

Yao Xingxing

From: Steffen Hauf <steffen.hauf@xfel.eu>
Sent: Freitag, 3. November 2023 17:17
To: Yao Xingxing; Celcer Tine
Cc: Dennis Goeries; Tobias Freyermuth; Wajid Ehsan
Subject: Re: EuXFEL visit preparation

Dear Both,

here's a list of topics with a bit of motivation why these are relevant for us. We likely won't find time to touch everything in detail, so please feel free to preferably schedule those which you see the most mutual benefit in. Tobias might add a few more PLC-related topics in the upcoming days.

- Scanning interfaces
 - Software scanning facilities at EuXFEL are steadily expanding through our scan tool and we have this well covered. However, we are getting requests for fly scans and fast scans sync'ed tightly with the machine's train rate, which software alone cannot realise. We'd be interested if and if so which solutions you use at PSI.
- Data Stream - from DAQ to processing
 - As per the request from PSI. We've gained significant experience in processing 10+ GB/s data rates over the last years and are now looking into RDMA for expanding our online pipelines, also for data reduction. Feedback valuable for us would be on data reduction, i.e. do you actively filter any data that is acquired, e.g. to exclude dark frames etc.
- Data Operation Center
 - Mainly to present our support model if there's interest.
 - Can also share experiences from creating the DOC which was a agile 3-month project
- Tour, from hutch to hutch, see GUIs
 - We are moving to more science centric procedures at EuXFEL now that instruments are more frequently providing so what standardised methods. It would be interesting for us to see which procedures you have, and specifically how the user interfaces for these look like, as to learn from tested solutions.
- Deployment, CI, DevOps
 - We'd be interested to discuss deployment and development workflows: how frequently do you deploy and on what scale, and how automated is the process. Our's is semiautomated currently, and it would be interesting to compare tools and procedures. Another recurring question for us is how and how much to support externally provided software, and how to deprecate features, track bugs and feature. What are your policies, tools and experiences here.
- Workflows to integrate new things, also which processes are used and who sets the priorities
 - Improvements of procedures and existing integration are not always straightforward to balance with new integration requests, especially if priorities can be local (instrument level) but also global (facility). We would be interested in how your integration workflows (from request to deployment) look like, and how and by whom priorities are set, as to identify aspects of these workflows which could be useful to try at EuXFEL.
- Support for software written by beam lines, users
 - We have quite a few instrument scientists who are skilled software developers and can develop ad-hoc requirements or specific procedures very efficiently. Challenges can arise though if that software has matured to a point that the developer would hand over support of it to us. Our current policy for this is at: <https://rtd.xfel.eu/docs/karabo-device-contribution-policy/en/latest/>, however especially the review aspect often falls short due to limited person power on our side. We are wondering how you support such developments, and if there's something we can learn from your processes.
- Overview of supported hardware
 - Currently, we have disjoint, and not easily accessible overview of which hardware is integrated already, and thus supported. Do you have a central database or repository of what the control system supports, and how do requestors make use of it?
- Alarm and Incident handling
 - There's currently 3 alarm/event notification systems for events in the control system at EuXFEL. (1) the alarm service, which provides visual indicators and a list of alarm events, (2) a notification service, which sends emails and sms, (3) a „sound player“ device that give audio notifications in the control room. They are currently configured separately, and especially (1) did not provide useful information, and thus can be completely refactored. Our path forward is to unify configuration under a common

backend, and have visual, message and audio notifications through different frontends. We are in the early development process of this unified service, and would be interested how control system alarms are handled at your facility: how are they configured, what types of events are supported, how are people notified, how are alarms acknowledged.

Best wishes,

Steffen

Am 01.11.2023 um 12:54 schrieb Steffen Hauf <steffen.hauf@xfel.eu>:

Thanks much!

See you tomorrow,

Steffen

Am 01.11.2023 um 10:42 schrieb Yao Xingxing <xingxing.yao@psi.ch>:

Thanks Steffen and Tine for your reply. I've updated our calendar invite to start at 3:30 pm tomorrow.

Cheers,
Marie

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From: Celcer Tine <tine.celcer@psi.ch>
Sent: Mittwoch, 1. November 2023 09:44
To: Steffen Hauf <steffen.hauf@xfel.eu>
Cc: Yao Xingxing <xingxing.yao@psi.ch>
Subject: Re: EuXFEL visit preparation

Hello,

I would be available until 16:00.

Best,
Tine

Sent from my iPhone

On 1 Nov 2023, at 08:24, Steffen Hauf <steffen.hauf@xfel.eu> wrote:

Dear Marie, Tine,

could we reschedule to 15.00 or later tomorrow? I've had another meeting I'd need to attend rescheduled to 13.00 tomorrow, and this will take approx. 1.5-2 hours.

Best wishes,

Steffen

Am 31.10.2023 um 18:12 schrieb Yao Xingxing
<xingxing.yao@psi.ch>:

Dear Steffen,

Tine and I are available this Thursday at 1 pm. Please feel free to invite your colleagues.

See you soon,

Marie

Marie Xingxing Yao is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
<https://psich.zoom.us/j/67502801228?pwd=bTJpbEY2L1RzdjZBYmFiZ2N0bFRGZz09>

Meeting ID: 675 0280 1228
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<Mail-Anhang.ics>

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