IOT interoperability using web technologies: lessons learned and future challenges


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foundation


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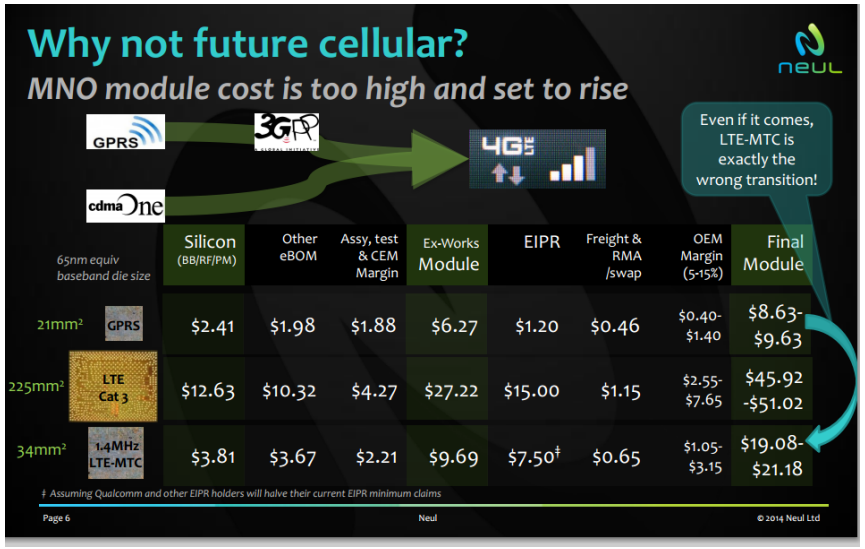
SCENE SETTING


