

# 多様化する情報セキュリティ問題 と国際化

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# 概要

- 最近の情報セキュリティ問題は国際化している
- 情報システムも国際化している
- 情報セキュリティ問題解決には、国際的な調整と協力が必須
  - だから、地域フォーラム、グローバルフォーラムがある
  - 3層モデルから4層モデルに
    - Gov. policy, National CSIRT, LEA, and industry CSIRT.

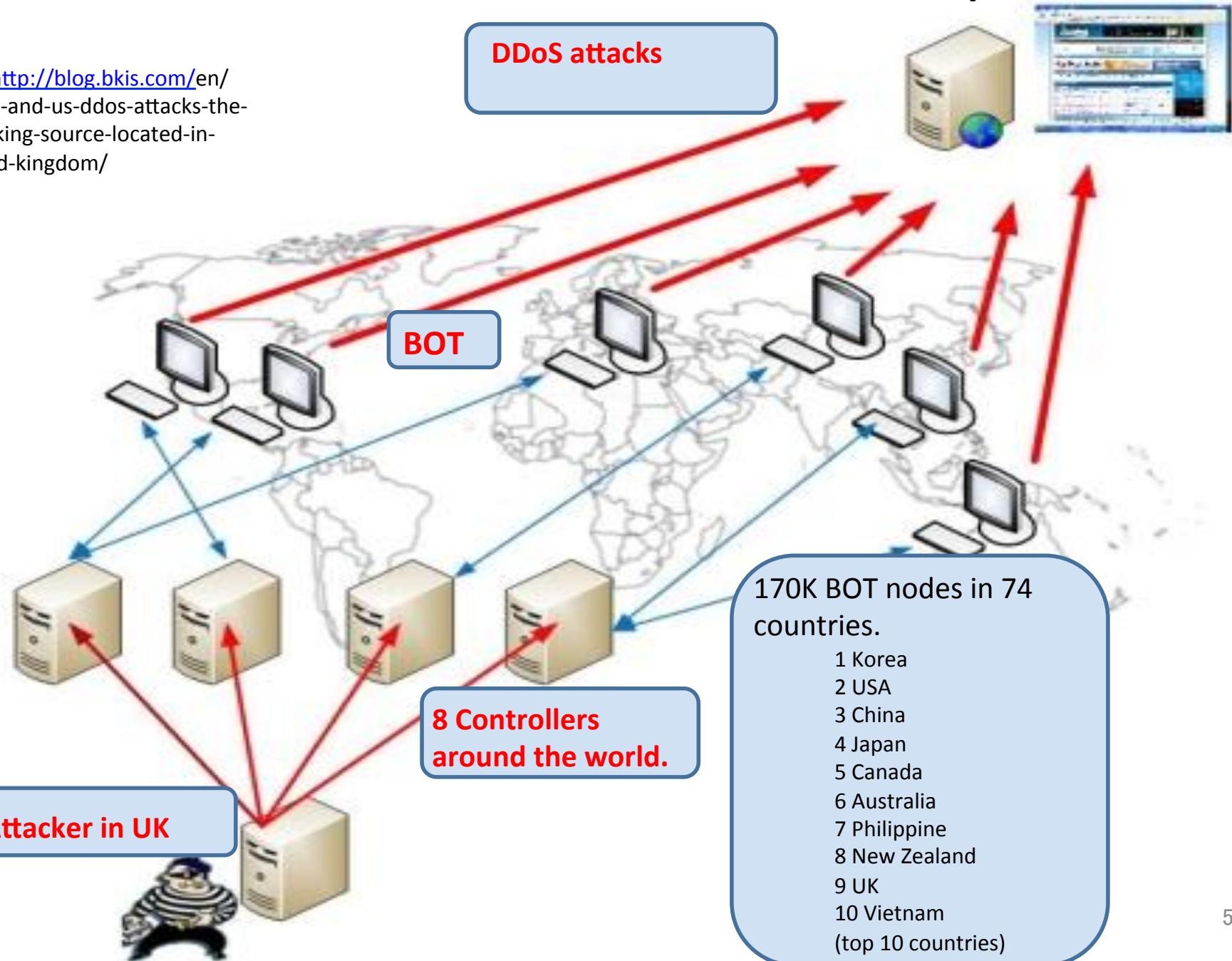
# **頭の体操: AFRICA IS OUR MATTER?**

# Security is our #1 priority

- Information systems are also “**business enabler**” for criminals.
  - Information systems are adding power for criminals in many ways, such as APT and attacks using cloud computing.
  - Global collaboration for making malwares, composing attacks and getting \$\$\$.
- We have to change this game!
  - Good scheme to strengthen information security management.
  - More efficient measures against criminals.
  - Need changes on the structure.

# BOTnet attacks to KR and US in July 2009

Ref: <http://blog.bkis.com/en/korea-and-us-ddos-attacks-the-attacking-source-located-in-united-kingdom/>



# Cloud computing is much better than BOTnet!

## BOTnet

- Rental cost [1]  
**About 360 USD**
- Illegal to use this.

## Cloud Computing

- Rental cost [2]  
**About 120 USD**
- Legal to use
- Anyone can borrow this.

Purchased system profile : per 1000 instances and 1 hour

[1] [http://www.gdata.co.jp/press/WP\\_UndergroundEconomy.pdf](http://www.gdata.co.jp/press/WP_UndergroundEconomy.pdf)

