Indico@KEK

Akihiro Shibata

Computing Research Center,

High Energy Acceleration Research Organization (KEK)

Indico Workshop 2.0   18-20 October 2017   CERN

Location of KEK

Tsukuba campus

Mt. Tsukuba

Tokai campus (J-PARC)

Tsukuba campus

Mt. Fuji
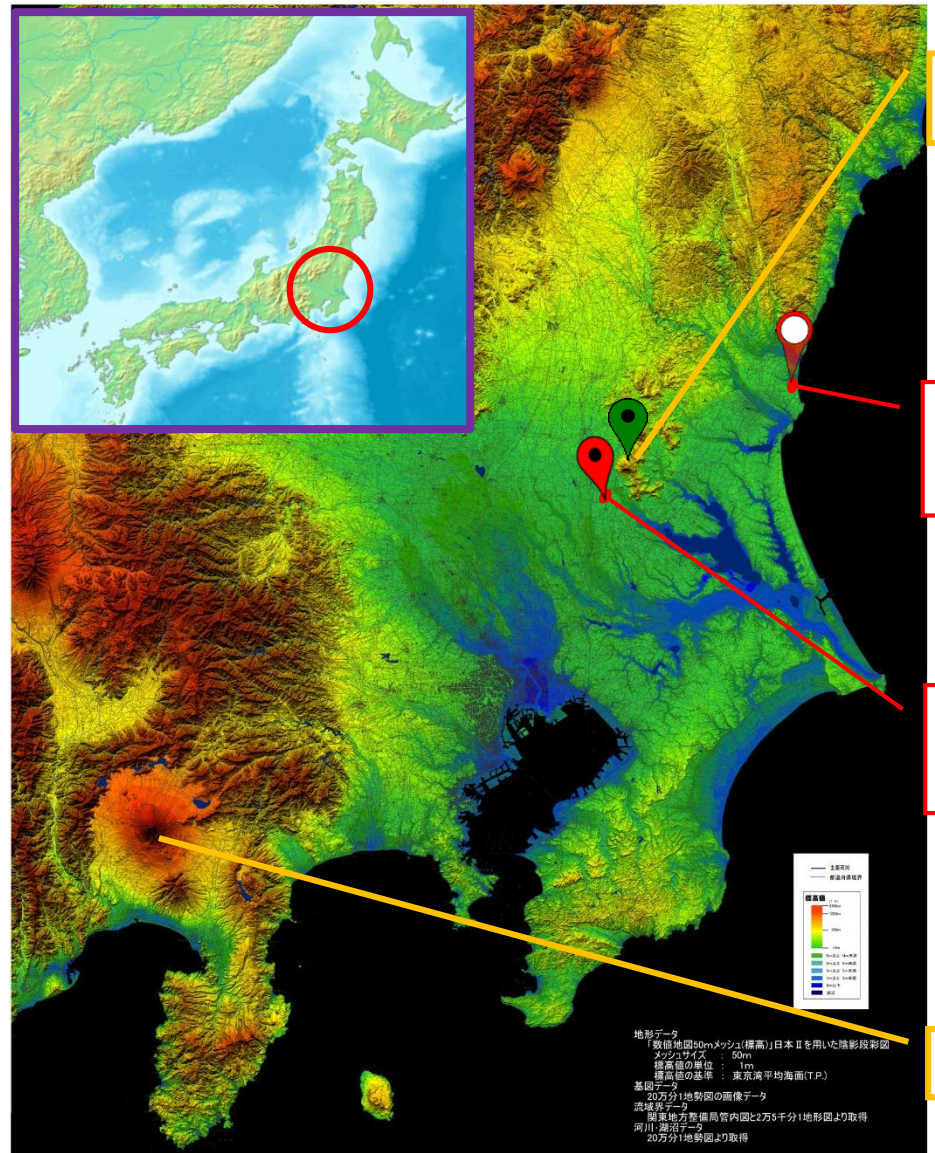
KEK = **K**ou-**E**ne-**K**ikou (in Japanese) :: High Energy Accelerator Research Organization

About KEK   https://www.kek.jp/

Mission: Scientists at KEK use accelerators and perform research in high-energy physics to answer the most basic questions about the universe as a whole, and the matter and the life it contains.

