European Extreme Performing Big Data Stacks

Fact Sheet

Project Information

E2DATA
Grant agreement ID: 780245

Status
Closed project

Funded under
H2020-EU.2.1.1.

Overall budget
€ 4 676 250

EU contribution
€ 4 676 250

Coordinated by
EXUS SOFTWARE LTD
United Kingdom

Objective

Imagine a Big Data application with the following characteristics: (i) it has to process large amounts of complex streaming data, (ii) the application logic that processes the incoming data must execute and complete within a strict time limit, and (iii) there is a limited budget for infrastructure resources.

In today’s world, the data would be streamed from the local network or edge devices to a cloud provider which is rented by a customer to perform the data execution. The Big Data software stack, in an application and hardware agnostic manner, will split the execution stream into multiple tasks and send them for processing on the nodes the customer has paid for. If the outcome does not match the strict three second business requirement, then the customer has two options: 1) scale-up (by upgrading processors at node level),
2) scale-out (by adding nodes to their clusters), or 3) manually implement code optimizations specific to the underlying hardware.

E2Data proposes an end-to-end solution for Big Data deployments that will fully exploit and advance the state-of-the-art in infrastructure services by delivering a performance increase of up to 10x while utilizing up to 50% less cloud resources. E2Data will provide a new Big Data paradigm, by combining state-of-the-art software components, in order to achieve maximum resource utilization for heterogeneous cloud deployments without affecting current programming norms (i.e. no code changes in the original source).

The E2Data innovations will be driven by the requirements of four resource demanding applications from the finance, health, green buildings, and security domains.

Finally, the evaluation will be conducted on both high-performing x86 and low-power ARM cluster architectures representing realistic execution scenarios of real-world deployments.

Field of science

/natural sciences/computer and information sciences/software
/natural sciences/computer and information sciences/data science/big data

Programme(s)

Topic(s)

Call for proposal

H2020-ICT-2017-1

Funding Scheme

RIA - Research and Innovation action

Coordinator

EXUS SOFTWARE LTD

Address

Activity type

EU contribution

€ 503 125
## Participants (8)

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Activity type</th>
<th>EU contribution</th>
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<td><strong>THE UNIVERSITY OF MANCHESTER</strong></td>
<td>Higher or Secondary Education Establishments</td>
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