[2] <http://aws.amazon.com/jp/ec2/>

# Password Crack on Cloud Computing

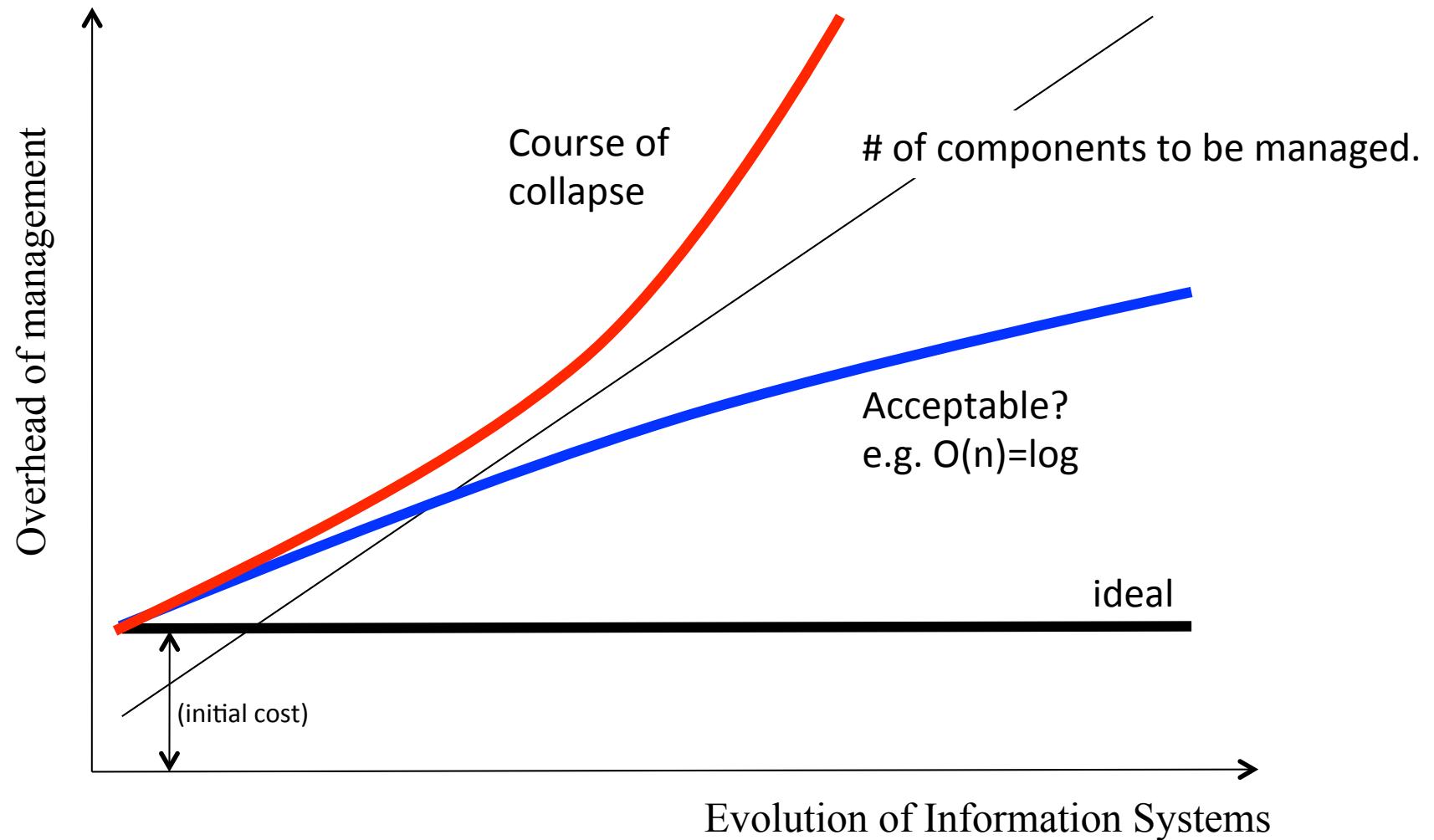
- The case using Amazon EC2

Target	Cost (USD)	
Only alphabets	8 char password	3
Alphabets + number	8 char password	45
Only alphabets	12 char password	1,529,310
Alphabets + number	12 char password	75,935,598

Ref: Electric Alchemy Inc.

<http://itpro.nikkeibp.co.jp/article/COLUMN/20100412/346976/>

# Scalable, Sustainable and Resilient Management



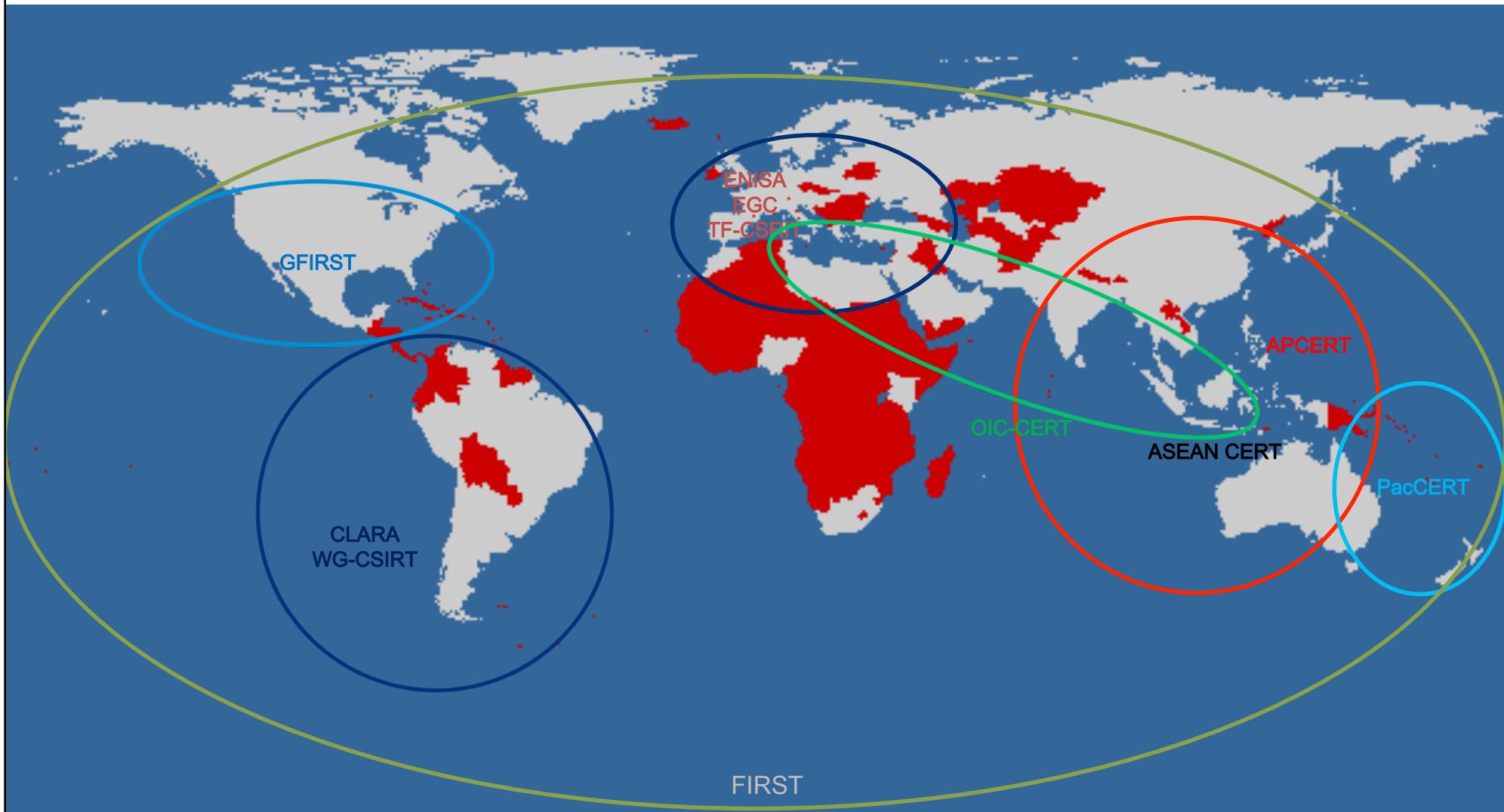
# ICT Ranking

## The Networked Readiness Index 2010–2011

Country/ Economy	Rank	Score	Rank within income group*	
<b>Sweden</b>	<b>1</b>	<b>5.60</b>	<b>HI</b>	<b>1</b>
Singapore	2	5.59	HI	2
Finland	3	5.43	HI	3
Switzerland	4	5.33	HI	4
United States	5	5.33	HI	5
Taiwan, China	6	5.30	HI	6
Denmark	7	5.29	HI	7
Canada	8	5.21	HI	8
Norway	9	5.21	HI	9
Korea, Rep.	10	5.19	HI	10
Netherlands	11	5.19	HI	11
Hong Kong SAR	12	5.19	HI	12
Germany	13	5.14	HI	13
Luxembourg	14	5.14	HI	14
United Kingdom	15	5.12	HI	15
Iceland	16	5.07	HI	16
Australia	17	5.06	HI	17
New Zealand	18	5.03	HI	18
Japan	19	4.95	HI	19
France	20	4.92	HI	20
Austria	21	4.90	HI	21
Israel	22	4.81	HI	22

