



As technology continues to drive towards more open and connected networks, mission critical systems, including those in the Oil, Gas, Utility, Waste Water, Chemical and Critical Manufacturing industries, are becoming increasingly vulnerable to cyber attacks. This has led to greater awareness from system operators around the security and robustness of the devices they deploy in these environments.

The Achilles<sup>®</sup> Test Platform is an important tool for manufacturers of mission critical infrastructure who need to ensure that their products are not vulnerable to cyber attacks. The Achilles Test Platform is the only communications robustness test platform that can monitor both network and operational parameters, allowing vulnerabilities to be discovered, faults to be reproduced, isolated, identified and resolved before products are introduced to the market.

**ROBUSTNESS TESTING**

**BENEFITS**

**Increase Productivity and Effectiveness**

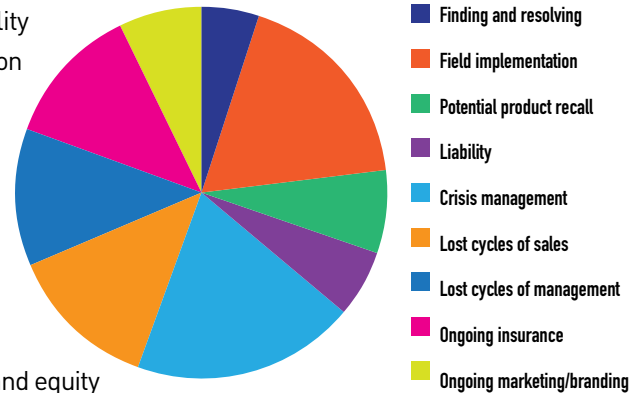
- Test automation dramatically improves development and test efficiency
- More thorough testing provides customers with secure, reliable and robust products

**Minimize the Cost Associated With Escaped Bugs**

- By identifying vulnerabilities early in the lifecycle through robustness testing, manufacturers reduce the risk of experiencing an issue in the field, which is extremely costly
- Reduce requirement for patch distribution, customer service and increase customer retention by avoiding quality problems

**The total cost of an attack for Device Manufacturers is more than just finding and resolving the vulnerability.**

- Finding and resolving the vulnerability
- Field implementation of the resolution
- Potential product recall
- Liability costs
- Crisis management costs
- Lost cycles of Sales team
- Lost cycles of Management team
- Ongoing increased Marketing costs
- Ongoing increased insurance costs
- Ongoing impacts to reputation & brand equity



**Reduce Time to Market**

- Compressing the development and test processes in the development life-cycle by identifying vulnerabilities early allows for a faster time to market
- Leads to higher market share, more time for product sales & quicker revenue recognition

**Prepare, Align and Conform With Industry Standards and Requirements**

- Get ahead of compliance mandates as operators of critical infrastructure are demanding their customers provide reliable, secure devices for deployment
- Simplify certifications as the Achilles Test Platform provides the exact tests that are used in industry-recognized standards such as the Achilles Communications Certification and the ISA Secure EDSA Communications Robustness Testing Component
- Meet customer procurement requirements and leverage security and robustness as a product differentiator



### ACHILLES TEST PLATFORM DIFFERENTIATION

#### Real-World Test Environment Monitoring

- Patented test framework designed specifically to allow the user to test and monitor the device's capability under real-world conditions to accurately verify and validate performance
- Monitoring techniques employed provide unparalleled visibility into a device's core functionality
- Monitor all key operating parameters during testing: network parameters, operational parameters



#### Industry Feedback

"Achilles testing provides welcome reassurance to the industrial automation community that the products they purchase are highly secure and reliable, conforming to a comprehensive set of requirements, in order to achieve their globally recognized certification"

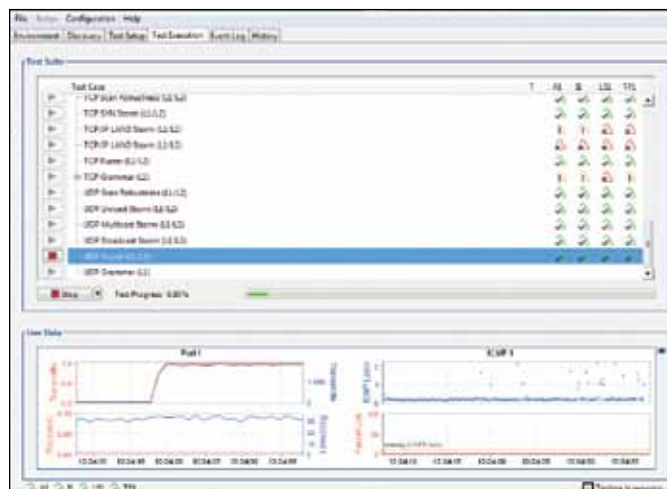


#### Comprehensive Testing of Industrial Control Specific Protocols

- Achilles® Test Platform has the most extensive set of control protocol coverage with tests designed specifically for devices found in critical infrastructure
- Extensive experience with both manufacturers and operators of critical infrastructure devices has allowed for tests that specifically address real life scenarios in the field

#### Fast, Efficient & Easy Automated Testing Methodology

- Manages the sending and monitoring of multiple tests and test sequences, resulting in the fast execution of a comprehensive suite of tests
- Achilles Test Platform can complete a full set of tests for Achilles Communications Certification Level 1 in 2 hours



