

BICS 2018

# ISP's Deliverer Responsibility & Case Study



# GiGA

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PEOPLE. TECHNOLOGY. 

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# 01 Intro

## South Korea



> Area : 99,720 km<sup>2</sup>, Population : 51.2 million

## Korea Telecom



### No.1 in Fixed Market

Market share 42%, 8.4 million  
> 10G Internet Launch ('18.3Q)



### No.2 in Mobile Market

Market share 26%, 15.3 million

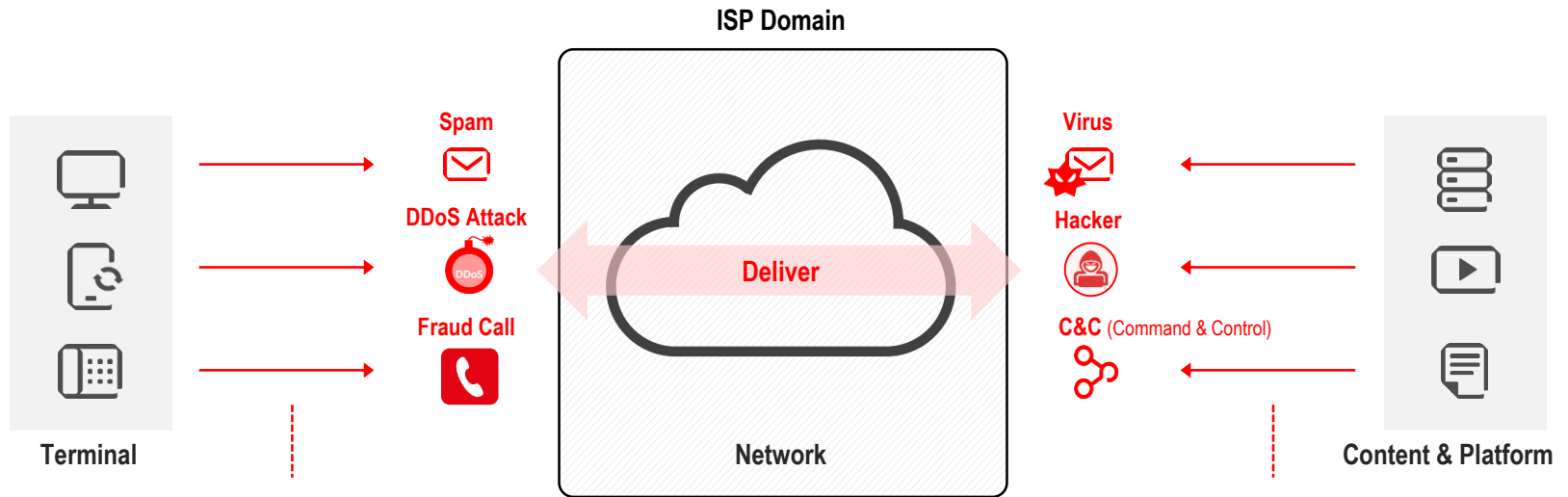


### World 1<sup>st</sup> Trial Service

First World Olympic ('18.3)  
> Commercial Launch ('19.2Q)

