

C4SKA Colloquium  
AUT, Auckland  
12 February 2015

# SPINNING SKA DESIGN EFFORTS FOR NEW ZEALAND INDUSTRY

# Content

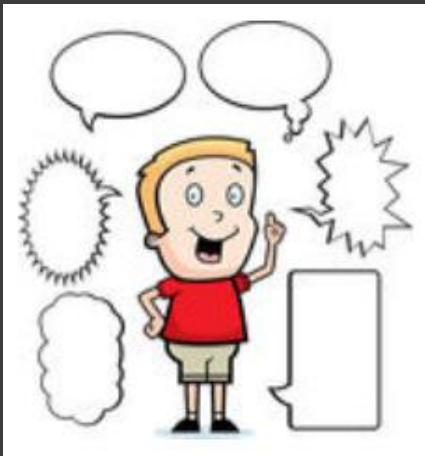


- 1. What to spin off? (2)**
- 2. Why spin off to industry? (2)**
- 3. Where is novelty? (1)**
- 4. How to spin off? (3)**

What is the agenda for the above agenda?

# Purpose

- **Call for people to join this initiative as:**



- **Vertical domain specialists**
- **Software delivery partners**
- **Service delivery partners**
- **Technology suppliers**
- **Core developers**

You are wanted

# 1. What to Spin off?

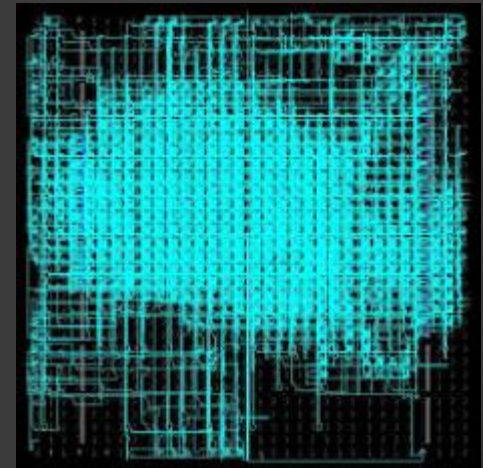


- 7900GB/s
- 1313TMAC
- 0 watts
- 50 years

- Survey telescope planned for Australia, 2014-10-27

# 1. What to Spin off?

- ◎ We are not satisfied with popular technologies (see next slide)
  - Default Candidates
    - FPGA & ASIC
  - Investigate new technologies
    - Many Core / SOC
    - FPGA / SOC
    - GPU / SOC



# 2. Why Spin off?

Penguins finding  
the way out



- SKA Problem and Solution are Generic!
  - Moore's Law self-prophetic for 45 years
  - Hardware performance kept increasing
  - Overshadowed hardware and algorithm efforts
  - Good enough
- Moore's Law coming to an end
  - 14nm versus 5nm
  - Parallel computing is a solution

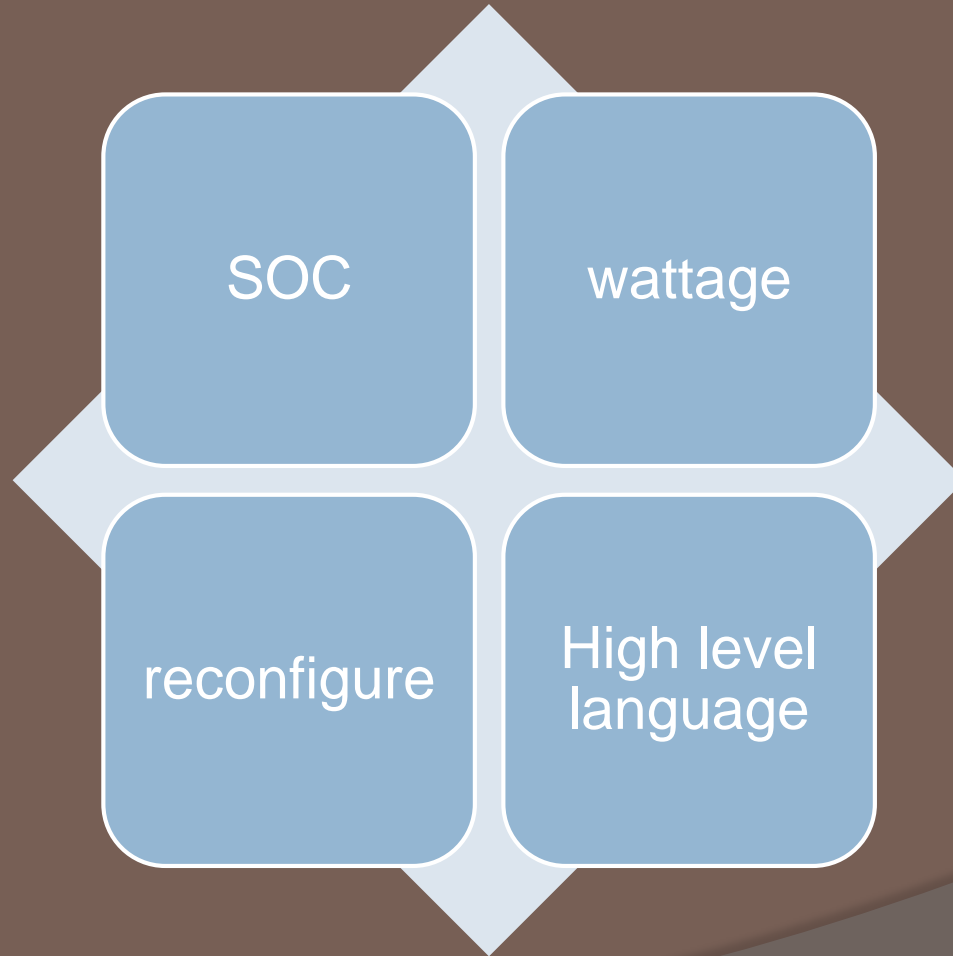
## 2. Why Spin off?



