Open Source Software

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1. **Open Source, it is new?**

2. **Why Open Source**

3. **What Samsung is doing**

4. **Concluding Remarks**

① Open Source, It's new ?

Open Source Definition

01. Free Redistribution

02. Source Code

03. Derived Works

04. Integrity of The Author's Source Code

05. No Discrimination Against Persons or Groups

06. No Discrimination Against Fields of Endeavor

07. Distribution of License

08. License Must Not Be Specific to a Product

09. License Must Not Restrict Other Software

10. License Must Be Technology-Neutral

Development based on the sharing and collaborative improvement of software source code has a history essentially as long as software development itself. In the late 1990s, interest and participation in this phenomenon increased markedly with mainstream recognition of Linux [in publications like Forbes] and [the release of the Netscape browser's source code.]
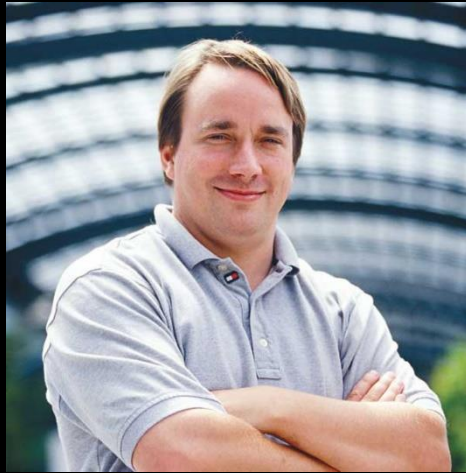
Since 1991

The Rise of Open Source: Linux and OpenStack

Linux

2013
94% of the world's top 500 supercomputers run Linux

15 million lines of code are contributed by 8,000 developers and 800 companies

2012
Linux-based Android leads the worldwide smartphone market

2000
IBM announces $1B investment in Linux

1999
IBM announces an extensive Linux project

1998
IBM, Compaq and Oracle publicly announce support

1995
Broad hardware support rapidly ramps adoption

1993
More than 100 developers contribute code to Linux

1991
The Linux kernel is developed to access large UNIX servers independent of an operating system

OpenStack

2013
IBM unveils SmartCloud Orchestrator, a new private cloud offering based on OpenStack

Community of 8,200+ individual members representing 1,000 organizations

2013 predicted as the year of "OpenStack Services Firms"

2012
IBM, Rackspace, RedHat, AT&T and others establish the OpenStack Foundation

Leading cloud technology companies as well as large ISVs bet on OpenStack for their core business

2011
Head and shoulders above the rest with respect to contributors, members, followers and community

2010
One among many competing open solutions for cloud infrastructure

OpenStack comes out of the gate with favorable Apache license terms

IBM

5 ways to make money with open source

Sell Support Contracts

Sell Value-Added Enhancements

Sell Documentation

Sell Binaries

Sell Your Expertise as a Consultant

② Why Open Source

[Ref.: 2018 Future of Open Source Survey Result]

intel

Open Source
Technology Center

IBM

Open Technology
Center

QUALCOMM®

Qualcomm
Innovation Center

Google

Open Source
Program Office

facebook.

@fbOpenSource

SAMSUNG

Open Source Group

TODO

TALK OPENLY
DEVELOP OPENLY
For companies committed to open source.

Linux is a cancer that attaches itself in an intellectual property sense to everything it touches.
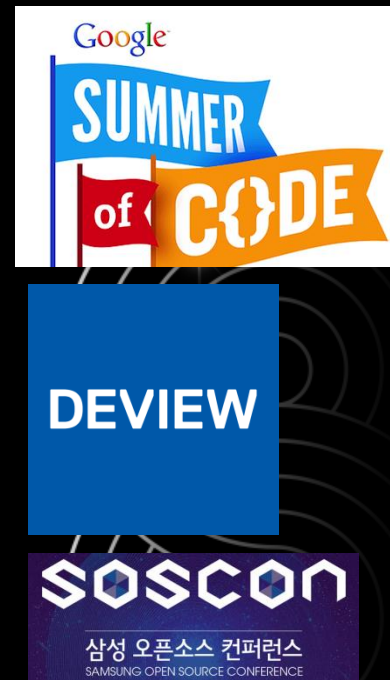
(Steve Ballmer)

Microsoft 💗 Linux

Culture changes?

[Video] https://www.youtube.com/watch?v=iBOBv2_rwj8

Business strategy thru open source to catch up

O'REILLY®

OSCON

We hire.