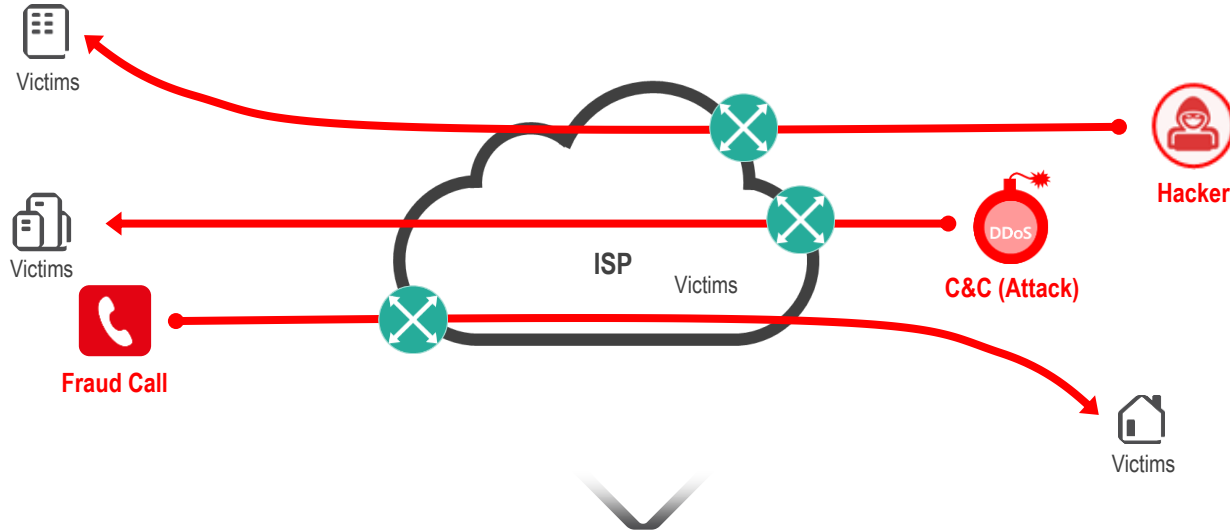
## 02 Definition

What do you think the Role of ISP in the Internet World is ?



## 02 ISP = Just Deliverer

ISP can't know what contents are delivered and prohibited to know. So, ISP never have responsibility.

