Architecture Monthly Meeting

Nov 18, 2019

Organizer/host: Jim White (IOTech)

Attendees: Doug (ControlBEAM), James, Bryon, Mike J, Ramya (Intel), Michael, Tingyu (Dell), Joe (IBM), Dave, Rodney (Beechwoods), Andre (Redis Labs), Steve (IOTech). Others not listed may have joined after the call was started.

Notes on discussion

- Should we move tests to individual repos with new TAF; issues/concerns (presented by Test/QA WG – Robin, Ramya, Andy, Cloud)
    o Having TAF in each repo – contains development of test cases to applicable work group (and associated code)
    o TAF blackbox tests takes about 3-4 hours. Breaking it up could allow it to be run quicker at repo level
    o Will always have one TAF repo for over-all tests/end to end tests
        ▪ Could this be brittle and subject to breaking?
        ▪ I.e. – issues similar to what we see with Security Blackbox tests today where thinks get out of sync
        ▪ All tests should run independently – but independence doesn't insure that updates only get done in one place
    o We don't know what the changes would entail in the new Pipelines CI/CD (haven't had a chance to do conversion yet – so what is the impact)
    o Service level tests vs end-to-end tests: are the care and management of these tests different?
        ▪ Cross repository dependencies would have to be resolved
    o Action – Test/QA provide some strawman/demo of how TAF tests get added to repo to address questions:
        ▪ Impact to CI/CD
        ▪ What value do we get by adding it to individual repos vs have consolidated
        ▪ How do we avoid brittle tests
        ▪ How do we avoid duplication of test code across repos
        ▪ Why do cross service level tests have any dependency to service level test libraries? Why do we need a "global" or central repo for cross service tests? Some black box tests needs several services running to function properly (examples: security services, command service)?
    o Side concerns:
        ▪ Do we need developer training on TAF before we expect developers to write their own TAF tests?
        ▪ Developers write their own tests (unit/black box); Test/QA responsible for interoperability/performance; with oversight of it all by Test/QA (even those created by developers – service level)

- ARM 64 Testing – how do we support this better and avoid issues like we had at tail of Fuji? Support for blackbox environment and developer testing
    - Linaro ?
    - LF Edge/Akraino
    - Needs:
        - Virtual machines running in the cloud are x86 based and we need real ARM hardware at its base
        - But do we need ARM hardware running ARM VMs
        - What are the build failures that we saw (with regard to security issues)? Root cause analysis needed.
        - Concern with external lab for ARM
        - What is difference between virtualized vs physical ARM "box"? Simulator vs real ARM box behave differently?
        - We may need technical details help to understand how things run on ARM
        - IOTech uses cloud services to test on ARM 32 and 64 and haven't seen problems (using Scaleway)
            - May need to rebuild packages for some of the code for ARM, but other than that nothing special
        - Some issues related to ARM issues are related to network failures – could this be a root cause? EB and the Linux Foundation were going to look at upgrade
    - Actions
        - Jim to research available options (Akraino & Linaro)
        - Jim/James – follow up with LF
        - Root cause analysis of what happened during security issues in ARM failures in Fuji – infrastructure failures?
            - Tingyu/Ramya – to provide formula for how failures occurred
            - James – his team to try to pin point root cause of failures

December Topics (possibly)

- PR Template (presented by Mike J when ready)
- Feature Flag implementation and flag (presented by Mike J when ready)

Future meetings

- Bound checking issue (presented by Tony)
- Acceptance of DS and testing needs - how to bring a new device service from holding to the EdgeX repos (presented by DS WG – Iain, Tony)