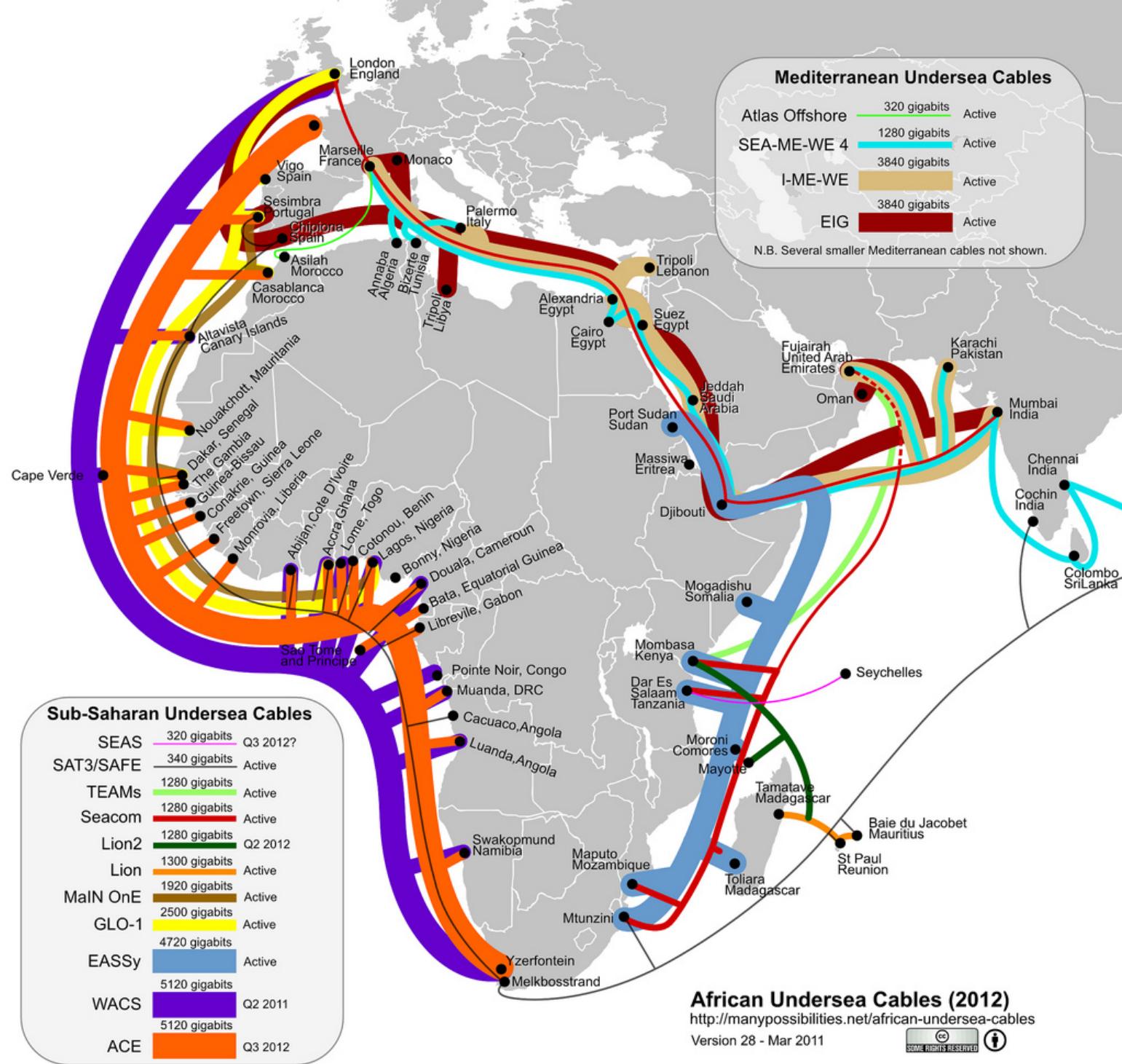
Country	TE	Score	LM	26
Côte d'Ivoire	113	3.20	LO	10
Benin	114	3.20	LO	10
Bangladesh	115	3.19	LO	11
Kyrgyz Republic	116	3.18	LO	12
Algeria	117	3.17	UM	31
Tanzania	118	3.16	LO	13
Venezuela	119	3.16	UM	32
Mali	120	3.14	LO	14
Lesotho	121	3.14	LM	27
Burkina Faso	122	3.09	LO	15
Ethiopia	123	3.08	LO	16
Syria	124	3.06	LM	28
Cameroon	125	3.04	LM	29
Libya	126	3.03	UM	33
Paraguay	127	3.00	LM	30
Nicaragua	128	2.99	LM	31
Madagascar	129	2.98	LO	17
Mauritania	130	2.98	LO	18
Nepal	131	2.97	LO	19
Zimbabwe	132	2.93	LO	20
Angola	133	2.93	LM	32
Swaziland	134	2.91	LM	33
Bolivia	135	2.89	LM	34
Timor-Leste	136	2.72	LM	35
Burundi	137	2.67	LO	21
Chad	138	2.59	LO	22