INTERnet of things
must be
INTERoperable

There is no I in IOT

Radio Technology

- Cost



- Range vs Power

neul

IEEE 802.14

868MHz

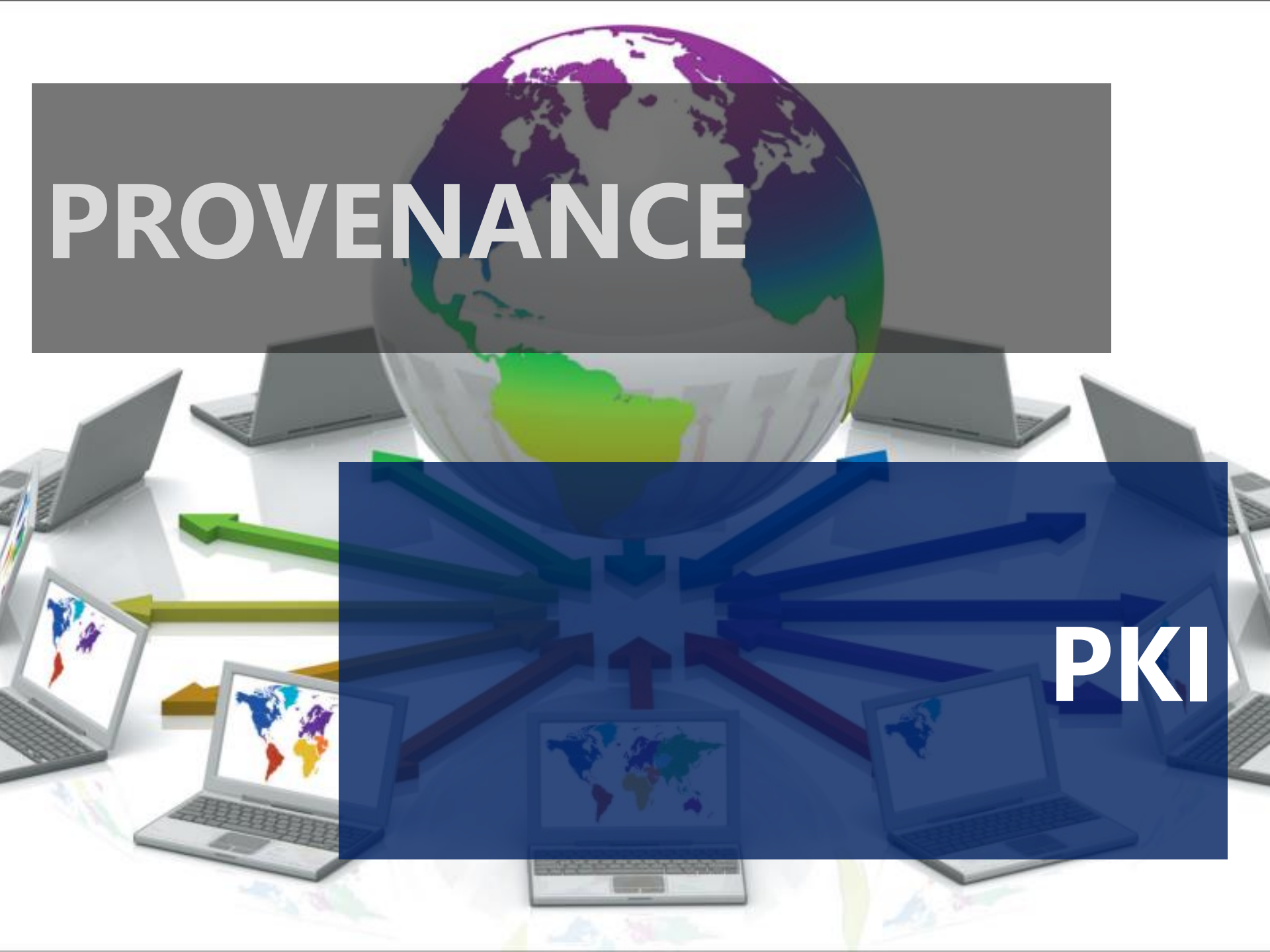
IP is unnecessary expense


SPEED IS ESSENTIAL


Recycle
REUSE, REUSE, REUSE....
Reduce

IOT CHALLENGES


CONNECTING
DEVICES
TLS


PROVENANCE
PKI

ACCESS

XACML

ADDRESSING (REMOTE)

URI


DISCOVER
SERVICE
FEATURE-URI


CAPABILITY
WebIDL


LOCAL CALL
APIS
Releasing
Survey
allow
may
commercial
system
Best
applications
Application
need
Information
Current
Developer
Development
Creation
area
Libraries
also
Potential
code
always
build
future
ideas
based
set
Make
well
Many
Languages
practice
change
things
feel
sometimes
clear
Level
using
areas
service
evelop
pers
Technology
user
currently
open
likely
external
Problems
often
UK
Sure
team
allows
functions
consider
related
interface
Web
Contact
working
standards
way
Know
projects
one
others
people
Keep
especially
Access
needs
Easy
Different
party
include
get
Systems
work
Examples
key
number
services
documentation
Useful
Research
Case
Written
etc
List
possible
without
Blog
part
ways
library
Document
Appendix
users
interfaces
community
software
find
able
better
areas
Education
technical
JAVASCRIPT


