The IPv6 Forum
The New Internet

DEUXIÈME ATELIER IPv6 FRANCE
Innovation des réseaux IP : tendances et défis

IDATE arcep IPv6 FORUM

Le Nouvel Internet

IPv6-Based 5G-IoT-CC BLOCKCHAIN

INTERNET GENERATIONS

Le Nouvel Internet

Arpanet	Internet (1981-1985)	Internet	InterNET InterNAT	Dual Stack Internet	IPv6-Only NEW Internet
NCP		Shut Down			
2^8			2^{32} IPv4/NAT	NAT 2^{32} IPv6 2^{128}	2^{128}
Pioneers			Innovators NAT engineers	Everyone and everything	Everyone and everything
Email FTP		OSI (1985-1991)	Client/Servers	End-to-end Blockchain and Gaming	End-to-end Blockchain and Gaming
				TOURISTS	RESIDENTS
Government Internet		X.25 ATM	Public internet	TWO Global Internets	ONE Global Internet

The New Internet
The TWO-WAY Internet
End 2 End

Filesharing

Ressource Sharing

Instant Communication

Interactive

Collaborative Computing

Wide Open Again for INNOVATION

Political Goodwill

Patrick Cocquet
President
French IPv6 Task Force
2003-2009

Task Force France

French Council

Internet Society
France Chapter

Claudie Haigneré
Minister for Research
and new technologies
(Networld+Interop Paris 2003)

