

How to save money in Software Automation Script Development and Script Maintenance

Presented by: Dalim Khandaker & Serhiy Bushmakin
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NTT DATA Vertex

www.nttdata.ca





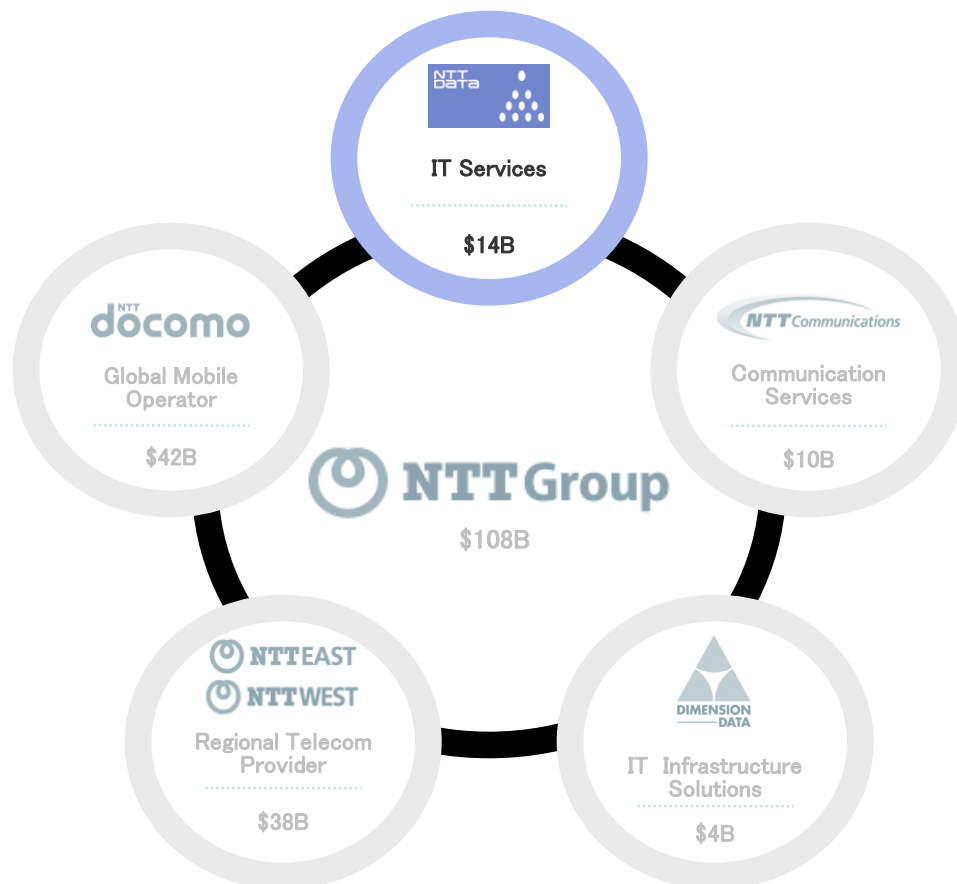
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NTT DATA Overview





- **NTT global business unit** specializing in IT Services and Systems Integration
- **Founded in 1967** as the technology arm of NTT, spun off as Systems Integration and IT Consulting firm in 1988
- **Integrating under a single brand** and operating model – targeting January 1, 2012 completion
- **Creating the 7th largest global IT services provider**, generating \$14B in annual revenues with 55,000 employees in 35 countries
- **Committed to successful partnering** through innovation and unparalleled quality and service excellence



