ANDROID AT THE EDGE
Open Networking Summit Europe
September 23, 2019
Android Smartphones

86% of the world's phones run on Android

2.1% Android volumes growing CAGR 2018-2023

1.32B Expected number of phones to be shipped with Android in 2023

5.8% Increase in ASP of Android based phones in 2019

In the growing 5G market, Android is strong

1. IDC – Smartphone Market Share – 18 Jun 2019 (source)
ANDROID GROWTH OUTSIDE OF MOBILE

78% of business device shipments worldwide are Android¹

68% of new BYOD devices in 2018 were Android in enterprise market¹

23% growth over next 5 years of Android rugged devices¹

5X the rate of the rugged market overall¹

STRONG ANDROID ADOPTION ACROSS A RANGE OF INDUSTRIES

“Containers are the next generation of software-defined compute that enterprises will leverage to accelerate their digital transformation initiatives...”

-- Gary Chen, Research Director at IDC
>2M Android applications\(^1\)

Android growing 17% CAGR\(^1\)
Sophistication of developer infrastructure

Linux market is 8x larger than Android\(^1\)
Android will sell 25M units in 2020

Customers increasingly demand support for Android

Bare Metal  Virtual Machine  Container

**WORKLOAD**
**CONSOLIDATION**

**Drive Value**

**ACCELERATORS**

**creates unique opportunities to**
DEVELOPERS NEED OPEN, FLEXIBLE TOOLS THAT ALLOW THEM TO RE-USE CODE AND SCALE RAPIDLY

> 25% of developers in the world worked on Android in 2019

$108B

consumer spending leads with smart home, personal wellness and in-car infotainment¹

growth of auto solutions using x86 architectures with Android* by 2023²

growth of retail solutions using x86 architectures with Android* by 2023²

percentage of consumer market solutions using Android* by 2023³

“IDC’s tracking and forecasting of OS shares by industry reveals…

--Shane Rau, Research VP, IDC, Computing Semiconductors

1. IDC – IoT Worldwide Forecasts (source)
2. CAGR period is 2018-2023
3. Stack Overflow Developer Survey 2019 (source)
SCALE RELIABLY ACROSS NEW MARKETS

**RETAIL**
- Personalized Shopping Experiences
- Inventory Management
- Precision Marketing
- In-store Path to Purchase

**AUTOMOTIVE**
- In-Vehicle Infotainment
- Enhanced Diagnostics
- Maintenance & Safety
- Vehicular Interaction

**EDGE**
- Advanced Analytics
- Workload Consolidation
- Security & Manageability

**SMART CITIES**
- Safety & Security
- Resident Engagement
- Smart Parking
- Traffic Flow Monitoring

**CLOUD GAMING**
- High Performance Gaming
- Social Identity Mapping
- AI & Graphics
- Interactive Lobby

PROJECT CELADON + DEVELOPER COMMUNITY ENABLES INNOVATION
SCALE RELIABLY ACROSS VARIED INFRASTRUCTURES

**ANDROID* ON BARE METAL**
- Superior Performance
- Highly Isolated
- Lowest Extensibility
- Lowest Density
- Google Apps & Services Support

**ANDROID* OVER VIRTUAL MACHINE**
- Moderate Performance
- Highly Isolated
- High Extensibility
- Moderate Density
- Google Apps & Services Support

**ANDROID* IN CONTAINER**
- High Performance
- Moderately Isolated
- High Extensibility
- Superior Density
- Google Apps & Services Support
CELADON an Android® open source platform for Intel® architecture.

ACCELERATE DEVELOPMENT
open platform enablement speeds build time lowering time to market

DEVELOP ON LATEST ANDROID* RELEASES

IMPROVE EFFICIENCY
UTILIZE INTEL® HARDWARE ACCELERATION

SCALE RELIABLY
SHIFT & EVOLVE DEPLOYMENTS

Retail Automotive Smart Home

Utilize Intel® hardware acceleration improve efficiency open platform enablement speeds build time lowering time to market

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HOW DO I CONTRIBUTE TO THE CELADON COMMUNITY?

Visit our Guides and Tutorials  https://01.org/projectceladon/documentation

Celadon is an open source Android software reference stack for the Android community to bring ideas to life while developing on the latest Android release and the latest Intel hardware platforms.

Profiling System Power Consumption on Celadon using Intel® SoC Watch
Overview Intel® SoC Watch is a command line tool for monitoring system power consumption on Intel platforms. The tool monitors active and low power states re...

Build Celadon from source
System requirements Though Android is typically built with a GNU/Linux or Mac OS operating system, we recommend you build the Celadon images on a 64-bit deve...
CALL TO ACTION

Learn More
- https://01.org/projectceladon
- https://github.com/projectceladon
- FAQ

Win Customers
Determine if Android* on Intel architecture is a good fit for your customers
Suggest Project Celadon for customer product POC use

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https://lists.01.org/mailman/listinfo/celadon
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