- ◉ FFT/MM are not limited to radio astronomy!
  - Computer vision, Image processing, ..
  - 2 of 13 Berkeley Dwarfs
  - Both are popular as IP and FOSS
- ◉ SKA CSP is just one major application
- ◉ New Zealand does not have HPC ecosystem at industry level

If popular, where is the novelty?

# 3. Where is Novelty?

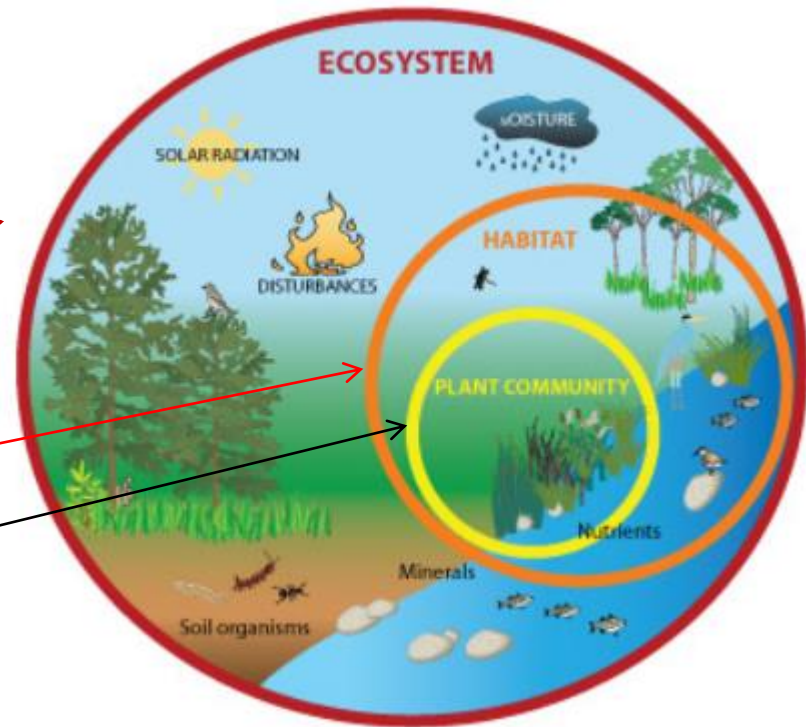




# 4. How to spin off?

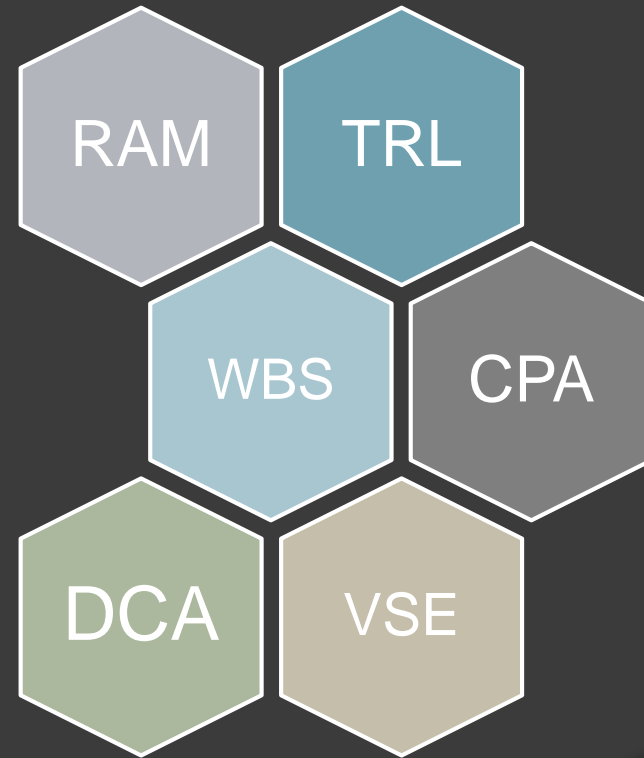
- ◎ Build an ecosystem

- Habitat = NZ
- Community
- Context = HPC
- Interactions



# Where are we with Technology?

- 4.5 Years to achieve TRL8 for field deployment
- we are at TRL4 after nearly 1.5 years



# Where are we with People?



## 1. HPC Citizen Scientists

- Condition soil with water & fertilizers
- In operation for just 6 months

## 2. University Resources

- Seeding and Green-housing
- Both in house and alliances

## 3. Wider industry involvements

# Purpose

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Are you convinced of the initiative, please email [tn@compucon.co.nz](mailto:tn@compucon.co.nz)