# Regional & International CERT/CSIRT Community



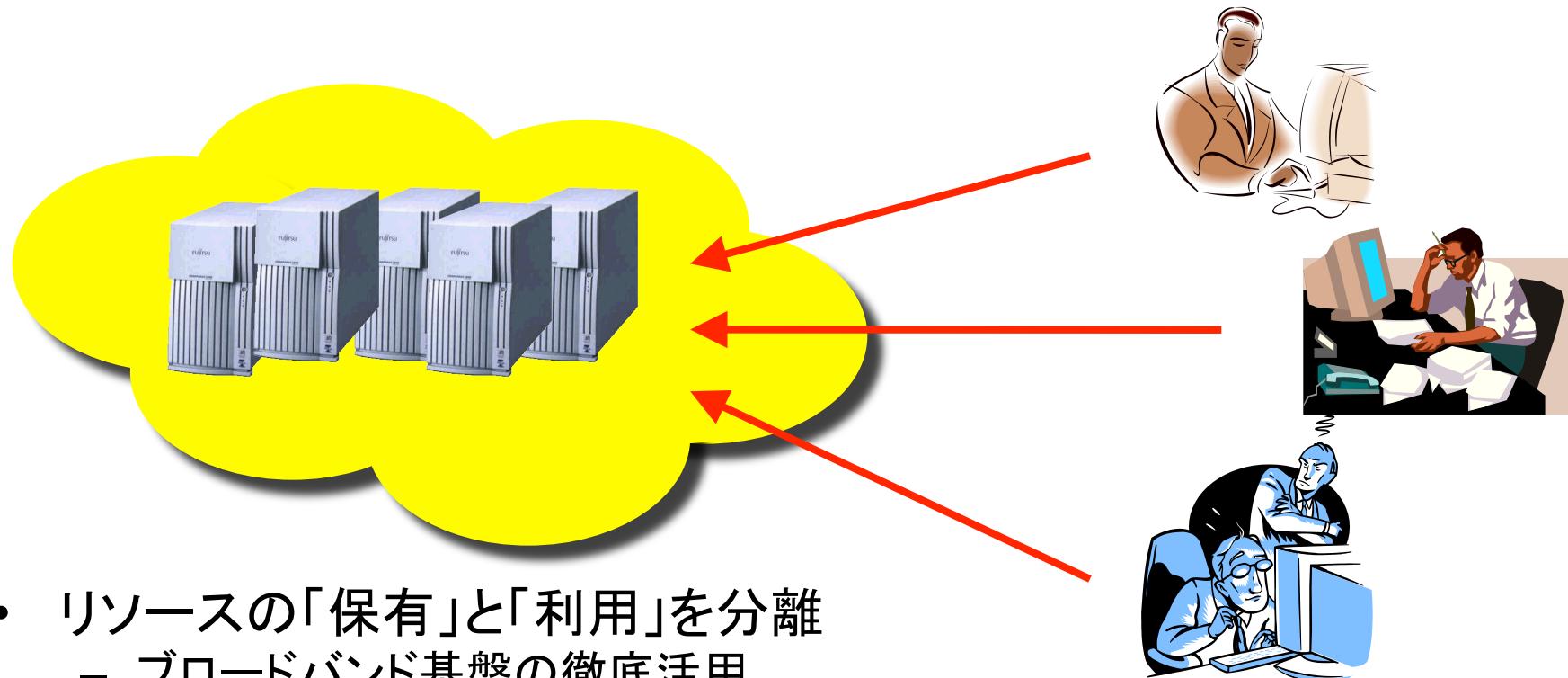
# Security Issues

- Fraud
  - Spam and Phishing in Western Africa
  - Advance-fee fraud(also called the Nigerian scam, Nigerian bank scam, Nigerian letter)
- Bots
  - The top five international cities with the highest zombie population (2010/10) :
    1. Johannesburg, South Africa
    2. Cape Town, South Africa
    3. Lisbon, Portugal
    4. New Delhi, India
    5. Bangalore, India
  - (Source: A Zombie Invasion  
<http://blogs.mcafee.com/consumer/family-safety/a-zombie-invasion>)



**HOW CAN WE DEAL WITH GLOBAL CLOUD  
REALITY?**

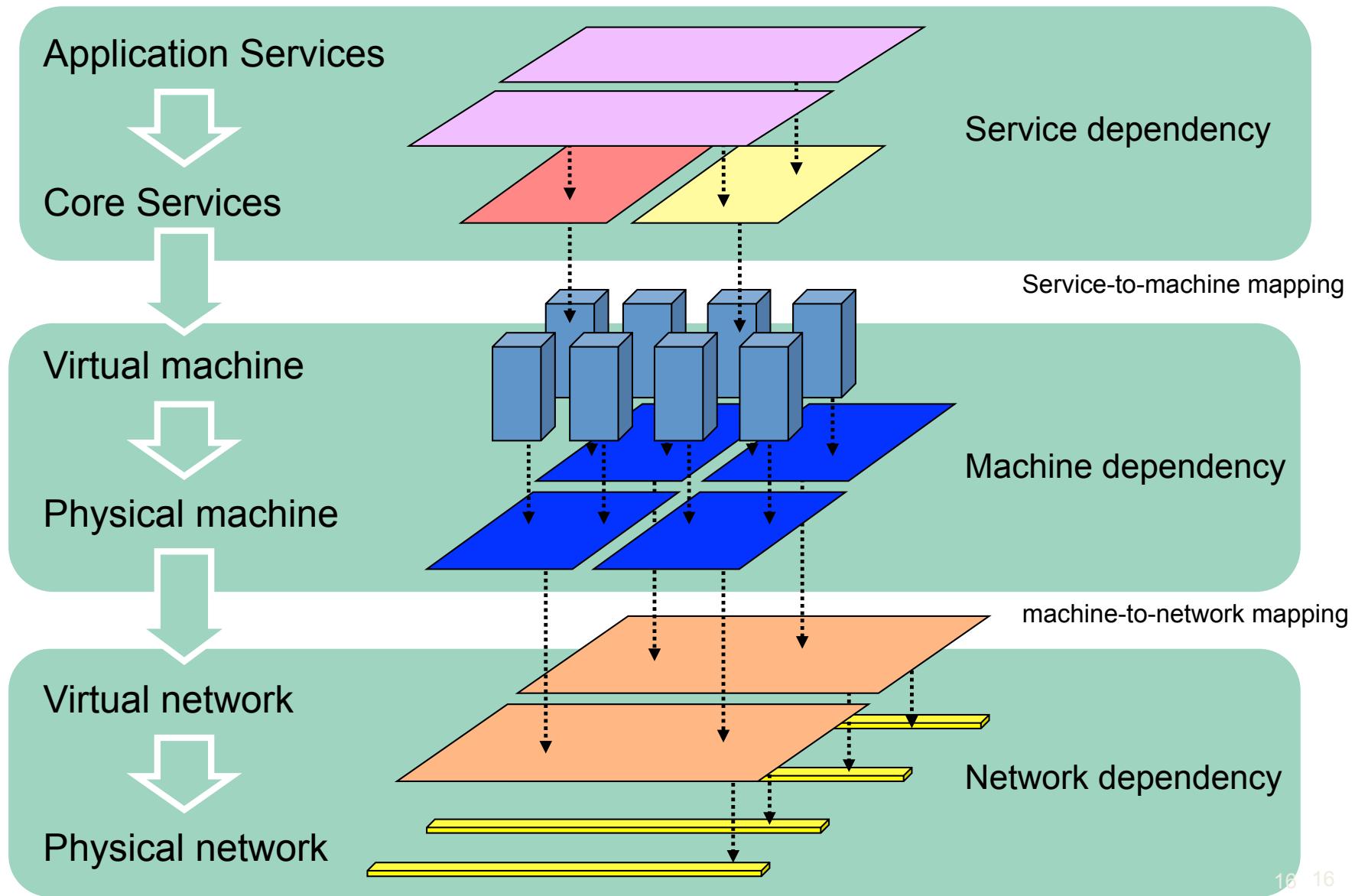
# クラウドコンピューティング



# Key Elements

- Virtualization(仮想化技術)
  - Optimization of resource usage
  - From exclusive assignment to shared assignment
- Off-site processing / storage(情報処理の集中化)
  - Professional management
  - On time basis of resource assignment
  - Robust & Resilient system operation are in the hand of operators.
- Open Innovation(オープン性)
  - Mainly by industries.
  - Less risk of “discontinue” incident.

