

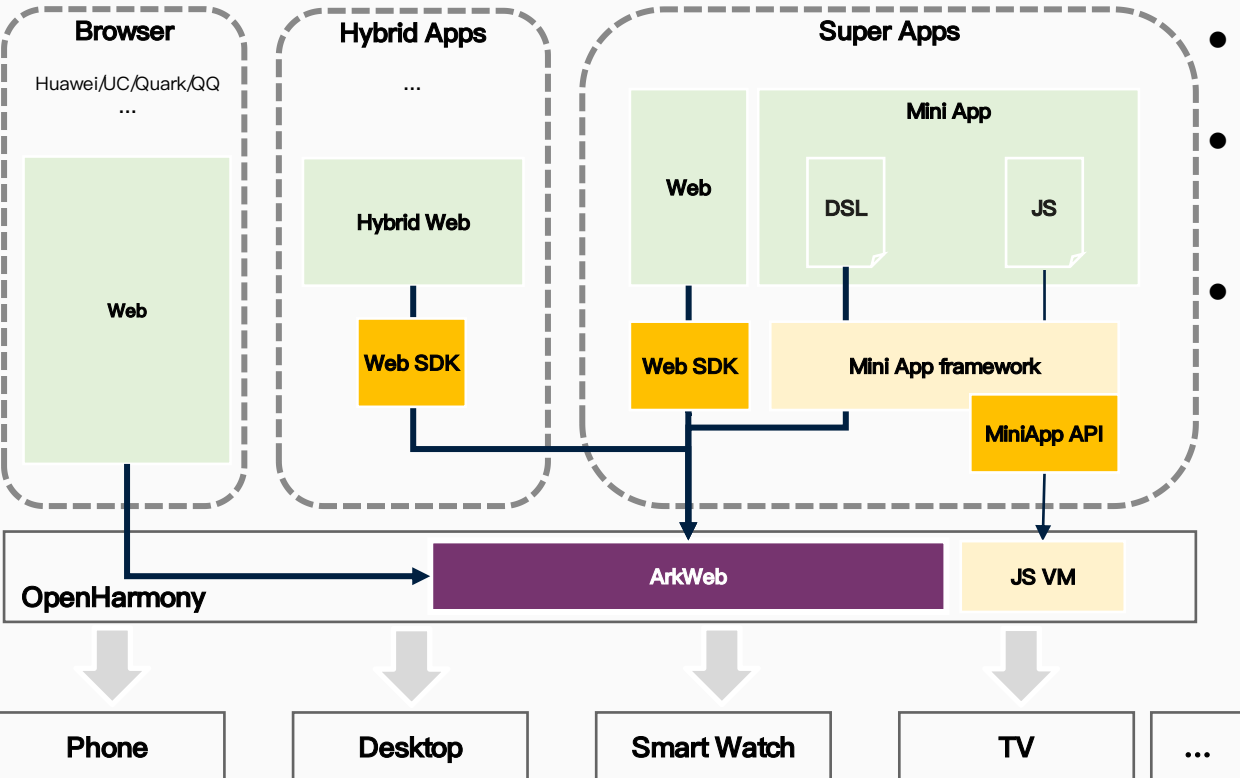


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Current Status



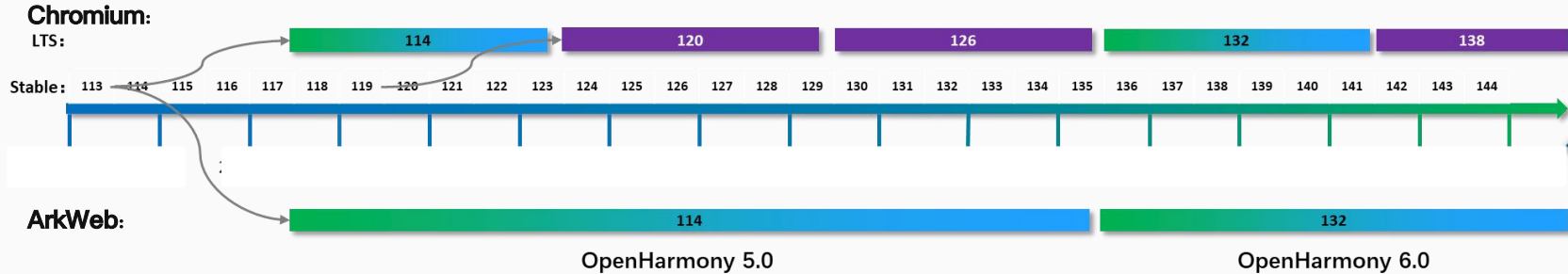
- **High Web Tech Stack Usage** in OpenHarmony Native Apps
- **OS Unified Web Engine:** Web Pages, Hybrid Apps, Mini Programs, and Browsers
- **Powers:** phones, desktops, wearables, smart TVs, and more



2024.10 - 2026.4



Upstream & Upgrade Strategy



- Evolves based on the upstream **Chromium community**
- Annual Major version upgrade
 - **Security**
 - **W3C standard evolution**
 - **Mitigate compatibility risks**
 - **Performance**
 - ...
- **Unique characteristics** of the Chinese Internet

Leverage engineering capabilities

- **UMA** —Analyze feature usage in Apps
- Automation tests: **WPT & Traversal testing**
- Trend Insights & latest **Interop**
- **AI-powered** upstream breaking change detection
→ Release Note

Goal: Reduce the disruption to developers.

Most Important: Developer Adoption



Ecosystem Co-Building Progress

Co-designing solutions with **Top Ecosystem partners** to enable commercial use

Differentiated competitive advantage:

Native Embed Mode



```
<embed id="map" type="native/map">
```

Secure Input



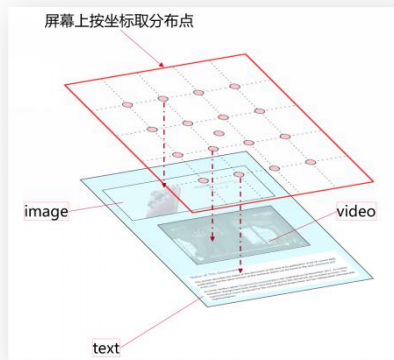
```
<input type="text" keyboard-return="SEARCH">
```