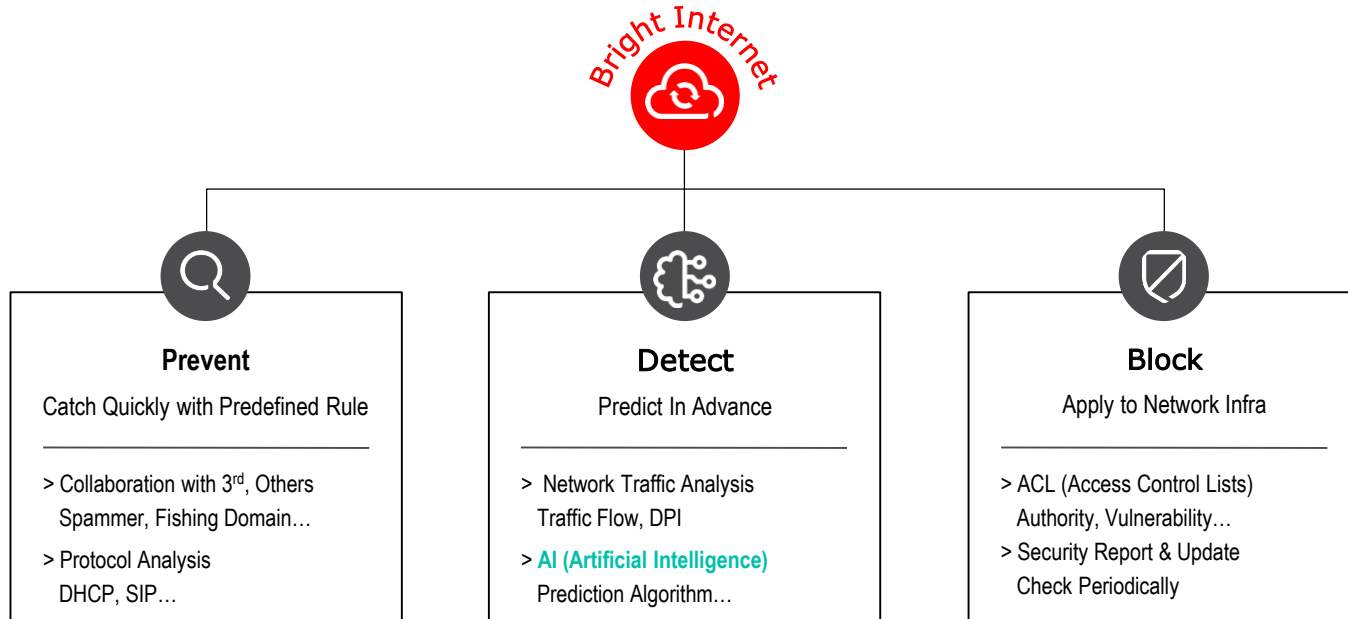


**But, ISP Must Have Responsibility For This Malicious Behavior.**

**This Behavior Causes Critical Problems** ex) Network Degradation, Financial Damage...

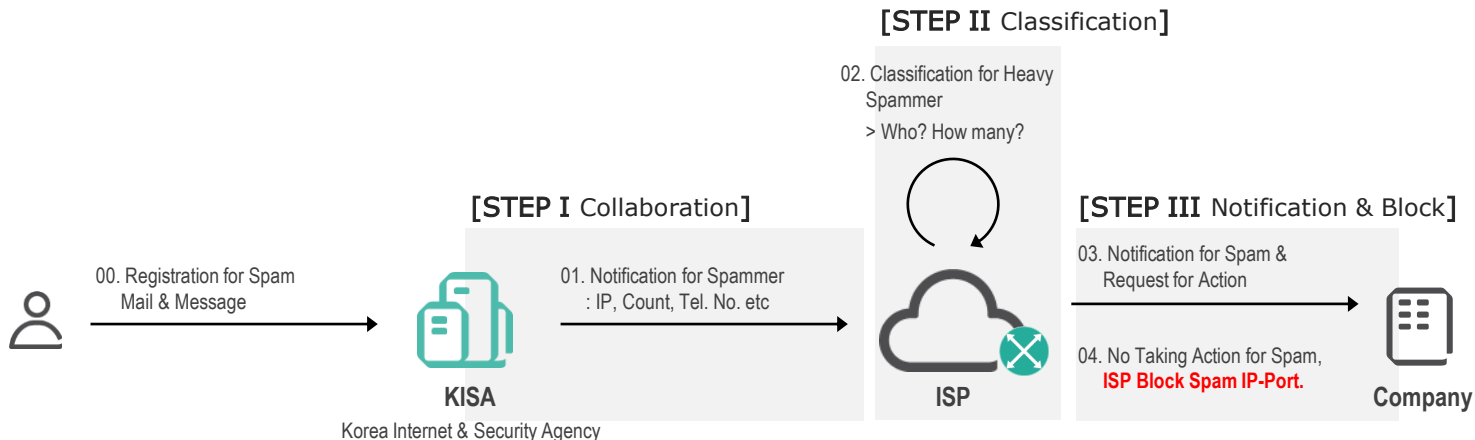
## 02 Deliverer Responsibility

In this restricted environments, What is the ISP's Best Practices for Bright Internet ?



## 03 Spam Filtering

Spam Filtering Both Information Based On Collaboration with Government(or 3<sup>rd</sup> Party) and ISP Criteria.

