CNCF: Making Standards without Standards

Doug Davis  (dug@us.ibm.com  |  @duginabox )
Who am I, why am I here? Forget the question, someone give me another beer.

— Meat Loaf —

Doug Davis
dug@us.ibm.com – @duginabox

Standards & Open Source for ~18 years
Docker, OCI, Kubernetes, Apache SOAP, Axis
OSB API, W3C, OASIS, DMTF, CNCF, ...
Standards Development Organizations (SDOs)

Initial Draft of Specification → Submit to SDO → Specification Development → Interop Testing

Why?
• Community
• Multiple implementations – avoids vendor lock-in
• Interoperability
• Established/trusted processes are followed
• Stability

A "real" standard – not just a spec!
Perceived issues with SDOs

- Bureaucratic, political, hard to join/start
- Feedback loop is too long
  - Waiting until after a spec is published for feedback is too late
  - SDO release cycles are not normally as short as OSS projects'
- Often done too soon
  - Technology & community need time to see what works
- SDOs slow innovation because APIs are frozen
  - This is no difference than creating a release of an OSS API spec
    - Both are (or should be) set in stone from that point on
    - All changes are for subsequent versions of the API
Open Source

- Speed!
- Freedom!
- Github is all you need!
- Easy for anyone to join and contribute!
- Code talks!
- **Spec** is developed along side the code!
Concerns with Open Source Specs

- The language-of-the-day influences the API
  - Language specific artifacts are exposed in the API

- At some point the language you're using today will become COBOL!
  - The "single" implementation becomes, almost, a single point of failure
  - When (if) a new version is created will they fork the spec?
    - What is the impetus to remain backwards compatible?

- Often lacks "enterprise" requirements and customer input
  - E.g. Internationalization, multi-arch support are often afterthoughts

- Differentiation is limited to extensions, when there's a single implementation

- Is the "spec" a "standard"?
Cloud Native Computing Foundation

- Promote all things Cloud Native
  - Distributed, scalable, resilient micro-service architecture

- Provide a neutral home & **community** for CN activities
  - Good governance home for OSS projects
  - Host, sponsor conferences
  - Produce educational material
  - **Guidance** for CN best practices and landscape

- **NOT!**
  - King maker
  - *Standards Development Organization*
How are they doing?

- 17 OSS Projects: for multiple Platforms (Kube, Docker, CF, ...) – 6 Sandbox projects
- > 150 Members: Providers, ISVs, Customers/End-Users, ...
- CNCF has helped bring the community together
- Community has embraced CNCF
- Being a CNCF project does mean something!
Working Groups

- At the will of the Technical Oversight Committee
- Often "investigational" in nature
  - Landscape & community of a technology
  - Potential CNCF projects
Networking and Storage Working Groups

- Container Networking Interface (CNI)
- Container Storage Interface (CSI)
- Plugin API specifications
Similar Stories

- Externally developed specs brought to CNCF
- New WGs formed to help complete the specs, but also...
  - Neutral home & broaden community
  - Examine landscape for guidance or gaps
  - Look for new related CNCF projects
- Development
  - Multiple implementations / platforms
    - Code and deployment experience is guiding spec work
  - Customer / end-user input
Serverless Working Group

• TOC wanted to learn more about this new space

• Formed to investigate community & landscape
  – Whitepaper & Landscape / Status
  – Set of CNCF "next step" recommendations
Serverless: Recommendations

- Education where needed
- Look for potential Serverless CNCF projects
- Look for areas of "harmonization"
  - "Events" was suggested
CloudEvents – New Specification

- Define the common metadata of an Event
- Serialization & Transport rules (e.g. JSON, HTTP)

```json
{   "cloudEventsVersion" : "0.1",
    "eventType" : "com.example.someevent",
    "eventTypeVersion" : "1.0",
    "source" : "/mycontext",
    "eventID" : "A234-1234-1234",
    "eventTime" : "2018-04-05T17:31:00Z",
    "contentType" : "text/xml",
    "data" : "<much wow="xml"/>
}
```
CloudEvents - Status

- Released v0.1 in April 2018
- Multiple Implementations & support
  - Interop event @ KubeCon EU
    - IBM, Google, Microsoft, SAP, nuclio, VMWare, Oracle, Huawei, RedHat, Alibaba
- Approved as a CNCF Sandbox Project!
- Looking for next workstream... Function Workflow Definition?
### Stacking it up...

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<th>CSI</th>
<th>CloudEvents</th>
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<td>Multiple implementations</td>
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<td>Community</td>
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<td>Interoperability</td>
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**CNCF "Community-based Standards": Speed of OSS, with a broader Community!**

CNCF brings a wide community base to these projects in a way that a Github project alone probably won't.
Open Questions

- Are they "standards"?

- Will countries and companies accept them as "standards"?

- Net: Community & Users will decide
Thank You!

Questions?