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WSO2CON ASIA

PLATFORMLESS MODERNIZATION

The State of Open Source

Resilience, Innovation, and the Road Ahead

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Why It Matters ?

- Open source powers the digital world — from cloud to AI to space exploration.
- Used by >90% of enterprises.
- Open Source Development method offers a governance model worth emulating.

Scale and Impact -ASF's as a case study

- 202 top-level projects, 8,400+ committers, 40+ countries
- 2B+ lines of code, \$22B+ conservatively estimated software value
- Examples: Kafka, Spark, Beam, HTTPD, Lucene



Open Source Software Today



~337M Public Repositories

~1B developers
contribute to Open
Source



~1300 Projects



320 Projects



~348K model Repositories

65,700 dataset
Repositories



~500K Projects



~425 Projects

The Infrastructure leap for Open Source Development

- Improved Open Source Developer Experience.
- Fast Ramp up for Developers.
- Open Collaboration .
- Enhanced inbuilt security features



GitHub Advanced Security/GH-hosted and self hosted runners



Model Sets/Repos/Spaces

Innovation at the Edge: Open AI

- OpenAI's Generative Pre-trained Transformer (GPT)
- Ethical Licensing & Governance (OpenRAIL)
- Model Context Protocol (MCP)

Examples from ASF/ Apache licensed Projects

- Apache Arrow enables fast, cross-system data movement,
- Apache Kafka supports real-time streaming for training,
- Apache Beam and Spark drive scalable data processing for ML pipelines,
- FPrime : NASA Mars Helicopter flight software.

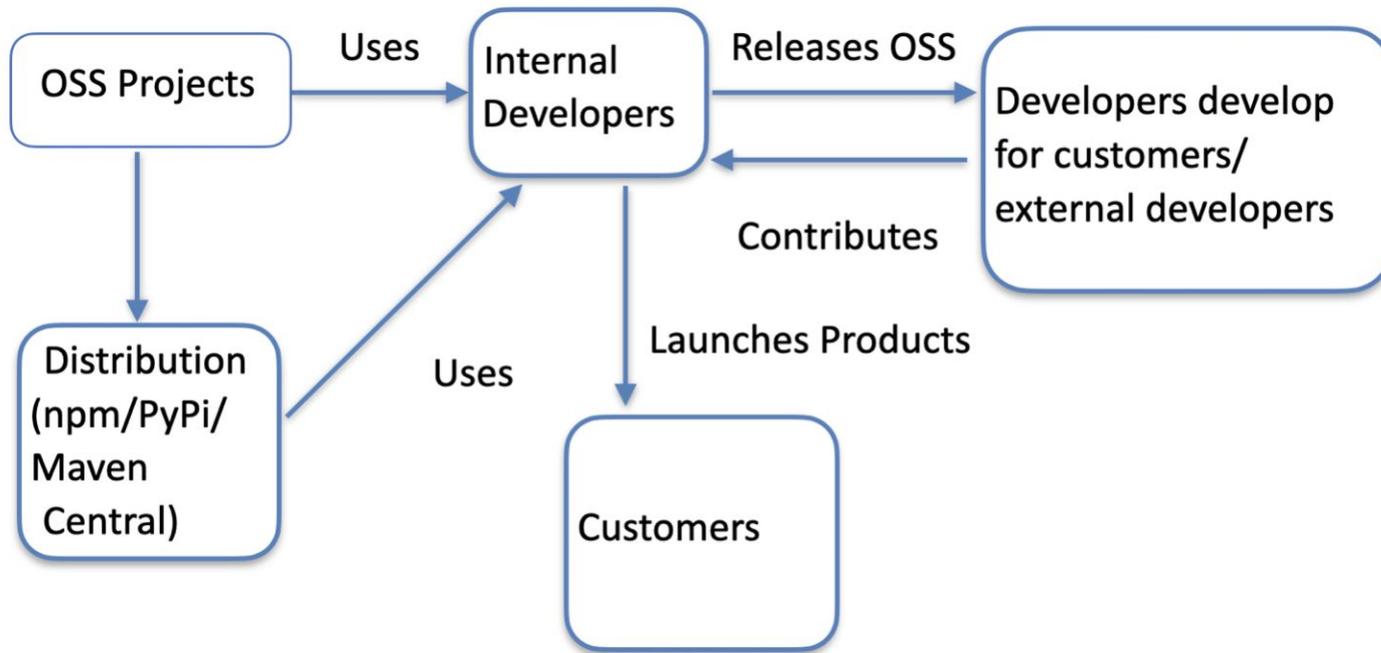


Caption

Supply Chain & Compliance

- Post-Log4Shell, supply chain security is critical!
- ASF mandates source-based releases and cryptographic signing.
- Software Bill Of Materials (SBOMs) Supply Chain-Levels for Software Artifacts (SLSA) are becoming standard in OSS compliance.
- OpenSSF and Alpha-Omega improve security posture and scale security improvements in the broader OS ecosystems.

Open Source Work flows in a Business



Rise of the Open Source Program Office (OSPO)

- OSPOs structure OSS strategy, contribution, and compliance.
- 80%+ of Fortune 100 now have an OSPO or similar
- ASF's models (Project Management Committee -PMC , incubation, Project maturity model , Retiring) inspire OSPO design

Challenges Ahead

- Maintainer burnout and contributor succession gaps.
- Challenges in Open Source AI – The OpenAI Tension.
 - Advances AI Rapidly, but behind closed APIs
 - Closed by default model -limiting transparency and collaboration. Eg: GPT-4o and other frontier models
 - Core infra build by the community , industry profits
 - Lack of Governance and standards .
- Underfunded critical projects.
- The Cyber Resilience Act (CRA).
- Open Source Software Stewards.



Caption

Closing Thoughts

- Open Source is global-scale collaboration with real risks and rewards
- ASF shows how to build trust through transparency and meritocracy
- The next era depends on how we sustain open innovation with responsible Open Sourcing.

Q&A?

Thank You !

- References : <https://projects.apache.org/>