INVOKE
JSON-RPC

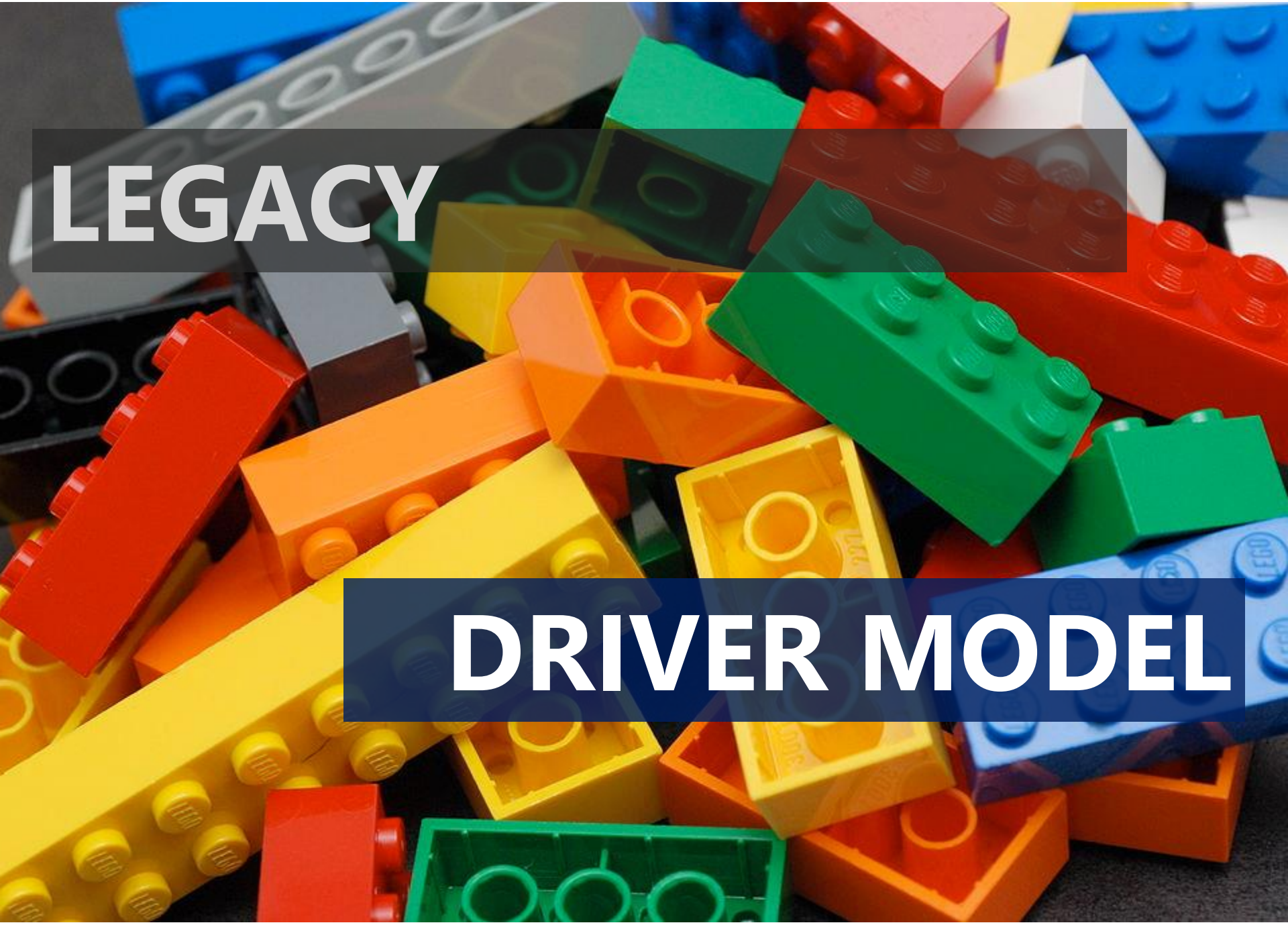

PACKAGE APPS
DIGITAL CERTIFICATES


ADVANCED TOPICS


ADDRESS LOCAL
URI + PKI

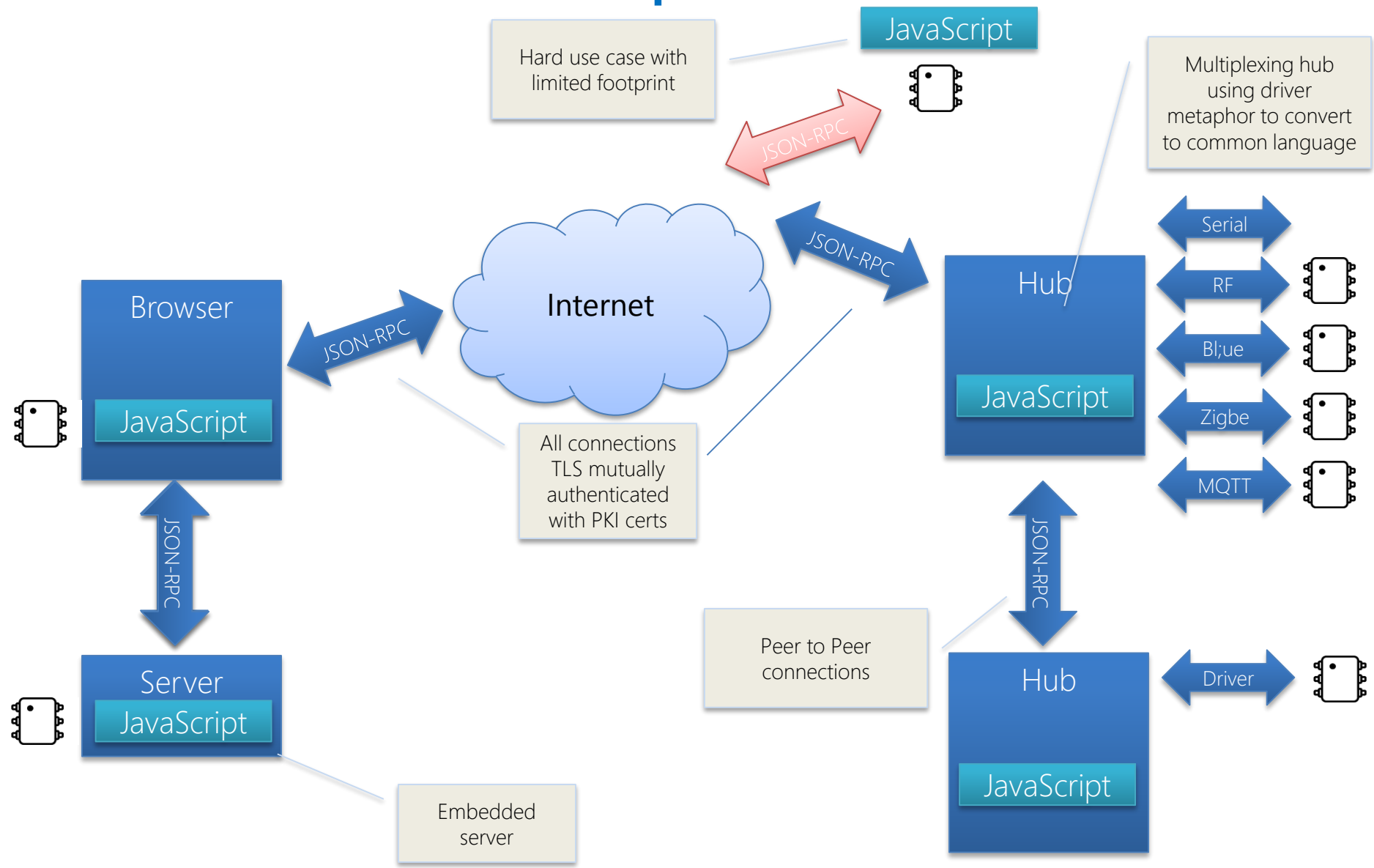
GLOBAL PROTECTION

POLICY SYNC


LEGACY
DRIVER MODEL


DISTRIBTED
NO SINGLE POINT OF CONTROL

WOT is the scope?



- Technology whitepaper
  - www.webinos.org