Political Goodwill

IDATE arcep IPv6 FORUM

IPv6 French Council

Internet Society France Chapter

g6

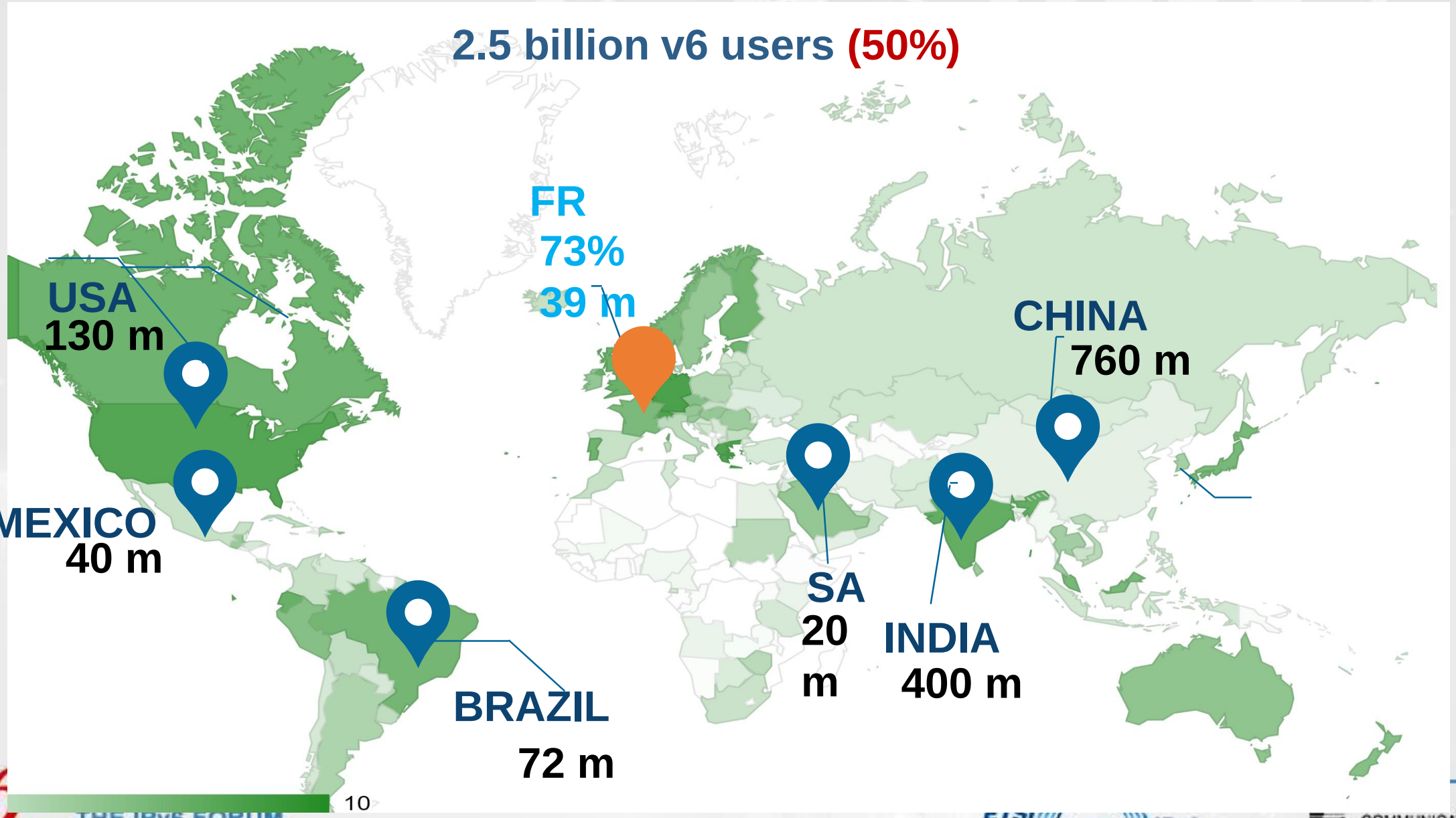
IPv6 FORUM

THE IPv6 FORUM
THE NEW INTERNET

ENHANCED

IEEE COMMUNICATIONS SOCIETY

IPv6 DEPLOYMENT WORLDWIDE 2023



IPV6 FORUM THE IPV6 FORUM THE NEW INTERNET
IPv6 ENHANCED
COMMUNICATIONS SOCIETY

IPv6 brings user-experience from the economy class to the business class

IPv4
Economy class

IPv6
Business class

IPv6 – Only
+ 5G, CC, IoT
First class

NAT
Luggage class

Roland Berger

Global IPv6 Development Report 2022

Roland Berger Report:
10 Trillion$ Value of IPv6 and IPv6 Enhanced innovations

Roland Berger assessed the impact of IPv6 and IPv6 enhanced:

- **IPv6 index growth is correlated to GDP growth**
- **By 2030, it can create a total of $10 trillion in global economic output**

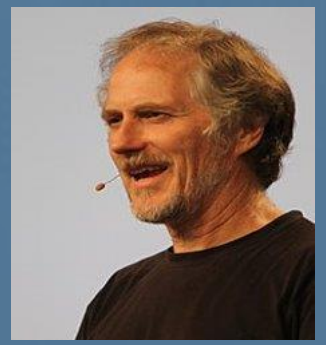
769	4408	1223	1160	535	309
Communication	Manufacturing	Finance	Government	Transportation	Entertainment
479	300	177	708	180	636
Healthcare	Education	energy	Retail	Agriculture	real estate

Unit / billion USD

* https://www.rolandberger.com/en/Insights/Publications/Global-IPv6-Development-Report-2022.html

WEB GENERATIONS

WEB 1.0	WEB 2.0	WEB 3.0	WoT	WEB3
IPv4	IPv4 / NAT	IPv6		
HTTP	HTML	XHTML		
WWW	Interactive	Semantic Web	Global IoT Internet	Global Bockchain Internet
Tim Berners-Lee	Tim O'Reilly	W3C	Dave Raggett	Gavin Wood



