zED Talk

Zowe Open Source Insights: What You Need to Know!

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Abstract

Open source is pervasive in enterprises today but, how it is developed, tested, supported, and distributed is a mystery to many consumers of the technology.

Join us to learn key insights into Zowe as the project turns five years old this year. What makes it unique? How does it adhere to the open and vendor neutral principles? What has the community learned – both the positives and the challenges – since Zowe's inception? What are the macro trends in open source? What should an enterprise consider as they adopt open source?

In TED-talk style, we will cover insights that you need to know about Zowe. Check out https://www.zowe.org/ for what Zowe is. Come learn the bigger considerations on how to maximum your use of the technology!

Preface

- This is not a feature/function presentation on Zowe but rather a “bigger picture” view of open source considerations for the enterprise. See https://www.zowe.org/ for more technical information.

- Much of this content is from an open source (vendor neutral) perspective however examples are provided based on IBM’s contribution, use and support of Zowe open source.

  - There are other vendors in the community, this deck is not intended to speak for their policies with open source.
  - See https://www.openmainframeproject.org/all-projects/zowe/conformance for other vendors using Zowe technology.

Agenda

- Zowe's Mission, Brief (IBM History) and Zowe Community Positioning
  - Highlevel, what is Zowe (the technology)
- What makes Zowe unique?
- Know your tolerance for change and risk
- We're agile (and continuous delivery) – understand the implications
- Support considerations
- The importance of participation

Zowe Community Mission Statement

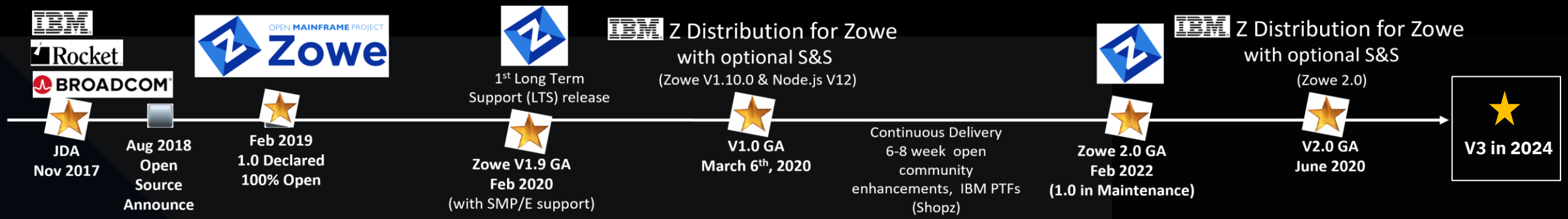
Open, Simple, Familiar

Combining the past and the present to build the future of mainframe

"For the good of the z/OS platform and ecosystem"

- Attract new people to z/OS
  - ✓ Demystify the Z platform
  - ✓ Enhance integration and consumability
  - ✓ Promote Open community of practice
- Reduce the learning curve
  - ✓ Improve productivity
  - ✓ Modern, platform-neutral interfaces
  - ✓ Cloud-like experience
- Simplify the architecture
  - ✓ Reduce operational overhead
  - ✓ Improve co-existence
  - ✓ Enable rich ecosystem of free and commercial solutions

Brief History and Open Community Positioning



Zowe is part of the Open Mainframe Project/Linux Foundation

- Nonprofit funded by participating members
- Software anyone can use (in line with Zowe EPL2.0 license)

Primary contributors are IBM, Rocket and Broadcom

- Source and executables at https://www.zowe.org/
- IBM, Rocket and Broadcom each ships a binary distribution of Zowe (with optional fee Support) and other value-adds

Development decisions are usually consensus-based (voting in some cases) and driven by staffing/skills to contribute

- Zowe is a collection of teams (called squads)
- Leadership is decided by code contributor votes (a meritocracy)
- Approximately 2 releases per quarter, uses Agile practices

