SUPER-CHARGING SOFTWARE DEVELOPMENT AT INTEL THROUGH ENTERPRISE DEVOPS

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DEVOPS ENTERPRISE SUMMIT

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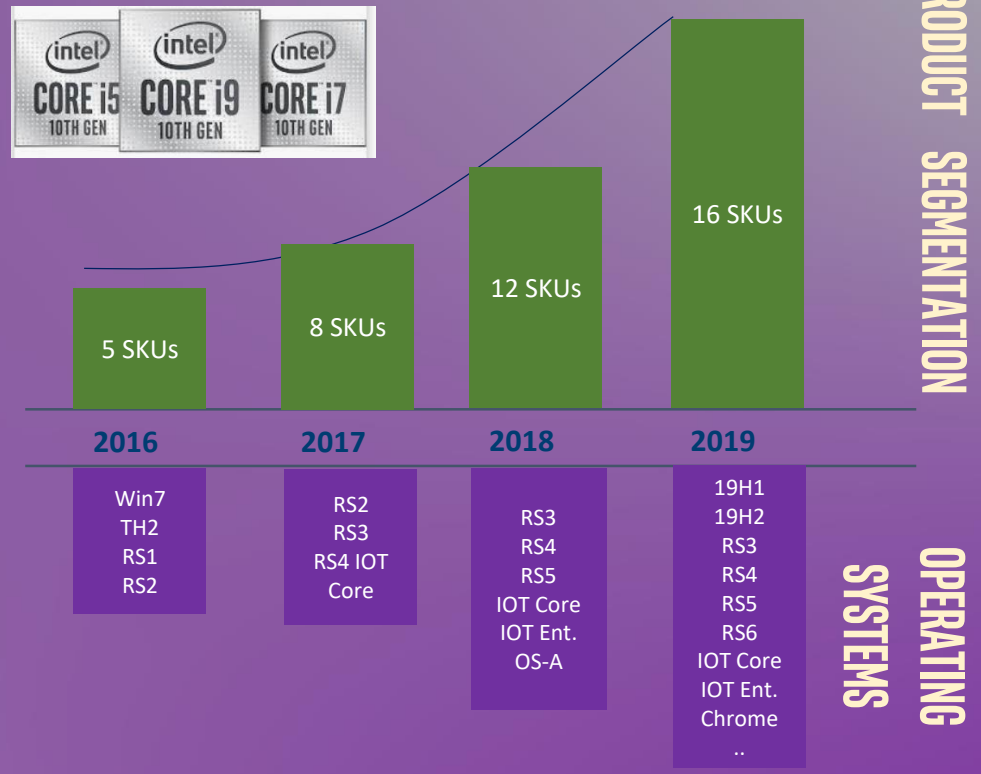
PRODUCT DEVELOPMENT ACCELERATION

>4X MORE PRODUCTS TO INTEGRATE EVERY YEAR!

FASTER RELEASE CYCLE
HIGHER QUALITY









~20x increase in the validation surface area

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LARGE SCALE SOFTWARE DEVELOPMENT

30+ SOFTWARE PRODUCTS GET INTEGRATED AND VALIDATED ON HARDWARE TO DELIVER BEST IN CLASS SYSTEMS

15K+

SOFTWARE ENGINEERS

MULTIPLE LANGUAGES (C, C++, PYTHON, C#, GO AND MORE)