# Components in Information System



# 数多くのメリット

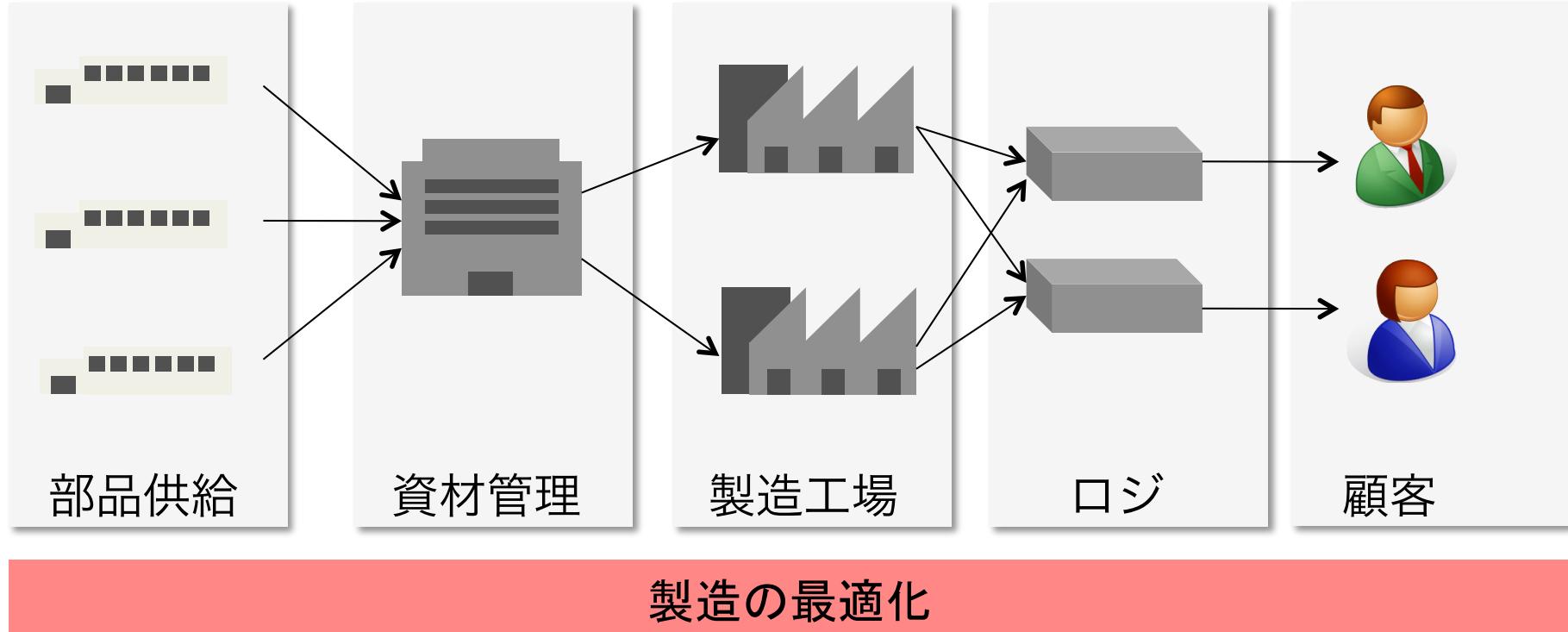
- データ処理の移動性を確保できる
  - 処理(process)とデータのシステム間転送が可能
    - Process migration
  - 物理的・地理的な分散が可能になる
  - 新たな分散処理基盤の構築と実装が可能
  - BCPへの貢献大
- On-demand resource assignment
  - 処理に必要な資源を動的に割り当てることができる
  - 処理の最適化
  - 夢の「適時適切な資源割り当て」
  - 可用性の改善