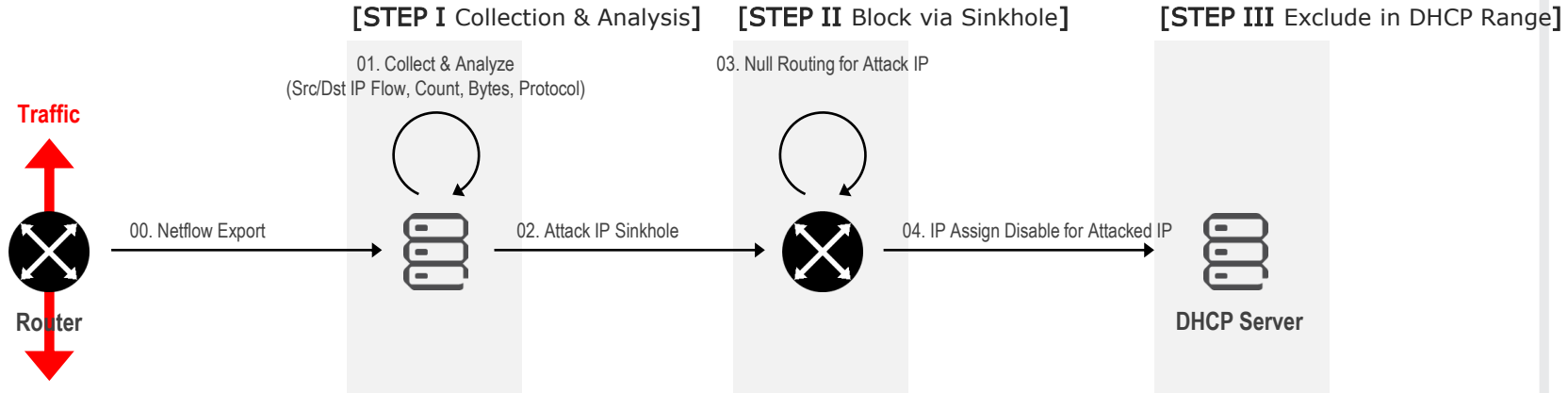


**ISP Cannot Inspect Packet Contents Because of Privacy Issues.**

**In Case of This, ISP Has To Collaborate With Permitted Organizations** ex) Spam Mail, Spam SMS...

## 03 DDoS Control

DDoS Attack Detect & Control Based on Traffic Flows Analysis through the Router or Switch Netflow.



**ISP Can Inspect Traffic Flows using Router Features.**

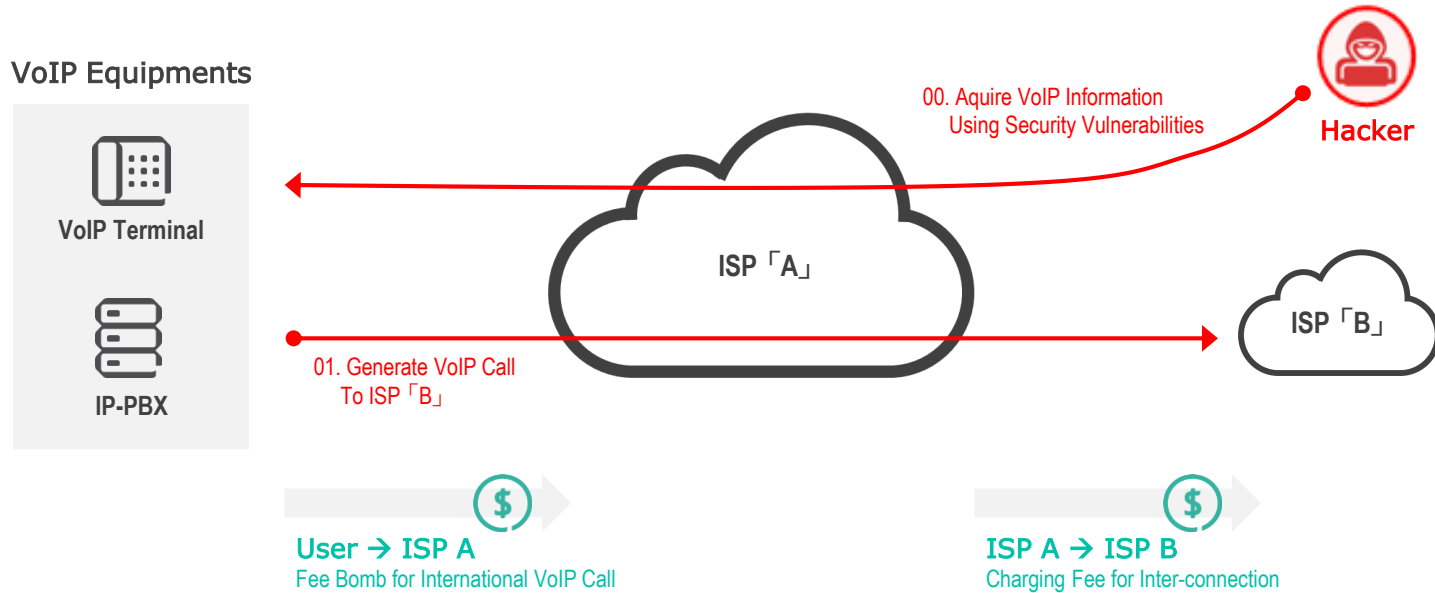
**In Case of This, ISP May Inspect & Control with Router & Internal Systems.** ex) DDoS Attack,

