

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

Connect Vehicle Protocol Test Harness

The Capstone Experience

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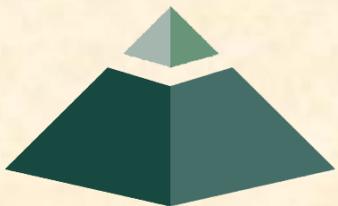
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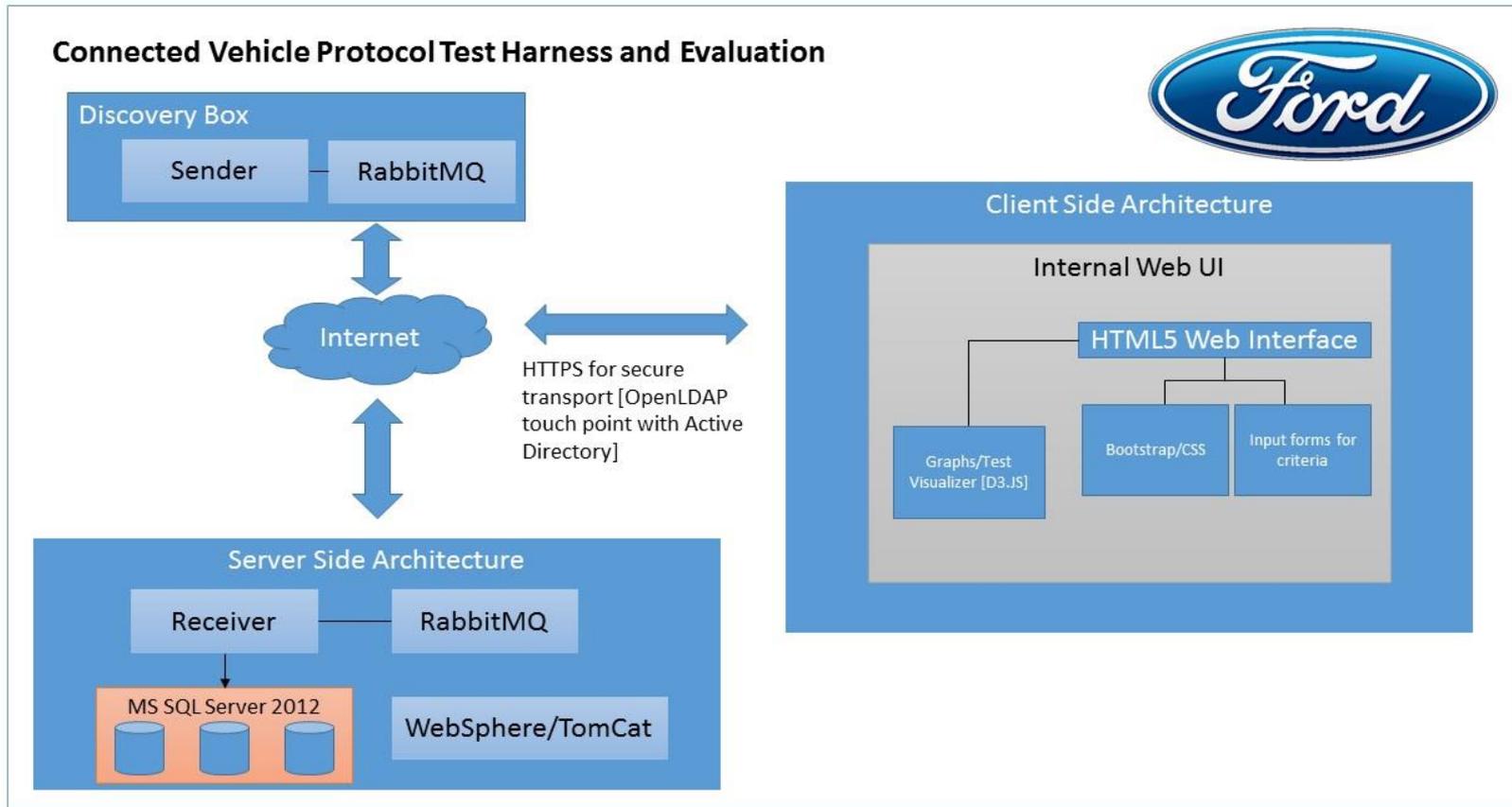
*From Students...
...to Professionals*

Project Overview

- Test Harness uses a variety of messaging protocols
- Using the Discovery Box talk to a server
- Performance benchmark
- Test results viewed with a web interface
- Why is our project important?
 - Protocol Efficiency/Reliability
 - Protocol Ease of Use



