WHITE PAPER

Industry
Solution Focus Area

Introduction to Compute Lifecycle Assurance

Addressing platform integrity throughout the lifecycle of service.

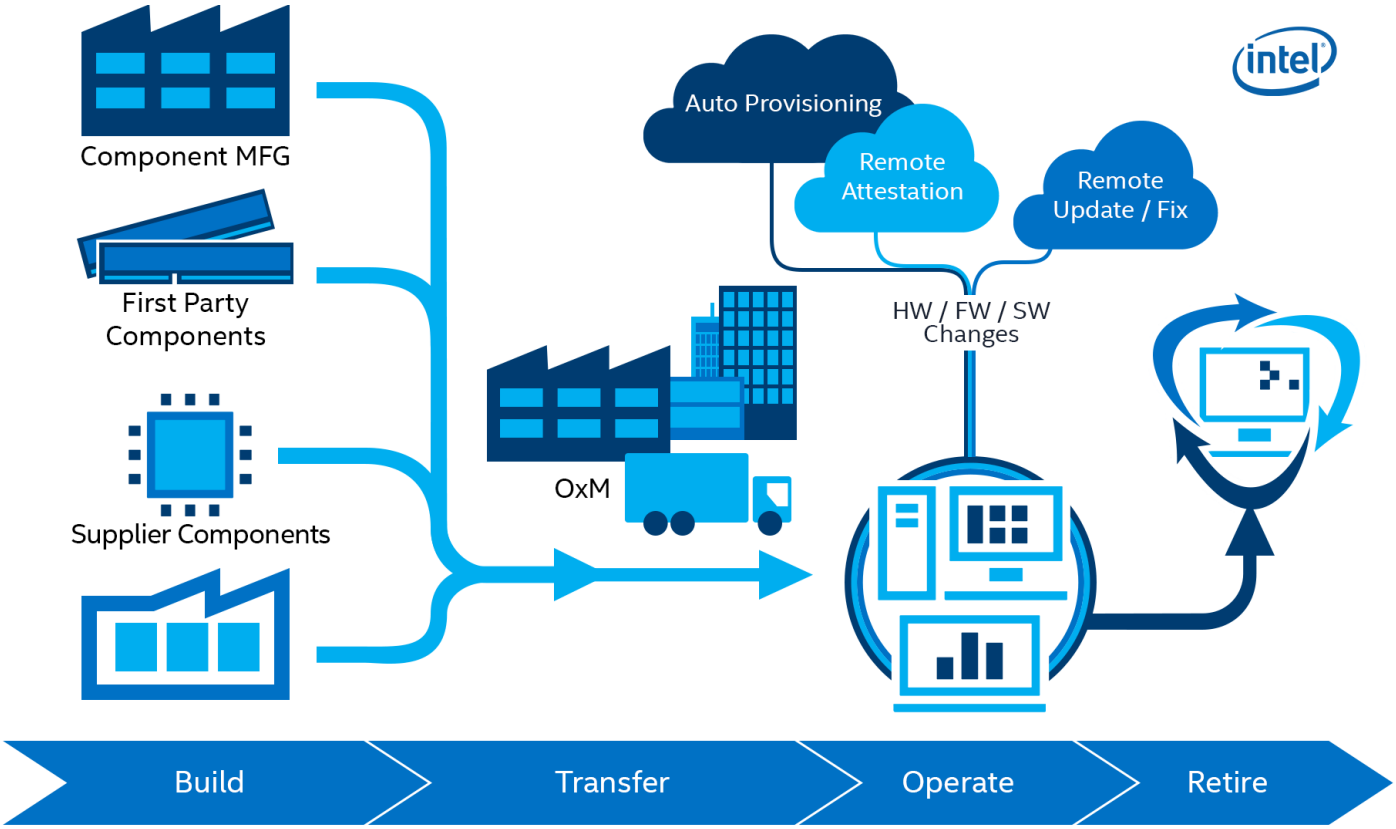
The globalization of technology design, development, manufacturing and distribution has created an environment of complicated supply chains with limited transparency. This presents an incredible challenge for the industry, and highlights a growing need to ensure platform integrity for all stages of the compute lifecycle.

The call for assurance across the supply chain landscape has evolved over several decades. In fact, several examples have revolved around social responsibility and sustainability. For instance, in 2004, The Responsible Business Alliance was formed to help address key challenges around the rights and well-being of worldwide workers and communities. More recently, policy makers have begun to focus on supply chain risks in new ways. The 2018 SECURE Technology Act gave U.S. federal agencies new authority to consider supply chain risks when procuring products. From Europe's "digital sovereignty" efforts to Japan's "Cyber / Physical Security Framework" efforts, there are signs of strong interest in shining a spotlight on the trust and transparency of supply chains for information and communications technology.

Vendors have been doing their part as well. Over the past several years, Intel has taken several important steps toward supply chain transparency, including being one of the first to source conflict-free minerals and deliver Intel® Transparent Supply Chain tools – a set of policies and procedures implemented at factories to validate where and when every component of a server was manufactured.

These are important first steps, however they focus primarily on the build stage and that is only one stage of the lifecycle. In today's complex environment, hardware platform providers need to enable a full range of tools and solutions that improve platform integrity across the entire lifetime of service, from design and sourcing to secure retirement.

As an organization that is involved in every step of the compute platform process, Intel is uniquely positioned to lead this industry-wide effort that it is calling ***Compute Lifecycle Assurance (CLA)***. The investments the company has already made to provide greater supply chain transparency in its own products is a valuable first step. However, the vision is to align the industry and bring greater



transparency to customers at every point on the compute lifecycle.

Compute Lifecycle Assurance and Intel's Milestones

CLA establishes an end-to-end framework that can be applied across the multi-year life of any platform to substantially improve transparency and to provide higher levels of assurance. By enabling transparency and assurance across a system's lifecycle, supply chain owners can improve platform integrity, resilience and security.

There are four key stages – including Build, Transfer, Operate and Retire – that need to be considered for achieving assurance.

Building Assurance Through Each Stage of the Lifecycle

The four key stages take into consideration assurance milestones supported by improved transparency.

Build – Starting at the design stage then deep integration with sourcing and manufacturing, how do you confirm the integrity of a platform and its component devices? Is it designed and built in a trusted manner? Is the platform assembled in a trusted facility, with proper controls in place to not only establish the time of manufacture, but also to ensure the necessary levels of traceability?

Transfer – Does the system arrive as ordered? Are there processes, controls, and technologies in place to detect tampering, modification or changes within the hardware, firmware and software? Are there mechanisms in place to establish who should, or should not have rights to modify the platform throughout distribution?

Operate – Is the system operating in a known and trusted state? Have the latest functional or security updates been applied? Is the trust profile of the system enough to automate key provisioning and attestation procedures?

Retire – Has all data that was transmitted, stored or erased been confidentially wiped from the drive and the platform? Is the status of the device understood as it enters into the secondary market?

Creating a Community to Address Supply Chain Assurance and Transparency

CLA will help bring the industry together around a common defined framework for platform assurance. The need for this assurance and the work required to deliver it is too big and too

important for any single organization to tackle alone. CLA encourages collaboration across the ecosystem and Intel is committed to sharing key learnings from its ongoing investments in technology, process, tools, governance and innovation – as it relates to assurance across the compute lifecycle. Collaboration will be a key element when participating in the creation of these new industry standards as the community works toward increasing awareness and accelerating adoption.

To learn more about CLA, contact your Intel customer representative.