October 29, 2019

lest

InterContinental Shanghai Pudong Hotel

Archive

Session 4 Presentation 2

TestConX China 2019

Planning Ahead

Cloud Based Remote Debug

Angie Ng, Siew Cuong Chang, & Seong Guan Ooi Intel Corporation



Shanghai - October 29, 2019



TestConX China Workshop

TestConX.org

October 29, 2019

1

Planning Ahead

Contents

- Problem Statements
- Objectives
- Solution Overview
- Impact of Cloud Based Remote Debug
- Summary
- Acknowledgements



Cloud Based Remote Debug



TestConX China Workshop

Planning Ahead

Problem Statements

- Insufficient boards for Reference Validation Platform (RVP) & Customer Reference Board (CRB) allocation for Internal & External users (example: Early Access (EA) customers)
- 2. <u>Lack of access</u> to RVP/CRB for Legacy products (to support customer quality debugging or customer issues)
- Boards are <u>not updated</u> with the latest Basic Input / Output System (BIOS) or Software; no common repository/control in placed

China

TestConX中国



•	Delay	in issue	resolution	(~2-4 weeks)

Delay in issue resolution (~2-4 weeks)

Slow design cycles and impacting Time to

Market (TTM) ~4 to 12 weeks

Hard to reproduce issue





TestConX China 2019

Planning Ahead

2019

Objectives

Implement Intel Cloud Based Remote Debug:

- Expands users' access to RVPs/CRBs thru CLOUD to
 - Expedite design-in cycle
 - Accelerate TTM
 - Reduce cost of debug

Enhances productivity & user experience

- Secure: Group registration with individual OTP
- Fast: Co-development; Enhanced booking system; remote probing solution for RF & BB signals
- **Cost Effective:** Co-location; 24x7; improved utilization



Planning Ahead



Planning Ahead





Planning Ahead

2019

Cloud Based Remote Debug Architecture Overview

- Secure Access:
 - Online certificate
 - Individual login credential
 - Secure Virtual Private Network (VPN)
 - One-Time-Passcode (OTP)





Cloud Based Remote Debug

TestConX China Workshop

TestConX.org

7

Planning Ahead

Cloud Based Remote Debug Architecture Overview

- Board Farm:
 - Asset access & control management system
 - Platform scheduling system
 - -Auto OS provisioning solution
 - Extensive remote debug features





Cloud Based Remote Debug



TestConX China Workshop

Planning Ahead

2019

Impact of Cloud Based Remote Debug

Ideal development environment:

- 1. Secure debug environment
- 2. Self-operate
- 3. 24x7 validation operation
- 4. Remote accessible
- 5. Fast access, anytime, anywhere

Improved Time-to-Market!



Planning Ahead

Summary

- Cloud Based Remote Debug has helped to transform validation operation in Intel by:
 - Reduced 20% cost in reference board purchase
 - Improved 3 weeks early customer engagement
 - Improved 90% design infra setup time in lab
 - Enabled 24x7 validation operation
- Received overwhelming response from users





Planning Ahead

Acknowledgements

- Eric Chan VP in Intel IoTG
- Board of Directors in Intel Malaysia Design Center (MDC)
- Ng, Hooi Ching IT Malaysia Hub Manager
- Goh, Kean Hean Engineering Lab Manager
- Lim, Hock Lam MDC Lab Manager
- Chang, Siew Cuong Engineering Lab Manager
- Ooi, Seong Guan Post-Silicon Technologist & Product Owner
- Mamat, Siti Zurmarini Post-Silicon Solution Architect





COPYRIGHT NOTICE

The presentation(s)/poster(s) in this publication comprise the Proceedings of the 2019 TestConX China workshop. The content reflects the opinion of the authors and their respective companies. They are reproduced here as they were presented at the 2019 TestConX China workshop. This version of the presentation or poster may differ from the version that was distributed in hardcopy & softcopy form at the 2019 TestConX China workshop. The inclusion of the presentations/posters in this publication does not constitute an endorsement by TestConX or the workshop's sponsors.

There is NO copyright protection claimed on the presentation/poster content by TestConX. However, each presentation/poster is the work of the authors and their respective companies: as such, it is strongly encouraged that any use reflect proper acknowledgement to the appropriate source. Any questions regarding the use of any materials presented should be directed to the author(s) or their companies.

The TestConX China logo and TestConX logo are trademarks of TestConX. All rights reserved.

www.TestConX.org