❑ Institute of Particle and Nuclear Studies (IPNS)

Belle (B-factory), J-PARC, T2K…

❑ Institute of Materials Structure Science (IMSS)

photon factory , J-PARC, ….

❑ Accelerator Laboratory

KEKB, R&D for ILC, …..

❑Applied Research Laboratory

Computing Research Center and other three centers

Indico servers @ KEK :: Brief history

Date	events
2005 May	Starting agenda.kek.jp by using **CDS Agenda**
2007 Feb	Starting kds.kek.jp by using **Indico** in place of agenda.kek.jp due to a serious security incident . Becoming nervous about security.
2009 Feb	Upgrading kds.kek.jp system (Indico 0.96.2)
2012 Feb	Upgrading kds.kek.jp system (Indico 0.97)
2015 Aug	Upgrading Indico software (Indico 1.2.0)
2016 Aug	Upgrading kds.kek.jp system (Indico 1.2.1rc10)
2016 Nov	Starting conference-indico.kek.jp (Indico 1.2.1rc10)

Indico servers @ KEK (cont')

KDS.kek.jp (since 2007)

Conference-Indico.kek.jp (since 2016)

Operation (I)

☐ **Target**

- Conferences and Workshops

- Group meeting of the projects and collaborations

- Agenda of internal meetings
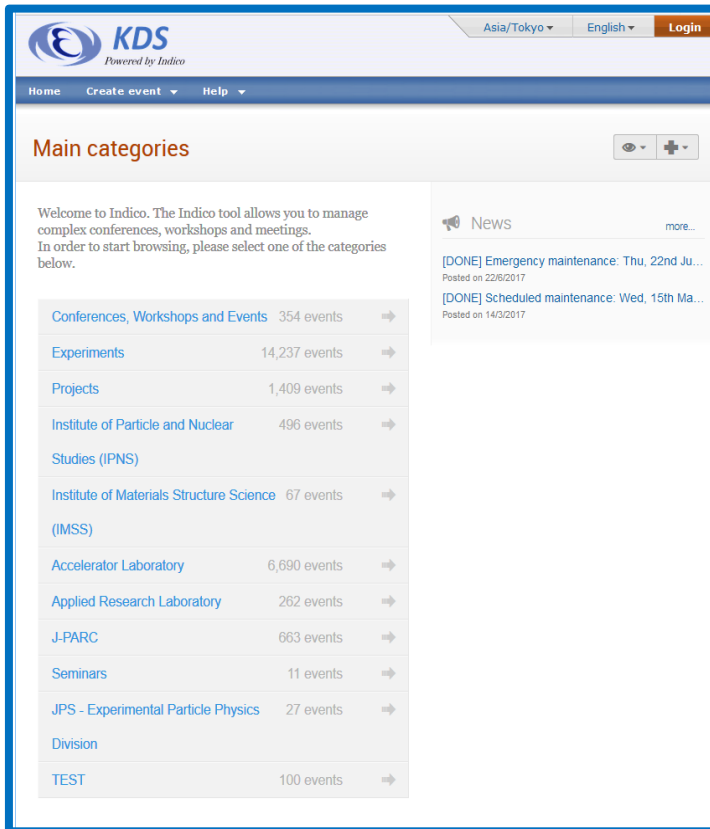
☐ **Limitations**

- Pass-through authentication is required for the first access of the day to eliminate access from web robots.

- No account for participants of conferences.

- The use of e-mail is restricted within the campus network.

☐ **Introduction of Web Application Firewall (WAF)**

- Checking URL whether if keywords related to web attack are included or not, and blocks the access determined to be attack.

- Checking also the contents sent by using POST method including attached files, and blocks the access determined to be attack.

Operation (II)

☐ **Managing accounts**

- Using the built-in authentication
- User accounts are created only for subcategory managers and event managers by submitting an application form.
- The user becomes a member of some subcategory managers by invitation of an existing subcategory manager.

