UXL CI Requirements

Transition Planning

- Individuals need to step forward to take care of UXL GitHub Organisation Administration
  - John Melonakos has agreed to help but it would be good to see other organisations involved
- UXL Working Group needs to find a new owner for establishing public CI
- UXL members need to help find sources of public CI infrastructure

GitHub Organisation Administrator Role

- Management of user permissions (e.g adding write access for maintainers)
- Following best practices for user permission management
- GitHub repository administration
- Monitoring for security incident and vulnerability reports through GitHub
- Sharing details for specific runners with project maintainers

Call to Action

- Email John and Megan if you are interested in helping with any of these activities

- GitHub Organisation Admin
- Pushing forward public CI for projects to bring project independence

Existing CI Infrastructure

Owner	Type	OS	Number	Active?
Linux Foundation/GitHub	CPU x86	Linux, Windows, Mac	Up to 500 concurrent	Yes
Arm	CPU AArch64	Linux, Mac	Up to 500 concurrent	Yes

Open Question – Can Intel move CI resources to public for Intel GPU testing?

codeplay®

Calculating active time

Project	Estimated full build time	Concurrency needed	Platforms	Approximate Hours per day/month
oneDNN	80 minutes full run	CPU – x4 GPU – x3	CPU – x86, AArch64, PowerPC, RISC-V GPU – AMD, Intel, NVIDIA	10 PRs per day 3 GPU instances x 288 hours per month
oneDPL	80 minutes full run	CPU – x2 GPU – x3	CPU – x86, AArch64 GPU – AMD, Intel, NVIDIA	5 PRs per day 3 GPU x 144 hours per month
oneDAL	100 minutes full run	CPU – x2 GPU – x1	CPU – x86, AArch64 GPU – Intel	3 PRs per day 1 GPU x 108 hours per month
oneCCL	Unknown	CPU – x2	CPU – x86, AArch64	Is anything needed?
oneMath	120 minutes full run	CPU – x2 GPU – x3	CPU – x86, AArch64 GPU – AMD, Intel, NVIDIA	Are PRs being accepted?
oneTBB	120 minutes full run	CPU – x2	CPU – x86, AArch64	Is anything needed?

Assumption is CPU for x86 and AArch64 is covered?

Initial Proposal for Requirements

Type	Example Hardware	OS	Time Requirements	Active?	Provider
CPU x86	NA	Linux, Windows, Mac	Up to 500 concurrent	Yes	Linux Foundation/ GitHub Enterprise
CPU AArch64	NA	Linux, Mac	Up to 500 concurrent	Yes	Arm
CPU RISC-V	Elastic Metal RV1 (?)	Linux	1 instance 288 hours per month	No	None yet
AMD GPU	AMD V520	Linux	1 instance 400 hours per month	No	None yet
Intel GPU	??	Linux	2 instances 400 hours per month	No	None yet
NVIDIA GPU	NVIDIA T4/ Tesla H200	Linux	2 instances 400 hours per month	No	None yet

Potential Hosts for Hardware

- Intel for own GPU instances
- Google Cloud
- Linux Foundation

Cost estimates from Melissa based on Linux Foundation request
- AWS g6e.16xlarge 64 vCPUs, 48GB of VRAM, NVIDIA L40S
  - 1 year commitment is around $3252 per month for Linux (~$40k per year)

Need to find way for the machines to be contributed

Will share requirements with Google Cloud for review

It would be good to show Intel is also contributing to public infrastructure, and any other members (Arm are already providing runners)

Notes from the Working Group Meeting

- Performance Testing

- RISC-V simulated CPU testing (oneDAL?)

- List of projects using oneAPI projects – awesome-oneapi – can we make a notes of what they use?