



パネルディスカッション 「SDNJapan2014総括とこれからのSDN」

株式会社ストラトスフィア	浅羽	登志也	様
NTTコミュニケーションズ	山下	達也	様
株式会社データホテル	伊勢	幸一	様
日本電気株式会社	加納	敏行	(司会)

その1: SDNJapan2014総括

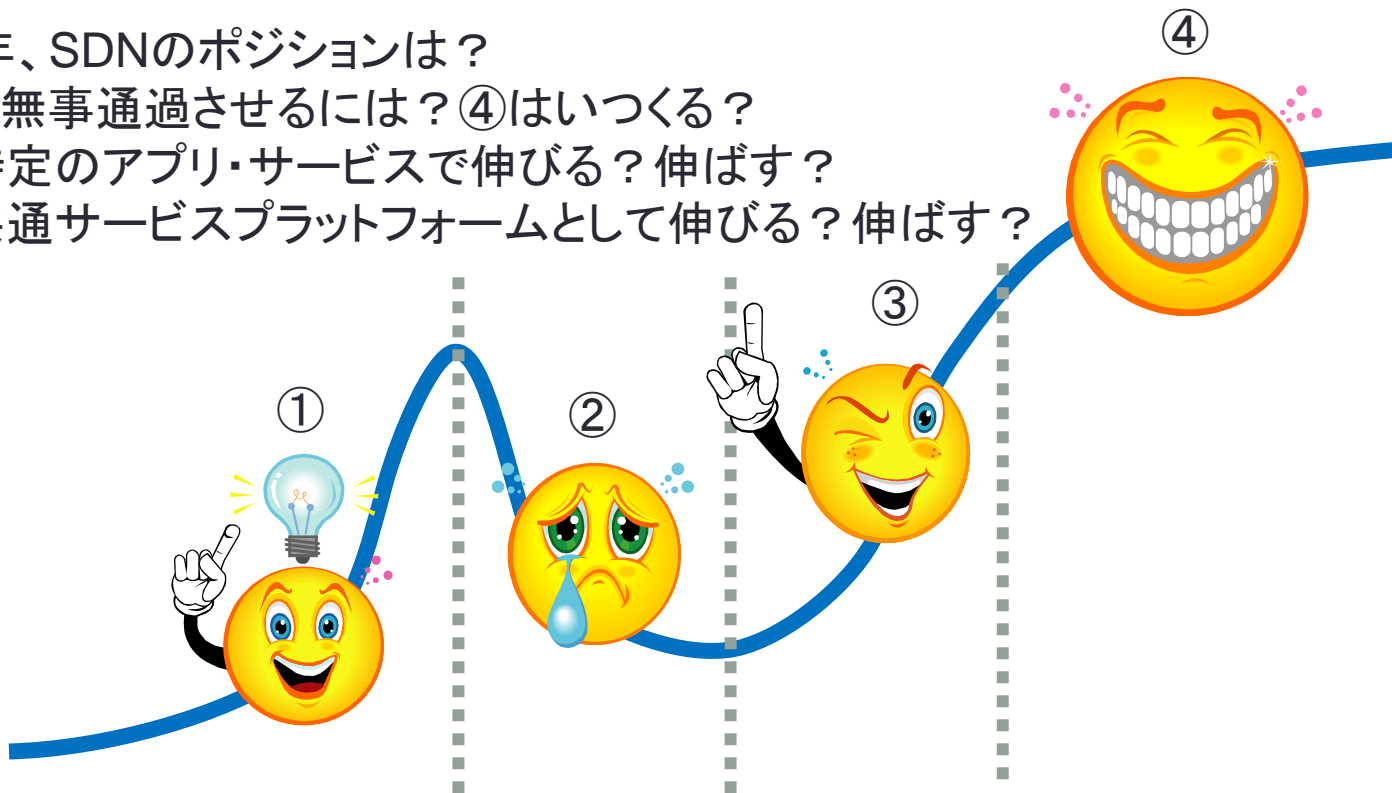
- 講演者からのメッセージを総括すると
 - **ネットワークワールドにコンピューティングの文化が芽生えてきた**
 - オープンプラットフォームの拡大→仲間づくり、実装、受入、評価、教育、検査
 - ベンダーロックインからの解放→自らOSSを組み合わせて作る、育てる
 - 数多くの選択肢が登場→世界で30を超えるSDNコントローラが登場
 - **SDNの導入はミッションクリティカル領域にも採用され始めた**
 - 医療、鉄道における高可用プラットフォームとして
 - 金融における高可用かつ高性能プラットフォームとして
 - **SDNは技術開発フェーズから応用、運用、フィードバックフェーズに拡大**
 - オリンピック2020を支えるSDNインフラへの期待
 - プロバイダによるSDN実サービスがスタート(フィールドへ)
 - サービスチェイニングのメカニズムとしても発展

