# Event driven architecture – it’s advantages over data centric applications

There was a trend in the industry for a data centric application some years back. Any large-scale IT enterprises having with multiple source systems will end-up with a data centric application for a meaningful data for their downstream systems.

Worked in two of the RFPs recently, in both the scenarios, the trend noticed was, downstream systems required data from multiple systems, and it further required data enrichment for a meaningful data for their downstream systems.

In both the scenarios, either they were using a data warehouse or a data grid. While going further to understand the reason for RFP, these data centric systems are not the reason for RFPs, however they are having challenges with data centric approach, which may need to be addressed in near future.

Out of these two RFPs, for one of the customers we proposed nervIO, a stream processing accelerator engine to address a tightly coupled, single point of failure and a batch processing system. For the other customer, RFP was about version update of data centric IMDG, which was not able to perform for data volume of 450 TB.

It concludes that the data centric systems are causing customers good number of challenges like,

* Not being real-time processing system
* Not being loosely coupled system
* Not able to avoid single point of failure
* Not able to perform customer’s NFRs

The issues can easily be addressed with Event First approach using event driven architecture. Event driven solutions, by default come up with features like, real-time processing, loosely coupled, distributed data and fast and fault tolerance.

Kafka is one top technology in the event processing solution, can be leveraged to provide solutions for above said customer problems. Having said that, there are good number of technology options available in the market and Kafka is one among the best.

Kafka initially started as a message channel for systems to exchange data, later it started adding features like stream API, local state store and many more to it’s eco-system. When we talk about features like stream API and local state store, these features help to provide solutions, where Kafka can be used to provide real-time ETL jobs and data store capabilities respectively.

Looking at the features of Kafka having, we have an accelerator called nervIO, a realtime stream processing engine with good number of data pipelines. It is not a code generator, rather it has code ready to support good number of data pipelines to provide features like, data enrichment, data validation, data filter and data aggregation. NervIO has a UI support to enable and configure end-end data pipeline, means, creation of topic, connector configuration and adding processing logic using kafka streams. At this point of time, NervIO will run on Confluent Kafka, as we are leveraging schema registry feature.

NervIO can be a good value addition for the customers to build event driven solutions with good Return On Investment instead of starting from scratch.

To conclude, we are trying to provide different point of view to the solution but not to intent that all solutions with data warehouse, data grid etc.., will be replaced with event driven solutions having Kafka, but it definitely help to provide better solution for customer problems using event driven architecture approach.