Execution Models for Energy-Efficient
Computing Systems (EXCESS)

611183

D6.4

Second Press Release

Authors

Philippas Tsigas, Ivan Walulya

DOCUMENT INFORMATION

Deliverable Number	D6.4
Deliverable Name	Second Press Release
Authors	Philippas Tsigas, Ivan Walulya (CHALMERS)
Responsible Author	Philippas Tsigas (CHALMERS) E-mail: philippas.tsigas@chalmers.se Phone: +46 31 772 5409
Keywords	Press release, excess
WP/Task	WP6 / Task 6.4
Nature	O (Second Press Release), R (D6.4 document)
Dissemination Level	PU (Press Release), PP (D6.4 document)
Planned Date	30.08.2016
Final Version Date	31.08.2016
Reviewed by	Brendan Barry (MOVIDIUS), Phuong Ha (UiT)
MGT Board Approval	YES

DOCUMENT HISTORY

Person	Date	Comment	Version
Philippas	02-08-2016	Initial draft of the press release	--
Anneli Andersson	02 to 20-08-2016	Jonas Bergroth, Christian Borg, Philippas Tsigas, Malin Ulfvarson all involved in creating and editing the press release.	--
Ivan	23-08-2016	Draft of D6.4	0.1
Jonas Bergroth	26-08-2016	Press Release	0.7
Ivan	28-08-2016	Compiled the first version of this deliverable	0.8
Philippas	30-08-2016	Incorporated review comments	Final

ABSTRACT

Press Releases serve the purpose of introducing and disseminating the results of the project to the public and research community. We expect the Second Press Release to attract attention of the general public and researchers in particular to the results achieved during the EXCESS project.

TABLE OF CONTENTS

1. Introduction

The goal of the second Press Release (PR) is to publicize the achievements of the EXCESS project to the general public. It focuses on explaining the project results and is intended to attract attention from the public and research community. The Press Release appeared at the end of Month 36 (August 2016).

For generating publicity, two components are important: creating the actual press release, and selecting the target audiences and the appropriate channels to deliver the message to the target audience. In this document, we report on steps taken and their results.

2. Second press release: August 2016

2.1 Target audiences

For this press release, we target the general public, more specifically those with an interest in science and technology.

The following topics and tags have been selected for the PR release:

Topics:

- Data, Telecom, IT
- Engineering,
- Natural science
- Research
- Science, general
- Technology, general

Tags:

1. Embedded systems
2. Energy efficiency
3. Ict
4. Ict energy

2.2 PR channels

To reach the target audience specified above, we asked Chalmers's University Media Relations Unit and the information officer of the Computer Science and Engineering department for their help. The text of the PR was generated in close collaboration with them, in an iterative process that we started at the beginning of June 2016.

Chalmers distributed the PR via their account at the Alphagalileo and mynewsdesk press release services and sent it to a large group (approximately 1000) of computing interested journalists internationally. As the university has a solid reputation, the PR automatically received the qualification 'solid scientific news'

2.3   Press Release Contents

Computer Science and Engineering

Education   +

Research   +

Centres

Organisation   +

Contact   +

Calendar

Department news

New approach to computing boosts energy efficiency

A European research project led by Chalmers University of Technology has launched a set of tools that will make computer systems more energy efficient – a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.

Energy consumption is one of the key challenges of modern computing, whether for wireless embedded client devices or high performance computing centers. The ability to develop energy efficient software is crucial, as the use of data and data processing keeps increasing in all areas of society. The need for power efficient computing is not only due to the environmental impact. Rather, we need energy efficient computing in order to even deliver on the trends predicted.

The EU funded Excess project, which finishes August 31, set out three years ago to take on what the researchers perceived as a lack of holistic, integrated approaches to cover all system layers from hardware to user level software, and the limitations this caused to the exploitation of the existing solutions and their energy efficiency. They initially analyzed where energy-performance is wasted, and based on that knowledge they have developed a framework that should allow for rapid development of energy efficient software production.