SLA...



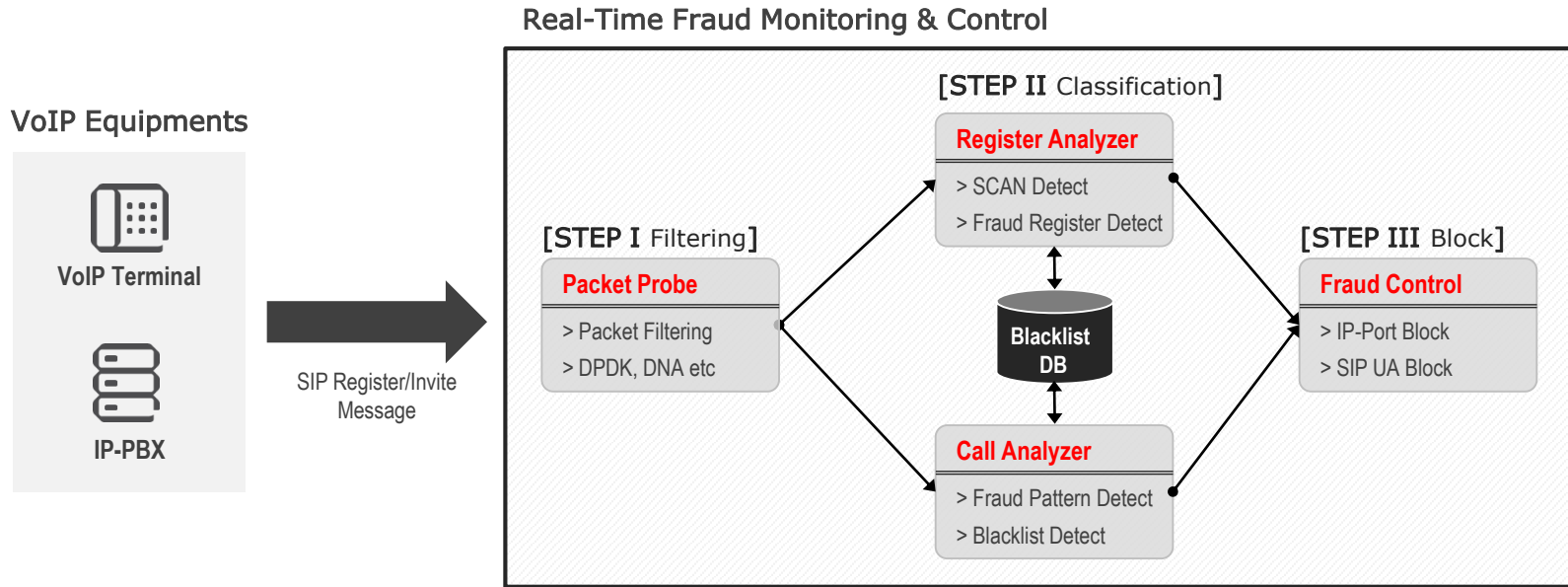
## 03 Fraud Call Prevention (1/2)

What is the Fraud Call ? Victim both VoIP Customer and Hacked ISP, But Monetization to Hacker or Hacking ISP



## 03 Fraud Call Prevention (2/2)

ISP can inspect Standard Protocols' TLV. So, Fraud Call Detect & Block using Standard Protocol like SIP.

