# SKREENS

# Skreens Personalized Streaming Video Engine

## Build Next-Generation Accelerated Video and Machine Learning Experiences Running on Xilinx Alveo™ Accelerator Cards

- **Create powerful, personalized, interactive visual experiences**
- **Deliver real-time, encoded video and interactive content to any output**
- **Incorporate machine learning models into video-intensive products and services**

## INTRODUCTION

**Unlocking Innovation Across the Video Ecosystem**
Video continues to grow as the dominant form of digital content.  However, companies developing video-centric products and services are increasingly constrained by the fragmentation of content ecosystems and the limitations of legacy video processing architectures to power new viewer experiences.

Visual displays should work the way they do in sci-fi movies. Our content should be available in any format, on command, with motion and voice control. Every display surface should be instantly personalized through intelligent feedback. Yet, without a revolutionary change in video processing capabilities, viewer experiences -- whether in the home, conference room, operating room or control center – will remain out of reach of true personalization, configurability, portability and interactivity.

Skreens is the personalized streaming video engine that will power this future and enable innovative visual experiences for industries including Broadcast, Enterprise Collaboration, Gaming, Security, Digital Media and more.

## PRODUCT OVERVIEW

Skreens adds a suite of video and machine learning processing functions on top of the Xilinx SDAccel development environment, accessible via a RESTful API.  Skreens enables a single developer-friendly workflow to decode multiple video and content feeds, integrate machine learning models and third-party APIs such as Watson and IFTTT, compose a powerful end-user experience including with event-triggered content overlays, and encode the resulting feed – all at ultra-low latency.  Skreens offers the power of a next-gen production studio leveraging the power of Xilinx FPGAs in the cloud on AWS and Nimbix, or at the edge on Alveo™ U200 accelerator cards.

## SOLUTION OVERVIEW

**An OS for FPGA Video Acceleration**
Utilizing the parallel processing strength of Xilinx FPGAs, Skreens is able to ingest up to four simultaneous 1080p60 digital video streams. By applying our patented Interactive Multi-Layering technology users can manipulate the size, placement, transparency and other key video specific features of those streams while integrating with interactive web content and third party extensions.  The result is a single composite output stream at up to 4Kp60 quality.
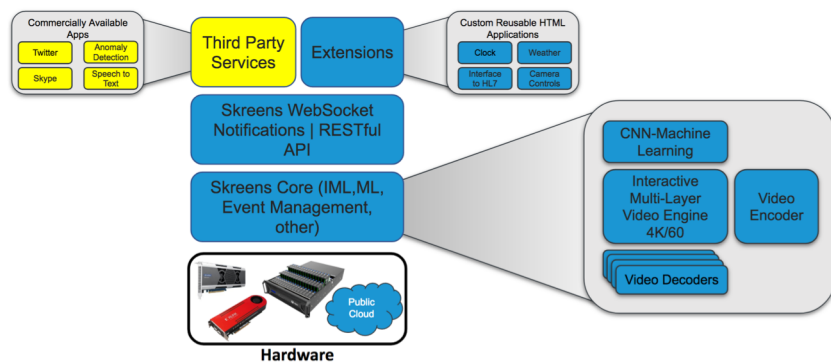
**Skreens Flexible App Framework**

Delivered as a system solution, Skreens bundles all the required components for turnkey video processing including a choice of a range of software and FPGA decoders and encoders, as well as machine learning engines. Customers utilize the Skreens RESTful API to call an extensive set of video processing, streaming and machine learning functions, to interact with their content programmatically and to integrate with third party services for Machine Learning, ad-insertion, real-time collaboration, online gaming and much more. Need speech to text for real-time video transcription? IBM Watson with Skreens can do that. Need IoT integration with video? Alexa or Google Home drop seamlessly into Skreens.
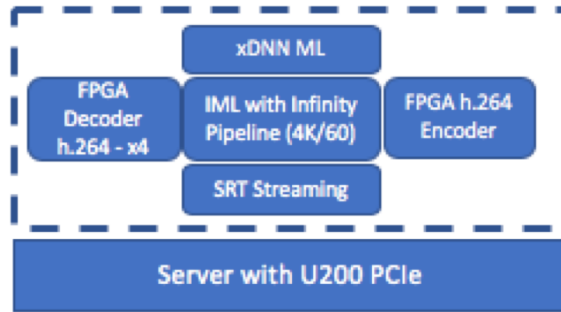


**Example Skreens Configuration**

**Integrate Video Processing and Machine Learning Workflows**

Skreens Streaming Video Engine integrates with the Xilinx xDNN machine learning engine to combine ML inference and deep learning for video content with the ability to take frame-rate 'action' on the video – all at ultra low latency. Annotate video content based on the results of image classification models, personalize ad delivery based on the viewer context, or trigger new content display events based on viewer preferences or interactivity patterns.

## CONCLUSION

Skreens provides customers with a turnkey video processing solution powered by FPGA acceleration and operated with the ease of writing an HTML5 application. The result is the ability to unlock innovative new visual experiences for your users, to develop products and services enhanced by those experiences, and to shorten your time to market.

Interested to try Skreens for yourself? Ask us how to get a Skreens trial running on your Alveo™ U200 board; or how to launch Skreens on the AWS and Nimbix cloud services. Skreens will be launching on additional cloud services in late 2018.

## TAKE THE NEXT STEP

To request a demonstration or for more information about Skreens please visit software.skreens.com
Explore Skreens Streaming Video Engine Solution running on Xilinx Alveo™: www.xilinx.com/alveo

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