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Background

- IOT Device interoperability
- Locally: IOT devices work with phones, tablets, PCs
- Remotely: many applications can make use of the same device (and data on that device)
- M2M vs IOT

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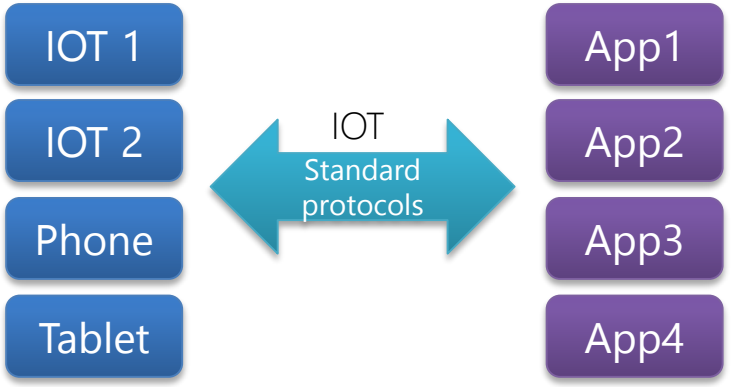
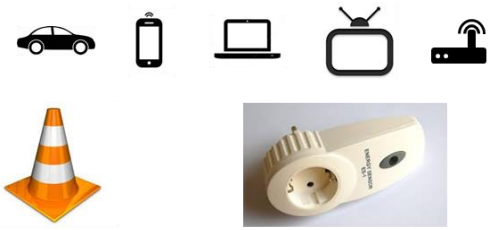