"When we started this research program there was a clear lack of tools and mathematical models to help the software engineers to program in an energy efficient way, and also to reason abstractly about the power and energy behavior of her software" says Philippas Tsigas, professor in Computer Engineering at Chalmers University of Technology, and project leader of Excess. "The holistic approach of the project involves both hardware and software components together, enabling the programmer to make power-aware architectural decisions early. This allows for larger energy savings than previous approaches, where software power optimization was often applied as a secondary step, after the initial application was written."

The Excess project has taken major steps towards providing a set of tools and models to software developers and system designers to allow them to program in an energy efficient way. The tool box spans from fundamentally new energy-saving hardware components, such as the Movidius Myriad platform, to sophisticated efficient libraries and algorithms.

Tests run on large data streaming aggregations, a common operation used in real-time data analytics, has shown impressive results. When using the Excess framework, the programmer can provide a 54 times more energy efficient solution compared to a standard implementation on a high-end PC processor. The holistic Excess approach first presents the hardware benefits, using an embedded processor, and then continues to show the best way to split the computations inside the processor, to even further enhance the performance.

Movidius, a partner in the Excess project and developers of the **Myriad** platform of vision processors, has integrated both technology and methodology developed in the project into their standard development kit hardware and software offering. In the embedded processor business, there has been a gradual migration of HPC class features getting deployed on embedded platforms. The rapid development in autonomous vehicles such as cars and drones, driving assist systems, and also the general development of home assist robotics (e.g. vacuum cleaners and lawnmowers) has led to the porting of various computer vision algorithms to embedded platforms. Traditionally these algorithms were developed on high performance desktop computers and HPC systems, making them difficult to re-deploy to embedded systems. Another problem was that the algorithms were not developed with energy efficiency in mind. But the Excess project has enabled and directed the development of tools and software development methods to aid the porting of HPC applications to the embedded environment in an energy efficient way.

About EXCESS

EXCESS consortium unites Europes leading experts in both HPC and embedded computing. The consortium consists of world-class research centres and universities (Chalmers, LIU, UiT), a High Performance Computing centre (HLRS at USTUTT), and a European embedded multi-core SME (Movidius).

Chalmers is coordinating the scientific work of the project with Prof. Philippas Tsigas as the Project Coordinator. http://excess-project.eu/

Contact:
Philippas Tsigas,+46 31 772 5409, **Philippas.Tsigas@chalmers.se**

CONTACT PAGE RESPONSIBLE

Published: Fri 26 Aug 2016.

> Computer Science and Engineering > Department news > New approach to computing boosts energy efficiency

Computer Science and Engineering - Chalmers University of Technology and University of Gothenburg - Tel: +46 (0)31- 772 10 00

2.4   The Press Release in Communication Channels the First Day of Release

ScienceDaily®
Your source for the latest research news

Breaking News: More to Rainbows Than Meets the Eye

S_D   Health ▾   Tech ▾   Environment ▾   Society ▾   Quirky ▾   A- A A+   Search

Science News   *from research organizations*   🖶 Print   ✉ Email   ↗ Share

New approach to computing boosts energy efficiency

Date: August 26, 2016

Source: Chalmers University of Technology

Summary: A research project has launched a set of tools that will make computer systems more
             energy efficient – a critical issue for modern computing. Using the framework of the
             project programmers has been able to provide large data streaming aggregations 54
             times more energy efficient than with standard implementations.

Share: [Facebook] [Twitter] [Google+] [LinkedIn] [+] [Email]

RELATED TOPICS

Matter & Energy

> Solar Energy

> Energy Technology

> Energy and Resources

Computers & Math

> Computers and Internet

> Software

> Information Technology

FULL STORY

A European research project led by Chalmers
University of Technology has launched a set of tools
that will make computer systems more energy
efficient -- a critical issue for modern computing.
Using the framework of the project programmers
has been able to provide large data streaming
aggregations 54 times more energy efficient than
with standard implementations.

