



AI/Data and "The" Internet

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CHALLENGES & OPPORTUNITIES OF THE INTERNET 2

1. **Trust**
2. **De-Silo-ing** against fragmentation, i.e., internets but *the* Internet
3. **Edge-heavy** (**distributed and autonomous**) computing
4. Native Digital, toward **Internet of Functions (IoF)** & **Cyber-First**
5. **Global** and/versus local ("**national**") policies
6. **Internet-by-Design**
 - Not only "technology", but also "**architecture ("gene")**"

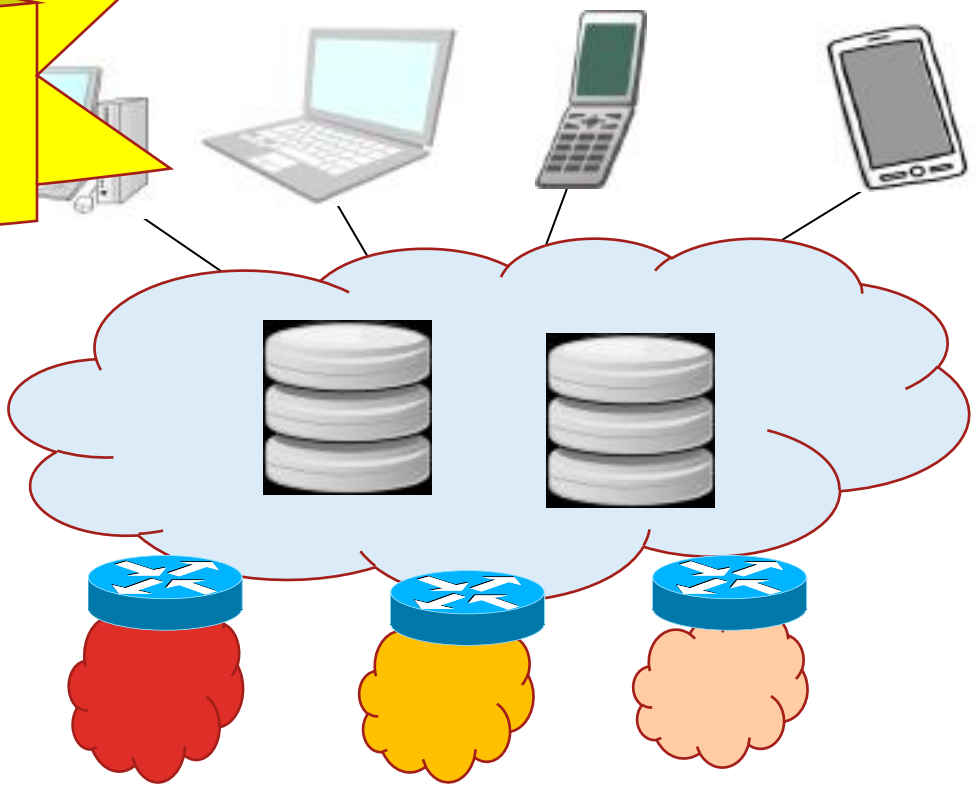
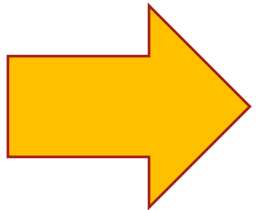


DE-SILO-ING

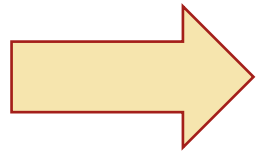


“De-Silo-ing”

Big hurdle for Big-Data with A.I.



**Vertical Lock-on
by silo (stove & pipe)**



**Horizontal Cooperation
e.g., data-centric**



- Risks of IoT (Internet of Things) systems;
IoT people loves “own private silo”
 - 1) Not **“the I”** (Internet),
but **“an i”** (internet)
 - 2) Poor security measures.....
Needs **Security-by-Design**
 - 3) Closed open source cloud forums
Needs **Interoperability**



Data Sharing platform among all the industries for Society 5.0 - April 2018 -

• P.4

なお 当該其般の構築のプロセスにおいては 統一的な技術仕様の策定や実装を待つことなく 迅速

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- 1. Standardization is **not** purpose
- 2. **Internetworking** is the 1st priority
- 3. We got protocol **translation** capability
- 4. We need **transparency** to connect
- 5. **Agile** development platform
- 6. **Sharing** experiences (Coopetition & cooperation)



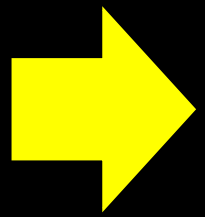
DIGITAL-BY-DESIGN -- “UNWIRE”-ING --

- i. “*Cyber First*” from Digital Twin
- ii. Internet of “*Functions*” (IoF), from IoT



What you must do is only attaching a module !!
Your smart-phone becomes an intelligent smart key,
with awesome "new" functions.
Legacy functions were only 3, identify, open and close.

Thumb-turn





Important point;
“digital” key can obtain
infinite doodling capability
for new value !!!
Physical key is an obstacle
for digital innovation !!!

...Key has 4,000
years history

**Since key was “physical” object,
we start to recognize a lot of
inconvenience for sharing
economy**



Well,..... what we are realizing;

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- ◆ **Physical objects (e.g., key or money) are just of temporal appearance, as a physical instance, when we do realize **Cyber-First**.**
- 1. **Software module, with micro-service, has "mobility" with virtualization(= abstraction = digitization)**
- 2. **Some functions(=codes) are printed out to physical object, called as "thing", from cyber space.**

Then,

Internet of **Things** (IoT)

→ Internet of **Functions** (IoF)





THANKS
ありがとう

