



IEEE ICC 2012 Industry Forum
Infrastructure/Cloud Security

SECURE EMBEDDED ELEMENT AND DATA PROTECTION

Bertrand MARQUET

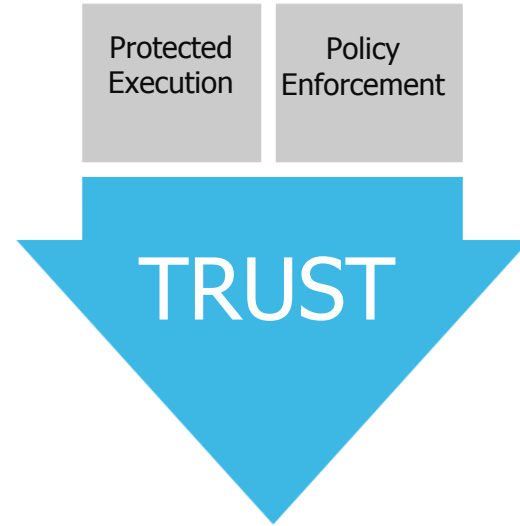
Alcatel-Lucent Bell Labs France



SECURE EMBEDDED ELEMENT AND DATA PROTECTION CAN WE GET A SEED TO BUILD TRUSTED CLOUDS ?

Bertrand Marquet , SEED4C project founder and coordinator

ONE THAT TRANSFORMS THE WAY WE TRUST CLOUD BASED SERVICES



Up to
80%

of problems can be solved with a protected execution and a proper policy enforcement.

WHAT'S THE SEED ?

That can build the trust

Building a Trusted Cloud Computing Base (TCCB)
Based on
A Cloud of minimal Trusted Computing Bases: the SEEDs.

France

Alcatel-Lucent
Gemalto
Wallix
ENSI Bourges
INRIA

Finland

VTT
Cygate
Mikkelin Puhelin Oy
Nokia Siemens Networks
Finceptum Oy

Spain

Innovalia
Nextel
Software Quality Systems
3Digits
Vicomteck
Ikusi
FON

Korea

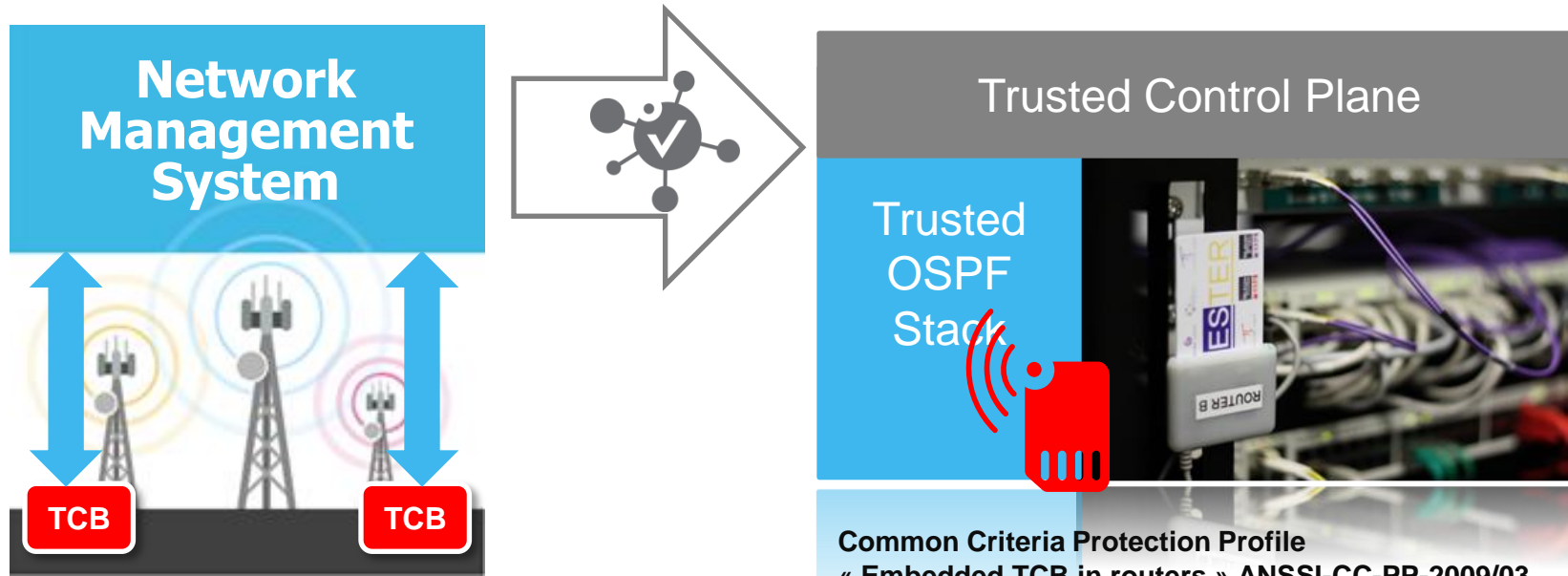
Biscay TIK
Solacia



Secure Embedded Element and Data
protection four Cloud infrastructures.