Energy consumption is one of the key challenges of modern
computing, whether for wireless embedded client devices or

Related Stories

**New 'GreenWeb' Tools Aim to Create an
Energy-Efficient Web**
June 16, 2016 — Researchers have developed
a new, open-source computer programming
framework that could make the web
significantly more energy ... **read more »**

New Report on Energy-Efficient Computing
Oct. 20, 2015 — A new American report
outlines key factors limiting progress in
computing -- particularly related to energy
consumption -- and novel research that could
overcome these ... **read more »**

Green Clouds on the Horizon for Computing
Apr. 28, 2014 — Small businesses could save
up to 62% of energy costs by switching to a
cloud computing system for their invoicing,
according to research. The approach of
integrating cloud computing and a more ...
read more »

A Network to Guide the Future of Computing
Sep. 13, 2012 — Moore's Law, the observation
by Intel co-founder Gordon E. Moore that the
number of transistors on a chip doubles

AlphaGalileo

The specialist media service. Journalists register online for free access to embargoed news and researcher contact details

All regions | Africa | Asia | Caribbean | Europe | Latin America | Middle East | North America | Oceania | Extraterrestrial

All categories | Science | Health | Society | Humanities | Arts | Applied science | Business

Home

Language

English

Content

▸ All content

▸ News releases

▸ Events

▸ Publication
  announcements

▸ Background texts &
  multimedia

▸ Broadcast media
  items

▸ Blogs

AlphaGalileo

▸ Help

▸ Advertising and
  Promotion

▸ AlphaGalileo
  Translations

▸ Conditions of use

▸ About us

▸ Prices

News Release

✉ Share 🖶 Printer friendly version

CHALMERS
UNIVERSITY OF TECHNOLOGY

Please register to view contact details

New approach to computing boosts energy efficiency
26 August 2016   Chalmers University of Technology

A European research project led by Chalmers University of Technology has launched a set of tools that will
make computer systems more energy efficient - a critical issue for modern computing. Using the
framework of the project programmers has been able to provide large data streaming aggregations 54 times
more energy efficient than with standard implementations.

Energy consumption is one of the key challenges of modern computing, whether for wireless embedded
client devices or high performance computing centers. The ability to develop energy efficient software is
crucial, as the use of data and data processing keeps increasing in all areas of society. The need for power
efficient computing is not only due to the environmental impact. Rather, we need energy efficient
computing in order to even deliver on the trends predicted.

The EU funded Excess project, which finishes August 31, set out three years ago to take on what the
researchers perceived as a lack of holistic, integrated approaches to cover all system layers from hardware
to user level software, and the limitations this caused to the exploitation of the existing solutions and their
energy efficiency. They initially analyzed where energy-performance is wasted, and based on that
knowledge they have developed a framework that should allow for rapid development of energy efficient
software production.

Search

Keywords

All Regions
All Categories
All Content   Search

Advanced search

Other content in...

Categories
Applied science

Keywords
Computing
Engineering
Technology

Regions
Europe

New approach to computing boosts energy efficiency

August 26, 2016

The Excess project includes methodology and software as well as hardware, such as the processors from Movidius, in order to achieve impressive results regarding energy efficiency. Credit: Chalmers University of Technology

A European research project led by Chalmers University of Technology has launched a set of tools that will make computer systems more energy efficient – a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.

Energy consumption is one of the key challenges of modern computing, whether for wireless embedded client devices or high performance computing centers. The ability to develop energy efficient software is crucial, as the use of data and data processing keeps increasing in all areas of society. The need for power efficient computing is not only due to the environmental impact. Rather, we need energy efficient computing in order to even deliver on the trends predicted.

The EU funded Excess project, which finishes August 31, set out three years ago to take on what the researchers perceived as a lack of holistic, integrated approaches to cover all system layers from hardware to user level software, and the limitations this caused to the exploitation of the existing solutions and their energy efficiency. They initially analyzed where energy-performance is wasted, and based on that knowledge they have developed a framework that should allow for rapid development of energy efficient software production.