Web-to-native Video Delegation



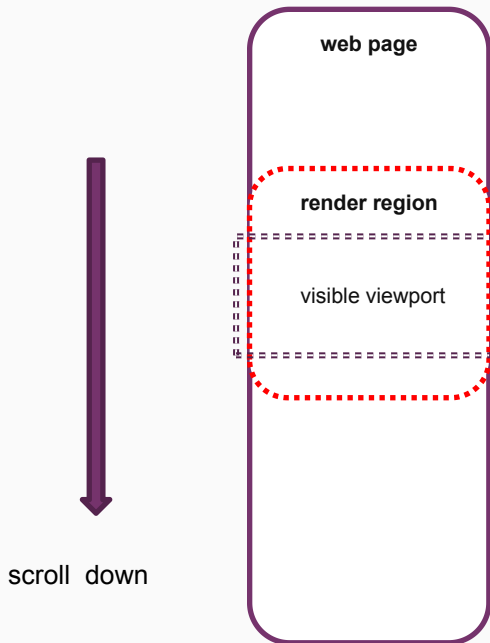
Native Video Player

White Screen Detection



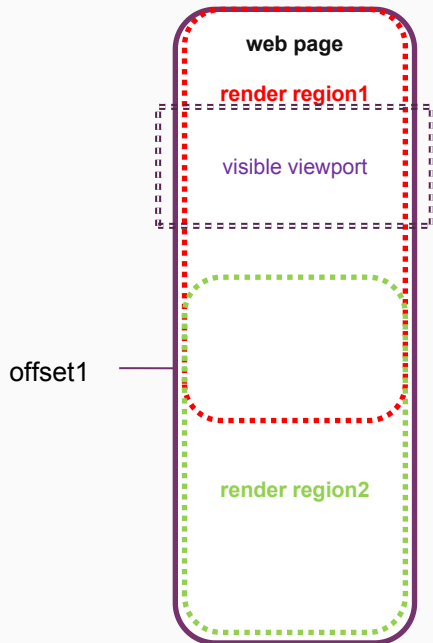
Optimization for Long-Page Scrolling

Traditional Solution



- As the user scrolls through an H5 page, the web component dynamically updates the **render region**.
- The **region** are recalculated per frame during the scroll, triggering a refresh of the component's active rendering region.
- The final output is then clipped to fit the visible viewport of the application.

Optimized Solution



- The web page area is pre-divided into regions according to the page size to create a comprehensive region map.
- Dynamically select regions based on the scroll offset, rather than triggering a re-render on every frame.
- The final rendered regions is then clipped to fit the fit the visible viewport of the application.

In full-page wrap content scenarios, the optimized implementation achieves a **30%** reduction in GPU instruction overhead relative to the traditional Solution.

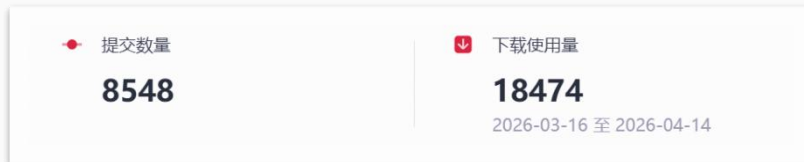


OpenHarmony & ArkWeb Community

OpenHarmony community presence:



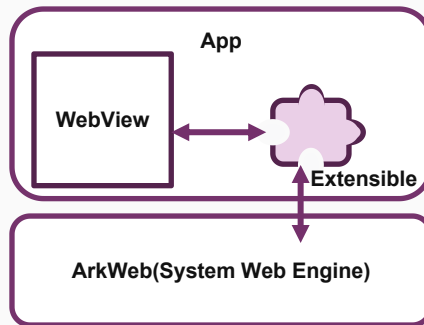
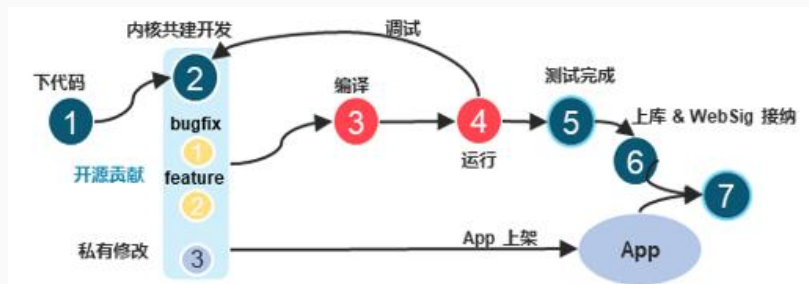
ArkWeb community Contributors: 223 Total