8+

SW DEVELOPMENT IN MULTIPLE GEOGRAPHIES

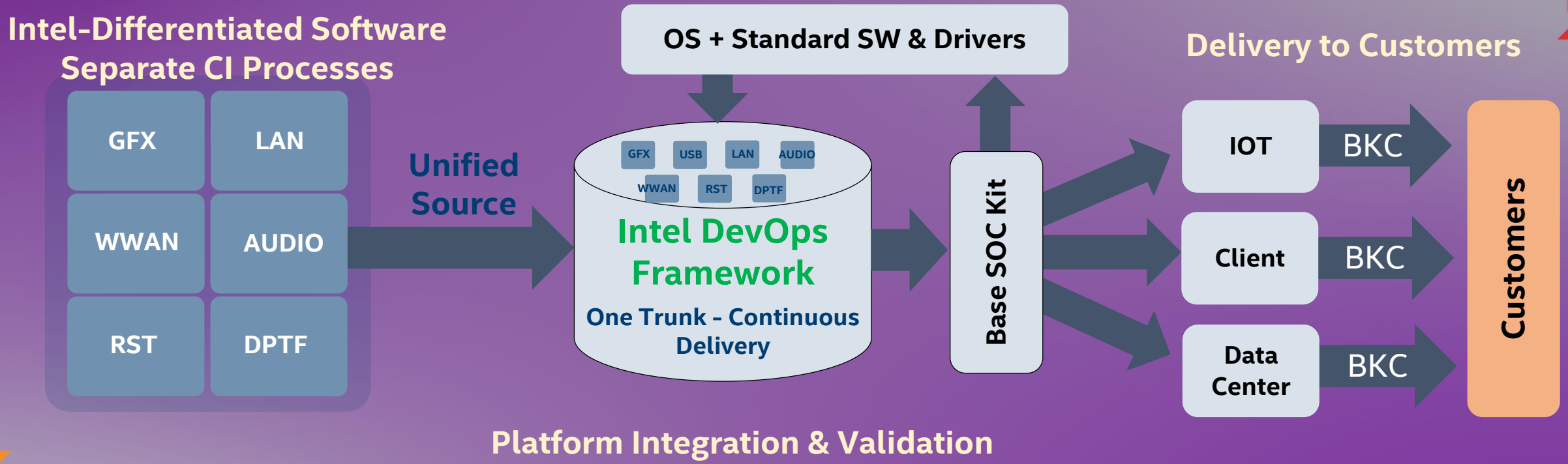
ROUND THE CLOCK SOFTWARE DEVELOPMENT

18+

MONTHS

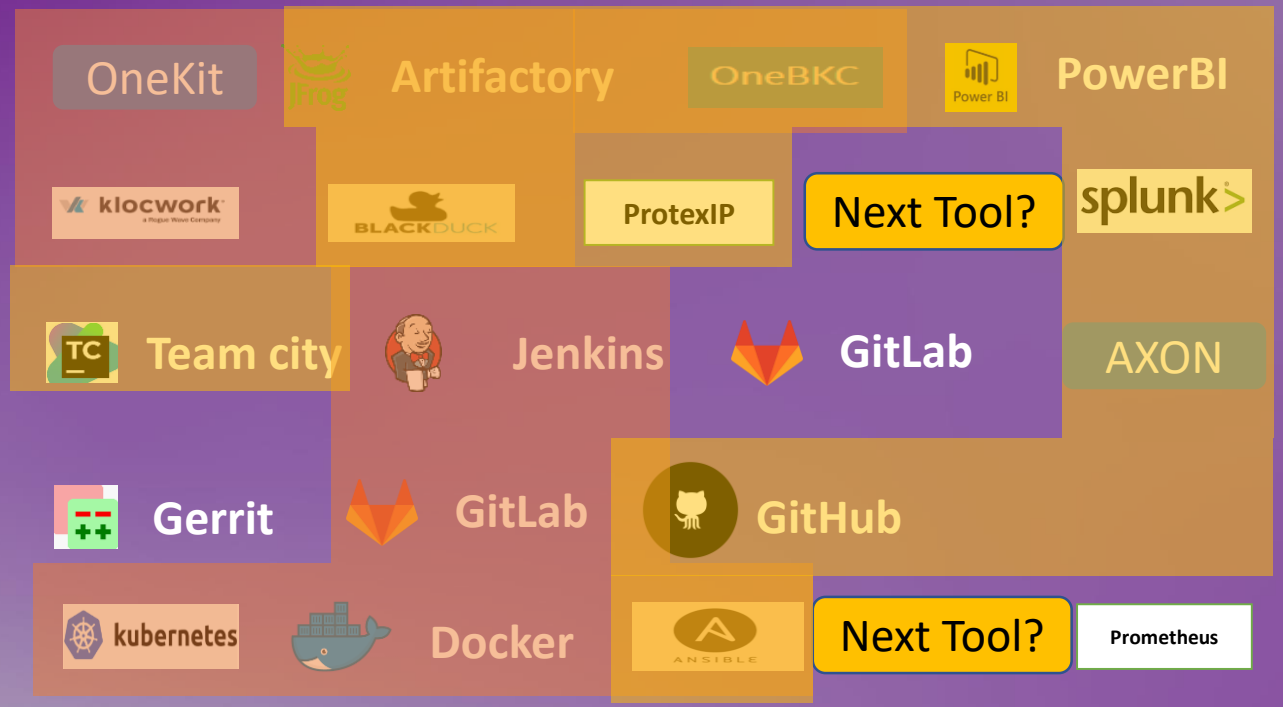
COMPLEX HW TECH. DEVELOPMENT WITH AGILE SW DEVELOPMENT