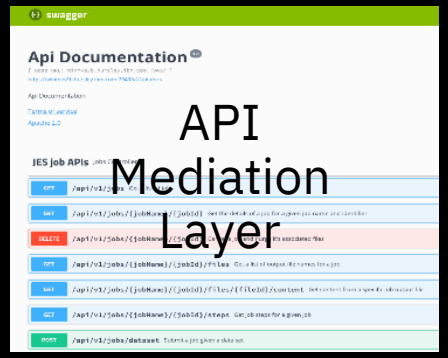
Not a complete list

OPEN MAINFRAME PROJECT

Zowe

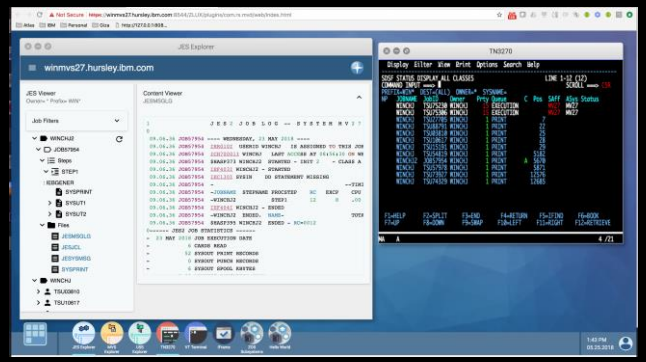
An open-source platform for the mainframe that provides the foundation for a cloud-like user experience.

z/OS based REST API Management

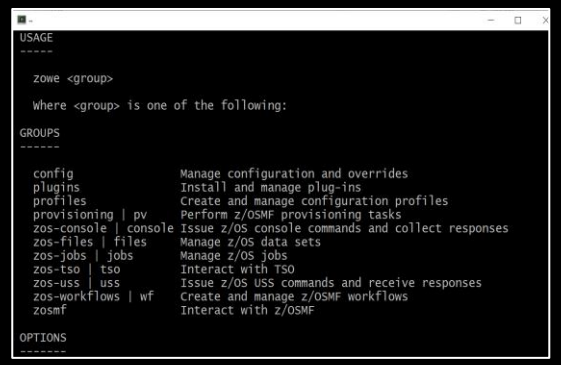


API Mediation Layer

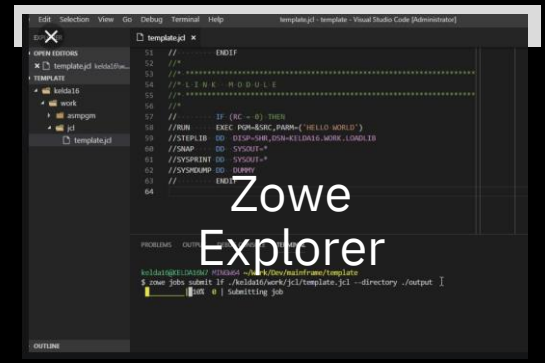
Browser-based Virtual Desktop



Scriptable client-side CLI



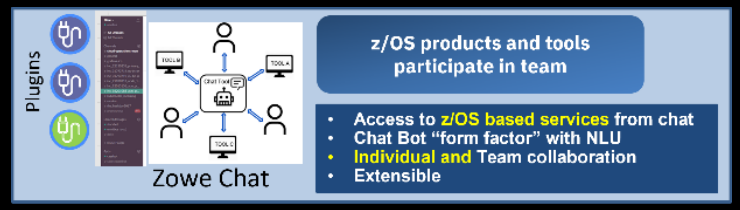
Visual Studio Code Extension



Zowe Explorer

Server Side ⟵ ⟶ Client Side

Incubators also in development (possible future squads):



Zebra

(RMF Visualization)

Zowe "Core" is regularly maintained, tested, built and shipped with Long Term Support

