# TERVIEW WITH LUKE LEIGHTON (LIBRESOC PROJECT) – NGI SEARCH BENEFICIARY


## "LIBRESOC" PROJECT

🤩Did you know that the Internet is not solely a software-based environment and that optimising hardware can be the path to the next generation?

💡Are you curious about the latest advancements in decentralised digital identity?

If you answer yes, you can't miss this UNIQUE interview we are bringing you today.

Join us and meet Luke Leighton, who represents **SVP 64**, one of the beneficiaries of the first Open Call of the NGI Search project, to learn everything about it and get some insights into making the most of funding opportunities available through NGI Search's Open Calls.

ALL NGI INTERVIEWS

NGI SEARCH

## PUBLICATION DATE

**13/11/2024**

## OTHER INTERVIEWS


### CAN YOU INTRODUCE YOURSELF AND YOUR PROJECT?

I am Luke Kenneth Casson Leighton, lead of the Libre-SOC project. For the NGI Search project, we created a consortium of the following companies:

- Red Semiconductor, led by David Calderwood
- VectorCamp, represented by Konstantinos Margaritis
- VanTosh, led by Toshaan Bharvani.

### WHY IS SVP64 RELEVANT TO NEXT GENERATION INTERNET SEARCH?

Everyone thinks the Internet is a Software-only environment. The reality is that software can only run on hardware, and we are addressing the hardware's fundamental performance and power efficiency by verifying that low-level memory, string, regular expression and Machine Learning algorithms run optimally on SVP64.

The biggest differentiator, however, is that, unlike Intel or ARM, if we find that SVP64 is sub-optimal, we will take the opportunity provided to us by NGI Search to investigate how to improve the Instruction Set Architecture.

The bottom line is that **hardware-enhanced performance benefits everyone's algorithms with performance and energy improvements.**

### WHO ARE THE INDIVIDUAL CONSORTIUM MEMBERS, AND WHAT ARE THEIR SPECIALISATIONS?

 Red Semiconductor is a fabless semiconductor company which will implement working Silicon deploying the SVP64 Enhancements to the Power ISA, making developer kits available to prospective IoT/EDGE customers, the FOSSHW and NGI hardware communities alike.
 VectorCamp provides SIMD Vectorization, Software Optimization, and Training Services.

 VanTosh is an ISV with expertise in porting to the POWER platform and an MSP for running your private cloud-based multi-architecture like POWER machines; we also are very active in open-source communities for software and hardware.

## WHAT SERVICES OR PRODUCTS DO YOU OFFER?

With prior kind funding from NLnet and NGI POINTER, we have established and implemented the principles of the SVP64 Extension to the Power ISA.

This Extension is optimised to simplify significantly mathematical calculations, providing benefits in Cryptography, Machine Learning, Autonomous systems, Audio/Video, DSP and many other general-purpose areas.

The building blocks of SVP64 are designed to provide a combination of these solutions, and we are now working, with the support of NGI Search, to establish new building blocks to include Advanced Search capabilities, which are also applicable to all of the above.

## WHAT MILESTONES HAVE YOU ACHIEVED SO FAR SINCE YOUR PROJECT LAUNCH?

The three key milestones are analysis, review and enhancement, and we are already well into the analysis process.

The review process will complete Stage 2, and implementation will be Stage 3. We have a multi-skilled team across the three participating organisations, and there will be cross-organisational cooperation on all Milestones.

For those interested, anyone will be able to follow our work in real-time at https://libre-soc.org

## WHAT ARE YOUR GOALS FOR THE MIDDLE/LONG-TIME FUTURE?

The ultimate goal is to create a progressive family of microprocessors, and this grant allows us to validate the critical elements of this project, ensuring that the processor family is efficient at string, data and machine learning and provides support for standard open source software libraries.

## HOW IS THE NGI SEARCH MONEY HELPING YOU?

At a fundamental level, it is buying us “thinking time”. A considerable amount of time is spent analysing and understanding a purpose. This purpose is the consequence of Search as opposed to previously funded developments such as NGI POINTER, which addressed different goals.

## HOW HAS BEING PART OF NGI SEARCH HELPED YOU?

We have been part of the NGI Ecosystem for five years: NLnet (NGI Trust and Ensure), NGI POINTER and now NGI Search. Whilst NGI Search is new and evolving, we expect it to be as helpful and productive as our previous interactions.

😍In particular, we appreciate the additional support that comes with the NGI Family: the “added-value” activities, such as training, sharing of ideas, and Mentoring on strategies for Business Development.

## DO YOU HAVE ANY ADVICE FOR THOSE WHO ARE LOOKING FOR PUBLIC FUNDING?

It’s pretty simple:

✅ Read the “call”.
✅ Make sure your application addresses it directly.
✅ Have a coherent vision (a “why” – best explained by Simon Sinek’s TED Talk).

Grant Applications come primarily in two phases: a “points” system and a “human review”. It is relatively easy to answer the first phase by ensuring that you have answered the “call”, but the second phase **is where you need to make people “feel” like they get what you are doing, and that’s where Simon Sinek’s TED Talk comes into play.**

To conclude, I also want to take advantage of the opportunity to share
this inspiring video on leadership.

Greetings, and thank you very much.

NGI Interviews NGI Search

The Next Generation Internet is a **European Commission** initiative.

The **NGI.eu portal** is run by NGI4ALL.E, which is part of the NGI initiative. NGI4ALL.E has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement no 101069813. The content of this website does not represent the opinion of the European Union, and the European Union is not responsible for any use that might be made of such content.

ECO-FRIENDLY WEBSITE

Designed by MARTEL innovate



Subscribe to our Newsletter