さて、

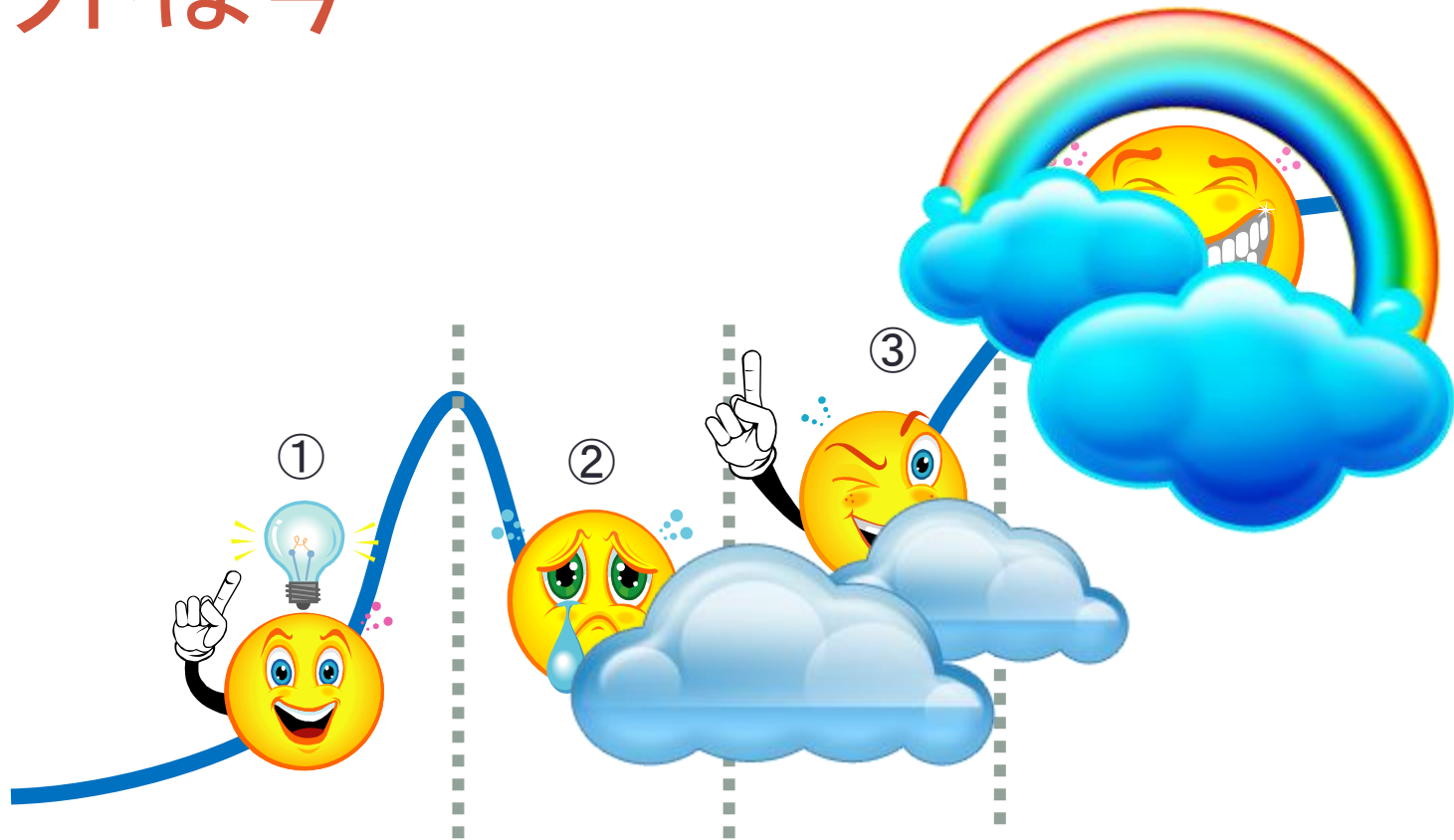
SDNは今後DCでさらに導入が進むのか
SDNは今後キャリアで導入が進むのか

その2:SDNは今どこ？

- ✓ 2014年、SDNのポジションは？
- ✓ ②③を無事通過させるには？④はいつくる？
 - ✓ 特定のアプリ・サービスで伸びる？伸ばす？
 - ✓ 共通サービスプラットフォームとして伸びる？伸ばす？



クラウドは今



その3: 太平洋の向こうでは



SDNの周りで始まっていること@US



The SmartAmerica Challenge is a White House Presidential Innovation Fellow project with the goal to bring together research in Cyber-Physical Systems (CPS) and to combine test-beds, projects and activities from different sectors, such as **Smart Manufacturing, Healthcare, Smart Energy , Intelligent Transportation and Disaster Response**, to show tangible and measurable benefits to the US economy and the daily lives of American citizens.