☐ **Managing categories and events**

- The administrator of Indico creates top and immediate categories by application and assigns category managers.
- Managing subcategories and events are delegated to general users assigned to the subcategory managers.

the number of users

Usage: user account
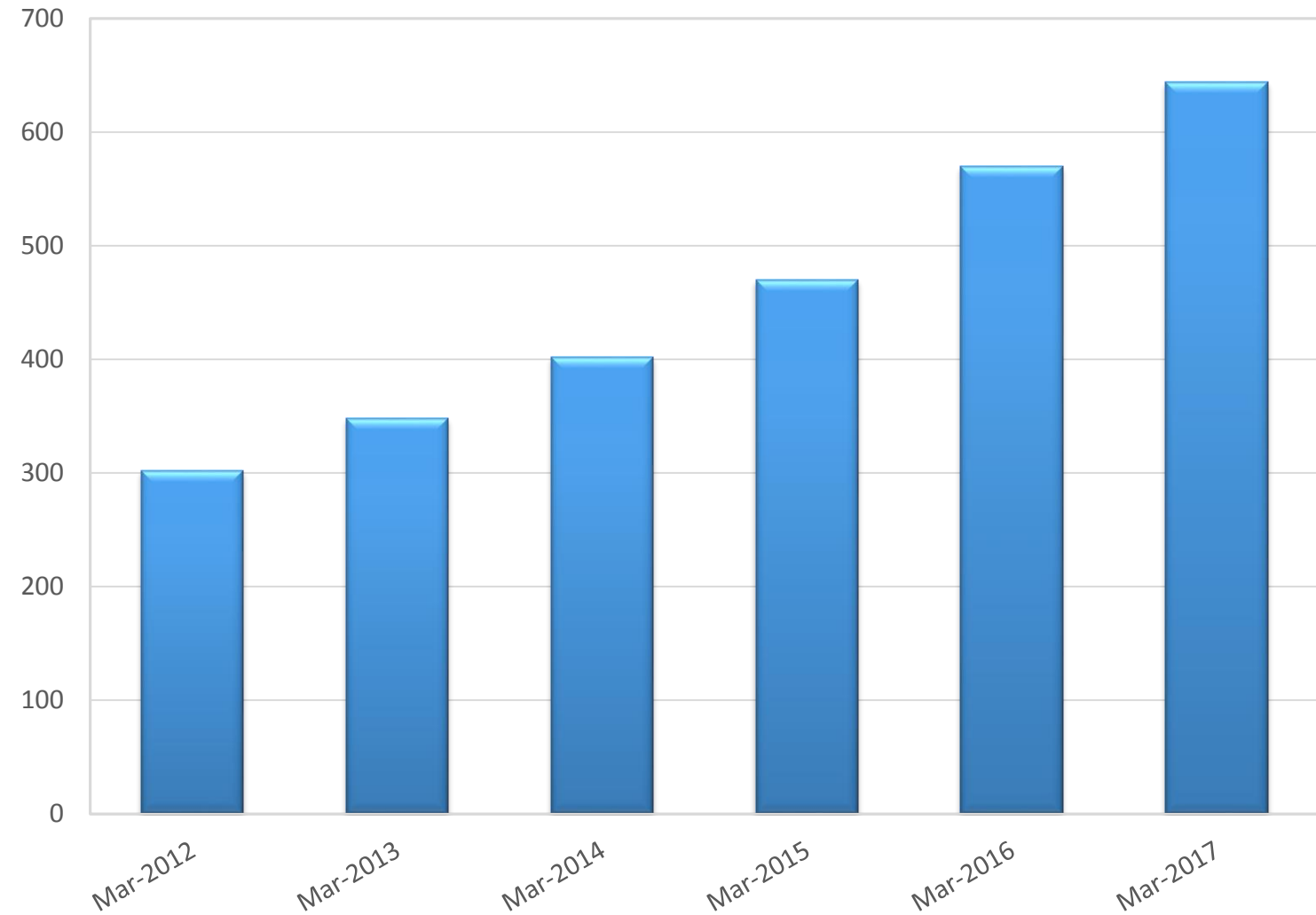
Usage: events

the number of events per category

Legend: Experiments, Projects, Accelerator, Others
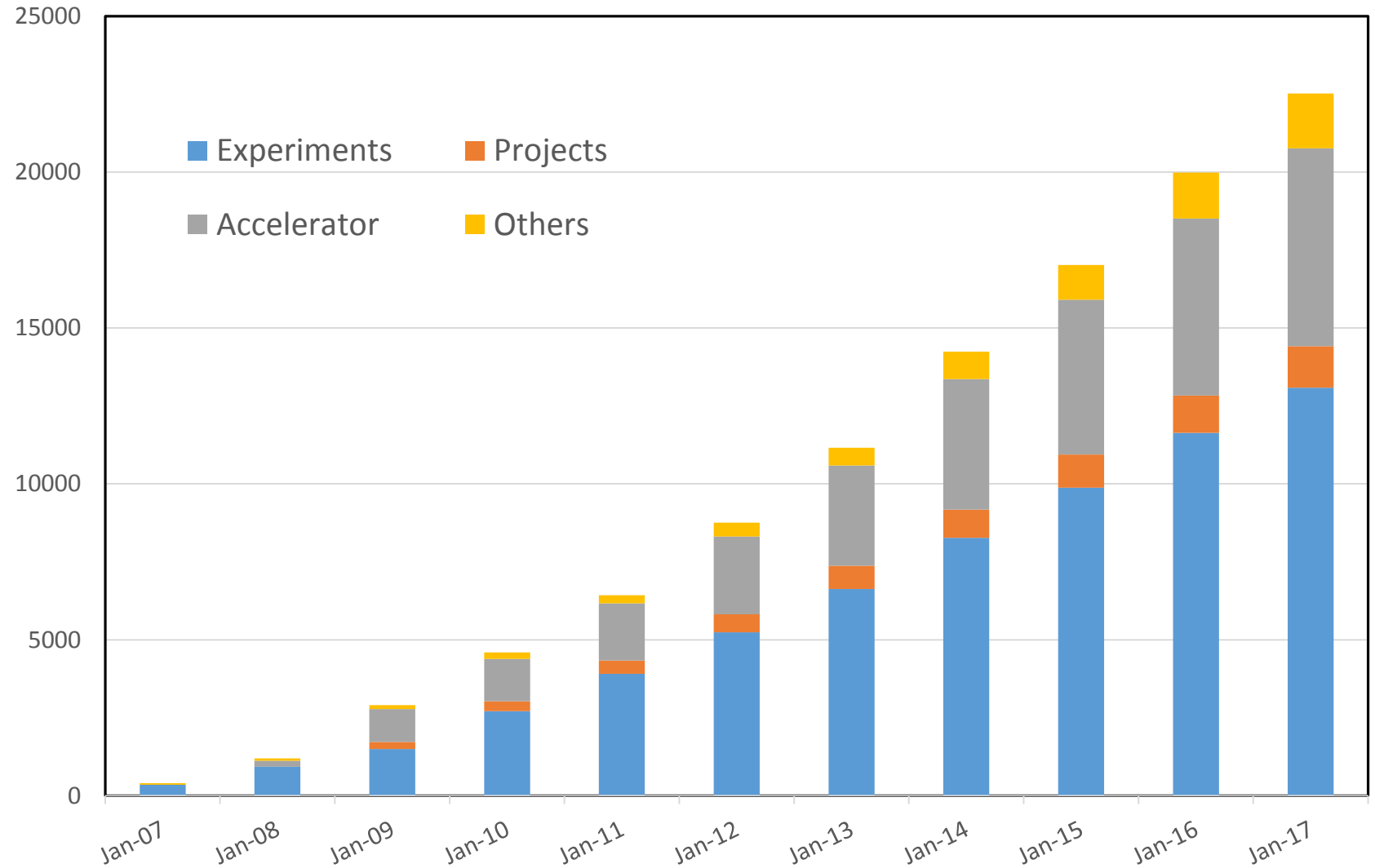
Operation (I)
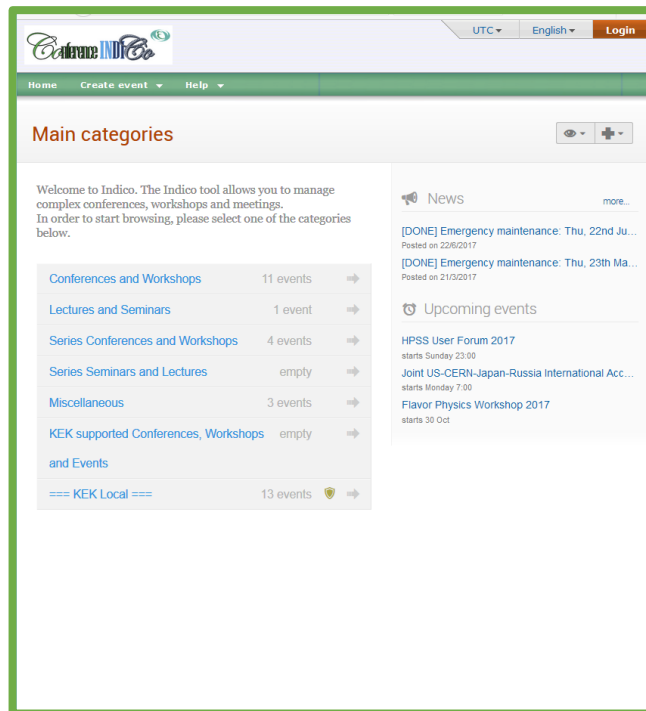
□ Target

