Scaling the Sailfish OS to support multiple form factors and devices

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History of Sailfish OS

- **2010**: MeeGo
  - Maemo

- **2011**: MeeGo 1.2 Harmattan for Nokia N9

- **2012**: MeeGo 1.2 Handset UX
  - Nemo Mobile
  - Mer Core

- **2013**: Sailfish OS Beta
  - Sailfish apps & UX
  - Sailfish Silica
  - Nemo Middleware
  - Mer Core

- **2014**: Sailfish OS 1.0
  - Tablet UX
  - Improved Home
  - Licensing enablers

- **2015**: Sailfish OS 2.0

- **2016**:

- **2017**:

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SAILFISH OS FOR PARTNERS

- Proven independent history & track record from MeeGo to Sailfish.
- Proven commercial capability, active user and open source community
- Highly customizable to meet regional certification and security requirements
- Strong base to build mobile security solutions
  - Government and corporate solutions
  - End-to-end OS level encryption, possibility to use local strong algorithms
  - Fully privately build in local build system
- Only freely available & commercialized mobile OS code base, making Sailfish a strategic interest for big companies & nations
- Regional licensing strategy to enable local implementations
Sailfish OS architecture
First devices running Sailfish OS

- Development started on Nokia N9 and N950 devices
  - **HW**
    - Texas Instruments OMAP3630 SoC
    - 1GB of RAM
    - 864 x 480 display
  - **OS**
    - Mer core and Nemo middleware derived from MeeGo
    - Qt 4.8
    - X11 windowing - mcompositor
- First HW prototype
  - STE8500 SoC
  - 512MB of RAM
First product: Jolla

- **HW**
  - 1.4 GHz Dual Core Qualcomm SoC
  - 1GB of RAM
  - The Other Half
  - qHD display

- **OS**
  - libhybris
  - Wayland
  - Qt5
  - lipstick as compositor
  - Scaling the UI
  - Device orientation
  - BTRFS -filesystem
  - Systemd
Jolla Tablet

• **HW**
  • 7.85" IPS panel, 2048 x 1536 pixel resolution
  • 6 x Pixel count of Jolla1
  • Intel x86 1.8 GHz Quad Core CPU
  • 2 GB of RAM

• **OS**
  • Android runtime x86 translation
  • ext4 filesystem
  • Scaling UI - Sailfish 2.0
  • hwcomposer
Intex Aqua Fish & Jolla C

• HW
  • 720p display
  • FM radio
  • Qualcomm MSM8909 chipset
  • 2 GB of RAM
  • Dual SIM support

• Variant support
  • Different bands
  • Different device names, manufacturers, preload content, some different behaviours
  • Update schedule flexibility
Turing Phone

- **HW**
  - Fingerprint sensor
  - Full HD
  - Qualcomm MSM8974AC 2.5 GHz Quad-core SoC
  - 3 GB of RAM
  - 13 MP camera

- **OS**
  - Turing Secure apps utilizing SD-card slot for storing credentials securely
  - Device lock rewrite to support additional locking methods
Configuration options

Customer configuration
More info on next slide(s)

Customer Configuration API

Sailfish OS

Sailfish Home/UX
Sailfish Silica, Lock screen, Home screen, Switcher, Launcher, Eventsview, ...

Sailfish Applications
Phone, Messages, People, E-Mail, Browser, Clock, Calendar, Camera, ...

Sailfish OS Core
Multimedia (gstreamer), Virtual Keyboard (maliit), Qt5, Connectivity (connman, ofono, bluez), System libraries (systemd), Graphics (wayland), Essentials (glibc, dbus, dconf), Software management (rpm, libzypp, packagekit), ...

Publicly available hardware adaptation API that follows closely standard Linux

Hardware Adaptation
More info on next slide(s)
Customer specific configuration

- Super app(s)
- Preinstalled apps: Sailfish, Android (*.apk)
- Configurations/informations:
  - e.g. default timezone,
  - certification data (SAR values),
  - default browser search engine,
  - default photo format and size, ...

- Ambiences (background pictures, sounds, ...)
- Preloaded content: Pictures, Videos, Browser bookmarks, ...

Customer Configuration API
Optional features

Sailfish OS Additional Features

- Alien / Android native libraries
- Alien (VM)
- Alien glue
- Microsoft Exchange support
- Location services by HERE.
- Nuance (XT9) – text prediction and correction
Getting ready for partners in Business-to-Business sector

• Group SW packages to features which can be configured based on customer needs
• Make parts of core OS optional to enable building more closed solutions. Enable control of:
  • Store
  • Android runtime
  • Developer mode
  • Side loading of apps
• New features to support customer cases
  • Device management options
  • Customer store
  • Allow custom encryption algorithms
• Improving security
  • Up-to-date CVE fixes
  • Filesystem encryption
  • VPN support
  • Boot / flashing security improvements
• Audit
Country specific Sailfish OS versions for BRICS

- Trusted and secure Mobile OS for government and corporate markets
- Potential use cases:
  - Corporate mobile device
  - Front office mobile terminal
  - Mobile terminal for remote access
- Tightly integrated into corporate infrastructure
- Integrated with country specific public and government digital services
- Local partners working with Jolla on common Sailfish OS development
- Country specific security certifications can be done
- Fully customized experience: device, OS functionality, preinstalled apps
Summary

• HW
  • 4 officially supported adaptations
  • 5 products
  • 2 obsoleted adaptations
  • over 40 community ports
  • 2 architectures
  • Next steps: 64-bit ARM, Android 6 HAL

• UI
  • 4 officially supported screen sizes & resolutions
  • 1 obsoleted screen size
  • 6 UI variants
  • Two form factors
  • 23 supported languages
  • 23 community languages
  • Next steps: User adjustable font size, high contrast mode, more security features, and even more configurability
Sailfish OS 2.0

- Apps: +6%
- Views: +47%
- Controls: +56%
- UI Code: +59%
- Animations: +107%
Questions?