



Hardware Handoff Using Software Hardware Exchange Loop (SHEL) Flow

This How-To Video Covers . . .



Software
Hardware
Exchange Loop
(SHEL)
Introduction



Generate an
XSA from an
AMD Vivado™
Example Design
for the VEK385



Create a System
Device Tree
(SDT) from the
XSA



Build a Custom
Linux® Build and
Configuration
Information with
gen-machine-conf



Generate a
Custom Linux
Disk Image from
Yocto Project™

SHEL – Software Hardware Exchange Loop: Introduction

It's More Than Just Hardware to Software Translation



Enables developers to mix and match tools from different vendors and versions

- Defines a way for system, hardware, and software engineers to communicate about the hard, firm and soft components of the system and their interactions
- Decouples hardware and software and makes sure all the different components like hardware, firmware, software, or entire operating systems stay in sync



Access to the external documentation and expertise

- Part of AMD Embedded Development Framework (EDF), Non-proprietary
- Connection to open-source tools with full ecosystem support, which makes it easier for customers



Allows integration of AMD tools into customer's existing flow

- SHEL takes AMD proprietary XSA and translates it into an open-source hardware description - System Device Tree (SDT)
- Allows customers to pick and choose which bits of our flow they want to integrate into their existing flow/processes

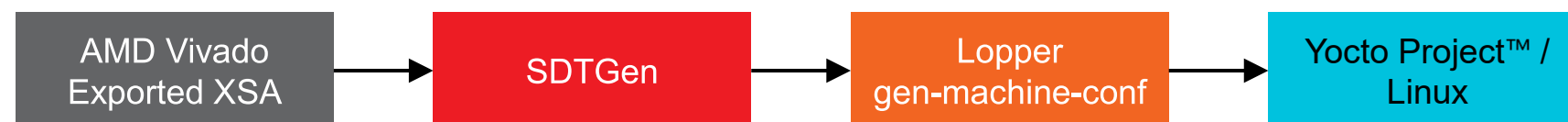


Safe and secure software stacks

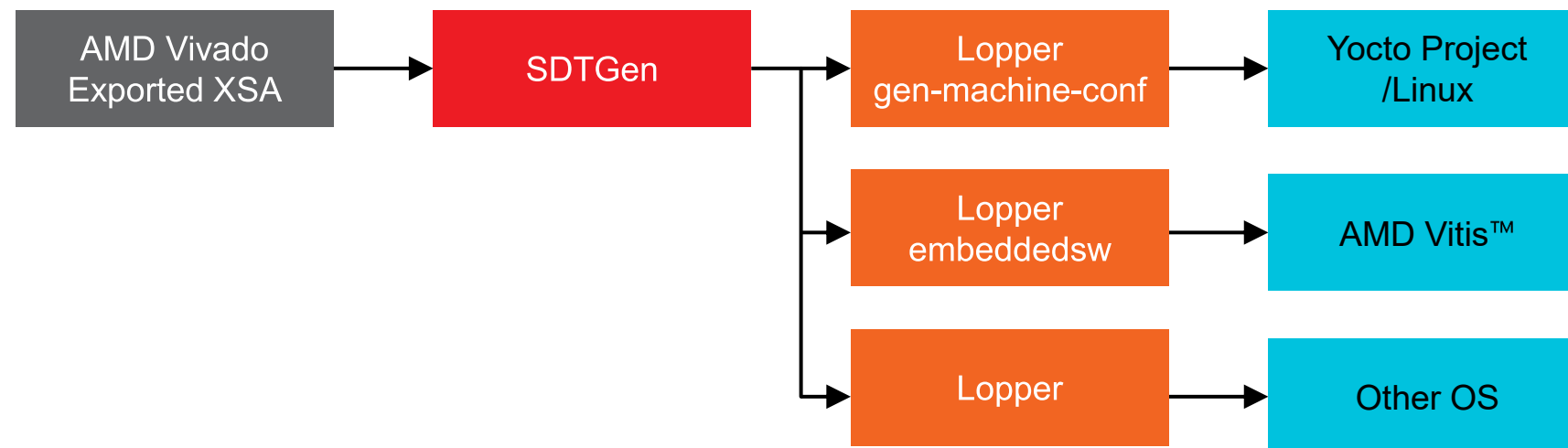
- Allows usage of multi-domain systems to simplify safety and security
- Industry standards like Yocto Project™, Xen, OpenAMP, and Zephyr are enabled by SHEL

SHEL – Software Hardware Exchange Loop: How It Works?

SHEL Flow – Single Domain – Linux® build, and configuration data generated for further development using Yocto Project



SHEL Flow – Multi Domain – Linux build, device tree and configuration data generated for Yocto Linux development, embedded software development and OS development



Watch the full Demo video

<https://www.amd.com/en/products/software/adaptive-socs-and-fpgas/embedded-software/embedded-development-framework.html#resources>

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Software Hardware Exchange Loop (SHEL) Introduction

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Generate an XSA from an AMD Vivado™ Example Design

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Create a System Device Tree (SDT) from the XSA

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Build a Custom Linux® Build and Configuration Information from the SDT with gen-machine-conf

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Generate a Custom Linux Disk Image from Yocto Project™

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