Zowe Services – Used in combination or as parts

Swagger-defined REST APIs

REST APIs on z/OS

API Mediation Layer

- Consolidation point for z/OS REST APIs
- Basic REST API Management

Browser-based Virtual Desktop

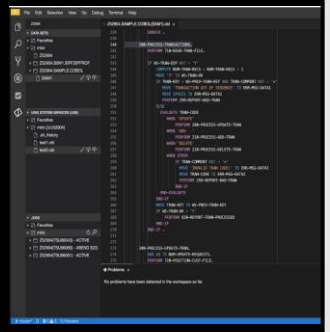
- Browser based – No client software install
- Persona: Operations/Admin (or traveling IT Staff)
- App to app launch in context – well suited for dashboards

Web UI

VS Code Explorer

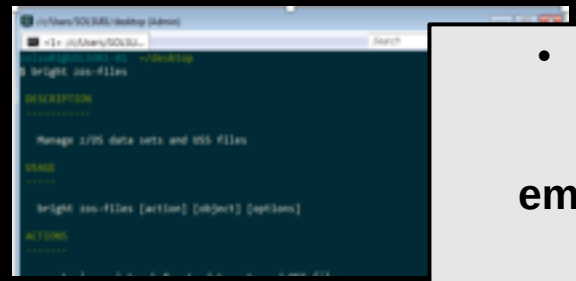
CLI

VS Code – IntelliJ Zowe Explorer



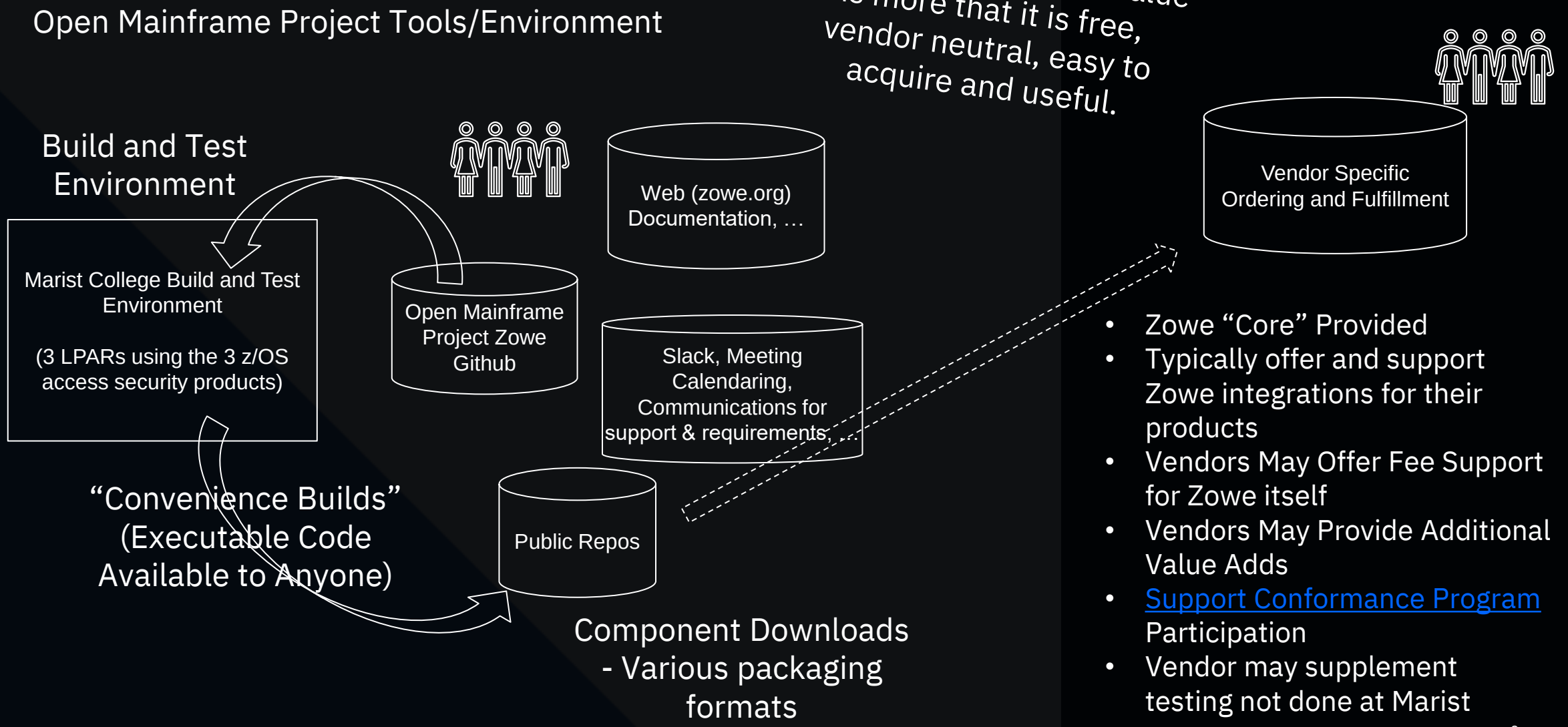
- "Medium weight" client software
- Persona: Code Developers and/or Sysprogs doing dev/admin tasks
- Open – large market of integrated software
- Education and opening up mainframe to students and distributed developers