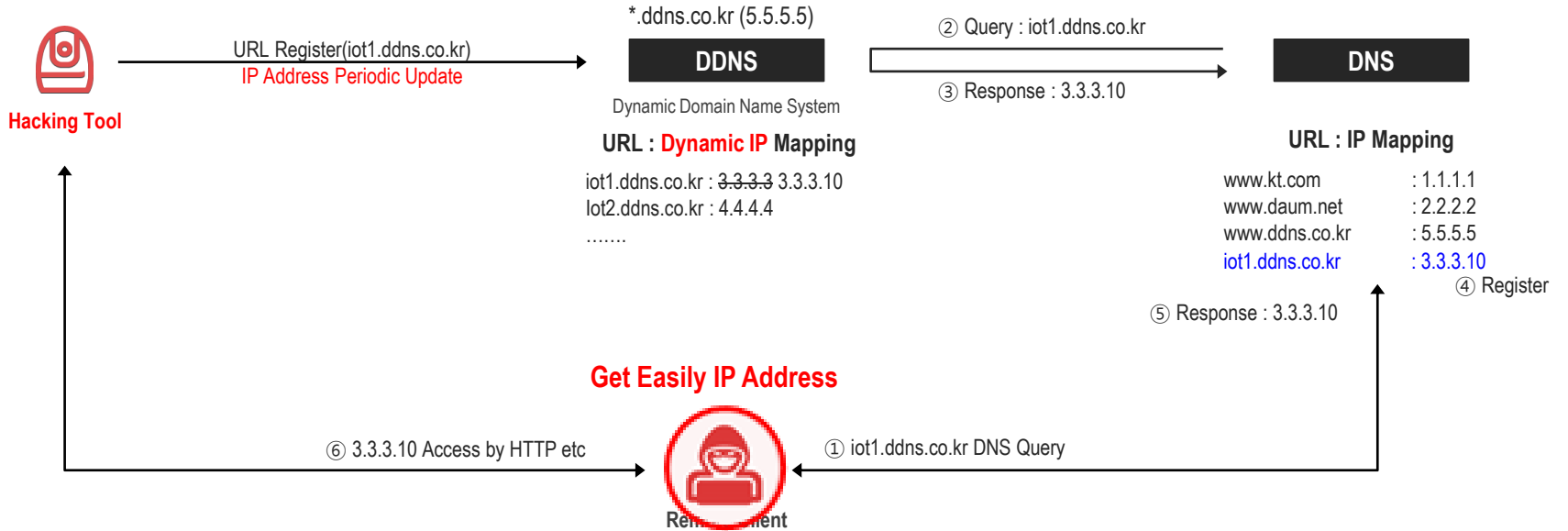


ISP Can Inspect Standard Protocol Attributes for Providing Services .

In Case of This, **ISP May Inspect & Control with Protocol Attributes** ex) SIP, DHCP...

