Intel's Fog Reference Design Overview

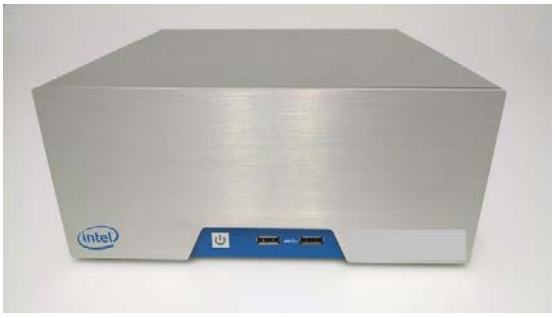
Intel's Fog Reference Design (FRD) is a versatile reference design in a self-contained enclosed chassis for testing and demonstration of fog use cases.

Organizations are being confronted with increasingly more data, richer data types, and more sophisticated data analytics. Transmitting all the IoT data to the cloud requires a lot of and often expensive bandwidth. Communication between sensors and cloud can negatively impact communication latency and therefore response time. Many organizations also find it necessary to address risks of the data being intercepted in the internet by unauthorized parties.

Existing IoT deployment methods need to evolve. Fog computing provides distributed compute, connectivity, and storage that allow a balance of resources across the things, network, and cloud to address these problems for targeted IoT use cases.

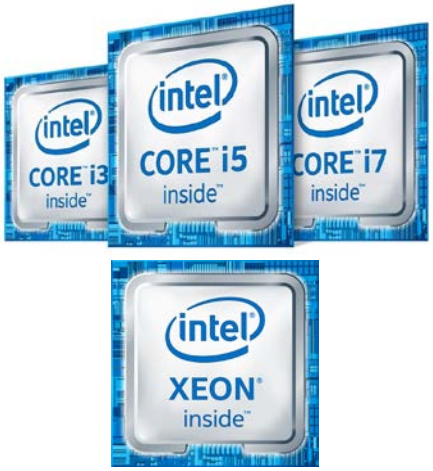
Building the Fog Reference Design

To accelarate market adoption of fog tehnologies, Intel built the Fog Reference Design (FRD). The Fog Reference Design is a versatile reference design in a self-contained enclosed chassis for testing and demonstration of fog use cases across the specturm of vertical segments. Although the Fog Reference Design is not a product for sale, many of the ingredients used are commercially available products.

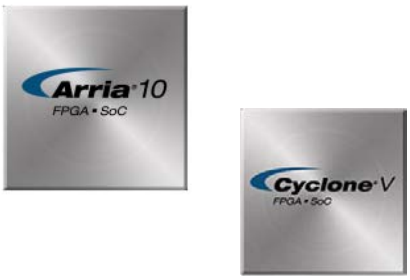


A number of technologies and products were harnessed into the test bed demonstration. Here are some key technologies and products that provide the performance and reliability to handle fog computing features:

- Intel® Core™ i3/i5/i7 or Xeon® Processor provides high compute performance.



- Intel's FPGA solutions and tools provide programmable logic for specialized functions.



As a vehicle to accelerate market adoption of fog technologies, the fog reference design aligns with the OpenFog Architecture. For more information on the OpenFog Architecture, refer to https://www.openfogconsortium.org/.

Collaboration with Ecosystem

Intel is using the Fog Reference Design with select ecosystem partners on platform testing and PoCs (Proof of Concepts). The goal is to accelerate IoT deployment by working together on use cases and technologies that address emerging IoT market needs.

Intel understands that fog computing also requires additional research by both industry and universities. To help this effort, Intel will provide OpenFog University members a common collateral of fog hardware platforms and access to our Altera University program. It is our expectation that OpenFog university members publish the results of research through various publications.

Conclusion

To accelarate market adoption of fog tehnologies, Intel built the Fog Reference Design (FRD). The Fog Reference Design is a versatile reference design in a self-contained enclosed chassis for testing and demonstration of fog use cases. Intel is using the Fog Reference Design with select ecosystem partners and universities on platform testing, PoCs (Proof of Concepts), and research.