PLATFORM LEVEL CONTINUOUS DEPLOYMENT



All software releases go through unified DevOps Workflow. Common repository for sharing source code to debug complex use cases by upstream teams

DIVERSITY OF TOOLCHAINS



* Other names and brands may be claimed as the property of others.

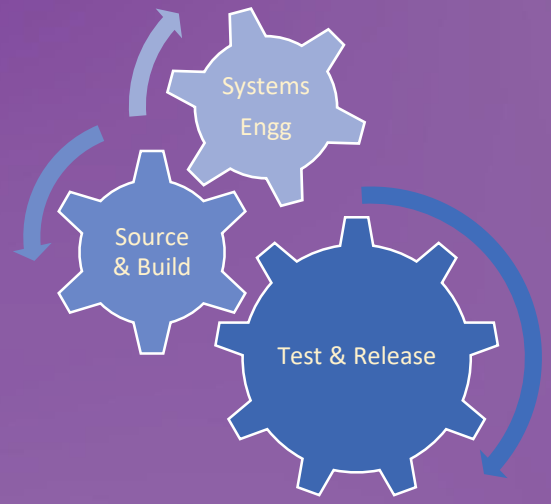
- ✓ Multiple toolchains
  - ✓ From acquisitions
  - ✓ From staying modern
- ✓ Toolchain mix
  - ✓ Internal developed
  - ✓ Commercial
  - ✓ Opensource

The toolchain is constantly evolving

ENTERPRISE DEVOPS PROGRAM

"Modernized" Intel SW Ingredients

- Driver SW
- Driver SW
- Driver SW
- Driver SW
- Platform SW/FW



Unified Source

Platform Integration & Validation

Customer Release

- ✓ Systems Engineering – Drives the standard data model and process for design, definition and requirements execution for Platform Software
- ✓ Source & Build – Standard tools, processes and enterprise supported HW that brings convergence across Platform Software
- ✓ Test & Release – Standardizing, simplifying and scaling test processes and release channels for Platform Software

Modernizing the platform software engine to deliver quickly with a cornerstone of quality

