

## Why Automate the Testing Process?

### TESTERS ARE EXPENSIVE

- The single most expensive cost for software testing is the cost of human resources. If tests were going to be run only a single time that cost may be acceptable – but in real life, tests are run again and again. Having people put the same information in again and again for each test cycle is a huge waste of human resources.
- By contrast, once automated testing is in place, the savings are very substantial. In large scale automated testing projects, Telesis' experience has been an average 89% cost reduction compared to manual software testing.

### NOT TESTING IS EVEN MORE EXPENSIVE

- 84% of projects deemed mission critical by customers experience at least one significant failure (business requirements not met; application does not perform in production as expected). [Standish Group]
- The average web site experiences at least 1 hour of downtime per day because of latent functional or performance defects. [AT&T]
- “An industry rule of thumb is that a bug which costs \$1.00 to fix on a programmer's desktop costs \$100 to fix once it is incorporated into a build and thousands of dollars if it is identified only after the software has been deployed in the field.” [*Economist Magazine*, March 6, 2008].
- Telesis automated testing projects experience an average 350% reduction in business production errors.

### AUTOMATED DATA PARAMETERIZATION IS A CHEAP AND THOROUGH WAY TO CUT THAT RISK

State of the art test tools can go another step and convert a single script into an array of test scripts by parameterizing the data.

- Example: A health insurance company wants to test a variety of claim coverage scenarios for newborns. Instead of writing numerous scripts, the company develops a

single test script with a supporting data table, so that a single script can be used to test hundreds of scenarios:

Member #	Newborn DOB	Eff Date of Coverage	Coverage Plan	Result Expected: Coverage for Birth?	Result Expected: Delivery Deductible
12345	11/1/06	11/1/06	Preferred	Yes	\$200
12567	11/3/06	11/5/06	Preferred	No	No Coverage
34087	11/5/06	11/5/06	Standard	Yes	\$500
26410	12/6/06	12/15/06	Standard	No	No Coverage

Telesis has a client where a single test script was leveraged to execute over 3,000 different test scenarios. By making testing faster and easier, automated tools increase test coverage and reduce the number of software defects.

### **TEST RERUNS ARE ESSENTIAL**

- Every time an application is changed, there is a risk that a new defect has been introduced. On average, for every 17 changes intentionally made to an application, one new defect is introduced to that application [Quality Assurance Institute].
- If a software module has undergone substantial change, numerous new defects may have been introduced, particularly if the development team is under time pressure to meet an ETA.

### **AUTOMATED TEST RERUNS ARE VERY CHEAP**

- Once the scripts are developed and parameterized, they can be run repeatedly, each time an application is changed or moved to a different test environment. That raises the bar for software quality without materially raising the cost of testing.

### **RERUNS ARE FAST / DEFECTS ARE AUTOMATICALLY IDENTIFIED**

- Scripts can be launched again and again. If the application is undergoing substantial changes, automated test scripts can be set to run every night so defects are found quickly.