Node.js-based Cmd Line Interface ---→ MultiLanguage SDK



- "Light weight" client software
- Persona varies
- CLI evolving to SDK to be embeddable allowing programmable access to z/OS resources and services in CICD pipelines and automation/orchestration scenarios

Overview of the Zowe Open Community Environment



What Makes Zowe Unique?

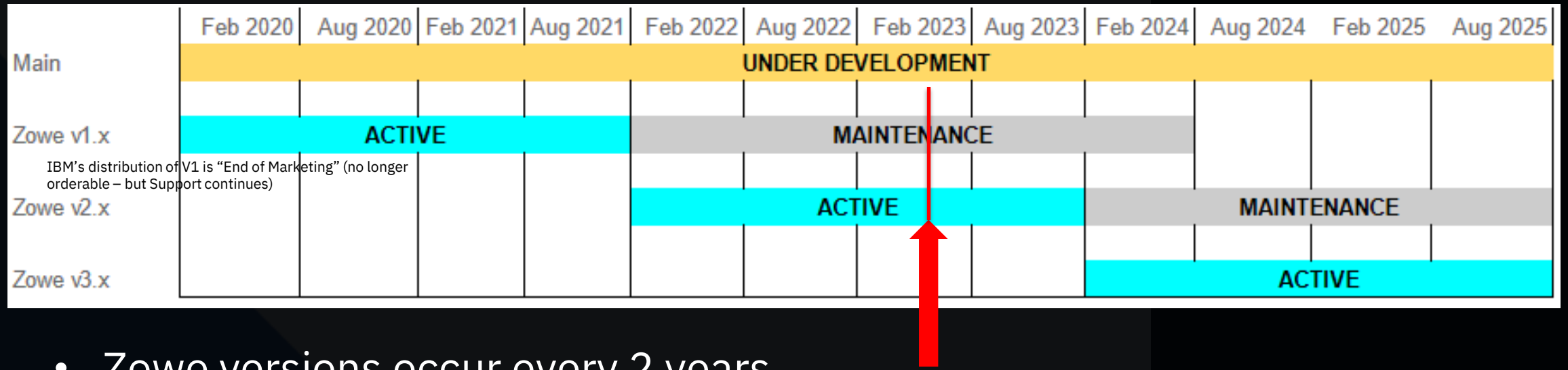
- Zowe is open source for z/OS by z/OS software developers using Linux Foundation policies
- Single source, single build environment (that all the code distributors use)
- Zowe development and test responsibility is shared and there is agreement to:
  - Use IBM assigned SMP/E FMID and PTF numbers (other formats are offered)
  - Distributions from different vendors are binarily the same for Zowe core therefore we recognize each others' Zowe distributions.
    - We assume a shared single instance of z/OS components (HA allows multiple instances)
- Zowe is a combination of originally developed code, using open source languages and other open source that is embedded
  - A Zowe release is approximately 683Kloc (as of mid-May 2023).
  - All Zowe github repos 7.75Mloc - includes all versions, releases, build and test scripts.
  - Results of 30-45 people over the last 5 years.

