

Towards a context-aware platform for complex and stream event processing

Abstract:

With rapid expansion of wireless ad hoc networks and their interactions with wired networks together with the use of location-based services and the deployment of mobile and wearable sensor devices, it is now possible to develop context-aware applications such as those in healthcare and transportation. These applications could react to the environment changes and users' preference with the main aim is to make their life more comfortable according to their locations, current time and situations. However, handling context changes according to current data and events is a difficult task without supporting tools. Therefore, a platform that includes real-time event/data acquisition and processing is required. In this paper, we first survey existing work related to event processing and big data technologies by highlighting current challenges related to realtime data processing. We then introduce a context-aware platform that merges different technologies such as service-oriented architecture, complex-event processing (CEP) tools, and big data technologies. A sample context-aware application for energy efficient buildings control is presented to highlight the different components of the platform and their interactions.

Published in: [High Performance Computing & Simulation \(HPCS\), 2016 International Conference on](#)

Date of Conference: 18-22 July 2016

Date Added to IEEE Xplore: 15 September 2016

ISBN Information:

Electronic ISBN: 978-1-5090-2088-1

Print on Demand(PoD) ISBN: 978-1-5090-2089-8

DOI: [10.1109/HPCSim.2016.7568438](https://doi.org/10.1109/HPCSim.2016.7568438)

Publisher: IEEE