Software Automation Challenges



Challenges and Solutions

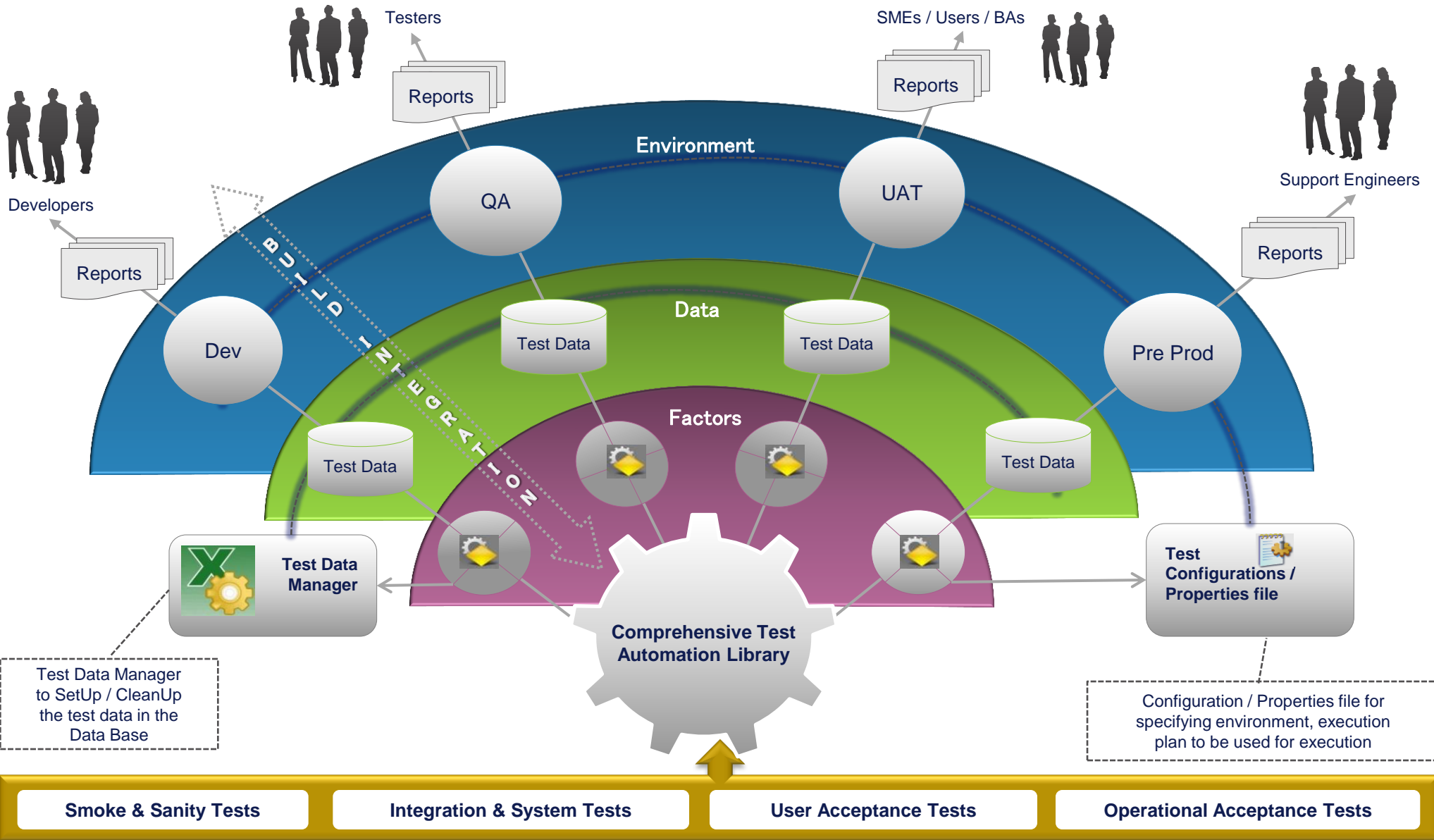
Impact area	Challenges	Open2Test feature
Business	Time-to-Market, Reliability & Faster ROI	Ready to be used, thoroughly tested framework resulting in considerable reduction of script creation effort
Expenses	Expensive to train and cross train resources across tools	Standard set of English like keywords across Tools & Technologies which requires minimal training
	Expensive to switch to another tool of choice and rewrite automation scripts	Compatible across tools and technologies
Resources	Ability to reuse resources across test automation tools	Easy deployment of resources across tools & technologies
	Necessity to have experienced resources with programming skills to create and maintain scripts	Non-technical resources can create scripts with a minimum knowledge of automation tool
Technology	Need for individual framework creation for each of the product lines	Robust, application independent framework



