IFERC Newsletter IFERC

Status of REC activity

Highlights of REC activity

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

Cooperation between REC and ITER CODAC continued according to the Work Programme 2021/2022. In Rokkasho, subsequently to the successful test of the ITER Dashboard, preparations for the next tests related to CODAC application testing are ongoing. For the CODAC application testing, dedicated client machines based on the CCS (CODAC Core System); CODAC terminals are necessary in REC side. As a preparation prior to deployment of the CCS terminals, in order to keep up-to-date the CCS terminal running in the remote site, a remote software repository server, so-called "Capsule", has been built in August 2022 to distribute the latest versions of the software developed by CODAC to remote machines, while avoiding concentrated load on original repository server running in IO site (Fig-1).
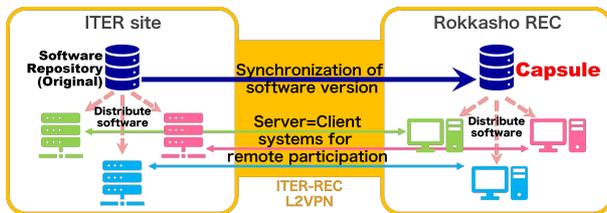

Fig-1 Concept of the "Capsule"

Based on the Capsule, the deployment of a CODAC terminal to access CODAC application servers running in the IO site is ongoing.

The collaboration with IFMIF/EVEDA project is ongoing in order to promote Remote Participation (RP) to the LIPAc experiment from EU. Activities are categorized into three items; (1) F4E remote server improvements, (2) RDA (Remote Data Access) and RCA (Remote Computer Access) solution for the LIPAc Operation Phase, and (3) Improvement of availability of the LIPAc DMZ (Demilitarized Zone).

F4E remote server improvements

To allow easier access to the LIPAc experiment for researchers outside of the Rokkasho site, especially those working from Europe, servers were set up in F4E facilities in Barcelona, Spain. Recently QST has installed EPICS RDA and a copy of the data archive that can be accessed through the VPN (Virtual Private Network), thus providing PV (Process Variable) values and archiver data through the SSL (Secure Sockets Layer)-VPN.

RDA and RCA solution for the LIPAc Operation Phase

One of the objectives of REC is to explore and analyze different solutions and methods that can be used during LIPAc Operation. Technical Coordination Meetings of REC-LIPAc after the last PC-31 meeting have focused on the Remote Data Access (RDA) and Remote Computer Access (RCA) to LIPAc data. F4E and QST are doing a proper assessment of the 2 solutions in order to make a decision on which one to use for the access from EU in the Operation Phase.

For RDA, the test plan of the system to access LIPAc data from a remote location has been drafted and is under evaluation. It is defined to allow access to all the data and tools from any user located in Europe. On RCA, the work plan to configure and deploy the LIPAc RCA server as part of the IFMIF web services is drafted and is under evaluation. By providing an RCA environment to the remote users, the software, tools and the OPIs (OPeration Interfaces) can be kept up to date at the correct version by the system administration.

Improvement of availability of the LIPAc DMZ

In Rokkasho, the new powerful REC firewall has been working for LIPAc DMZ since April 2022. In order to improve availability of the RP environment in LIPAc experiment, a redundant network structure related to the REC firewall has been constructed. A back-up bypass route via the IFERC firewall has been prepared to ensure remote access to the LIPAc DMZ in case of hardware trouble of the REC firewall which has been one of the single-point-of-failure for operation of LIPAc DMZ. In addition, the uplink of the REC firewall has been upgraded from 10Gbps to 40Gbps.

(REC TCs)