We **foster the development of next-generation applications**. Through our work, we help developers, communities, individuals, and partners bring gigabit applications to life.



Smart Emergency Response Saves Lives



MathWorks



BOEING



Massachusetts
Institute of
Technology



NC STATE UNIVERSITY

BluHaptics

UNIVERSITY of
WASHINGTON

NATIONAL
INSTRUMENTS

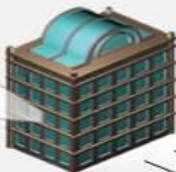
SMLC

Affordable, Accessible, Innovative and Secure Intelligent, Seamless & Collaborative Networked-Based, Smart Manufacturing



Connected Supply Chain

- Agile
- Demand Driven
- Raw Material to Finished Product



**Business
Systems, ERP**

Safe Production

- Improved safety
- Fewer incidents
- More user friendly

Sustainable Production

- Higher value products
- Data for decision making
- Product Lifecycle Management



Supply Chain



Smart Factory



**Distribution
Center**



Customer



Smart Grid

Energy Efficient

- Lower emissions
- Less energy used
- Green manufacturing

Optimization

- Asset Utility/Zero Downtime
- Quality/Zero Defects
- Reliable results

3 INDUSTRY CORPORATIONS

GE
National Instruments
Scitor Corporation

5 ACADEMIC INSTITUTIONS

Iowa State University
North Carolina State University
Pennsylvania State University
University of North Carolina
University of Southern California

1 NATIONAL LABORATORY

National Renewable Energy Laboratory

APPLYING

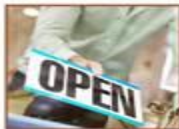
Analysis ■ Experimentation ■ Reasoning

Enabling the U.S. leadership for ...

NEW ENERGY ECONOMY POWERED FOR RESILIENCE, SELF-HEALING, AND SMART CONTROL



PROTECTION AGAINST NATURAL ACTS AND CYBER ATTACKS



COMPLEX MARKETPLACE SCENARIO MODELING



CLEANER AND SAFER

INFORMING PUBLIC POLICY
AND REGULATION



PRODUCING KEY RESULTS

Resilience during super storms **saves lives**

Advanced cyber-physical components/services **create high value jobs**

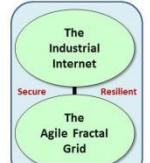
CPS alters the worldwide economy **creating new categories of business opportunity**

Robust wide area situational awareness and self-healing **increases our national security** for critical infrastructure

SMART ENERGY CYBER-PHYSICAL SYSTEMS

Enhanced Water Distribution Infrastructure Using Distributed CPS

The Industrial Internet serving the needs smart communities everywhere.

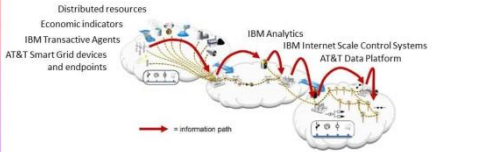


It's the combination that's magic.

Benefits * Lower Cost



Transactive Energy Management



- Manage diverse devices, systems and control signals along the electricity supply chain
- Environmental sustainability
- Reduce carbon footprint
- Interoperate across systems
- Energy savings
- Reduce outages
- Empower consumers
- Improve reliability and efficiency of electric system



TRANSFORMATIONAL...

TRANSMISSION AND SUBSTATION SYSTEM

Generating Station, 130,000 Volt, Utility, Commercial Customer, Distribution System, Smart Factory, Distribution Center, Customer

OPTIMIZE & AGGREGATE RTU FLEET PERFORMANCE

FORCES mobile millennium

University of California, Berkeley
FORCES and Mobile Millennium Projects

Stanford University
Stanford Institute for

ARIBO Robotic Vehicle CPS Test-Beds in 2014

Smart America Challenge Event

unicon

ARIBO CPS Test Bed Report

ARIBO CPS Test Bed 2014 Timeline

Optimization

- Asset Utility/Zero Downtime
- Quality/Zero Defects
- Reliable results

SMART ENERGY CYBER-PHYSICAL SYSTEMS

Advanced cyber-physical components/services create high value jobs
CPS users that worldwide economy creating new categories of business opportunity
Resilient and more operational awareness and self-healing
Increases our national security for critical infrastructure



Wide Area and Local Area SDN



