

IIO
and
Media Controller

Introduction

- IIO was create to fill the gap between hwmon and input
- Supports general purpose ADCs, DACs, accelerometer, gyro, light sensor, pressure, magnetometer

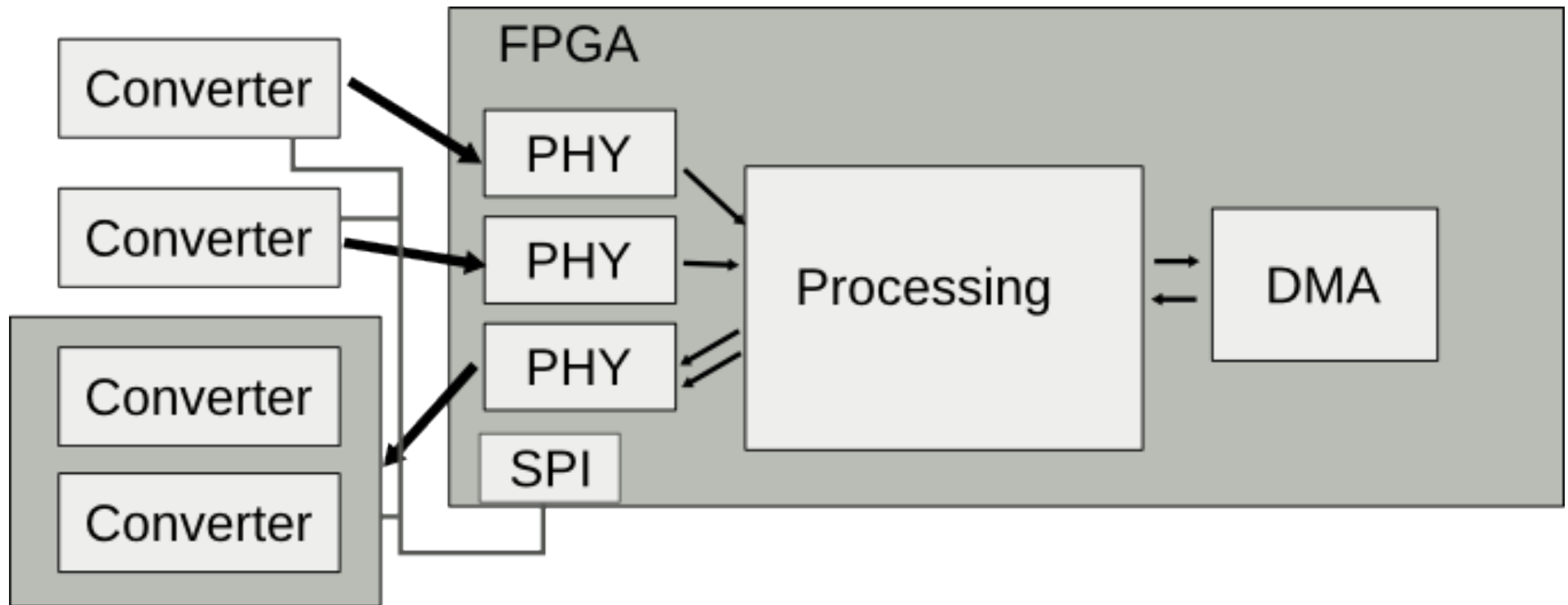
Introduction

- Those were typically low speed device ($< 10\text{kSPS}$)
 - Control bus was also data bus (I2C/SPI)