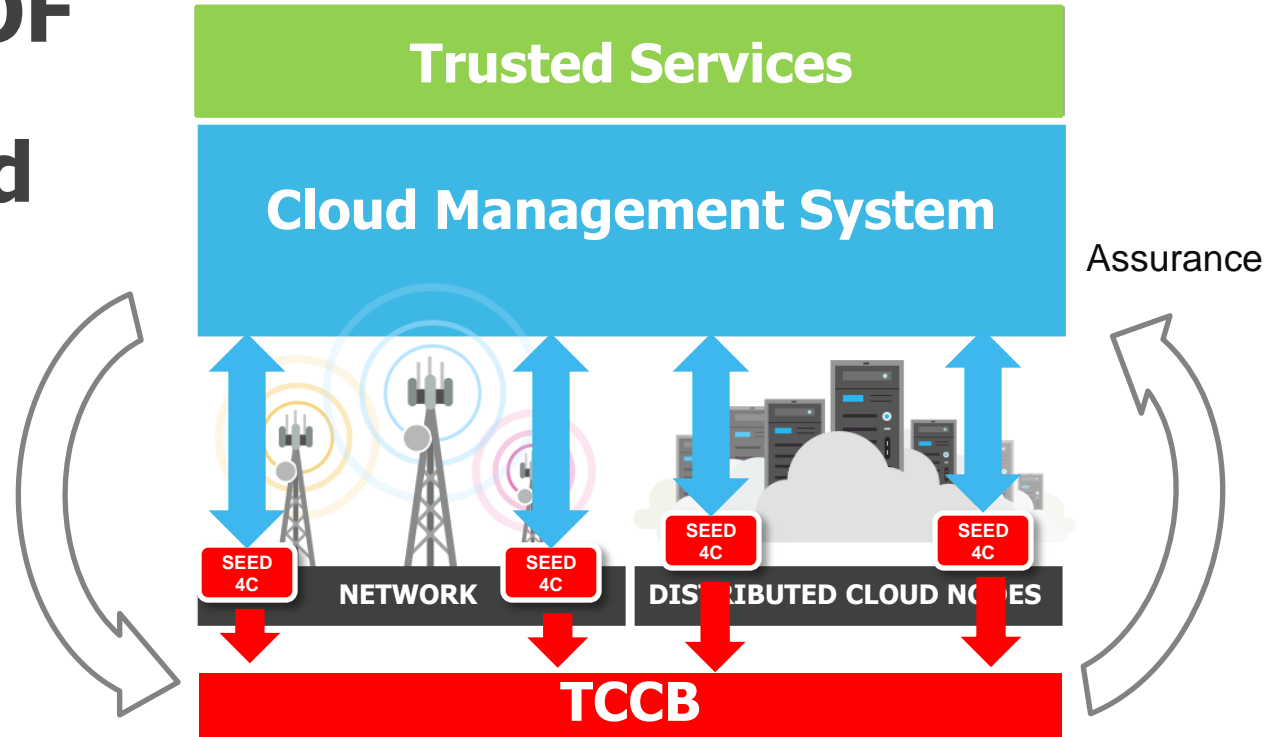
THE PIONNEERING WORK (ANR ESTER PROJECT)

A TCB WITHIN THE NETWORK : The SEED

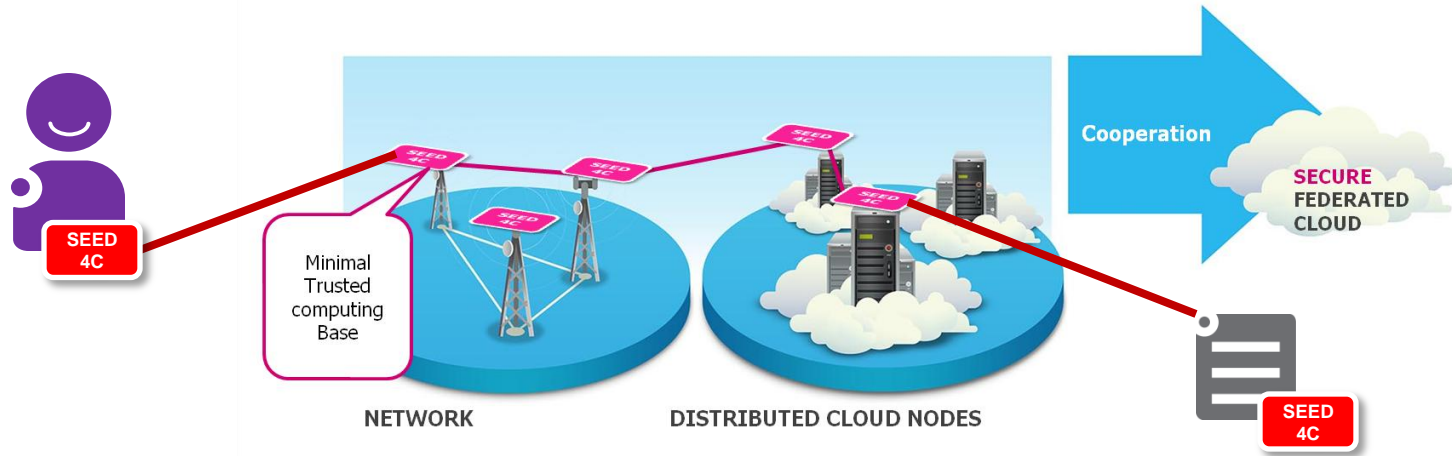


THEN BRINGING THE POWER OF A CLOUD OF SEEDs to build The TCCB.

Trusted Execution
And Policy enforcement



THAT CAN GUARANTEE END-TO-END SECURITY OF SERVICE.



RESEARCH CHALLENGES

1- WHERE **Smart deployment of SEEDs**

How much SEEDs do we need

-Granularity

Where are the strategic places ?

-IAAS/PAAS ?

RESEARCH CHALLENGES

2- WHEN SEED Load balancing

Pre-provisioning of security credentials

- crypto materials, what else ?

Dynamic association with applications/services

- when to change associated Seed ?



RESEARCH CHALLENGES

3- HOW

SEED form factors and management

SEED are secured elements

-Hardware / Software / dedicated VMs / OS component ?

Management

- Self Managed or centrally managed

Project further information

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Project web site : <http://projects.celtic-initiative.org/seed4c/>

THANK YOU