



## Software Testing Using High Automation

HDI Group is in the market since 1990 and has been implementing software testing projects in Brazil, Portugal, Spain, Mexico, Chile, Venezuela and Colombia

We are the software testing high automation provider. Using a software test accelerator which generates production far higher speed and much wider coverage than regular automated tests with 100% accuracy we provide up to 80% savings in the process.

Over 10 Million tests automated and executed ...

Show our commitment to **QUALITY**



## SOME OF OUR CLIENTS





# From Specification to Production

Requirements Quality

Functionals Black Box

Specification

Functionals White Box

Integrated

Scalar and Stress

Construction

Security

Compared Certification

After Production Monitoring

Pre-production

Performance Improvement

Production



## Technical Summary High Automation With Quality Cells

**...We do Modeling, Generation and Execution of Automated Tests Without Programming...**

We generate all automated tests artifacts to Compuware, Rational, Mercury and Borland without tool manual programming, as for example:

Test Robot Programming, Scenarios, Cases, Requirements, Proof Matrix, Datapools, Acceptance Documents, Cycles Control, Work Defects Management

Specification

Requirement Quality

Functionals and Integrated

Code Analysis

Load and Stress

Performance Enhancement

Approval

Production

Drastic cost reduction if compared with manual tests or traditional automation



# Automated Tests without High Automation



Specialists Specify the Tests



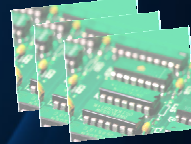
Tests Procedures are Generated



Procedures are Recorded



Robots Execute the Tests



Several Robots Test Complex Procedures Simultaneously

## Advantages

- Repeatable
- Higher complexity is possible
- 24 X 7 nonstop tests
- Escalate tests without escalating man hours
- Forecast and plan test costs

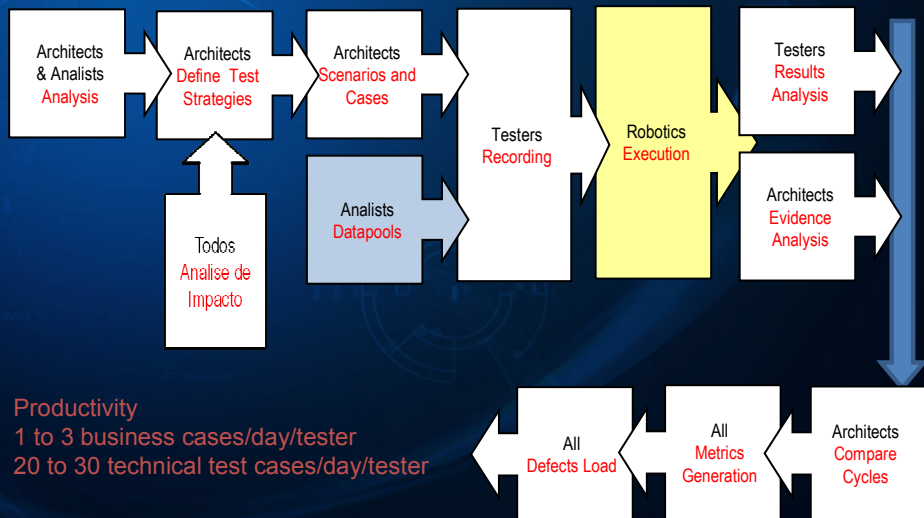


## Disadvantages

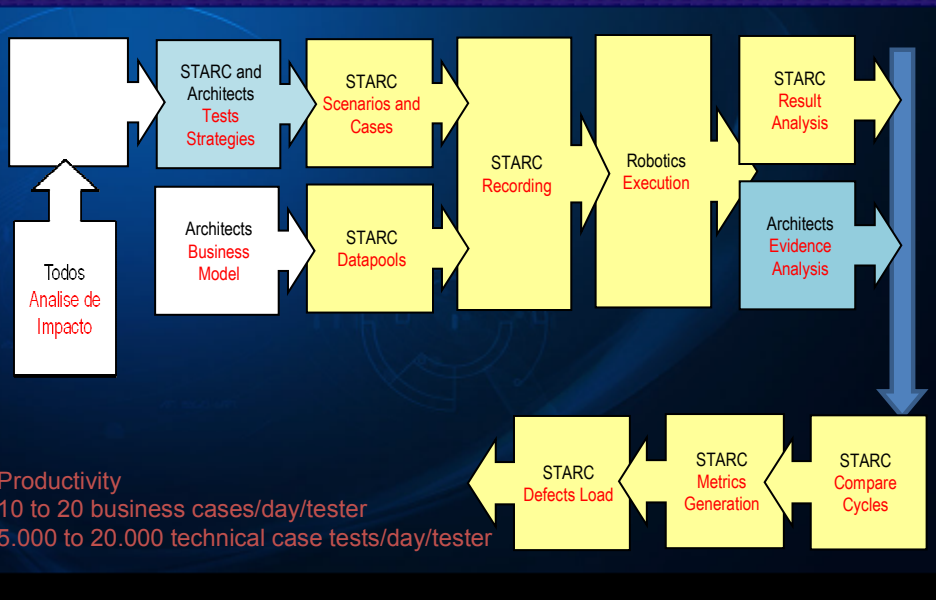
- Hard to use, Specialized Staff
- Lack of development maturity
- Lack of knowledge in QA and Development Rules
- Tools Suppliers lack of knowledge
- Rate of return too long
- QA became process bottleneck