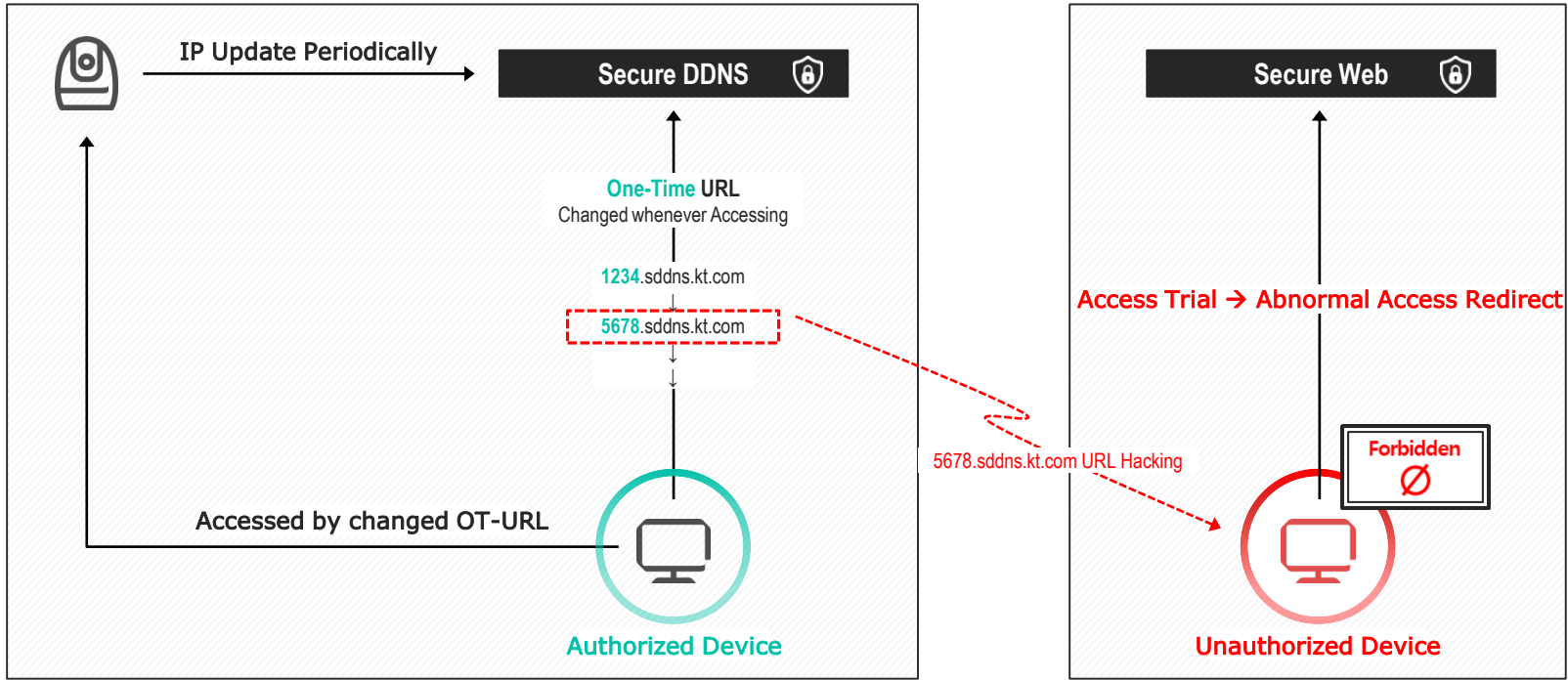
## 03 Secure DDNS (1/2)

Hackers can know easily IoT Devices Informations. Why Know so Easily?



## 03 Secure DDNS (2/2)

One-Time URL Generate & Provision only for Authorized Devices like OTP (One-Time Password)



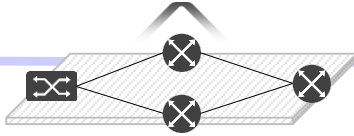
# 03 AI based Prediction

Proactive Prevention using Network Big Data & Deep Learning Technology

## Big Data

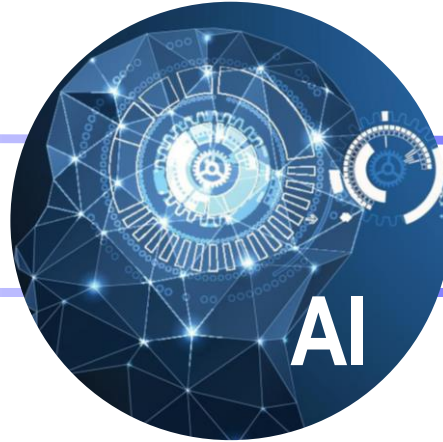
- > Network Traffic
- > Authentication
- > SIP, DHCP etc