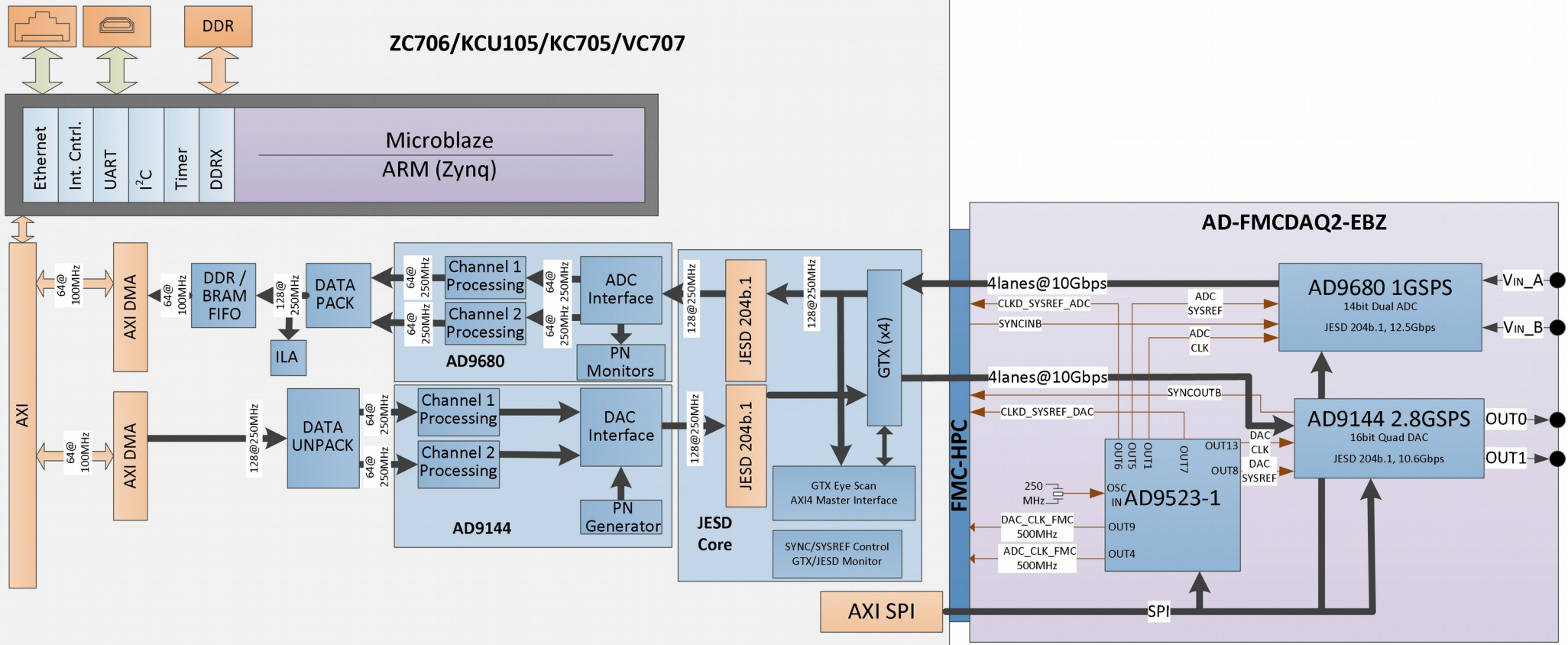
Introduction

- Things changed quickly
- Support for high-speed converters
 - Up to 5GSPS
 - Separate control and data bus
 - E.g. LVDS or JESD204b for data