SAMSUNG OPEN SOURCE 2019

[Video] https://www.youtube.com/watch?v=BS4kTgaiydQ&t=189s

③ What Samsung is doing

Samsung Open Source History

Begun at OS, Platform
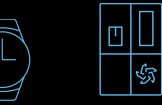Expanding to IoT, AI, 5G, Robot, etc.
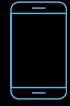
IoT Devices

5G, AI, Robot

Gear   Refrigerator

Galaxy   Smart TV

Washer

Tizen TV

Z Phone

IoT

PDA

Exynos

IoTivity

TIZEN

.NET foundation

ROS

EDGE X FOUNDRY

LF EDGE

ONAP

ONOS

CLOUD NATIVE
COMPUTING FOUNDATION

2002   2009   2012   2018   2019
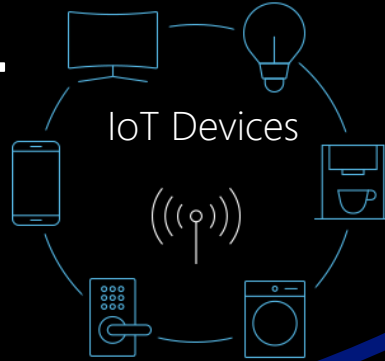
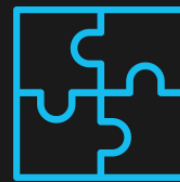# Key Value for Future Techs in Samsung

1. OPENNESS

- Source Code and Project Open

- Communities Participation

2. Collaboration

- Global Open Source Leading

- Korean Association

3. Development Culture

- Internal Infrastructure

- Inner Source Program

① Openness – Source Code and Project Open

- 108 Repositories so far (20+ project increase in every year)
- https://github.com/samsung (free for everyone under Apache 2.0 License)
- Expanding to AI, 5G, Robot, and more future technologies

- Official website (opensource.samsung.com)
- About US, Project and Community Announcements

① Openness – Communities Participation

Supporting and Sponsoring for local open source communities

- AI, Data, Robot communities at SOSCON 2019

Networking Umbrella Project under Linux Foundation ('18.6)

- 8 Projects such as ONAP (Open Network Automation Platform), OPNFV (Open Platform for NFV)

- Board Member with 32 global 5G leading companies

- Samsung outstanding contributions in LF Spotlight Member News ('19.9)

[Board Members]

Ranking	Company	Ranking	Company
1	AT&T	6	Nokia
2	Samsung	7	China Mobile
3	Huawei	8	AMDOCS
4	Ericsson	9	ZTE Corp.
5	IBM	10	Intel

['19 ONAP Contribution Ranking]
'19.10.11, (Ref.: https://onap.biterg.io/)

② Collaboration – LF EDGE

Real-Time local Service Framework under Linux Foundation ('19.1)

- Active Projects : AKRAINO (MEC Network), Home Edge (Home Services), EdgeX Foundary (Smart Factory)
- Board Member with 35 global companies

[MEC Project]

[Home Project]

[Smart Factory Project]

[Board Members]

② Collaboration – ROS2 TSC

Robot Operating System

- Robot de-facto open source solutions (3,700 developers, 521 repo, 260,000 commits)

- Elected as a new TSC (Technical Steering Committee) members ('19.8)

② Collaboration – Korean Association

KOSSA
한국공개소프트웨어협회

nipa
정보통신산업진흥원

Innovation Academy 42 | SEOUL
이노베이션아카데미

③ Development Culture – Internal Infrastructure

- 50,000+ repositories, 17,000 active developers

- Globally 220,000 Samsung employees

Open Infra

{C.DE}

Collaborative Development across
different business units

Open Communication

MOSAIC

Collective Intelligence Platform

③ Development Culture – Inner Source Program

Use of Open Source best practices for SW development within the confines of an Org. ('18~)

- 99% equal to open source except internal code sharing
- ISC (Inner Source Commons) Collaborations and Participations
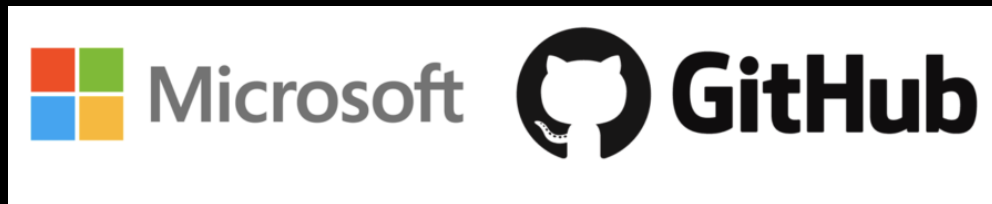

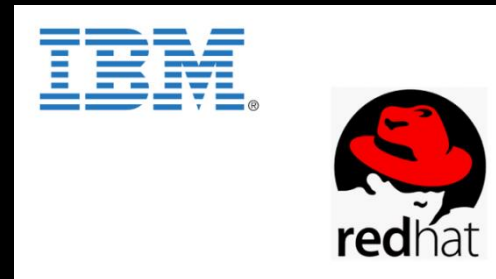
[Active Members]

[Inner Source Day, '19.10.]

④ Concluding Remarks

Thoughts of Developers

$7.5 billion

$34 billion