Dozens TB/Day

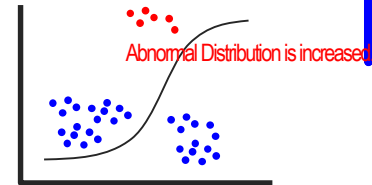
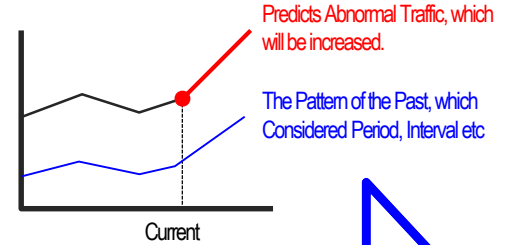


## Deep Learning

- > Supervised Learning
- > Unsupervised Learning
- > Reinforcement Learning

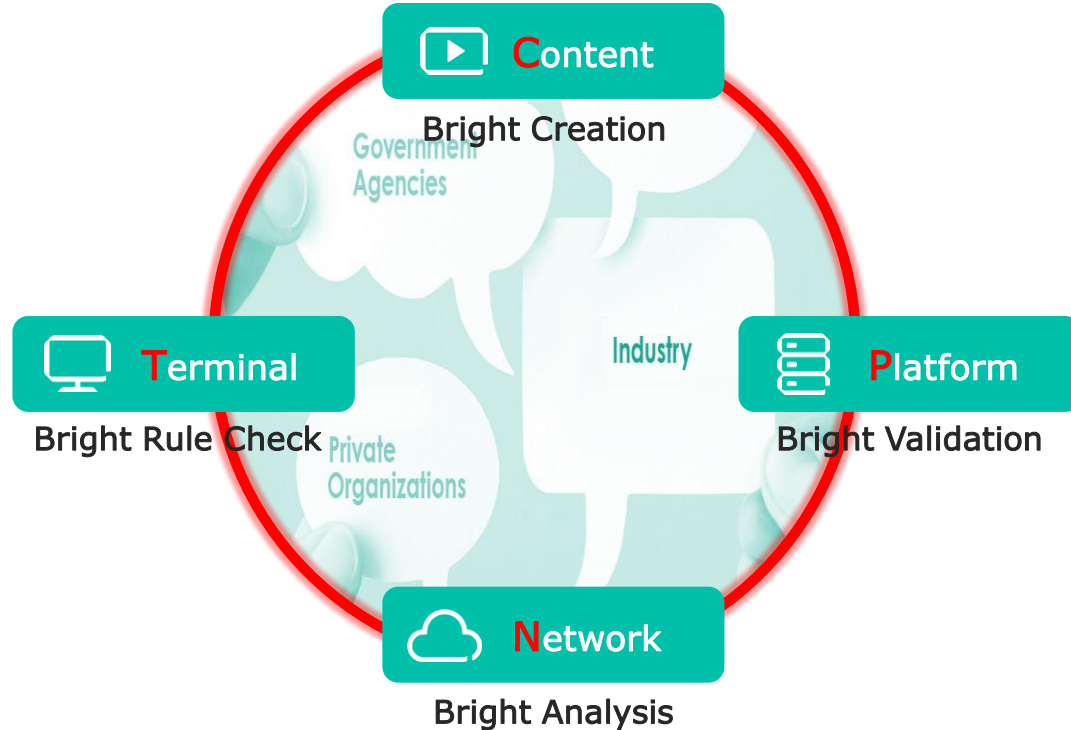


Predicts the Future From Things of the Past  
Pattern, Distribution, Approximates...



## 04 Future Study

For Holistic E2E Bright Internet, Collaborate C-P-N-T, Industry-Academy-Government & Standard Organization.



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