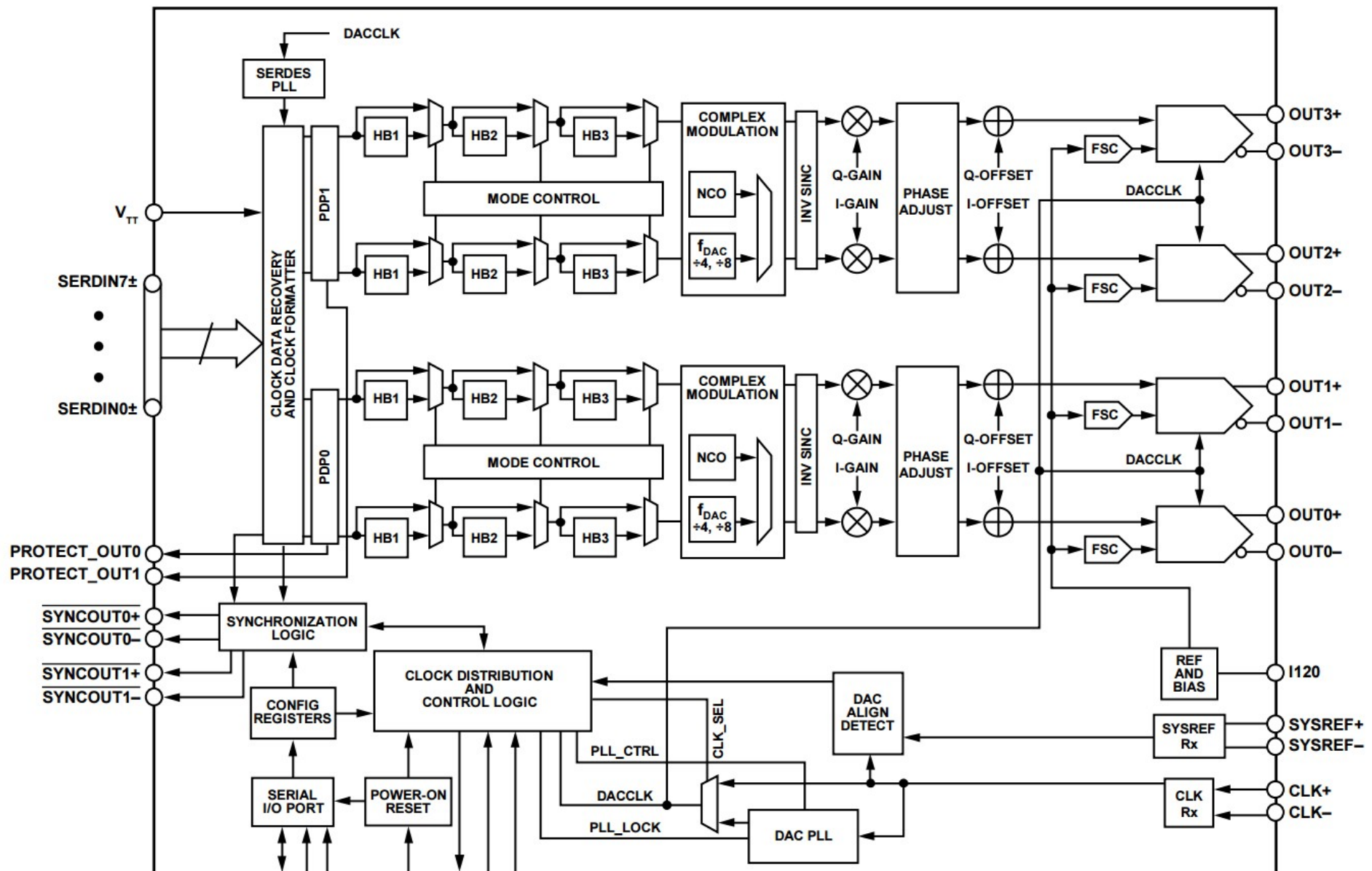
Processing Pipelines



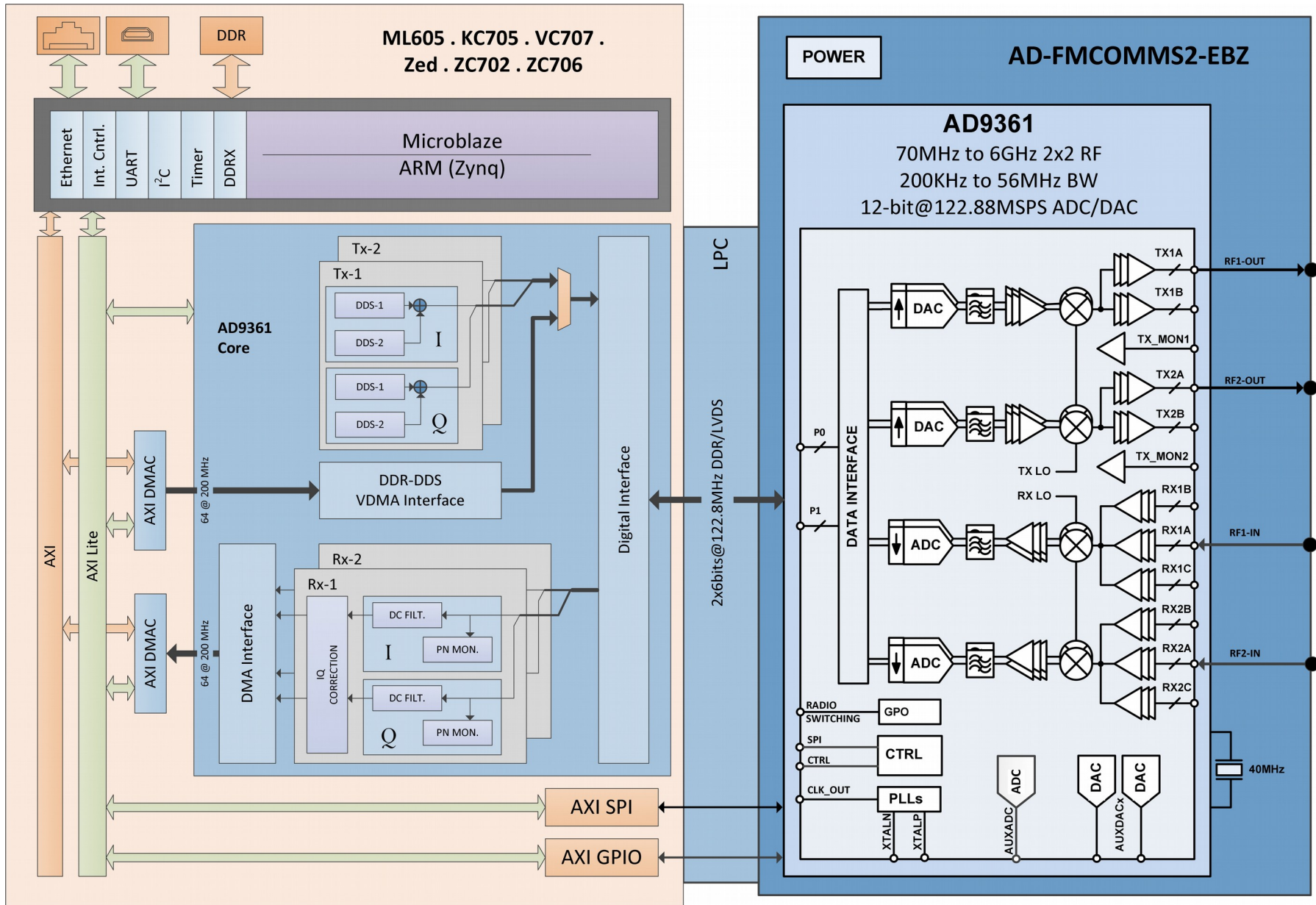
Processing Pipelines



Processing Pipelines



Processing Pipeline



Processing Pipelines

- Converters become smarter
 - Complex processing pipelines inside the chip itself
- Converters are connected to FPGAs
 - Even more complex processing pipeline inside the FPGA
 - Multiple converters connected to a single pipeline

Topology information

- We need topology information for applications to make sense of this

Media Controller

- And this is where media controller comes in
- Data processing pipelines are very similar to video processing pipelines
 - Same concepts
- No need to re-invent the wheel