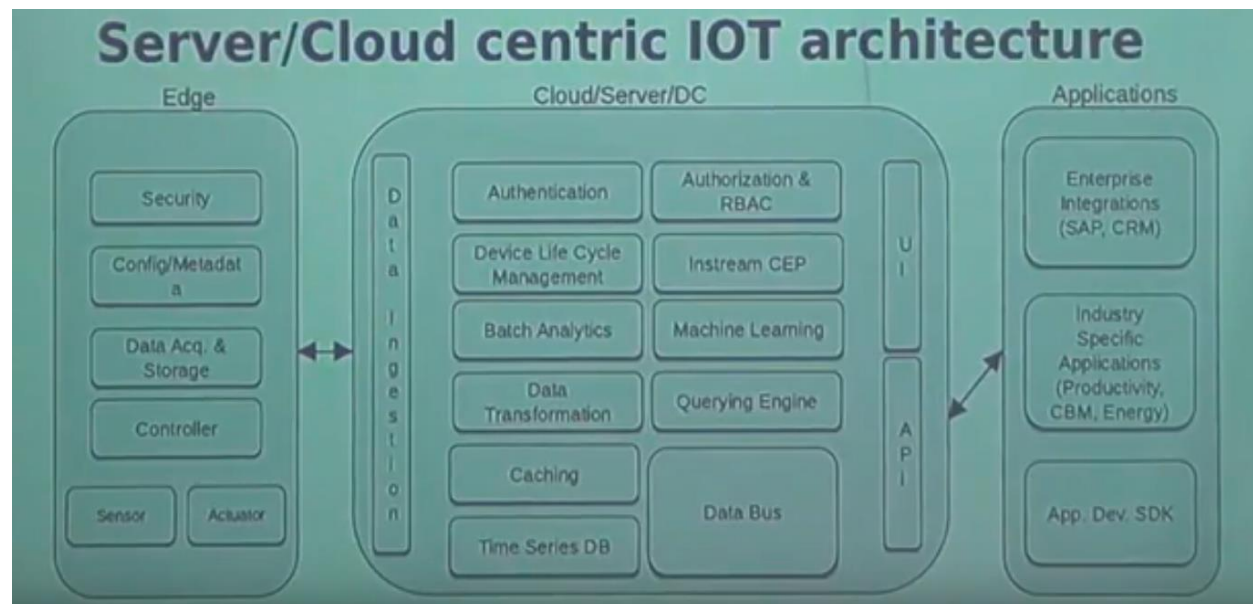


# IoT architectural trends

Atul Gore, Altizon <https://www.youtube.com/watch?v=zdCtcvPcuqc>



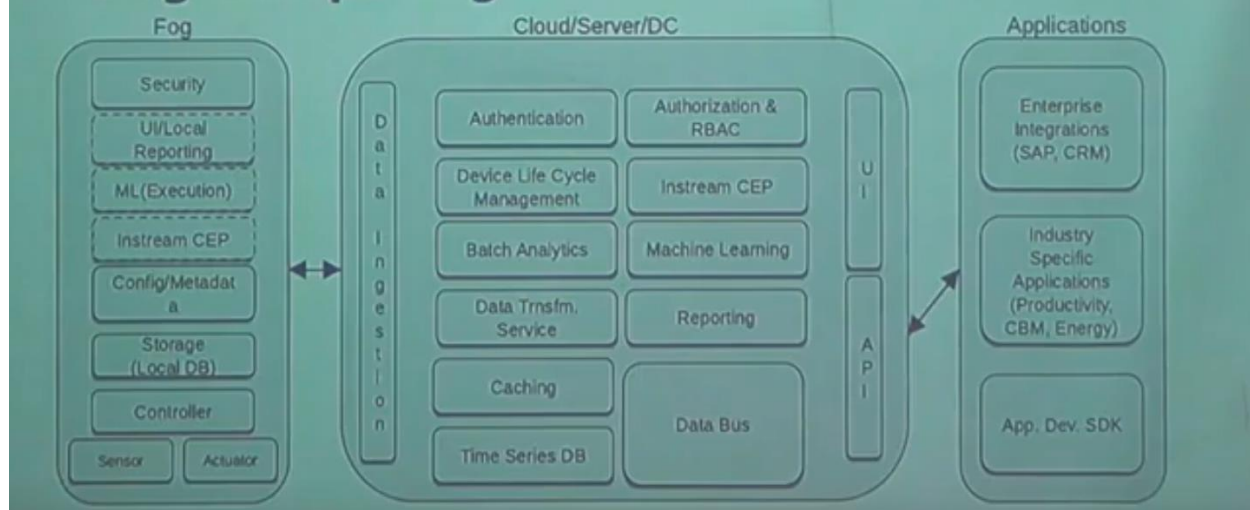
## Server/Cloud centric Pros & Cons

- **Pros**
  - Edge devices are simple to build and hence rollouts can be faster.
  - Edge is cheaper to build and run. Low power consumption and footprint.
  - Ideal for use cases where data transmission frequency is not very high, i.e. water meter/electricity meter transmitting computing every few seconds.
- **Cons**
  - Not suitable for high frequency sensing e.g. vibration, high speed motion etc.
  - Cannot necessarily function in an autonomous mode. Needs cloud to run use case.
  - Harder to upgrade and extend.

# Why do you need Fog Computing?

- To overcome the cons of Cloud centric architecture! ;-)
- Many use cases are evolving in which data is generated at such high velocity and volume, that it makes it infeasible to send it cloud and wait for feedback. E.g. a camera and lidar system running on an autonomous vehicle or a oil pipeline monitor in a remote location.
- Hardware has got democratized over the years. For perspective, A raspberry pi 3 can run a full blown OS and classify images from its camera using tensorflow. And all for under \$20.
- Smaller form factor and still got the power to run a full-blown OS.
- Comes with in built networking capabilities like WIFI/bluetooth/ethernet.
- Fog is not a replacement for cloud computing, but is complementary to it.

## Fog Computing Architecture



## Fog Computing Architecture (contd.)

Edge Network