*Execute an entire set of tests from a simple user interface*

#### Extensive Summary and Detailed Reporting

- Identify and drill down on specific faults using detailed fault reporting
- Easily share information across the organization – reproduce faults through packet capture and reports, and export a regression test suite for use by other users of Achilles Test Platforms
- Reports can be exported into csv, xml and pdf files



### USE CASES

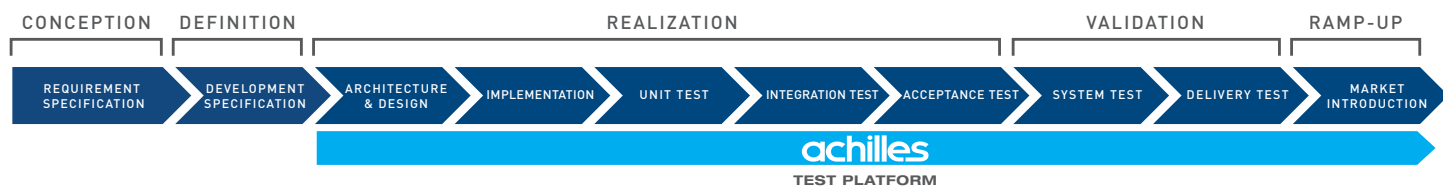
#### Automated QA Testing

- The cost of correcting a vulnerability in the field is 65 times greater than if it is found and corrected during development
- Using the Achilles Test Platform reduces the risk of vulnerabilities entering the field, minimizing the potential for manufacturers to face financial and brand equity consequences

#### Prepare Products for Certification

- Test products in advance to ensure they will conform with industry recognized standards and certifications
- Achilles Test Platform performs the exact test suites utilized in ACC Level 1, ACC Level 2 and ISASecure Robustness Testing Certifications
- Wurldtech can perform Certification remotely via the ATP on your device throughout the Development Process

### DEVELOPMENT PROCESS CYCLE



#### Testing Throughout the Development Process

- The Achilles Test Platform is utilized in the Validation and Ramp-up stage of the product development cycle. It can be utilized within numerous groups such as Product Groups for validation, QA and release testing
- Utilization of the Achilles Test Platform during development will significantly reduce the time to market and costs associated with bug fixes that are required in the field, by ensuring devices are robust and secure before deployment

### TECHNICAL SPECS

#### EFFECTIVE, SPECIALIZED MISSION CRITICAL TEST TYPES

##### Achilles Grammars

Achilles Grammars test for protocol boundary conditions in the device communications. They systematically iterate over each field and combinations of fields to produce repeatable, quantifiable tests of the common types of implementation errors.

Achilles Grammars send invalid, malformed or unexpected packets to the Device Under Test (DUT) to test for vulnerabilities in specific layers of the protocol stack.

##### Achilles Storms

Achilles Storms generate packets at a high rate in order to examine the DUT's ability to handle high traffic rates for different protocols. The Achilles Test Platform also includes the ability to search for the denial-of-service threshold for a given type of storm traffic – the storm rate at which the device is no longer able to respond to other normal requests.



### TECHNICAL SPECS (cont'd)

#### Known vulnerabilities

Known vulnerability test cases generate exploit traffic for vulnerabilities that have a high probability of existing in control devices.

#### SUPPORTED COMMUNICATION PROTOCOLS

#### Industry Feedback

“Achilles Test Platform provides a powerful platform from which we can automate and expand our security testing procedures, which in turn helps us identify issues early in the development lifecycle.”



#### Protocol Tests

##### Process

- EtherNet/IP (CIP)
- Foundation Fieldbus (FF-HSE)
- MMS
- Modbus TCP/IP
- OPC UA
- PROFINET IO

##### Utility

- DNP3
- MMS (IEC 61850/ICCP)
- Modbus TCP/IP
- SES-92
- ZigBee SE (802.15.4)

#### Monitoring Coverage

##### Low Layer Communications

- ICMP
- ARP
- Link State

##### High-Layer Communications

- OPC (via VCS)
- Heartbeat: watch DUT-VCS traffic
- TCP and UDP Ports
- Windows/Linux Performance

##### Control

- Discrete (level signal or square wave)
- Analog

### PHYSICAL SPECIFICATIONS

| Specifications                                                                                                       | Ports                                              |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| 9.5 cm H x 43.5cm W x 27.5 cm D; fits standard 2U (8.7cm H x 43.5cm W) with feet removed, mounting brackets included | 6 x Ethernet (RJ45)                                |
| Weight: 6.4 kg                                                                                                       | 1 x Serial (DB9)                                   |
| Operating Environment: 5C to 30C                                                                                     | 2 x USB (2.0)                                      |
| Power Requirements: 120-240 VAC, 50/60Hz, 6.0A                                                                       | 4 x Digital Input (12V to 24V Logic)               |
| 90 Day Warranty                                                                                                      | 2 x Digital Output (34V, 0.16A max)                |
|                                                                                                                      | 2 x Switchable AC Power Output (IEC C13, 2.0A max) |

### Why Wurldtech?

- 9 of the top 10 global automation vendors use Wurldtech Achilles products to increase the security robustness of their products
- Tests have been developed from extensive experience working with both Critical Infrastructure operators and manufacturers of devices, which has given us the detailed knowledge of these complex system designs
- Achilles testing has identified thousands of zero-day vulnerabilities during product development, preventing them from entering the field

#### Contact us for more information:

Toll Free 1 877 369 6674  
Email [sales@wurldtech.com](mailto:sales@wurldtech.com)  
Web [wurldtech.com](http://wurldtech.com)