End to End Automation Overview



End-to-End Quality Automation



Automation Maturity Model

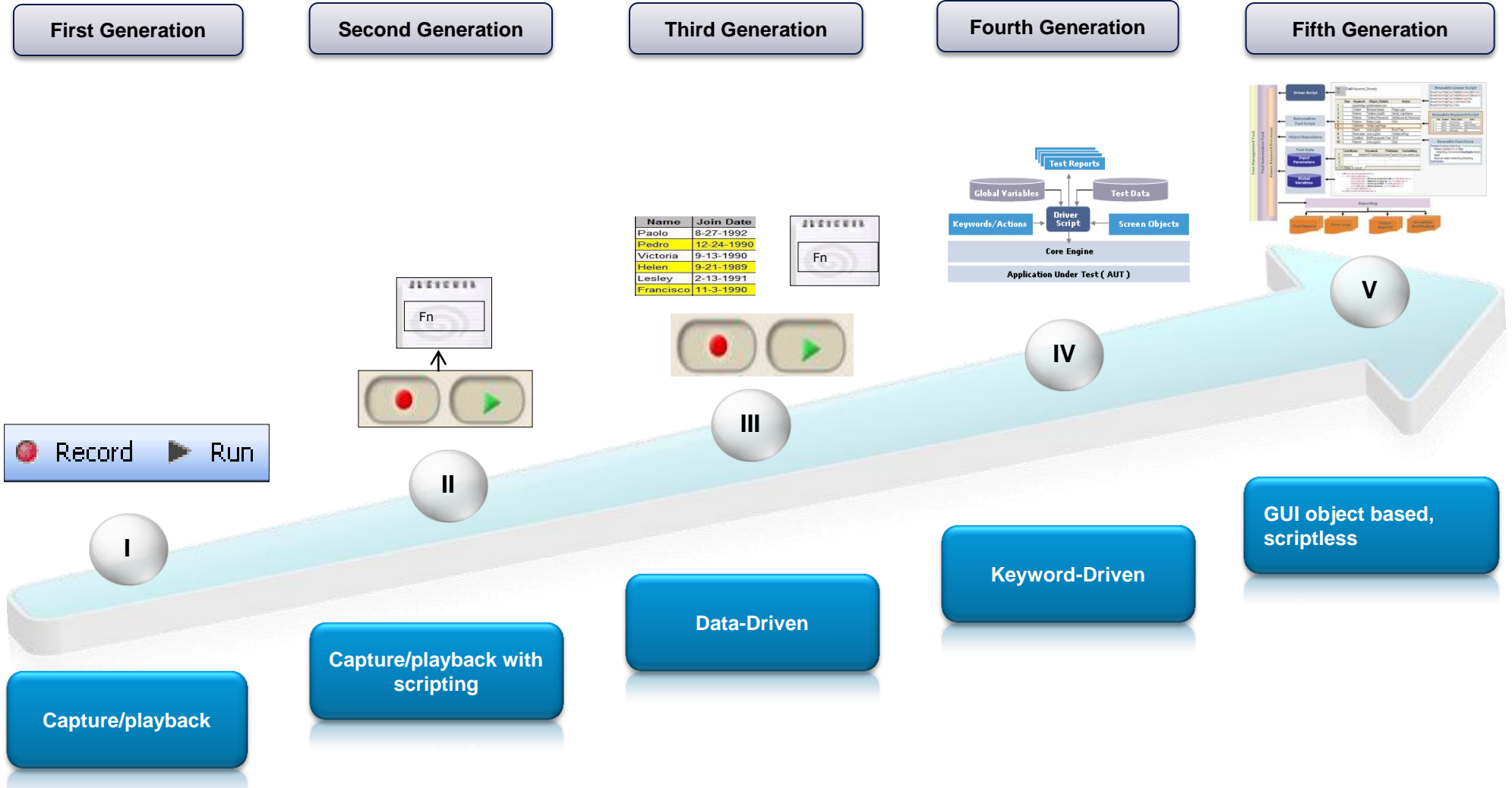
	Basic	Advanced	Optimized
Process	Reusability	Continuous Integration	Business Process Integrity
	Data and Script Independence	Layered automation	User-centric testing
	Regression testing	Dev, QA quality automation	Deployment
Tools	Extensible	Portable	Meta-Automation: automating process of automation
	Component based automation	Code Analysis	Meta-data based automation
	Record, Playback	Common Test Automation Language, Process automation	Learn and adapt
Risk	Lower risk for maintenance activities	Lower risk for Dev and QA activities	Lower risk to production rollout
Cost to Quality	Lower regression testing cost	Lower Dev and QA costs	Lower production rollout costs
Time to Quality	Reduce time to regression	Reduce time to dev and QA activities	Reduce time to customer adoption