Zowe Community Principles We Abide By

- **Transparent and open implementation, processes and deliveries**
  - Principle: Open first
- **Zowe does not compromise on mainframe security standards**
  - Principle: Security is paramount
- **Zowe provides modern interfaces to access and exploit mainframe**
  - Principle: Modern and effective interfaces
- **Collaboration between mainframe and other platforms - both mainframe and distributed - benefits both sides**
  - Principle: Hybrid
- **We will listen to our stakeholders and elicit feedback from them.**
  - Principle: Stakeholder-centric
- **The Zowe does not depend on and is not owned by any specific Vendor**
  - Principle: Vendor neutral
- **Squads are self-governing**
  - Principle: Minimal viable governance
- **Decision made within the project are based on community feedback supported by objective data**
  - Principle: Learning and data driven

https://github.com/zowe/community/blob/master/Technical-Steering-Committee/principles.md

Know your tolerance for change and risk



- Zowe versions occur every 2 years
  - Embedded libraries updated, some capabilities may be deprecated, community may redefine what is included in "Core"
- Two years of "Active" (Agile Continuous Delivery) development plus two years of Maintenance (Fixes only)
  - Maintenance is stable but with no feature enhancements
  - Active has a new release every 6-8 weeks with enhancements and fixes

We're Agile (and Continuous Delivery) – understand the implications

Agile: Try It. Validate It. Pivot As Needed. Repeat.

- Zowe is fast moving, and developer led
  - Pros – enhancement and fixes can be rolled out quickly (but not always)
  - Cons – rapid change can be a challenge for customers/consumers to keep up
  - Continuous Delivery means always moving forward
- Development initiatives can evolve as we obtain feedback and developers roll on and off the project
  - It is important to stay current and aware of future directions
    - Example: the journey of Zowe install and configuration

Zowe V1 Install (scripts and flat config files) → + Zowe Security Enhancements → + Zowe High Availability → + Zowe Containers → Zowe 2.0 config command redesign and use of yaml files → Zowe 2.0 use of config validation and startup performance improvements → Zowe 2.0 Configuration Wizard (future?) → …… what's next

Support considerations - Things to Keep in Mind

Where you obtain the code (for $0 charge):

1. Open community or other public repositories
2. Vendor
   - Zowe integration framework itself or
   - Zowe Extensions via commercial product offerings

How to obtain Support

1. Open community (best effort, various open community communication methods)
2. Vendor offering
   - Zowe Core (and the out-of-the-box apps)
   - Support via the commercial product teams with Zowe integrations

Additional Support Considerations - IBM Perspective

- Customers can obtain Zowe code from IBM Shopz but that does not necessarily entitlement them to IBM Support.
  - If customers pays attention to the licensing, they will see Zowe from IBM is ILAN - Non-warranted code.
  - IBM, Broadcom and Rocket all allow customers to obtain Zowe code as an alternative to downloading from Zowe.org.