Delivers the vision of devices working with each other.
Wide application interoperability



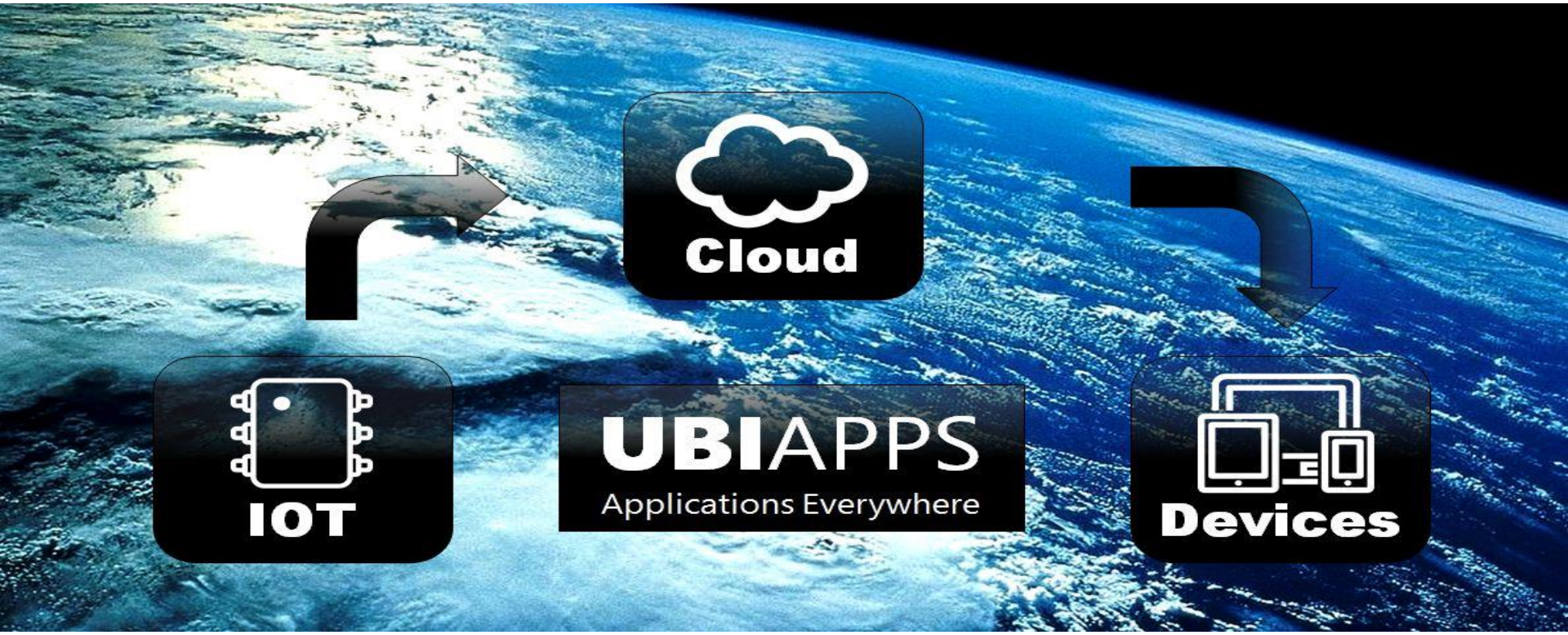
Open Source Ecosystem
Devices Ported

How does it work

Identity Address Routing

IPv4/v6 – IP address
MSISDN
DNS
URI (+PKI)

An Open and Secure End2End IOT platform



Open source IOT platform. Open ecosystem, cheap device development

Cloud asset management platform. Control of cloud agents and processing resources

Multi device application development platform. Bring IOT data to life