What is **Open2Test?**



Automation Framework Evolution





- Test Automation Accelerator
- Power of Keywords simple “ENGLISH” like
- Driven by Hybrid Approaches
- Support for multiple automation tools



- “Agnostic” - Tools and Technologies
- “Abstraction” of technical “nuances”
- “Can Do” for manual QA resources
- “Extensible” to address project specific needs



- Common Automation Wrapper [very similar to JVM, ODBC]
- NextGen – Test Automation appliances
- Discover & Automate – as you go!

Open2Test is ***NOT***

- An automation tool by itself
- A programming language

*Script Once,
Execute Anywhere! **

** on Tools, Technologies, Platforms supported*



September 2009: Information Week "Top Innovator Award" for NTT DATA Open2Test

Very Minimal Automation Skills Dependency

Open2Test (O2T)

KEYWORDS (English Like)

- Common Test Automation Language
- Open Source
- Customer Extensible
- Wrapper Automation Tool

Run	Keyword	Object_Details	Action	Action2	Comments
8	r	check	linktext=Professional Tester	existtrue	



```

19: If Browser("hrsProfessionalTester").Page("PagSearchComplInfo").Link("lnkCompWebSite").GetProperty("innerText") = "http://www.professionaltester.com" Then
20: Reporter.ReportEvent micPass, "Website Link - http://www.professionaltester.com should be displayed", "Link displayed as expected"
21: Else