# グローバル分散問題



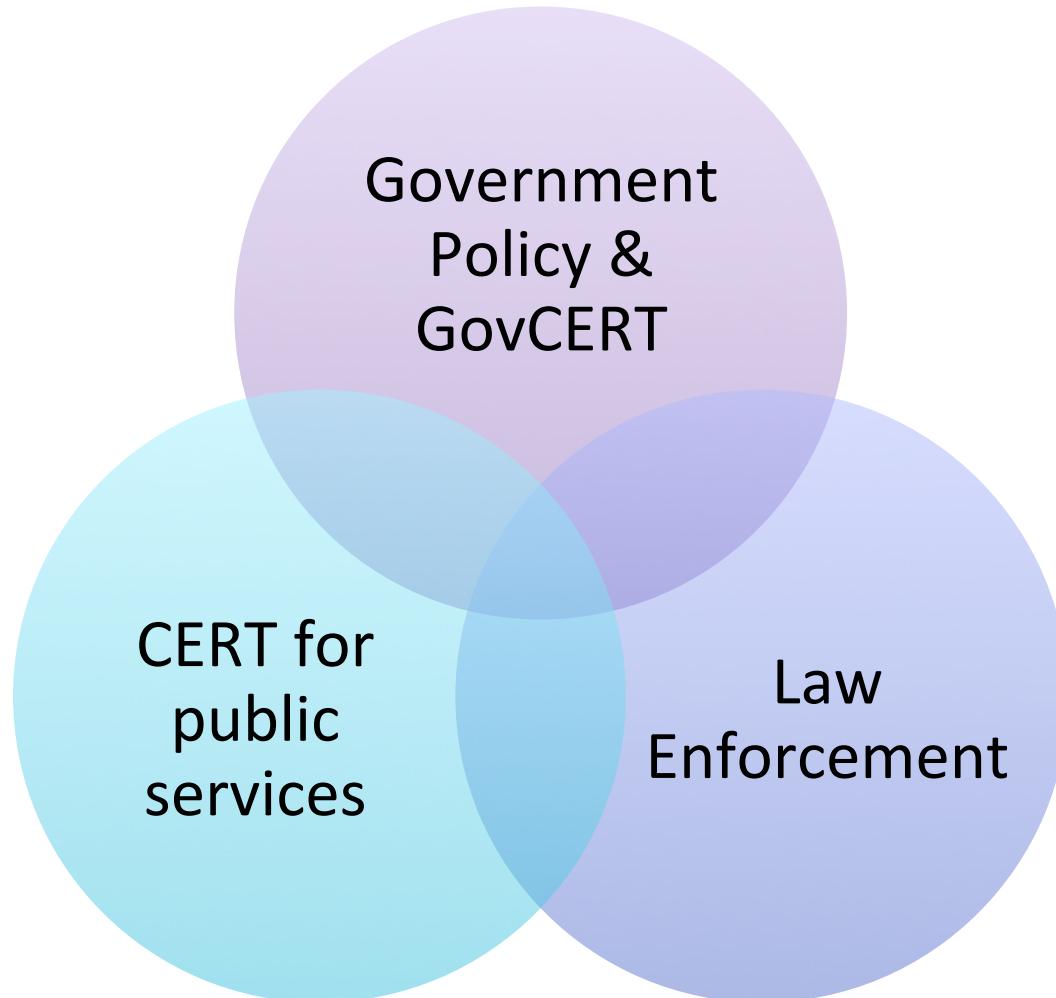
# 製造業におけるサプライチェイン管理

## Supply Chain Management (SCM)

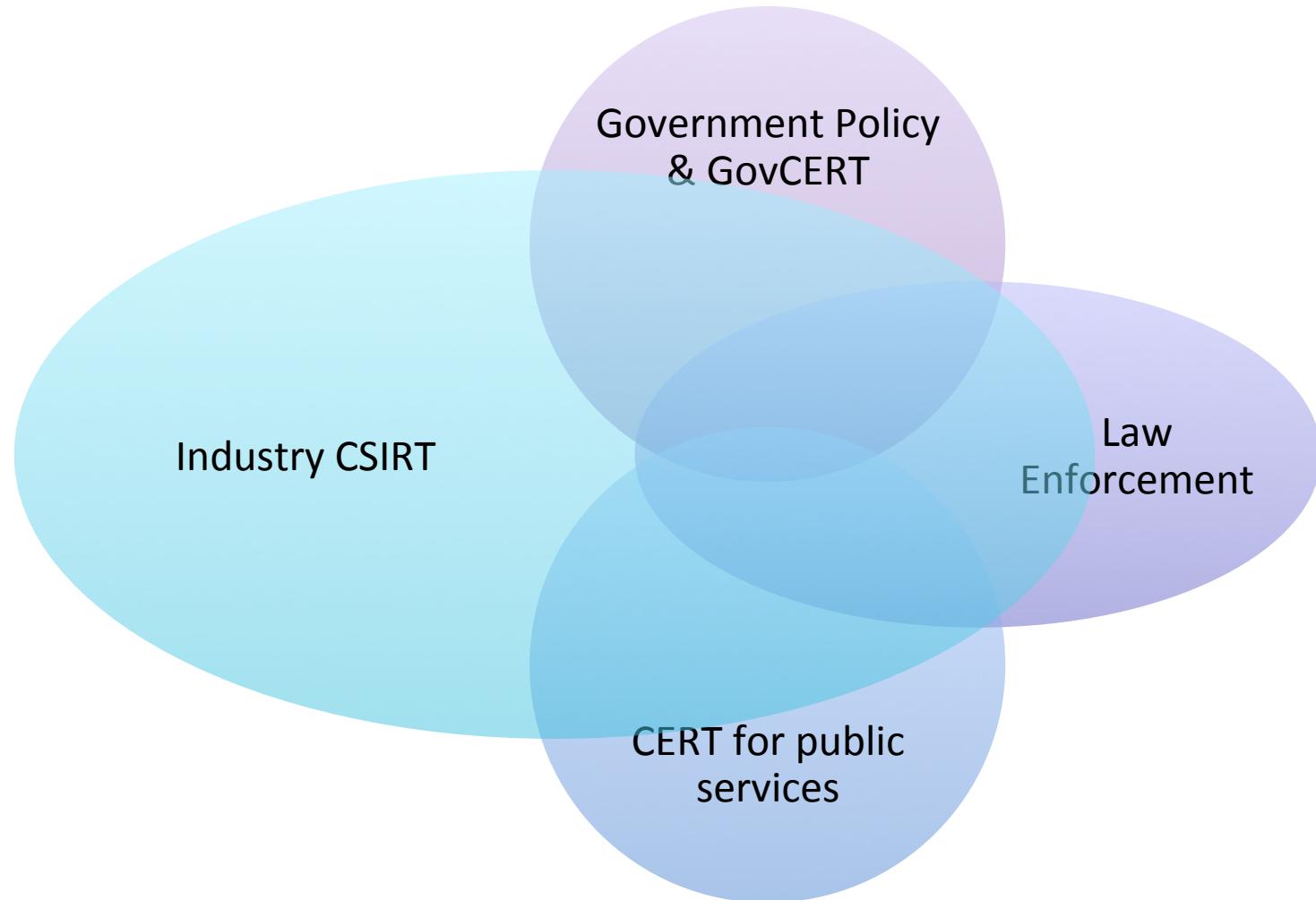


# **WHAT CAN HELP US?**

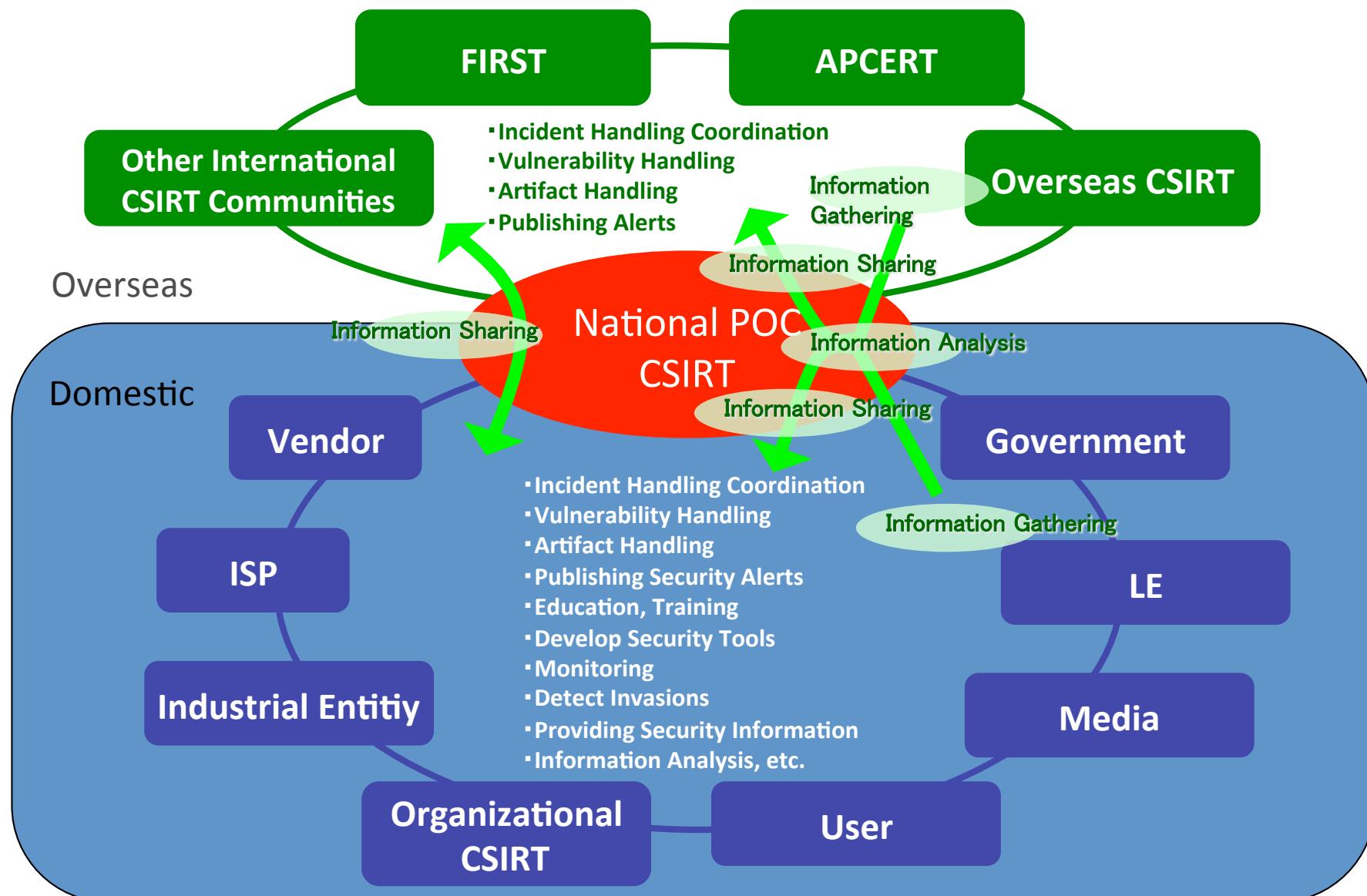
# Minimum three players, but not enough.



