

## Notes of the First RCS-ICT Technical Committee

### Participants

*Present – Pere Mato, Xavier Espinal, Pippa Wells, Gerardo Ganis, Danilo Piparo, Katty Pommès, Marc Dobson, Karim Massri, Concezio Bozzi, Marco Cattaneo, Simone Campana, Luca Malgeri, Gianluca Cerminara, Zhechka Toteva, Alexander Yohei Huss, Alex Kluge, Enrico Gamberini, Gavin McCance, Dirk Duellmann, Armin Nairz, Andreas Peters*  
*Remote – Markus Elsing, Andreas Morsch, Elena Gianolio, Enrica Porcari, James Letts, Micha Moskovic, Stefano Piano, Wainer Vandelli, Zach Marshall, Niko Neufeld*

### 1- Welcome

Pere opened the meeting welcoming everyone and briefly presenting the agenda of the day. There was a round-table to present each other; the people present and the people remote connected over ZOOM.

### 2- Introduction of Engagement Activities in IT

Enrica listed the pain points being raised by the communities when the initial assessment of the IT Department was made in the beginning of 2022. She explained that the Target Operating Model (TOM) of IT tries to move the department to closer and more efficient conversations with our communities in order to breach the identified gaps. Enrica presented the scope of the IT Business Engagement activities and the structure of the different teams involved.

She explained that the AT sector already had a similar engagement structure in place and so far, had proven to work extremely well. She pointed out that we were looking at synergies in the requirements and the needs of our communities. Then we had to put in place reasonable means to monitor the progress in the agreed areas for development and improvements. We aimed at developing solutions in a timely manner and at the same time to stay in the strategic frame.

Pippa presented the complex structure of the RC sector which, in comparison to the AT sector, encompasses very diverse communities: the 4 big experiments, WLCG project, quite a rich community of small and medium experiments, the EP teams and the general-purpose support groups: SFT, ESE and DT. We have the Scientific Information Service (library), the Theory Department (TH) and the IT department, which in the current process plays a dual role in the process as a customer/stakeholder and as a provider.

Pippa explained the structure for organising the process and the committees which mirrored what we already had with the ATS: we have all the existing technical coordination groups (meetings), we have the RCS-ICT technical committee (TC) which communicates with the internal IT Steering committee. And finally, we have the RCS-ICT steering committee to which the RCS-ICT TC provides input.

There was a document attached to the agenda that explains in details the mandates of each committee, (<https://indico.cern.ch/event/1221162/attachments/2549007/4390224/RCS-engagement-model-V2.pdf>). The next Steering committee is tentatively planned for March. The initial idea is to have ~10 technical committees per year; every month apart from the holidays' periods.

#### **Questions:**

- How does this group interact with the CERN IT innovation group?

*There is a larger discussion in the IT department on this subject. Innovation is another touch point, via which we are trying to build synergies. Having Alberto and Simone working in the same group facilitates communication between the two structures and addressing quickly the activities/projects that have to be escalated to the innovation team. Enrica referred to engagement as the main entry point in the new Operational Model. She emphasised that the RCS-ICT engagement is the channel for communication issues and Xavi is the primary person to be addressed for any requests or actions to be taken.*

*Innovation is one of the activities, they are more of a user of the engagement process. Topics and activities that are assessed to be addressed in the long run for which there is no current applicable solution are going to be addressed by the innovation team.*

- The LHC experiments participate in the WLCG; is there a clear boundary between what subjects and issues fall into the WLCG scope and which ones go to the RCS-ICT team?

*In the context of the WLCG there are continuous discussions on the roadmap. What we are discussing in the RCS-ICT technical committee is what IT can do in the process. Certainly, there is going to be a general overlap in the activities and discussions in both boards. The most important thing is to not have discrepancies. (Enrica): Having Simone, representing the WLCG interests, in the RCS-IT technical committee will reduce the duplications. Also, as it has already been mentioned by Danilo, this is a new process. We need all the communities to participate in it to reach success. Today we are just starting the process.*

- It is really great that we try to set up a common roadmap among all the RCS communities. Now, we are trying to create a 5 year roadmap. How does it actually work? Will we have one road map approved? Is there going to be an annual review?

*The RCS-IT Steering Committee will approve the roadmap that contains the agreed list of activities from the RCS-IT Technical Committee that have been agreed by the communities. Continually (on regular intervals of maybe 6 months) we will review it and changes may be applied if agreed. It is a live roadmap. As Xavi explained, one of the key words is to "maintain" the multi-annual roadmap.*

*In a way, the Steering Committee is the place where resources are added and when the commitment is done. This process is already running in the AT sector. It is not to make life more difficult; it is to make the process more efficient.*

*The aim is to see if there are synergies between the needs of different communities. Besides, we need to answer the question if we are delivering what the communities need.*

### **3) IT services overview for the Research and Computing Sector**

Dirk presented the groups in the CERN IT Department structure: the department head office, Security, Strategy and Executive Governance, Resource Management and Technical Delivery (TD). He briefly explained the mandate of each group. Dirk is the lead of the TD with Bern Panzer as a deputy and Natalie Kane as a lead of the Service Management (TD-SM). "The group coordinates the activities in the Technical Delivery cluster of groups and the management of IT technical services. This includes the service provisioning, resource planning, optimisation and change management in accordance with Organization and user needs. The service management team handles all Service Management activities in the IT Department and ensures ITIL implementation and overall operational responsibility for the CERN Service Management tool for all services across the whole of CERN."