22: Reporter.ReportEvent micFail, "Website Link - http://www.professionaltester.com should be displayed", "Link not displayed as expected"
23: End If

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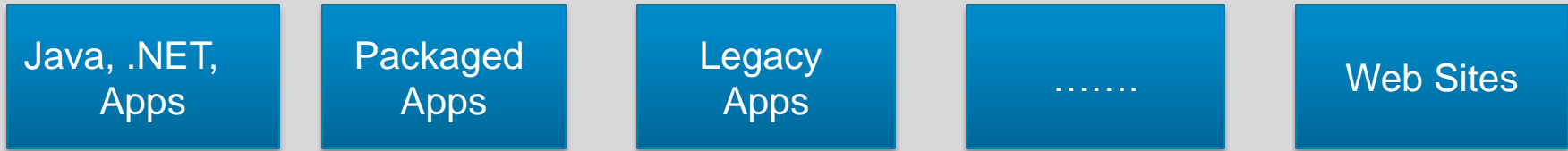
Strong Automation Skills Dependency

Enterprise Test Tools Spread



Domain Expertise Dependency

Enterprise Application Landscape





- ✓ Conditional checking and looping
- ✓ Data-driven testing
- ✓ Interaction with files, folders and databases
- ✓ Calling reusable actions and functions
- ✓ Descriptive programming
- ✓ Regular Expressions
- ✓ Keyboard inputs
- ✓ Date/time and string functions
- ✓ Exception handling
- ✓ Use of variables and arithmetic operators

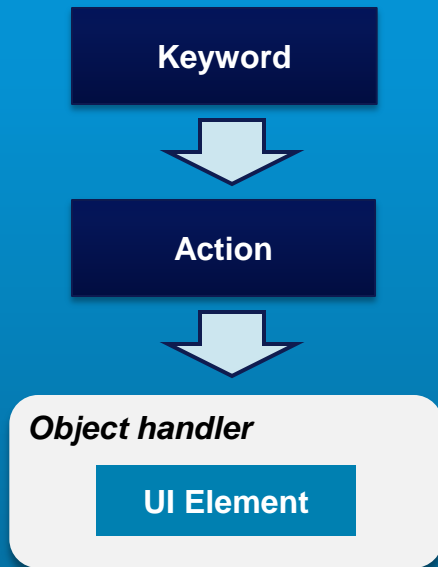


Open2Test Framework Architecture

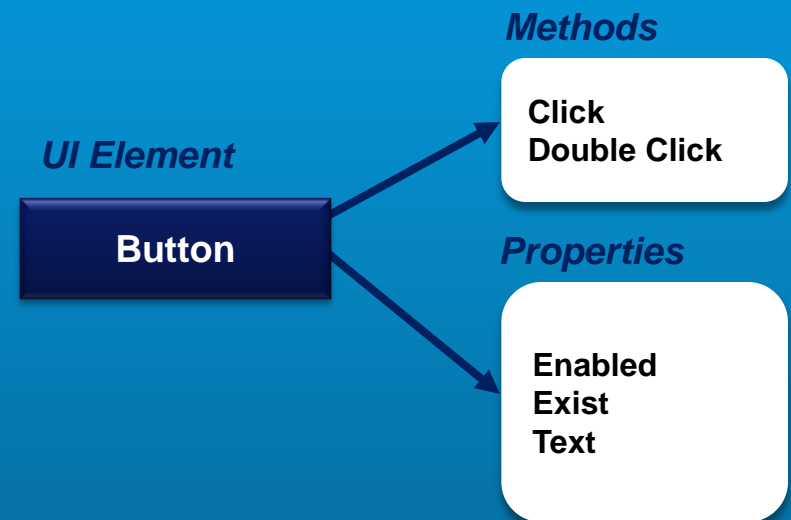


- Highest level of modularity – GUI object based
- Keyword initiates Object handler
- Object handler manages all interactions with GUI object

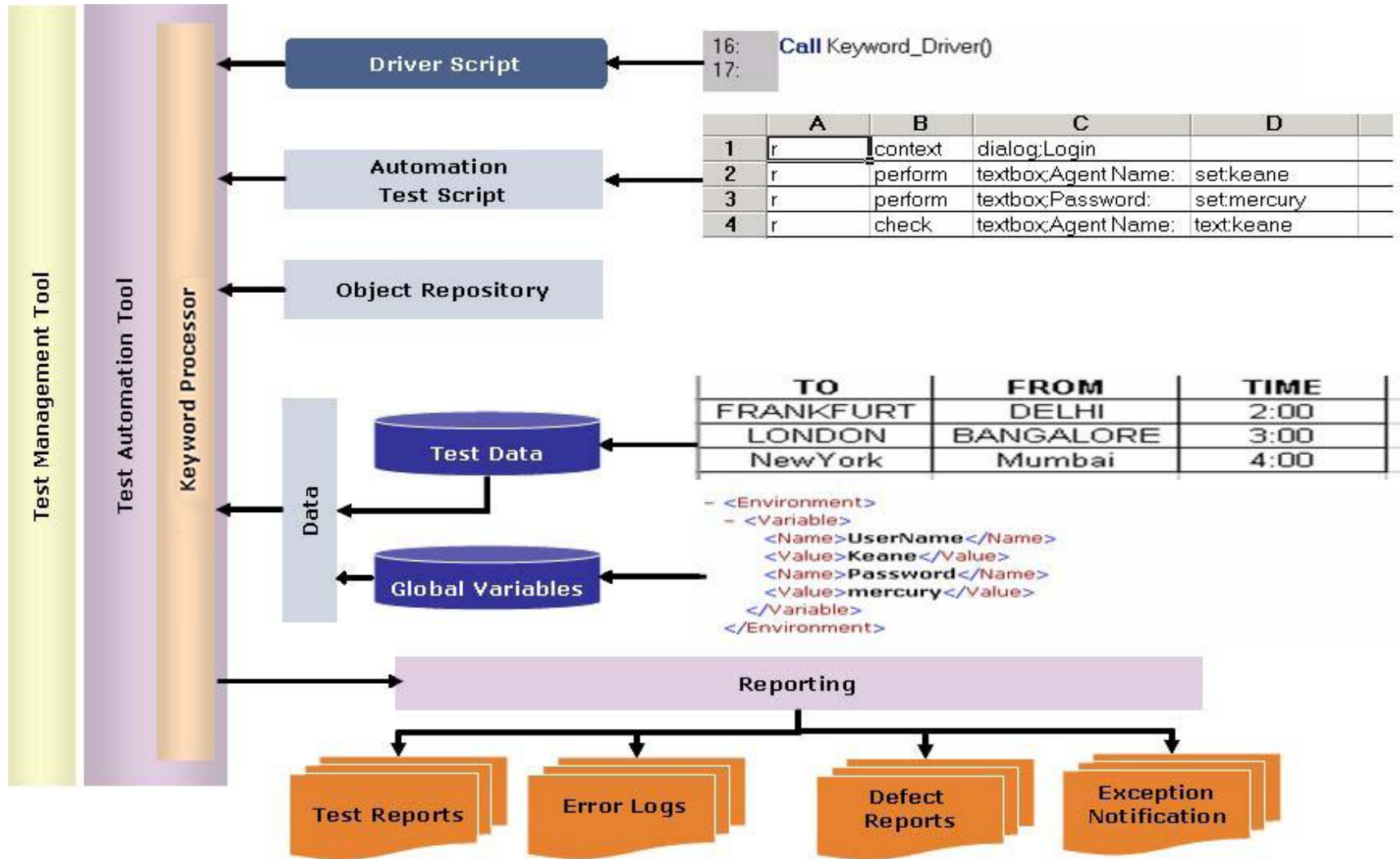
Concept



GUI object handler



Open2Test Framework Architecture





Sample Open2Test script execution with Quick Test Pro

[Start demo](#)





Reducing Automation Co\$t\$t With Open2Test



- ✓ Highly reusable code: elimination of code redundancy
- ✓ Simplified maintenance and increased productivity
- ✓ Fixed number of highly tested, quality code lines
- ✓ Easily extendable, customizable solution
- ✓ More tests with less coding: accelerates automation development
- ✓ Minimal transition efforts to a new tool or technology





Open2Test Roadmap



Open2Test Roadmap

	Web	Windows	Java	.NET	SAP	Mainframe	Oracle Apps	Flex	Power Builder
Quick Test Pro	Released	Released	Released	Released	Released	Released	Released	Released	Released
Selenium	Released								
Rational Functional Tester	In progress	In progress	In progress						
Test Partner	Released	In progress	In progress	Released					
Silk Test	Released	In progress	Released	In progress					
e-Tester	Released								
OpenScript	Released						In progress		

Open2Test Designer

A solution to speed-up the script development process which converts recorded scripts into Open2Test format and provides integrated development environment (IDE) to assist tester enhance converted scripts very quickly.

Features:

- Compiler
- Variables lookup
- User defined functions/reusable actions manager
- Features to import/export the script

Open2Test Discover

Retrieves meta-data of the AUT and does further processes to learn the object model in order to create test components automatically. Provides both automatic test component generation and assisted test case creation which will reduce time to automate significantly.

Features:

- Meta-data discovery
- Smart Component generator
- Test case composer

URL for Open 2 test: www.open2test.org