# Four groups of CSIRT



# Main Operations of National POC CSIRTs



# Components required for Cyber Security Coordination.

Cooperation

Trust  
relationship

Point of  
Contact

Technical  
Experts

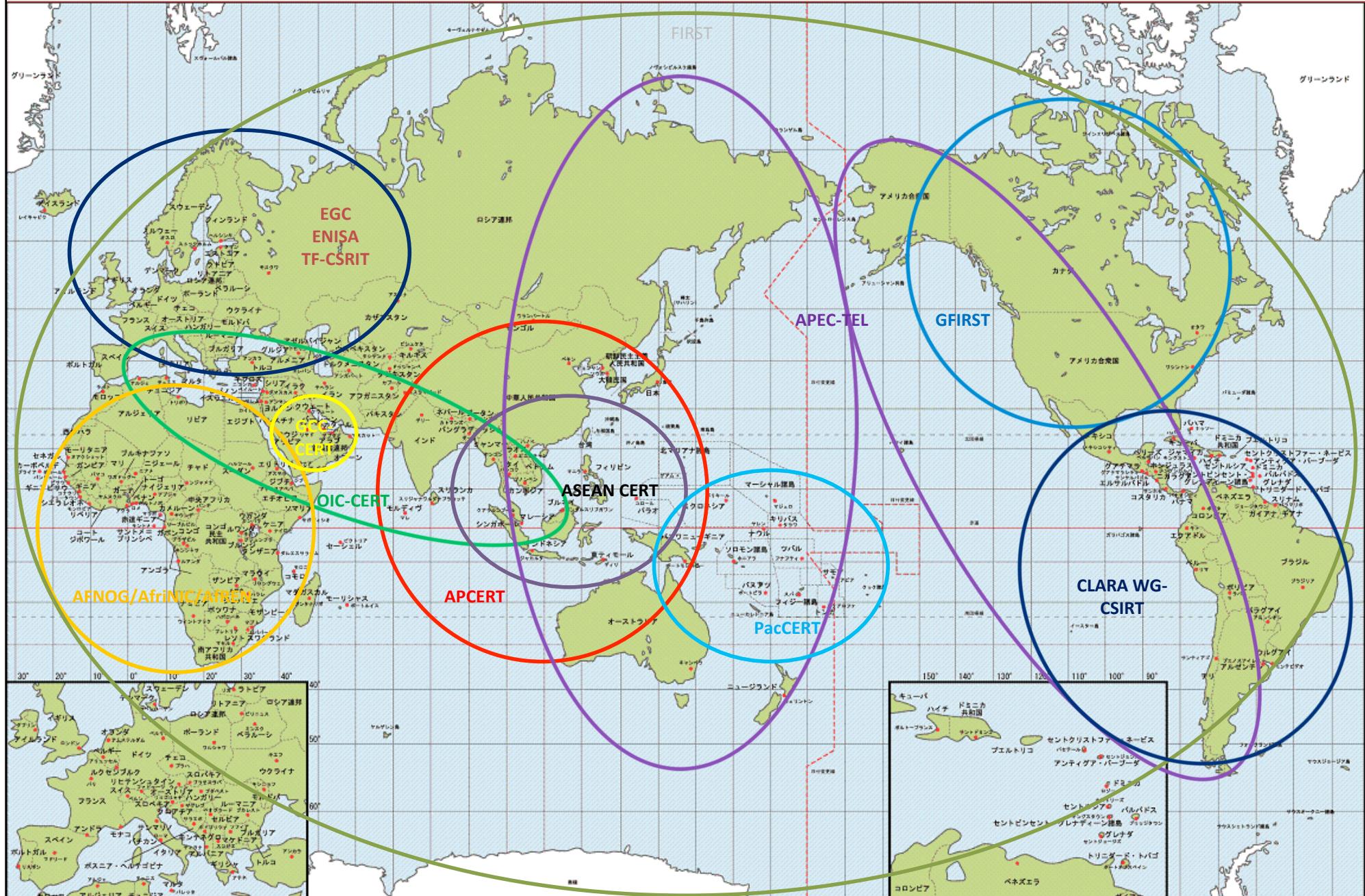
Communication

# FIRST Participating Teams

(20 Teams from Japan)