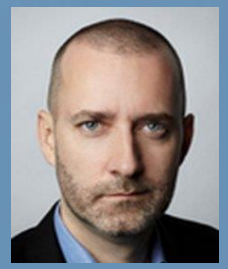
WIRELESS GENERATIONS

0G	1G	2G	3G	4G	5G
Non-IP			IPv4 / NAT		IPv6
Analogue	Analogue	GSM	WCDMA	OFDM	MIMO/mmWAVE
Voice	Voice	Digital V	WAP	IMS	IoT
Surprise: Fax & Modem	Eavesdropping	SMS	WEB	YouTube WhatsApp	Verticals
				Public Internet	W. Internet

vs. WAP

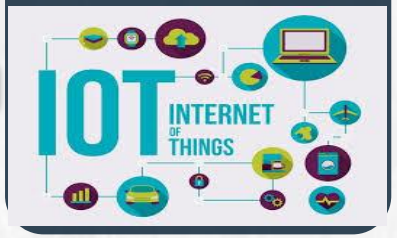
VERY NEXT WIRELESS GENERATIONS

IoT GENERATIONS

	IoT 1	IoT 2	IoT 3
IP	**Non-IP**	**IPv4/NAT**	**IPv6**
Technology	RFID/KNX BackNet LoRA	**One-Way Gateways**	**Two-Way Things-2-Things**
Media	Network of Things	IoT Devices	IPv6 Sensors
	Kevin Ashton 		**Global IoT Internet**

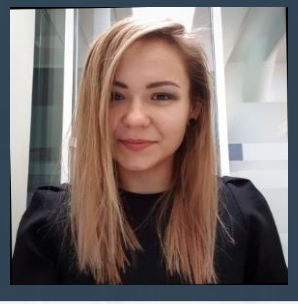
DATA GENERATIONS

	DATA	BIG DATA	BIG IoT DATA	DATA SPACES
IP	Non-IP	IPv4/NAT	IPv6	IPv6
Technology	Telex Fax Telegraph	Hadoop Gateways	Mix GW 6LowPan-Roll	Enterprise Data Sharing
Media	-	All	Sensors Iot Devices	Connector
Volume	KB	Global Data	Global IoT Data	Global Data Sharing