New approach to computing boosts energy efficiency

Friday, August 26, 2016 - 14:42 in Physics & Chemistry

A research project has launched a set of tools that will make computer systems more energy efficient – a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.

Read the whole article on Science Daily

More from Science Daily

GeekJournal
tech and geek stuff

#apple #iphone #users #facebook #security #microsoft

Sciencedaily.com

New approach to computing boosts energy efficiency

A research project has launched a set of tools that will make computer systems more energy efficient – a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations. ...

#project #energy-efficient #efficient-critical

Tweet   Pin it

Source: sciencedaily.com

Read More

Popular

Apple Reportedly Working on Video Sharing App

In a play for younger users, Bloomberg says Apple is creating an app that will let users edit, embellish and share videos across any social app on the iPhone. A young mobile audience is enamored with...

#project #energy-efficient #efficient-critical

Corporations turn to their own green energy sources

The words are stenciled on the front of the Apple Store, a glass box sandwiched between a nondescript Thai restaurant and a CVS pharmacy in downtown Palo Alto: "This store runs on 100 percent renewable...

#project #energy-efficient #efficient-critical

iMac 2016 release date, news and rumours

iMac 2016 rumour roundupAlthough it may seem that the range has only recently had an upgrade, the late 2015 iMac brought little more than a processor upgrade and a long-awaited bump to Retina screens across...

#project #energy-efficient #efficient-critical

PARALLELSTATE SCI-TECH SCI-FI FRINGE
NEW APPROACH TO COMPUTING BOOSTS...

HOME > SCI-TECH > SCIENCE

New approach to... ∨

HOME	SCI-TECH
SCIENCE	Biosphere
Environment	Civilization
Health	Engineering
Physics	Microbiology
Molecular	Paleontology
Mathematics	Education
SPACE	Space Tech
Solar System	Universe
TECHNOLOGY	Computers
Cutting Edge	Gaming

New approach to computing boosts energy efficiency

PHYS.ORG A European research project led by Chalmers University of Technology has launched a set of tools that will make computer... *3 days*

FULL STORY f t   Like

New approach to computing boosts energy efficiency

SCIENCE DAILY A research project has launched a set of tools that will make computer systems more energy efficient – a critical issue for modern computing. Using the framework of the project programmers has been able to... *3 days*

Like Share

HOME
SCI-TECH
SCIENCE
Biosphere

BUSINESS   MARKETS   ENTERTAINMENT   LIFESTYLE   TECH   POLITICS   HEALTH   TRAVEL
SPORTS   WORLD   ART   FINANCE   GENERAL

D.N.J
DigitalNewsJournal

BUSINESS   MARKETS   ENTERTAINMENT   LIFESTYLE   TECH   POLITICS   HEALTH

SPORTS   FINANCE   GENERAL

New approach to computing boosts energy efficiency

by www.sciencedaily.com

A research project has launched a set of tools that will make computer systems more energy efficient − a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.
Read Full Article On www.sciencedaily.com

BUSINESS   MARKETS   ENTERTAINMENT   LIFESTYLE   TECH   POLITICS   HEALTH   TRAVEL
SPORTS   WORLD   ART   FINANCE   GENERAL

news
time365.com

BUSINESS   MARKETS   ENTERTAINMENT   LIFESTYLE   TECH   POLITICS   HEALTH

SPORTS   FINANCE   GENERAL

New approach to computing boosts energy efficiency

by www.sciencedaily.com

A research project has launched a set of tools that will make computer systems more energy efficient − a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.
Read Full Article On www.sciencedaily.com

NEWS
NATION TIMES
.COM

BUSINESS   MARKETS   ENTERTAINMENT   LIFESTYLE   TECH   POLITICS   HEALTH   SPORTS   FINANCE   GENERAL | Search something.. |

