What’s systemd again?
What’s systemd again?
A system and service manager
What’s systemd again?
A system and service manager
A platform
What’s systemd again?
A system and service manager
A platform
The glue between the applications and the kernel
Where are we now?
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . . )
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, ...

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, ...)
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, …)

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, …)

501 contributors in total
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . .

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, . . .)

501 contributors in total

35-40 contributors per month
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . .

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, . . .)

501 contributors in total

35-40 contributors per month

15K commits in total
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . .

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, . . .)

501 contributors in total

35-40 contributors per month

15K commits in total

300 commits per month
Where are we now?
systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . .
24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, . . .)
501 contributors in total
35-40 contributors per month
15K commits in total
300 commits per month
830 subscribers to the mailing list
Where are we now?

systemd universally adopted: Fedora, RHEL 7, Mandriva, Suse, Debian, Ubuntu, . . .

24 committers (Red Hat, Intel, Debian, Mandriva, Canonical, Google, Pantheon, . . .)

501 contributors in total

35-40 contributors per month

15K commits in total

300 commits per month

830 subscribers to the mailing list

= A healthy Open Source project
Our objectives

- Turning Linux from a bag of bits into a competitive General Purpose Operating System
- Building the Internet's Next Generation OS
- Unifying pointless differences between distributions
- Bringing innovation back to the core OS

A Perspective for systemd What Has Been Achieved, and What Lies Ahead
Our objectives

Turning Linux from a *bag of bits* into a competitive *General Purpose Operating System*.
Our objectives

Turning Linux from a *bag of bits* into a competitive *General Purpose Operating System*.

Building the Internet’s Next Generation OS
Our objectives

Turning Linux from a *bag of bits* into a competitive *General Purpose Operating System*.

Building the Internet’s Next Generation OS

Unifying pointless differences between distributions
Our objectives

Turning Linux from a *bag of bits* into a competitive *General Purpose Operating System*.

Building the Internet’s Next Generation OS

Unifying pointless differences between distributions

Bringing innovation back to the core OS
Our objectives
Our objectives

Desktop,
Our objectives

Desktop, Server,
Our objectives

Desktop, Server, Container,
Our objectives

Desktop, Server, Container, Embedded,
Our objectives

Desktop, Server, Container, Embedded, Mobile,
Our objectives

Desktop, Server, Container, Embedded, Mobile, Cloud,
Our objectives

Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .
Our objectives
Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .
These areas are closer together than you might think
Our objectives
Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .
These areas are closer together than you might think
Reducing administrator complexity, reliability without supervision
Our objectives

Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .

These areas are closer together than you might think

Reducing administrator complexity, reliability without supervision

Everything introspectable
Our objectives

Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .

These areas are closer together than you might think

Reducing administrator complexity, reliability without supervision

Everything introspectable

Auto discovery, plug and play is key
Our objectives

Desktop, Server, Container, Embedded, Mobile, Cloud, Cluster, . . .

These areas are closer together than you might think

Reducing administrator complexity, reliability without supervision

Everything introspectable

Auto discovery, plug and play is key

We fix things where they are broken, never tape over them
What is not our objective?

Never a product,
What is not our objective?
Never a product, but something that makes it easy to build products on
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI,
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete,
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete, but tracking progress of technology
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete, but tracking progress of technology

Never specific,
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete, but tracking progress of technology

Never specific, always generic
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete, but tracking progress of technology

Never specific, always generic

Never the cathedral,
What is not our objective?

Never a product, but something that makes it easy to build products on

Never UI, but what you can build your UI on...

Never finished, never complete, but tracking progress of technology

Never specific, always generic

Never the cathedral, just the building blocks to build it
We care for privacy

Encryption,
We care for privacy

Encryption, anonymity,
We care for privacy

Encryption, anonymity, security,
We care for privacy

Encryption, anonymity, security, verifiability,
We care for privacy

Encryption, anonymity, security, verifiability, trustability
What we already cover:

init system,
What we already cover:

init system, journal logging,
What we already cover:

init system, journal logging, login management,
What we already cover:

init system, journal logging, login management, device management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rafkill save/restore,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management, locale management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management, locale management, time management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management, locale management, time management, random seed management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management, locale management, time management, random seed management, sysctl variable management,
What we already cover:

init system, journal logging, login management, device management, temporary and volatile file management, binary format registration, backlight save/restore, rfkill save/restore, bootchart, readahead, encrypted storage setup, EFI/GPT partition discovery, virtual machine/container registration, minimal container management, hostname management, locale management, time management, random seed management, sysctl variable management, console management, . . .
What we are working on:

network management
What we are working on:

- network management
- systemd-networkd
What we are working on:
Local DNS cache, mDNS responder, LLMNR responder, DNSSEC verification
What we are working on:

IPC in the kernel
What we are working on:

IPC in the kernel
kdbus, sd-bus
What we are working on:
Time synchronisation with NTP
What we are working on:
Time synchronisation with NTP
systemd-timesyncd
What we are working on:
More integration with containers
What we are working on:
More integration with containers
systemctl -M, journalctl -M, loginctl -M, systemd-run -M, ...
    systemctl -r, ...

A Perspective for systemd What Has Been Achieved, and What
What we are working on:

Sandboxing of Services

Sandboxing of Apps
What we are working on:

OS Image format

Container image format

App image format
What we are working on:

OS Image format
Container image format
App image format
\[=\] GPT with auto-discovery
What we are working on:
Stateless systems, instantiatable systems, factory reset
What we are working on:
Stateless systems, instantiatable systems, factory reset

/usr is the OS

/etc is (optional) configuration

/var is (optional) state
What we are working on:
Atomic node initialisation and updates
What we are working on:
Integration with the cloud
Service management across nodes
What we are working on:

Verifiable OS images
All the way to the firmware
Boot Loading
That’s all, folks!