System Architecture

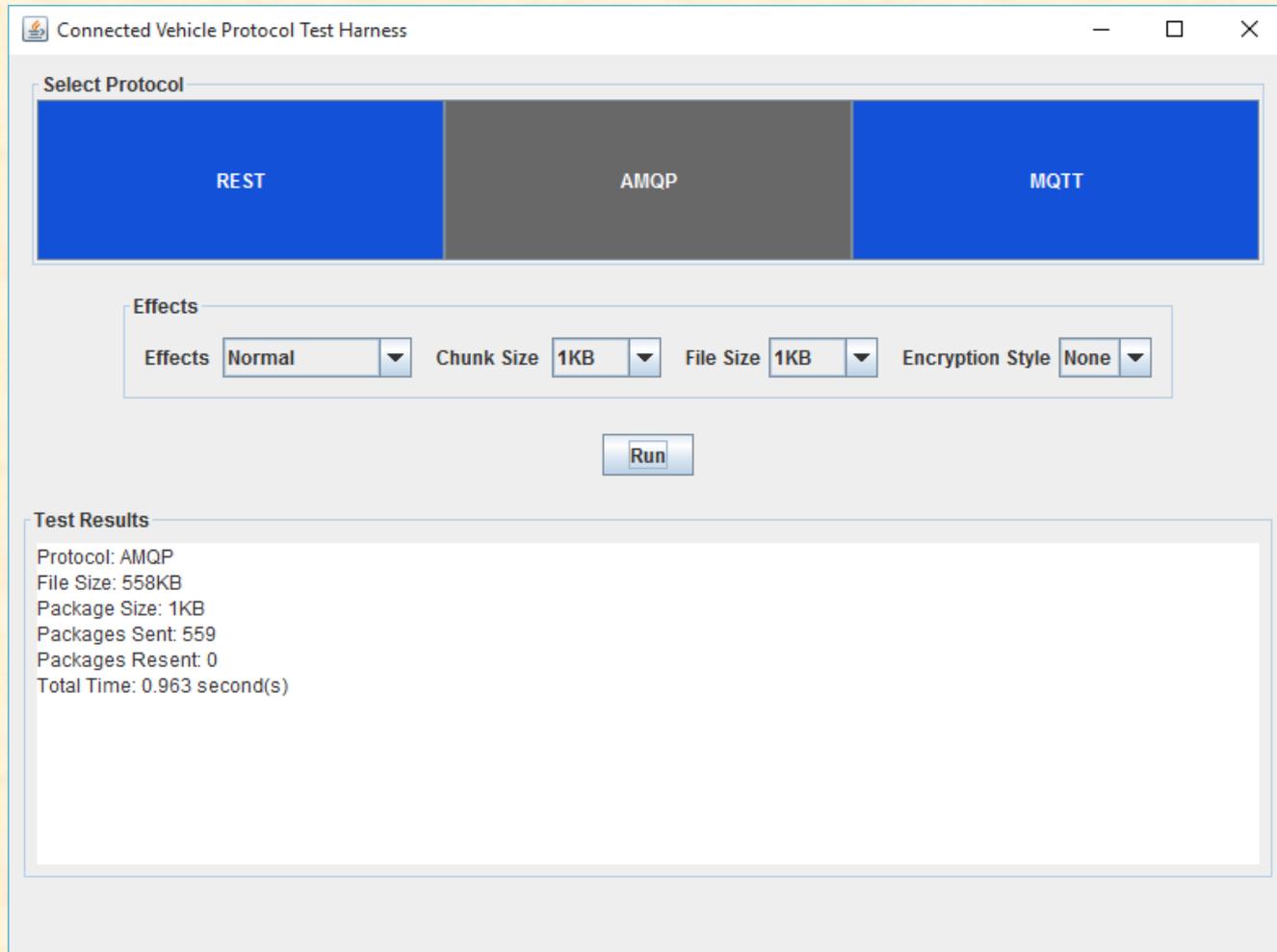


Risks

- ✓ Machine to Machine Protocols
- ✓ Data Visualization
- ✓ Hardware and Limited Storage
- ✓ Version Control
- ✓ Scope Creep



Discovery Box GUI



Web Dashboard Table View

Team Ford Admin

Search...

