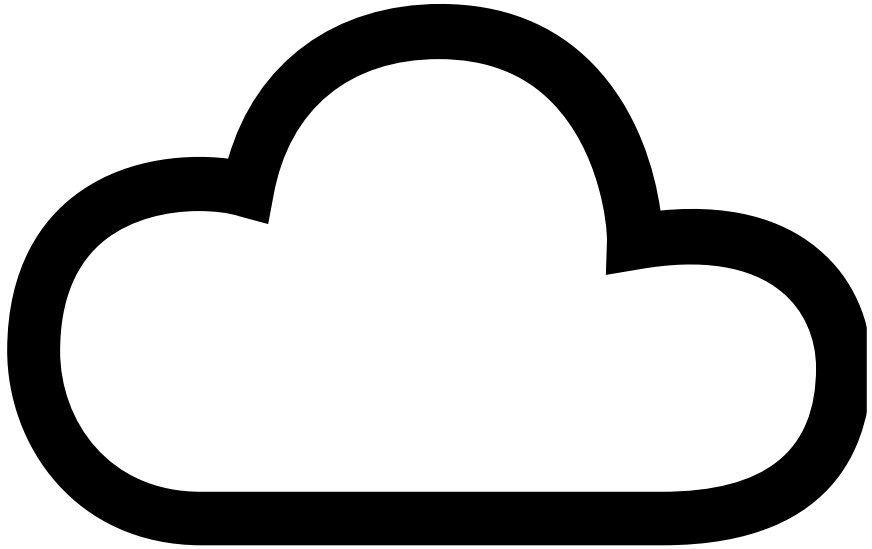
Ericsson Research

Distributed Applications in the Cloud



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The Odd Career Path of an RSE

- Research is based on tested and reviewed code.
- We need to *demonstrate* this, not just say it.