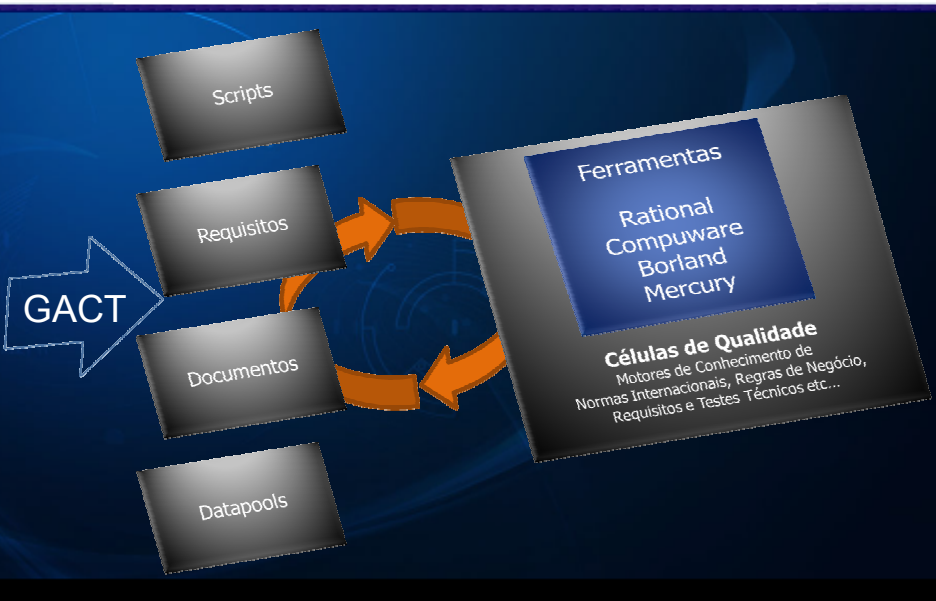
# Automation Tools Without High Automation



## Adding High Automation



## Automated Case Test Generator (GACT)





## \$ Client Benefits

**Only Tools**  
12 to 25 US\$

**Using High Automation**  
0,33 to 0,55 US\$ or less

US\$ 15.00

Without Quality Cells

US\$ 0.55

Banco VR  
Unibanco

R\$ 0,16

Banco Itaú

**ALSO, REDUCING MANUAL TEST STAFF DRASTICALLY!**



## Paradigm Change

*“... it's not possible to test it all because I do not have enough knowledge or do not know all quality rules...”*

*“... I have to choose X% more critical to test because it is impossible to test it all...”*

*“... the cost to test in mass is unfeasible...”*

**“... TEST THIS IS NOT A PRIORITY ...”**



## Sucess Case # 1



Itaú Bank has reached its 60 years of age as the strongest financial institution in Brazil, according to Moody's, risk classification agency. With more than 2,800 branches and the largest internet banking of Brazil, Itaú is also considered the most innovative and admired bank in the country

Channels	2008 <sup>(1)</sup>	2007	2006	2005	2004	2003
Branches	2.812	2.764	2.603	2.391	2.282	2.321
Sub Branches	745	764	780	783	791	851
ATMs	23.880	23.739	23.096	22.023	21.150	20.021



## Savings, Added Value and Technical Benefits

**Total executed tests: Over 5.8 Million in 1 year**

### Savings

Over 4000% cost reduction if compared to manual tests, 80% economy with staff  
Test case cost before project: **US\$ 63**      Current Cost: **US\$ 0.017**

ROI: 100% ROI in 8 months

Errors detected in 1st round of tests: 1883 errors

Errors detected in later tests: Average 6 per cycle

Tested objects: 1283

Test Cases Generated: Over 187.000 per cycle



# Itau Case at a Glance

## Before High Automation:

- ✓ 90 people staff
- ✓ 2900 business scenarios
- ✓ 0 technical scenarios
- ✓ 0 security scenarios
- ✓ 0 best practices scenarios

## After High Automation:

- ✓ 20 people staff
- ✓ 50,000 business scenarios
- ✓ 30,000 technical scenarios
- ✓ 60,000 best practices scenarios



# Sucess Case # 2



TOKIO MARINE

Tókió Marine Insurance Group is a Tokio Marine & Nichido Fire Insurance Co. Ltd subsidiary and is part of Millea Holdings, Inc. This is the oldest insurance group in Japan and of the world's largest. Headquarter is in Japan with over 36 operations throughout the world





## Savings, Added Value and Technical Benefits

**Total executed tests: Over 500,000 in 10 months**

### Savings

Over 4000% cost reduction if compared to manual tests, 80% economy with staff

Test case cost before project: **US\$ 48**      Current Cost: **US\$ 4**

ROI: 100% ROI in 10 months

Errors detected in 1st round of tests: 1317 errors

Errors detected in later tests: Average 6 per cycle

Tested objects: over 200

Test Cases Generated: Over 70.000 per cycle



## Tokio Marine Case at a Glance

### Results:

- ✓ 120 systems tested simultaneously
- ✓ 24 people staff
- ✓ 250,000 tests in 5 months
- ✓ Coverage forecast: 180 systems in 20 months
- ✓ 65% cost reduction



## Summary

Higher Quality  
Lower Risk  
Higher Control  
Mature and Knowledge Processes  
Lower Costs

**HDI Group**



**THANK YOU**