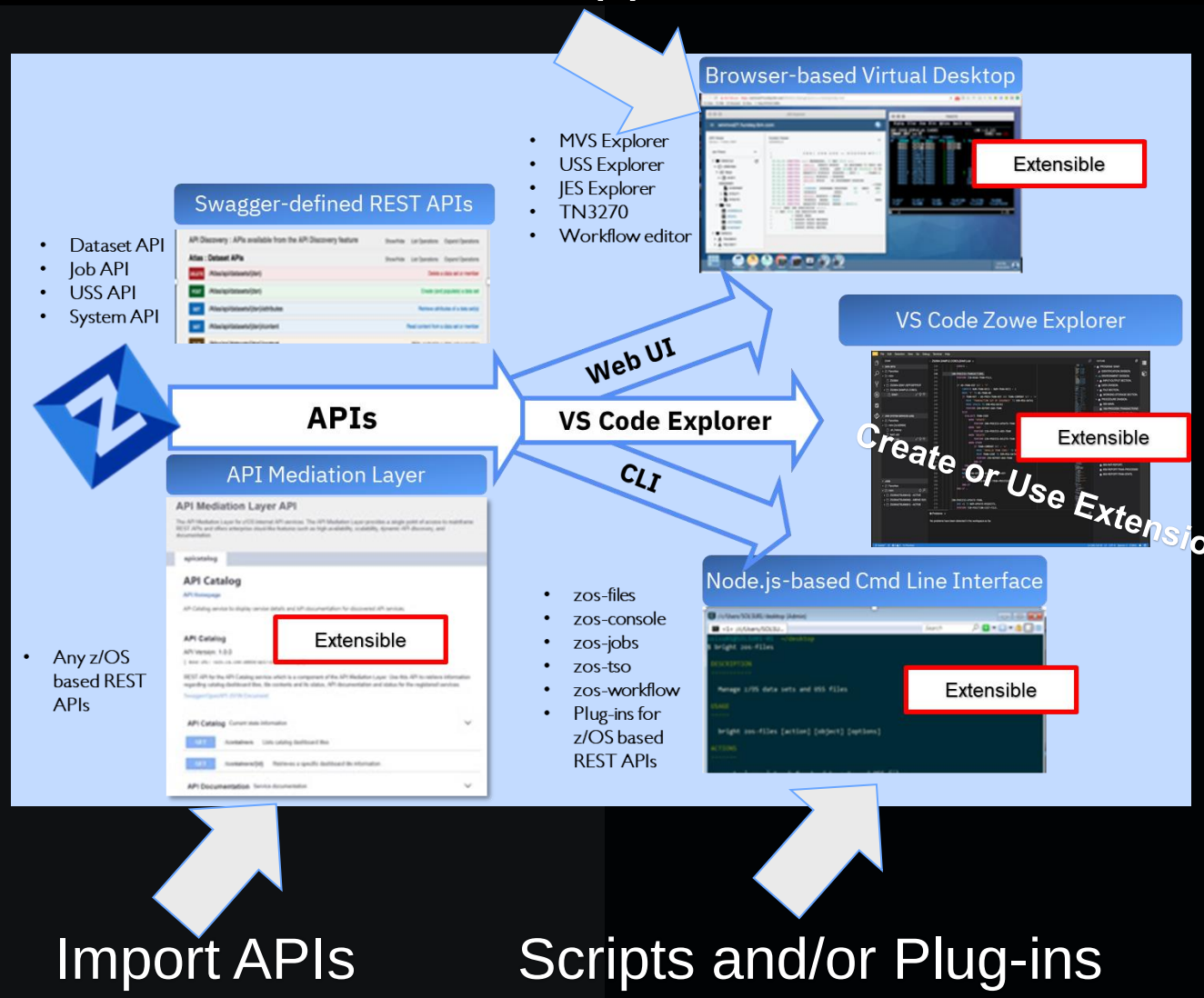
- Support entitlement can be through use or purchase of IBM products that integrated or pre-req Zowe components.

- IBM, Rocket and Broadcom each offer optional fee based Support.
  - The vendors' Zowe distributions each offer different extensions and/or value added content but the "core" Zowe code is identical.