Code as a Deliverable

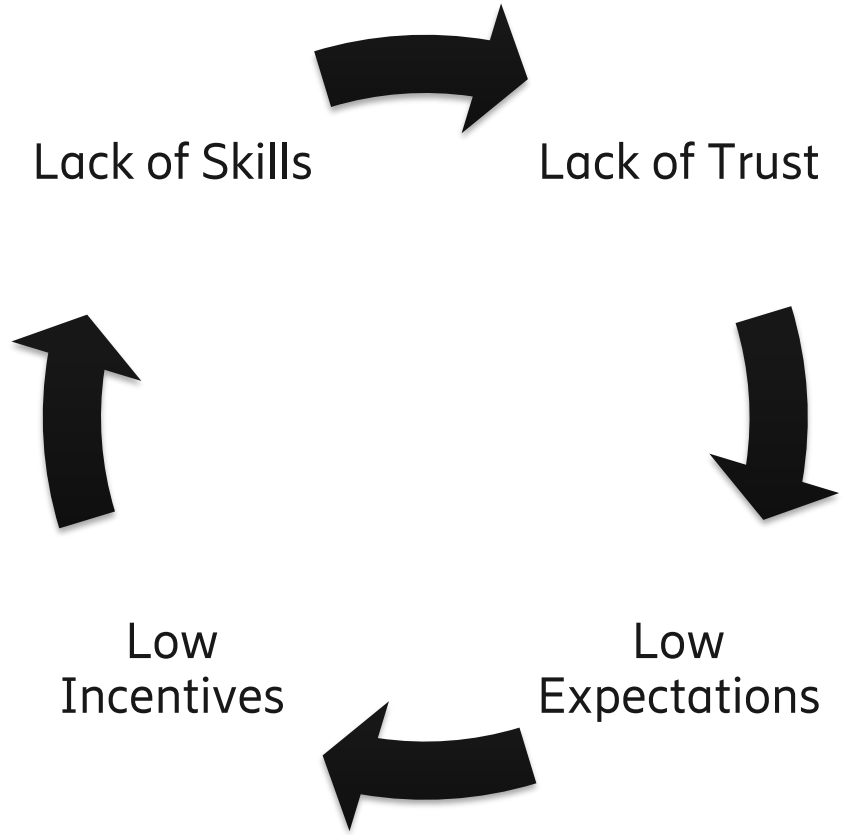
Code as Research

Research as an End Goal

Industry Collaboration

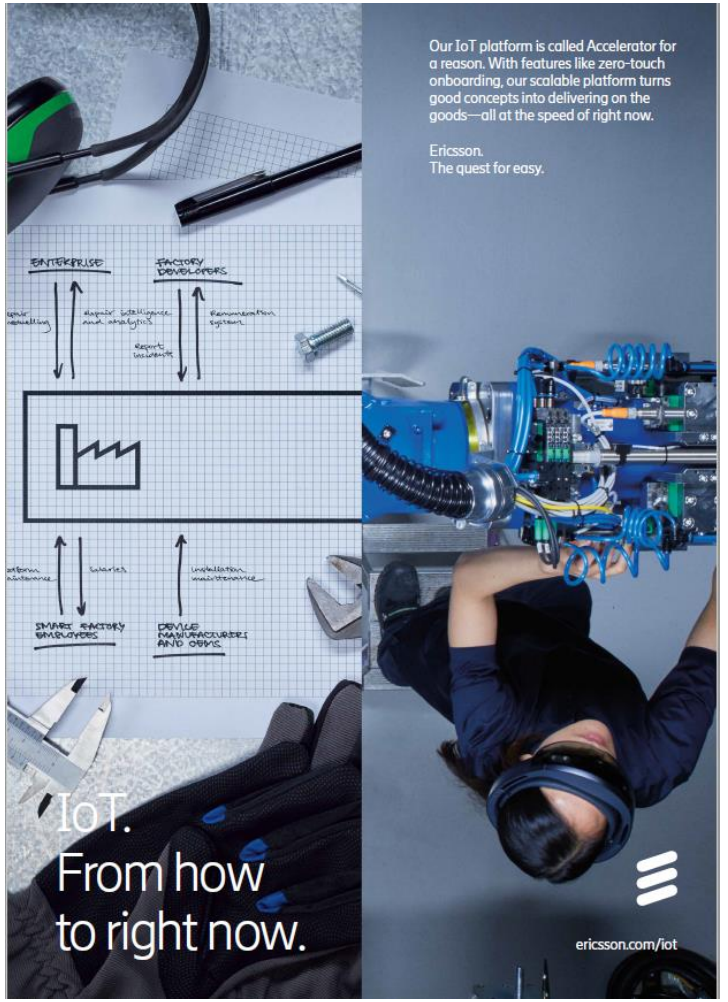
- We as researchers were not trusted to write production quality code.
  - We had no software engineering experience as individuals or groups.
  - We delivered slides or papers, not code.
  - Code had to be rewritten from scratch to meet collaborator requirements.
  - Vicious circle – no incentive to improve.

- Open source was a ‘dumping ground’ for end-of-life projects, not an opportunity for learning and collaboration.



Industry Collaboration (from the other side)