- Conferences and Workshops

➢ Replacement of web-application form at www-conf.kek.jp

➢ Functional enhancement for holding of the conference

➢ Taking over "Conferences and Workshops" at KDS

□ Limitations

- No pass-through authentication is required, expecting spread of information by web-robot search

- No account for participants of conferences.

- The use of e-mail is limited to automatic return of system such as a confirmation of a registration.

□ Introduction of Web Application Firewall(WAF)

- The operation parameters are as same as KDS.

Operation (II)
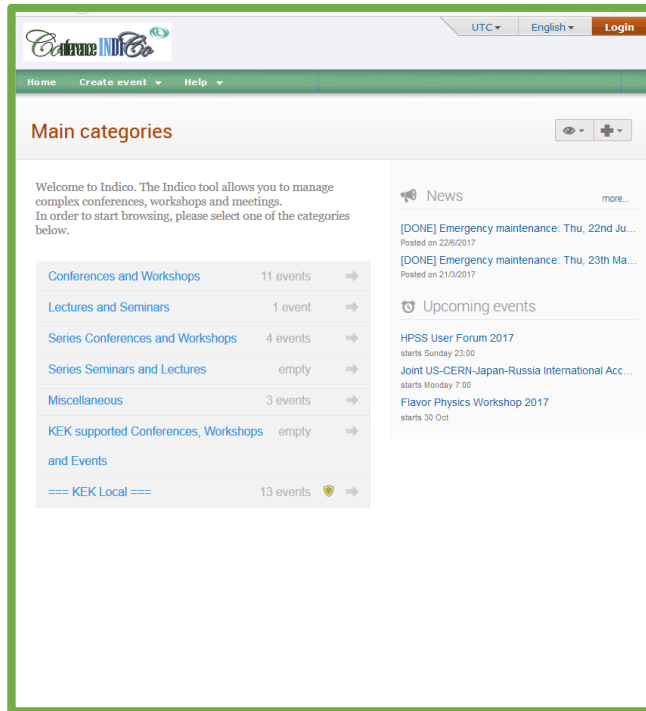
☐ **Managing accounts**

- Using the LDAP authentication

- User accounts are created only for event managers by submitting an application form.

- The user can becomes a member of some event managers by invitation of an existing event manager (not category manager).

☐ **Managing categories and events**

- All subcategories are created and edited by the operator team.