Dirk mentioned that the IT department provides around 180 Functional Elements (FEs). He suggests the IT services overview slides to be used as a reference for the following presentations, which describe the needs of the communities. Technical delivery is structure that contains all the groups that deliver ICT services to the communities. Also, they run the IT Technical user Meetings (ITUM), the weekly Problem and Incident Management meeting (PIM/C5) and the Change and Release Management (CMRB) meeting.

### **4) Summary of community inputs and discussion**

Xavi explained that the Research and Computing Sector communities had been asked in advance to provide a summary of their needs and perspectives in computing in the form of a document. Xavi warmly thanked the communities for providing these documents that contain their mid- and long-term views which will help define joint roadmaps together with IT and the RC Sector.

Together with Pere, they had prepared a summary (non-exhaustive) of the input that they had received, while at the same time they tried to identify the services and activities and to map them to communities that either currently used them and which had shown interest in them. With the aim to identify areas of common interest and present an early list of topics and initiatives,

#### **Discussion**

- Implicit (default) dependencies and needs of support:

*Concezio commented that LHCb had not explicitly mentioned Online Oracle database support but it was a critical service for LHCb. Dirk confirmed that the IT-DA group considered the Online Oracle database support as a critical service for all the LHC experiments. Stefano shared that ALICE has indicated in their document only the new projects that the community would like to be addressed by the IT department and this committee. There were several existing projects which ALICE had not explicitly mentioned but they were interested in them and many of them they already used. Dirk explained that for most of the services provided*

*by the IT department, we knew how they were used; what would be beneficial was to know what features these services were missing.*

*Armin commented that by assumption the services that the CERN IT department provides currently, would stay. Dirk explained that at first approximations, yes. At the same time as we are discussing new services that will require manpower, we have also to review the services that are not used or at least not widely used. Marco shared that he saw that activity as one of the mandates of the technical committee; he considers that the RCS-IT TC should address not only the need for new services but also to decide which services will be reduced and/or completely stopped.*

- Common/Shared list of services

*Alex Kluge shared that for the online communities and for the electronics systems for experiments, the topics discussed at that technical committee had a small overlap with topics discussed with the ATS. Marco agreed that it was very important that we worked all together to produce and to take care of the common list of services and reminded us that we were all involved, even if one community had not listed a given service. Danilo appreciated a lot the idea of a common list. Alex wanted to understand how we would proceed if the committee agreed on something that fit only a limited number of communities, e.g. CMS or LHCb. Pere explained that we needed to make an effort to rationalise what requests went to the IT department. We needed to converge the requests and, as Dirk added, ATS had a set of 12 projects that were prioritised at the corresponding ATS-IT TC. In order to be realistic we have to have a list that is not endless. At the end, the communities need a plan that is followed-up. We should target a service manageable volume, which can be discussed. We cannot have a separate IT department for each experiment and we have limited manpower. Zach agreed that there were no concerns that there would be a separate department for each experiment.*

*Concezio gave an example that there could be a project where the experiments had their own solution that they cannot run/manage in house and they need that solution to be run by the IT department. Pere explained that there was a need to introduce some ordering in the list of services to be enhanced or developed, tasks to be carried over and new activities to be studied. We had to organise how we pass the requests to IT. Luca added that it was good if we can first study and address the communalities.*

*Alex wanted to know what would happen to the items that did not make it to the list. Xavi explained that the received input would be available and certainly useful by IT and the Technical Delivery group. There are things business-as-usual to be addressed in a usual direct way (tickets), and other items more suitable to the purpose of this Technical Committee, will be discussed here. Dirk emphasised that it should be clear which made to which list; there are items that easily can be addressed by the technical delivery team and others that need decisions.*

Agreement: We need to formalise the requests and it will be very useful to order/prioritise the requests. This will help deciding the agendas for the next venues of the Technical Committee

- Support for small communities

*Markus (ADP group) suggested that operational support was provided not only for big but also for small communities, e.g. Rucio was also used by the smaller communities.*

- Scientific and Distributed Computing tools and services

*Armin and Markus(ADP group):further discussion on the operational support for Rucio, FTS, XrootD is needed. Role of IT (and CERN in general) for the whole set of GRID middleware used by the CERN experiments and other scientific communities is considered strategic.*