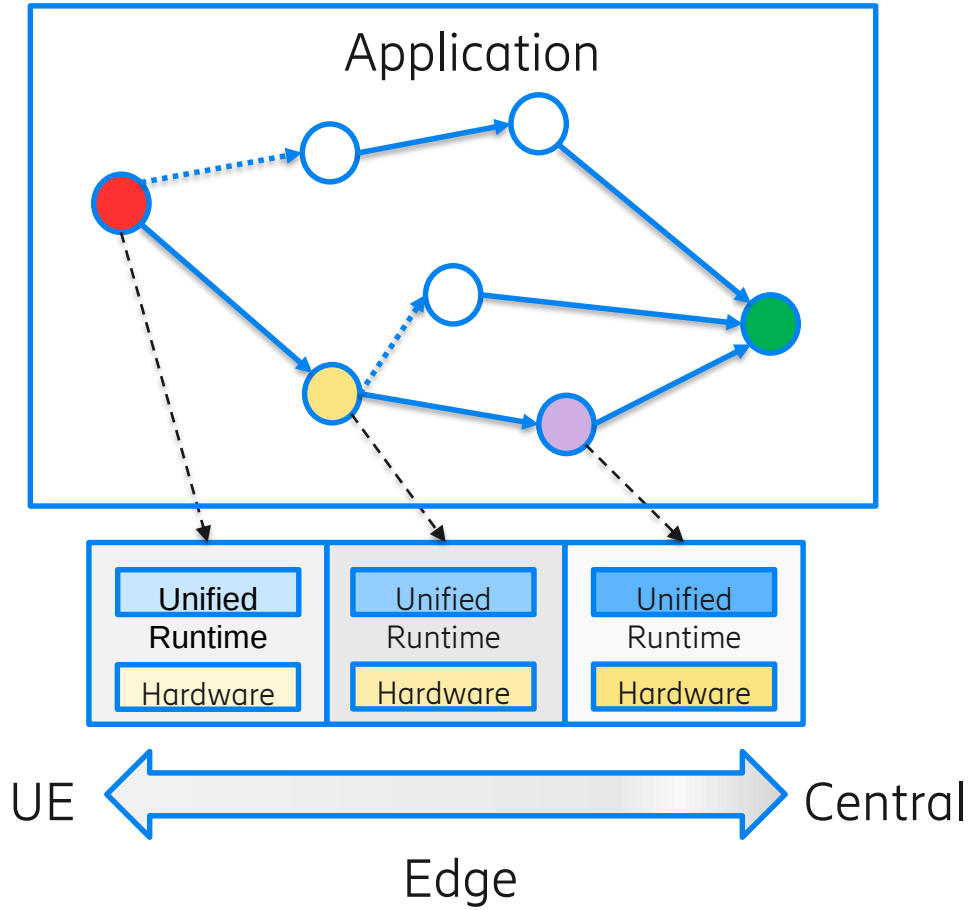
- Software is Everywhere
- Similar Research Issues
  - Time & Resources & Impact
  - Except we are also our own customer and partner
- Similar Development Issues
- Ongoing debate about our role regarding open source
  - We lose ownership of a potential product
  - **But** we have a chance to build a community
- *Everybody* is a remote contributor now
- **We need to regard RSEs as our go-to contacts for future collaborations**



Network Compute Fabric Preview

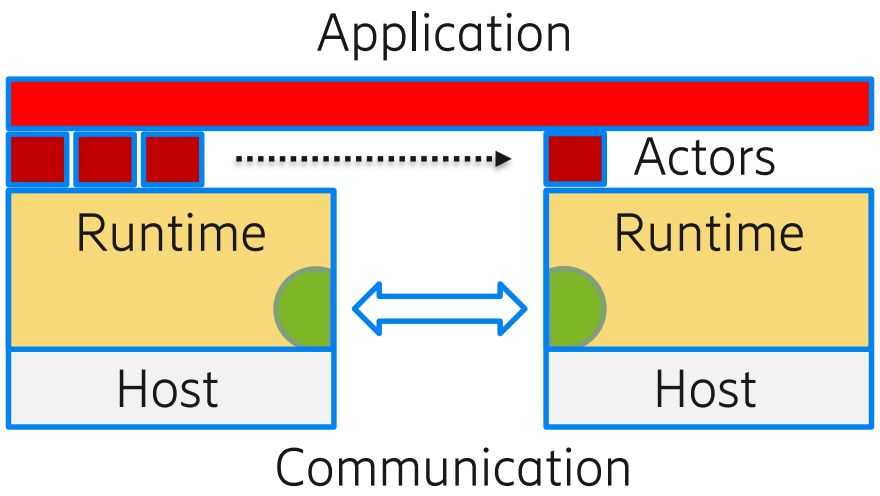
- Deploy applications across a common distributed runtime, from core cloud to user equipment.
- Expose architecture via a common API.
- Separate functionality from orchestration.
- Separate application into discrete functional components:
  - *Actors*: Business Logic
  - *Capabilities*: Native Code
- Our goals are:

  Simplicity **Performance**



Network Compute Fabric Preview

- Application structure and deployment are **intent** driven.
- Task placement and redeployment is based on **SLAs**.
- Communication between components is securely handled by **waSSC**.
- Three layers in the hierarchy:
  - System capabilities
  - Actors which use capabilities
  - Applications are collections of actors connected via dependencies.
- **Open Source?**



waSCC

Summary

- RSEs are interpreters as well as implementors
- Software is dominating even traditionally hardware-oriented industries
- Network Compute Fabric is **Write Once, Run Anywhere**
- What is Ericsson's relationship with RSEs and the Open-Source Community?

- **Stay Tuned!**

https://www.ericsson.com/en/future-technologies/network-compute-fabric