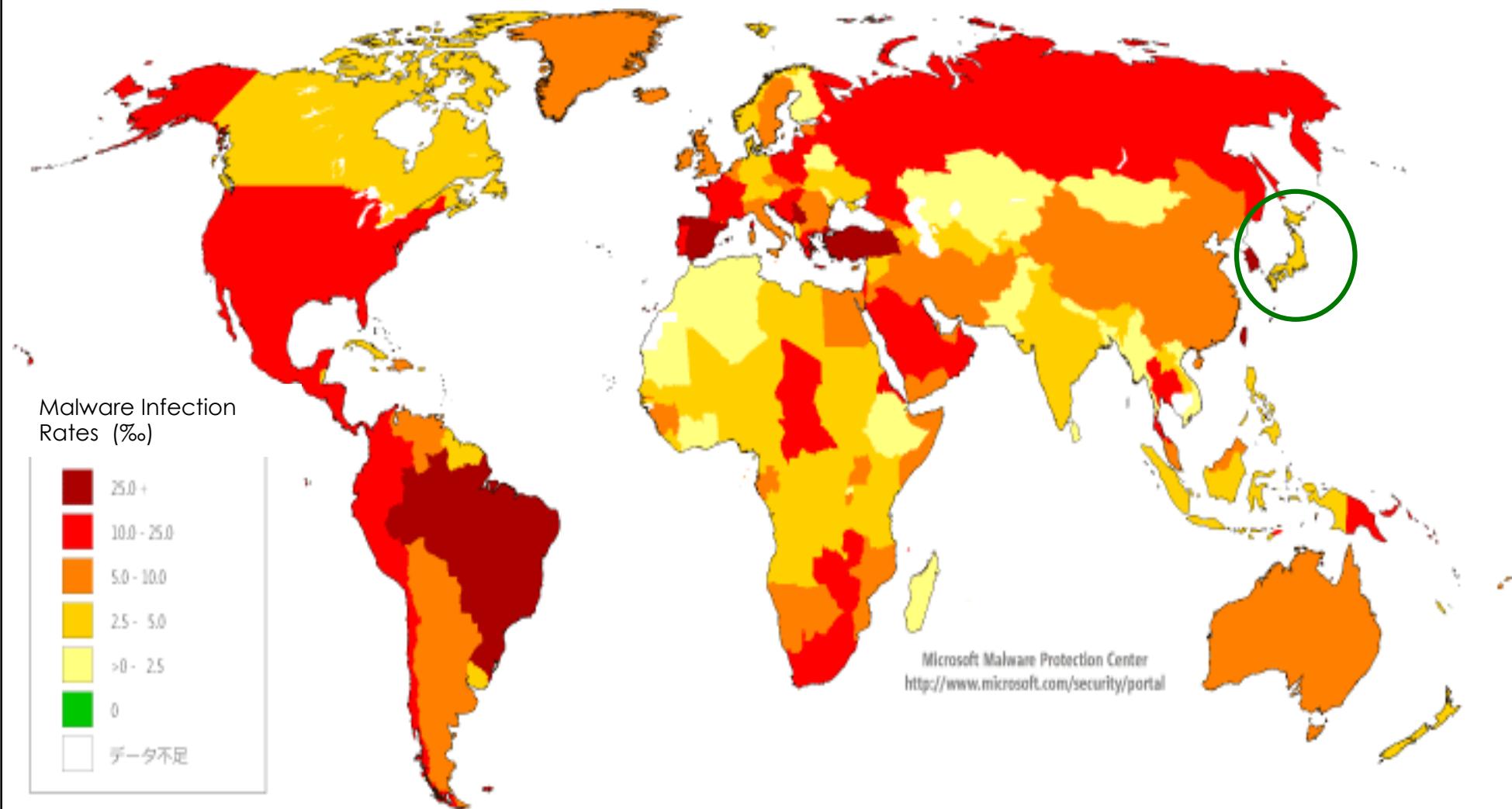


# International CERT Community Map



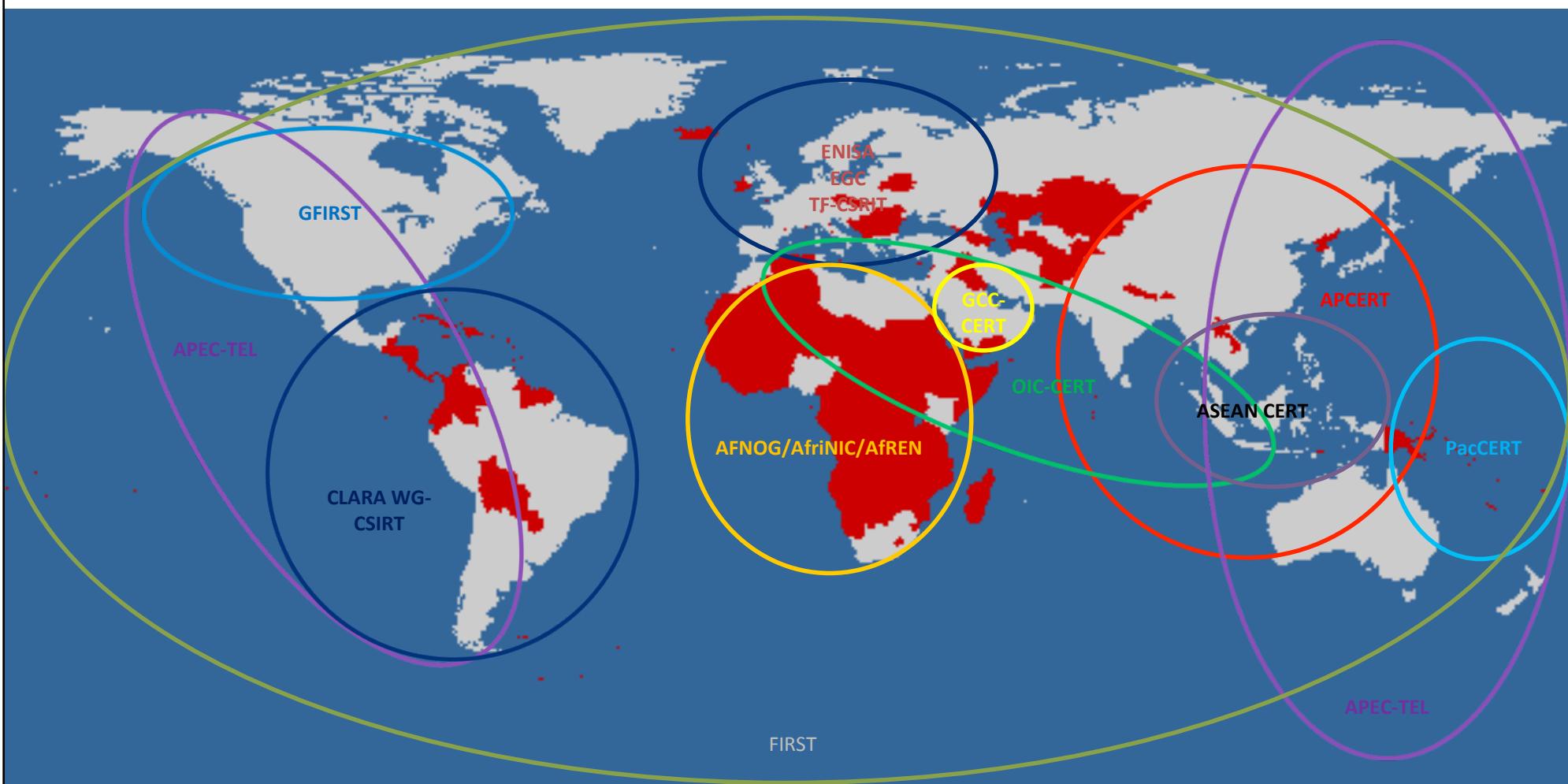
# Malware Infection Rates by Countries/Regions

The infection rate in Japan (0.44%) is consistently lower than the world average (0.96%).



Period: January to June 2010

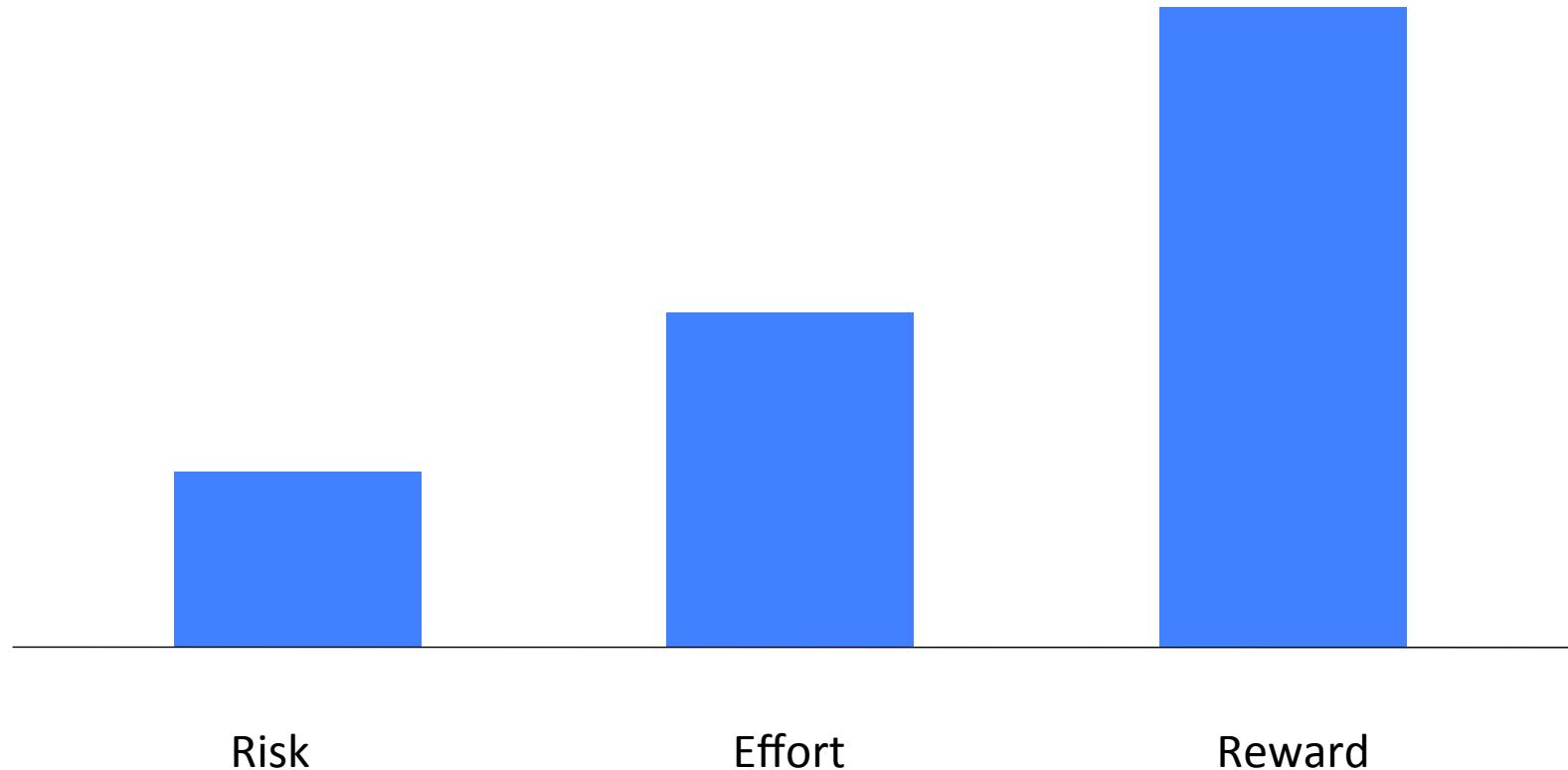
From Microsoft Security Intelligence Report Volume 9



# わが国の課題

- ・国際化に対応できない機能をどのように改善するか
- ・国際的なコミュニケーションをどのように実現するか
- ・社会機能の国際化問題と同じ
- ・法的な制限も存在
- ・実効的な解決方法が必要
  - 紙に書かれているだけの解決方法は意味がない

# Economics of Cyber Crimes, Today



# Economics of Cyber Crimes, Tomorrow