Open, Free, and Extensible Software Integration Framework

Extensible using well defined interfaces

- Vendor extensions that follow best practices can earn Zowe Conformance Badge
- **Vendor choice on whether extension is open sourced or proprietary**
- **Vendor choice if extensions are Supported**

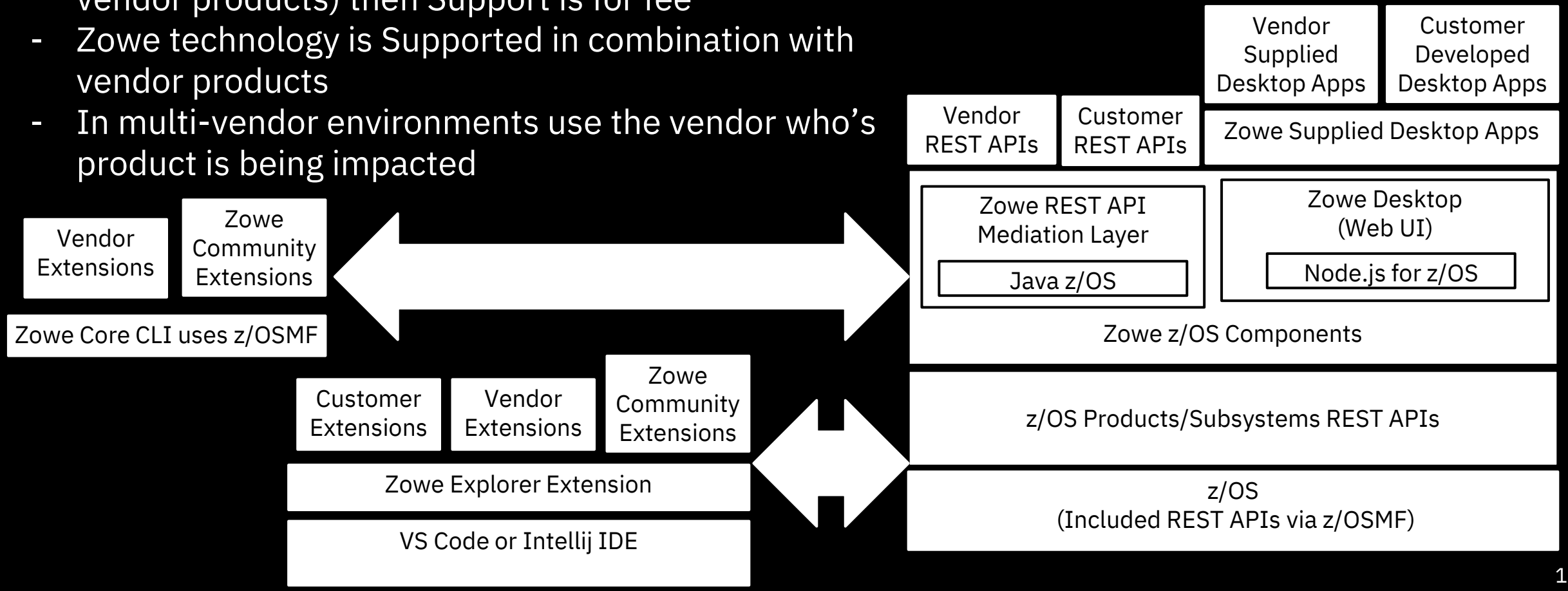


Zowe Technology Stack – Think Through the Support

There can be a combination of open source and vendor (multi-vendor) components

Generally – (This policy needs confirmation by the Zowe Support Conformance participants)

- If Zowe is implemented “stand-alone” (without vendor products) then Support is for fee
- Zowe technology is Supported in combination with vendor products
- In multi-vendor environments use the vendor who’s product is being impacted



The importance of participation

- Zowe DEPENDS on customer/consumer involvement
  - https://www.zowe.org/
    - https://lists.openmainframeproject.org/g/zowe-dev/calendar
  - We build what we think is right unless we receive feedback that tells us otherwise
  - There are surveys, slack channels, meetings to get involved
    - Checkout recent blog on the Zowe Advisory Council (ZAC)

https://medium.com/zowe/seeking-leaders-to-help-shape-the-future-of-the-mainframe-using-open-source-573bc3c6f0c2

Wrap up

What makes it unique?

How does it adhere to the open and vendor neutral principles?

What has the community learned – both the positives and the challenges – since Zowe's inception?

What are the macro trends in open source?

What should an enterprise consider as they adopt open source?


Q&A

Thanks

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