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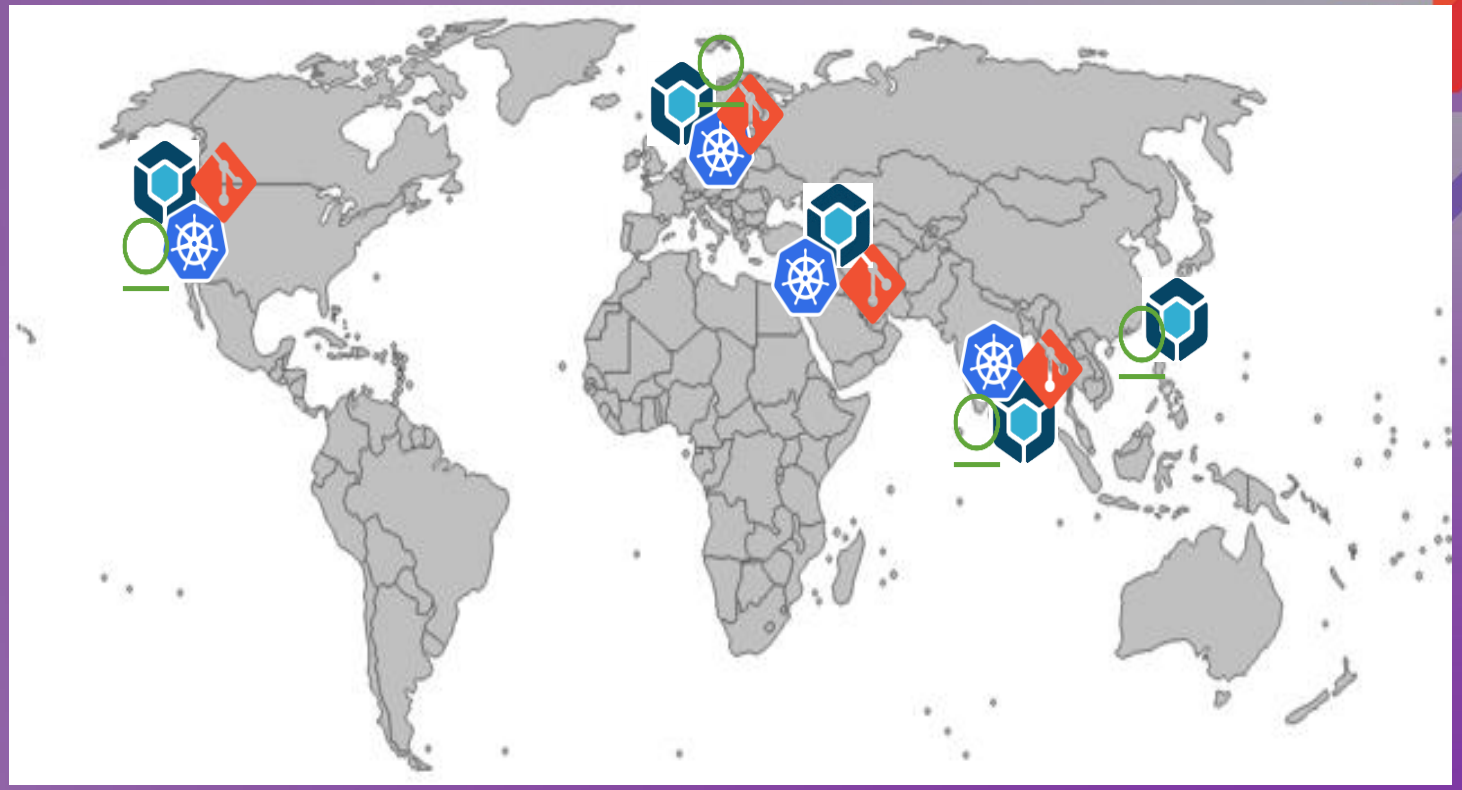
TOOLCHAIN FOUNDATION

- ✓ Inner Sourcing
- ✓ Binary Storage
- ✓ Shared Worldwide Hybrid Cloud
- ✓ Re-Examine toolchain on a regular cadence (3-5 years)
- ✓ Reusable Libraries
  - ✓ Abstract Build Interface (ABI) to cover common pipeline tasks
  - ✓ Reduces vendor lock-in
  - ✓ Enables the diverse toolchain



Remove the barriers for adoption

SOLUTION LEVEL OBJECTIVES

Measurable Criteria for the whole solution

Allows for variance expected in complex system

- Build is expected to finish within expected build time with 5% variance

Communicates the expectations of the solution to all stakeholders

- Users of the system know when to call for help

Solution Level Mission Interrupts (MI)

- MI are system failures that interrupt a business workflow
- Classify if systems failures need to be classified as MI
- Conduct systematic retrospectives to root-cause, continuous improvement and avoid recurring failures.

Avg. time to find faults in a service

- It is more expensive to find a bug in later phases of development - In complex enterprise delivery model
- Define pipelines establish pre-checks that become quality gates

Objectives beyond the common metrics

SUMMARY

- Enterprise Level Devops tool chains can be quite complex, messy – One Size doesn't fit all!
  - Expect to support diverse & evolving devops tool chain as your organization needs grow
  - Invest in defining standard interfaces
- Define solution level service objectives to hold cross functional teams accountable
  - System needs to be tolerant of multiple destabilizing factors – define tolerance levels for each team to optimize their solutions