during the test process. **Gesfor Brasil®** has standardized artifacts for every step of the test project, improving the completeness of the test process documentation.

Test Automation Knowledge: **Gesfor Brasil®** is highly experienced in test automation in companies such as **Bovespa**, **Carrefour** and **TecBan**. Many critical systems have been automated like ATM “Authorizer”, SPB (electronic payment and clearing system) and Batch Processing.

Solidity and International Presence: **Gesfor Brasil®** belongs to the **Gesfor Group** that operates in Argentina, Chile, Colombia, Ecuador, Spain, Mexico, Peru and Venezuela. Its annual income is about 60 million Euros. **Gesfor Brasil®** has been chosen by **Compuware do Brasil®** as its preferred-partner due to its international presence and expertise in quality control, development, testing and high complexity solutions.



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