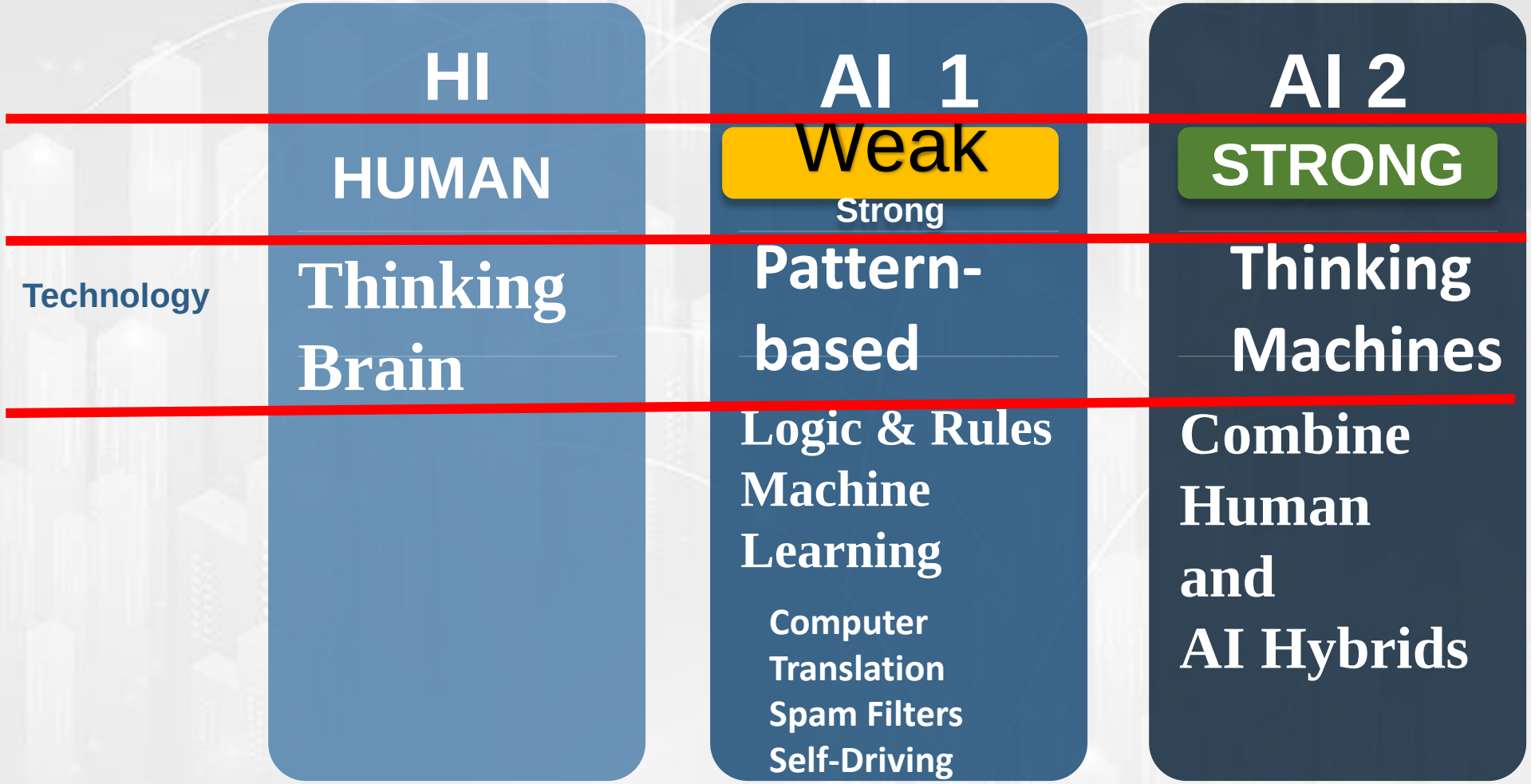


CLOUD COMPUTING GENERATIONS

	CC 1	CC 2	CC 3
IP	IPv4/NAT	IPv4/NAT	IPv6
Technology	Shareware	AWS Proprietary	AWS Proprietary
		C. Pinkham W. Van Bilijon	Global CC **Alexandra Huides**



ARTIFICIAL INTELLIGENCE (AI) GENERATIONS



CYBERSECURITY N' GENERATIONS

IP

Technology

ARPANET

PRANKS

FIRST Computer WORM

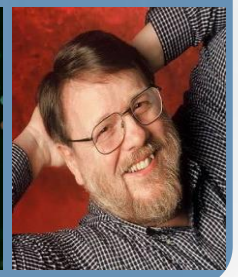
Creeper

First Anti-Virus

Reaper

Bob Thomas

Ray Tomlinson

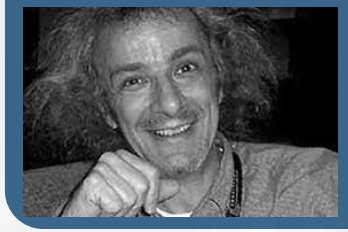


INTERNET

CRIME Espionage

In 1986, Russian Cyber Power

Markus Hess



Morris Worm

VIRAL ERA

Robert Morris

Disaster

Ransomeware
Malware
Nation States attacks

Hacking is Big Business

BLOCKCHAIN GENERATIONS

Blockchain needs IPv6

Blockchain 1.0

Blockchain 1.0 is the CURRENCY, the deployment of cryptocurrency in apps related to cash, and financial transactions

Blockchain 1.0 is the decentralization of money and payments

X-coin

Blockchain 2.0

Blockchain 2.0 is the CONTRACTS, the deployment of smart properties, digital assets and smart contracts