Ecosystem Co-Building Future

ArkWeb Playground

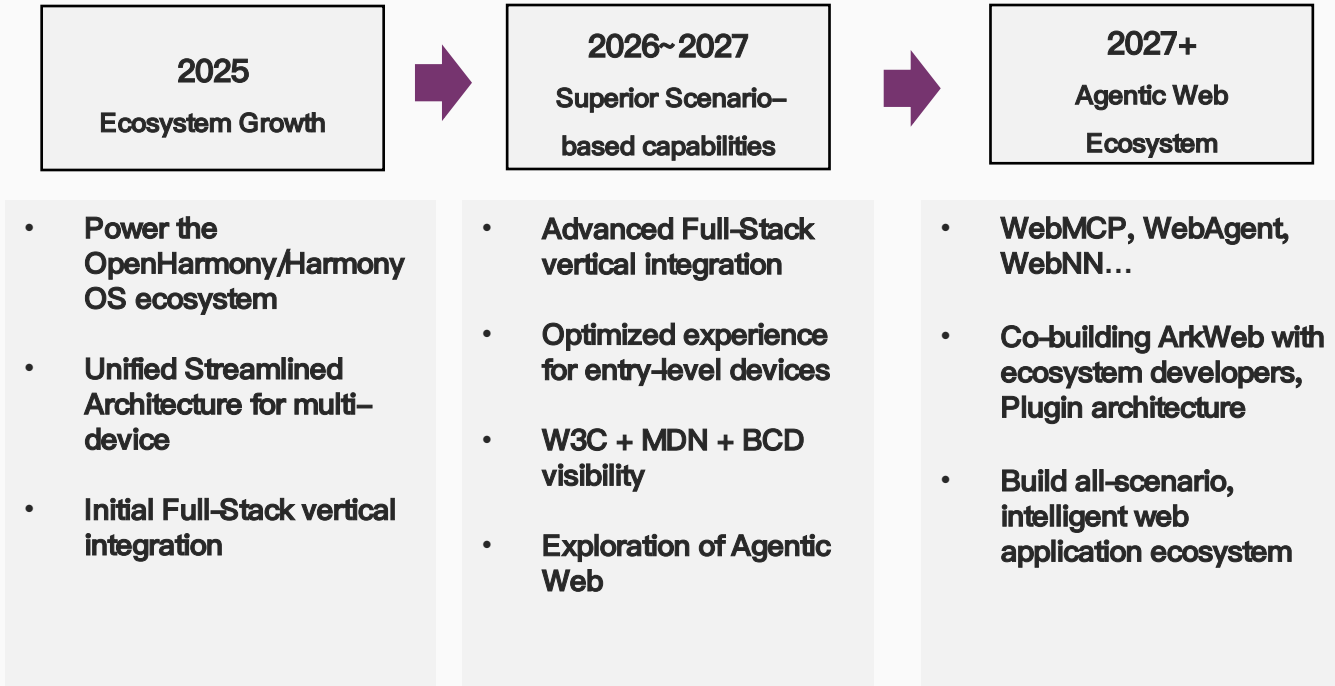


1. OpenHarmony 6.1 enables debugging the **self built ArkWeb engine** on commercial Huawei devices
2. Future updates will introduce **an extensible ArkWeb architecture**, inviting developers to join us in deep collaboration



Roadmap

Focusing on all scenarios, build a flexible Web architecture and advance ecosystem growth by leveraging the open-source community and engineering capabilities. Through vertical integration of software, hardware and chips, we deliver optimal solutions for end-users, Leading standardization efforts and intelligent Web experiences.





Challenges

- **Continuous evolution** of W3C standards and web engines, **compatibility** risks for legacy pages
- Ensuring normal operation of front-end pages (**adapted for other systems**) in the new OpenHarmony System(different UA...)
- Liveness detection and risk control SDKs **falsely flag the new engine** as illegal
- How to **satisfy the distinct demands** of various partners for the **ArkWeb**



Solutions

- **Continuous evolution** of W3C standards and web engines, **compatibility** risks for legacy pages
- Ensuring normal operation of front-end pages (**adapted for other systems**) in the new OpenHarmony System(different UA...)



Leverage engineering capabilities

- **AI powered** automation detection

Increase **community awareness** of ArkWeb through multiple channels

- **W3C**
- **MDN, BCD, Interop...**
- **IDE Plugin Ecosystem Integration...**

- Liveness detection and risk control SDKs **falsely flag the new engine** as illegal
- How to **satisfy the distinct demands** of various partners for the **ArkWeb**



Participate in standards discourse

Strengthen communication with developers

- Web engine developers/Platform Engineering Department

Most Important: We appreciate developers' support



Conclusion

Thank you to everyone who has dedicated their efforts to the Web ecosystem. Let's join hands and make the Web the true universal language of the Internet of Everything

OpenHarmony Web SIG



AC 2026