IFERC Newsletter

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Status of REC activity

Highlights of REC activity

The REC activity has concentrated on the collaboration with the ITER Organization (IO) and the collaboration with IFMIF/EVEDA.

● Collaboration with IO

The cooperation between REC and IO CODAC continued according to the Work Programme 2023.

Preparation of a CODAC terminal in REC

Following the completion of the remote software repository (Capsule) in REC, a CODAC terminal which communicates with the servers running in the ITER site was set up in REC on April 13. The CODAC core system was installed as the basis of various CODAC applications on the terminal. The CODAC terminal enabled retrieval of live data from the EPICS gateway running in the ITER site.

CODAC OPerator Interface (OPI) test

So-called BOY (Best OPI Yet), developed by IO CODAC as the OPI working in the ITER Main Control Room (MCR), based on the Control System Studio (CSS) was installed on the CODAC terminal. It is noted that the combination of the EPICS gateway and CSS is also running in the LIPAc DMZ as the platform of the Remote Data Access (RDA) for remote participants. The OPI successfully showed live data of plant operation on the ITER site on highly informative graphical interface (Fig.-1). Remote participants in REC can freely choose what they want to focus on by themselves. It is essential for researchers in REC to work along with researchers in the ITER MCR. The test successfully proved the capability of live monitoring of plant operation status with a large degree of freedom for remote participants in REC.

Fig.-1 CODAC OPI test

● Collaboration with IFMIF/EVEDA

The collaboration with the IFMIF/EVEDA project is ongoing in order to promote Remote Participation (RP) in the LIPAc experiment from EU.

F4E remote server improvements

The F4E server set up in Barcelona is able to synchronize a limited amount of Experimental Physics and Industrial Control System (EPICS) data (Process Variables (PVs) and archived data) from Rokkasho and it provides a Remote Computer Access (RCA) for the remote users without the need for SSL-VPN connection. Some tests to improve this F4E remote server with direct connection to Rokkasho DMZ PV gateway and archiver plus new hypervisor have been done. It was decided to move forward with the Apache Guacamole.

RDA and RCA solution for the LIPAc Operation Phase

The work on LIPAc RP has progressed a lot in the past two years. The final goal is to establish RCA for all remote users hosted by the servers in Rokkasho, Japan. The following three schemes were tested in order to evaluate how well the remote tools work: 1) F4E remote server that was able to synchronize a limited amount of EPICS data from Rokkasho, 2) LIPAc RDA scheme that was developed to allow the remote users to access EPICS data directly on Rokkasho DMZ using SSL-VPN, and 3) LIPAc RCA scheme in Rokkasho via SSL-VPN.

Based on the results of the tests, it was found out that all the remote schemes had their pros and cons, and it was decided that LIPAc operation will proceed with the LIPAc RCA solution. On the other hand, from the EPICS software development point of view, LIPAc RDA gives the most benefits and eases for instance Lan Channel Station (LCS) (or other devices/systems) development work by providing PVs/archiver data right up to the developer's computer. Due to the difficulties of the setup of the EPICS software, it is not for everyone and hence cannot be recommended as the standard solution for remote access. However, the RDA solution will be also kept for QST users who demand it.

(REC TCs)