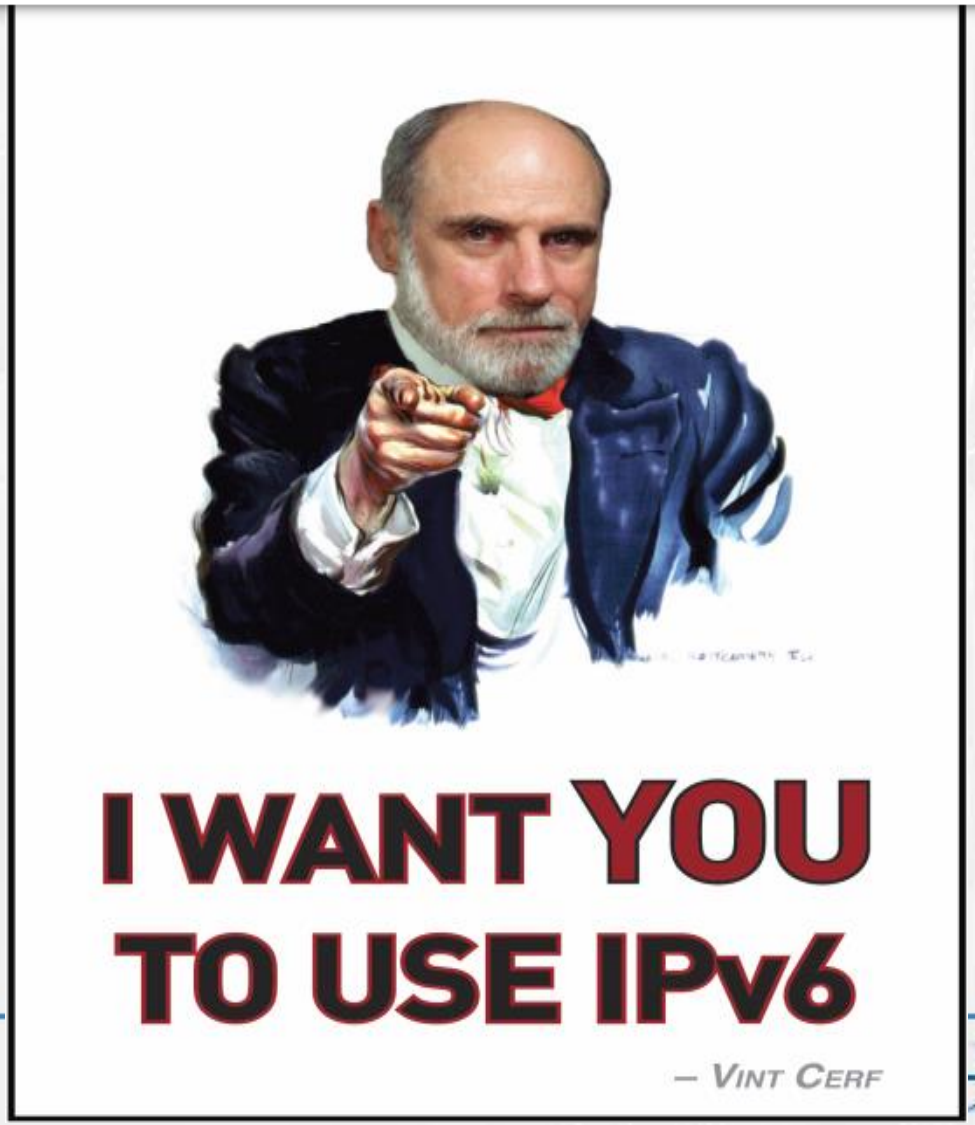
Blockchain 2.0 is the decentralization of markets

Digital Notary

Blockchain 3.0

Blockchain 3.0 is new areas of smart cities, IoT, M2M, government, health, science, and art

Typical application is SOLIDIFY

Digital Keys

Message From Vint Cerf
Honorary Chair IPv6 Forum