- Creating a new event and assignment of the event manager is operated by the operator team according to the application form.

- Managing the event are delegated to the assigned event managers.

Problems and requests for the future Indico

☐ problems related to Japanese language

  ✓ File name including multi-byte characters

  ✓ Exporting PDF files

☐ Web Application Firewall (WAF) and compatibility of service

☐ Managing events

  ✓ Backing up and restoring events

  ✓ Limiting resources for each event or for each category

☐ Managing accounts and roles

Problems related to Japanese language (1)

◎ Almost of reading and writing in Japanese can be done without problem using UFT8 .

◎Problems in uploading a file that contains multi-byte characters in the file name.

> ➢In case of "upload material" in the "add material" , the file name with multi-byte characters can not be used. File upload has stagnated.
>
> ✓To avoid this, the file name have to be changed using only ASCII code or UNICODE.
>
> ✓This is caused by the Indico 1.0 and the latter.
>
> ➢There is no problem in uploading an attached file at the registration section, even if the file name contains multi-byte characters.

Problems related to Japanese language (2)

◻ Exporting PDF files including Japanese language

➢ No problem in displaying by web-browsers.

➢ No problem in exporting to the CSV file.

➢ In exporting to a PDF file, the Japanese characters are garbled.
   - ✓ This may be caused by the definition of the font sets in the PDF generator.
   - ✓ There finds no definition of Japanese fonts in Indico source.
   - ✓ The plug-in for additional fonts may settle the problem, however we need further instruction.

◻ LaTeX formatting

➢ not yet installed

➢ Need to support Japanese languages.

Web Application Firewall (WAF) and compatibility of service

KEK introduced WAF (F5 BIG-IP AMS (Application Security Manager)) for security measures.

- WAF checks the URL whether if keywords related to web attack are included or not, and blocks the access determined to be attack.
  - ✓ Related to CGI commands such as bin, cgi-bin etc.
  - ✓ Related to testing, editing process, and Information leaking
- WAF checks also the contents sent by using POST method including attached files, and blocks the access determined to be attack.
  - ✓ Related to script commands
  - ✓ Related SQL injection

❑ Every time an blocking event occurs, the even is investigated and the blocking rule is improved.

❑ Further study will be necessary to achieve compatibility between operation of Indico 2.0 and WAF, because Indico 2.0 deploys postgreSQL.

Managing events

☐Backing up and restoring data for individual event.

- Backing up database can be carried only for whole data.

- Thus we can not restore data event by event from backup, therefore we have to re-enter everything in order to repair the Indico event.

- Requesting a maintenance tool that can backup and recover Indico events individually, and that can transfer and migrate a part of events and subcategories into another Indico server.

☐Limiting use of resource for each event or for each category

- The size of uploading materials can be limited by the httpd parameter.

- Requesting that such a limitation can be set for an individual event and category.

Managing accounts and roles

☐ Distinguish accounts between the could-be managers and the participant only, and control permissions between them.

- In the present Indico system, all accounts are democratic.

- Roles and authorities can be granted by existing subcategory manager or existing event managers for all accounts.

- Thus, administrators can not control anything after assigning the managers.

➢ Request to introducing permission so that participant only account can not be a member of managers.

Administration tools and documents

- Expecting the documents and instructions for administrators.
  - In upgrading Indico we had some problems.
  - In introducing the LDAP authentication, we had to read the source code to know the schema definition and the change of it.
  - We found the account transfer rule from the built-in authentication to LDAP authentication by try and error.
  - The slides at Indico workshop 1.0 was only a few documents for administrators, and helping.

Summary

- KEK has been used Indico (KDS.kek.jp) since 2007

- A new server (conference-indico) is introduced from Nov. 2016, which is dedicated to public conferences, workshops, and lectures.

- Indico has become an indispensable tool to support research activity at KEK.

- The Indico becomes an indispensable web-application at KEK.

- Problems related to the Japanese language.

- Hope to improve administration tools and documents.

- We hope to upgrade to 2.0 in near future after testing.
    - ✓Weather   the existing problems can be solved or not.

Thank you.

Any questions?