Dashboard

Charts

Tables

Pages

Test Results

Tables

Show 10 entries Search:

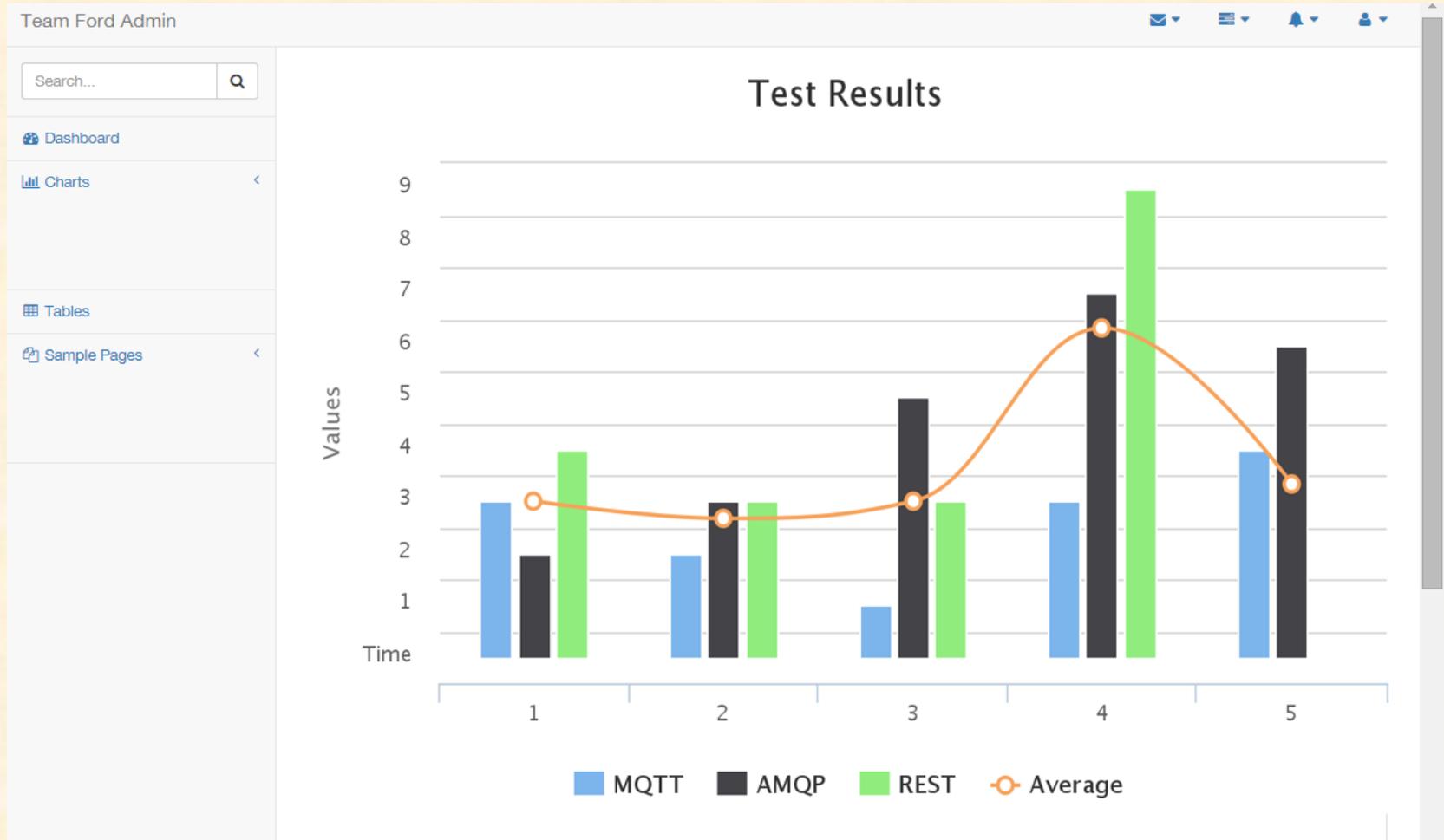
Trial	Protocol	Packets Sent	Packets Received	Packets Resent	Loss Ratio (%)	Time (ms)
1	MQTT	6	4	X	0.33	100
2	MQTT	5	4	X	0.20	95
3	AMQP	25	24	X	0.04	300
4	MQTT	6	4	X	0.33	100
5	MQTT	32	30	2	0.00	350
6	REST	35	34	1	0.00	380
7	AMQP	12	12	X	0.00	125
8	MQTT	75	70	3	0.03	700
9	REST	15	15	X	0.00	300
10	AMQP	6	6	X	0.00	100

Showing 1 to 10 of 10 entries

Previous 1 Next



Web Dashboard Visualization



What's left to do?

- Combine the protocols in a modular fashion
- Record test results
- Finish Web Interface to view test results
- Junit Testing
- Package manipulation
- Bigger files