- Common infrastructure for Software development

*Concezio LHCb were very much interested to know if the Common infrastructure for software development would also include builds. LHCb had their own distributed computing infrastructure, which they would be interested in modernising. He already identified some overlaps on the subject with the WLCG interests.*

- Procurement of network equipment

*Marc explained that one of the aspects that was critical for CMS was the common procurement with CERN IT for network equipment. The next tender timeline is not convenient neither for CMS nor for ATLAS. Either the LHC experiments have to do all the tendering and testing of the equipment themselves which is very difficult and a time-consuming activity or we have to find together with IT a better tending schedule. Marco added that a common procurement process was needed not only for network equipment but also palms. Niko mentioned that LHCb relied on the frame contracts for network equipment procurement. He fully supported Marc, that it would be extremely inefficient if LHC experiments did not do this procurement process all together with the IT department. They repeated how important it was for them if by any means they could influence the timing and the duration of the contracts, in order to suit the LHC experiments' schedule.*

- Recommendations for Linux distribution

*Marco expressed the LHCb disappointment with the way the announcement was made about the recommended Linux distributions. The recommendation had been announced before being internally discussed. Dirk agreed that the communication was not very well done. He explained that the discussion that CERN was going out of stream distributions was going on for months; the fact that Alma was picked was the only news. Binary compatibility was so close for Alma and Rocky, that we had to pick up one. CERN IT had planned for wide customer-targeted communication but Fermilab released the news. Then CERN IT reacted with a short notice.*

- Possible focused cross-collaboration ideas and projects

*Danilo thanked putting the CMS premixing working study in the list. Marco expressed the concern that we should be careful with specific development for specific experiments. At the same time Zach shared his experience that the R&D projects were much more useful when there was a real use case. Marco agreed that while working on a concrete example is something that is worth it, main efforts should be focussed on ideas of the big picture and*

*not closely tight to the concrete example. Zach believes that a big project that affects a given experiment is worth discussing. For example, ATLAS uses 30 % of the computing infrastructure and a use case that affects ATLAS most probably is worth being considered by the other communities as it is very likely to affect the others as well. Luca commented that there is something that currently is not common and it is a key to have a cross collaboration. Not only common infrastructure is needed but also common work to be carried over.*

- Energy efficient computing

*Niko elaborated on the LHCb proposal for co-working on energy-efficient computing. It should be something that we actually need to work on. Danilo considered this topic a big topic and depending on what CERN political position will be in the near future this may become a policy and it may affect purchasing very soon and in the long run. Xavi expressed his happiness to see that people were profiting from this meeting to put things on the floor and to inspire discussing subjects in common interest for many communities. As Marco commented, we had to have some strategy between technology choices. Niko suggested energy re-use to be discussed as well in this subject. Dirk added that independently of the approaches chosen, there should be a way to measure the result. Stefano gave a nice example of PowerPC infrastructure: in Italy they are building a big PowerPC-based infrastructure that can be used by physicists. It is important to have a common infrastructure. Otherwise, we lose time and resources. When we have the infrastructure provided, then our experts dedicate their time to the software and not to the hardware.*

## **5) AOB**

- Indico agenda privacy

*The participants in the committee decided about the privacy of the meeting agenda in indico. The meetings will be open and there can be closed items only as exceptions for confidential/sensitive topics.*

- RCS-ICT Technical Committee frequency

*Marc suggested once a month is a good frequency, at least to start with while we are in the initial phase. We have many things to discuss. Marco explained that the need to discuss within the committees the list of actions and prioritise them raises the need of a set of predefined dates for the next meetings to settle for convenience of the participants, even if at the end we skip a meeting. Luca mentioned that one of the CMS meetings is every Friday at 10:30 and has to adapt somehow to this schedule. Alex agrees that it makes sense to make it more often in the beginning, but afterwards maybe we can space the meetings to take place less often. Pere added that people also should feel flexible to come by the Technical Committee only if there are topics that are of interest to their community. Markus suggested that we organise working groups to follow on the progress between the meetings.*

Agreement-Action: Pere and Xavi will prepare a set of predefined dates for the next venues of the RCS-ICT Technical committee.

Agreement-Action: Pere and Xavi will prepare the list of tasks that the communities' representatives will share with their communities in order to discuss internally the priorities.

### Comments and amendments

20.12.22. From Markus Elsing: make more explicit the comment that was made about the model of operational support for Rucio and GRID middleware in general.

The following paragraph has been added: "Scientific and Distributed Computing tools and services: *Armin and Markus(ADP group):further discussion on the operational support for Rucio, FTS, XrootD is needed. Role of IT (and CERN in general) for the whole set of GRID middleware used by the CERN experiments and other scientific communities is considered strategic.*"

10.01.23 From Zach: replace "rubber stamp" as it is not appropriate and pejorative. Approved will be used.

10.01.23. From Zach: Clarifying his comment on single-experiment scoped projects: *they should be weighted against global impact for the organisation (big experiment, big impact globally), hence there should be scope for projects that "only" affect one experiment.*