New approach to computing boosts energy efficiency

by www.sciencedaily.com

A research project has launched a set of tools that will make computer systems more energy efficient − a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.
Read Full Article On www.sciencedaily.com

RECENT NEWS

AZAL entering Malaysian airspace

The Azerbaijan Airlines CJSC (AZAL) has appointed its representative in Malaysia
Read Full Story

mynewsdesk   SKICKA PRESSRELEASE   LOGGA IN ≡

Vi använder cookies av tekniska skäl och för att underlätta besökarens aktiviteter på Mynewsdesk. För detaljer se vår cookie policy. ✕

CHALMERS   🇬🇧 United Kingdom   m Follow Chalmers University of Technology

                                                    Search

🏠 ★ News   📷 Images & Videos   👤 Contacts   📄 Documents

New approach to computing boosts energy efficiency
Aug 26, 2016 09:08 BST

Alma finds a swirling, cool jet that reveals a growing, supermassive black hole
Jul 04, 2016 07:45 BST

Sweden's biggest contribution yet to the world's largest radio telescope
Jun 16, 2016 07:00 BST

The EU commits to research into ultra-efficient aero engines
Jun 13, 2016 06:00 BST

Self-driving truck acts like an animal
May 25, 2016 07:00 BST

Hints of unknown elementary particle explained using Swedish theory
May 11, 2016 11:04 BST

New approach to computing boosts energy efficiency
Press Releases · Aug 26, 2016 09:08 BST
A European research project led by Chalmers University of Technology has launched a set of tools

---

nano werk

Home | News | Nano Databases | Nano Catalog | Nano Jobs | Resources | Introduction to Nanotechnology

CleanTech News
The latest news about environmental and green technologies – renewables, energy savings, fuel cells

[Search]

Posted: Aug 29, 2016

New approach to computing boosts energy efficiency

(Nanowerk News) A European research project led by Chalmers University of Technology has launched a set of tools that will make computer systems more energy efficient - a critical issue for modern computing. Using the framework of the project programmers has been able to provide large data streaming aggregations 54 times more energy efficient than with standard implementations.

The Excess project includes methodology and software as well as hardware, such as the processors from Movidius, in order to achieve impressive results regarding energy

CleanTech News

New approach to computing boosts energy efficiency
Posted: Aug 29, 2016

Study: Biofuels increase, rather than decrease, heat-trapping carbon dioxide emissions
Posted: Aug 25, 2016

New method developed for producing some metals
Posted: Aug 25, 2016

Green light: Biochemists describe light-driven conversion of greenhouse gas to fuel
Posted: Aug 25, 2016

An effective and low-cost solution for storing solar energy
Posted: Aug 25, 2016

New technology may give electric car drivers more miles per minute of charging
Posted: Aug 24, 2016

Sponge creates steam using ambient sunlight
Posted: Aug 22, 2016

EXCESS
@excessproject

The EXCESS project aims at providing radically new energy execution models forming foundations for energy-efficient computing paradigms

🔗 excess-project.eu

TWEETS	FOLLOWING	FOLLOWERS	LIKES
38	38	31	1

Edit profile

Tweets   Tweets & replies

🔁 You Retweeted

Chalmers ICT @ChalmersICT · Aug 26
New tools to boost energy efficient computing, by Chalmers led and EU funded Excess research project #chalmersftw
chalmers.se/en/departments…

🔁 2   ♥ 1   •••

Chalmers ICT
@ChalmersICT

⚙ **Following**

New tools to boost energy efficient computing, by Chalmers led and EU funded Excess research project #chalmersftw
chalmers.se/en/departments …

RETWEETS	LIKE
2	1

8:12 AM - 26 Aug 2016

🔁 2   ♥ 1   •••

2.5   Conclusion

The second press release to publicize the results of EXCESS and explain the outcomes of the project was published using Chalmers' official PR mechanisms.

GLOSSARY

EXCESS   Execution Models For Energy-Efficient Computing Systems
PR   Press Release