AMD APUs
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What is a APU?
A series of 64-bit microprocessors from AMD, designed to act as a central processing unit (CPU) and graphics accelerator unit (GPU) on a single die.
Why AMD targets this market?

- Intel’s mid-2000s Centrino controlled the market
- AMD’s acquisition of the GPU manufacturer ATI in 2006
- Dominance of the console market (Xbox One and PlayStation 4)
- Compete in gaming graphics with Nvidia

AMD Raven Ridge “Ryzen With Vega iGPU”

- The Raven Ridge APUs mix the processing of AMD’s Zen processor architecture with the graphical grunt of their AMD Vega GPU silicon.
- The Ryzen 5 2400G is on sale for $169, while the Ryzen 3 2200G is retailing for $99.
How was this accomplished?

- The Zen microarchitecture centers on a four-core CCX building block. Two CCXes come together to create an eight-core Zeppelin die. Raven Ridge essentially replaces the second CCX with a graphics engine.
- Raven Ridge processors use Infinity Fabric to connect the CPU cores and on-die Vega CUs.
AMD’s Custom APUs

• Semi-custom chips include the chips from the PlayStation 4 Pro and Xbox One X
• CPU uses the AMD’s Jaguar Architecture
• These consoles' hardware shaders are similar to the Polaris 10 processor as found in RX 480
• The Xbox One X has a GPU that featured 40 “customized” Radeon compute units clocked at 1172 MHz.
Other APU’s designed by AMD

- **Desktop APUs**: "Bristol Ridge" (2016) AMD’s entry-level processors
- **Server APUs**: Opteron X3000-series (2017) compact ideal for small businesses
- **Ultra-mobile APUs**: "Stoney Ridge" (2016) APU for notebooks with Excavator architecture
References

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More References

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