Project Management Web Tools at the MICE Experiment

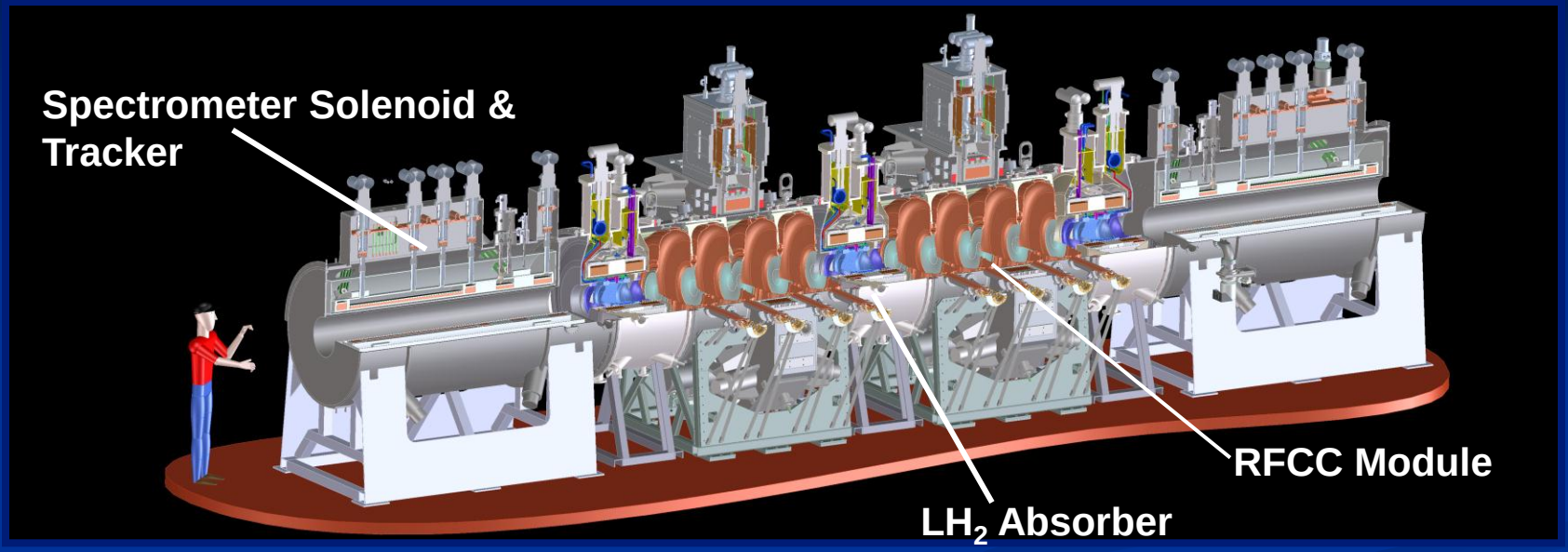
Linda R. Coney – UC Riverside

CHEP – May 2012

Outline

- Intro
  - MICE – the Muon Ionization Cooling Experiment
- Issues with collaborative work
- Redmine: project management tool
- Solutions: Redmine in MICE
  - Online Group
  - Operations Group
  - Speaker's Bureau
  - MAUS – Software Group
  - Executive Board
- Conclusions

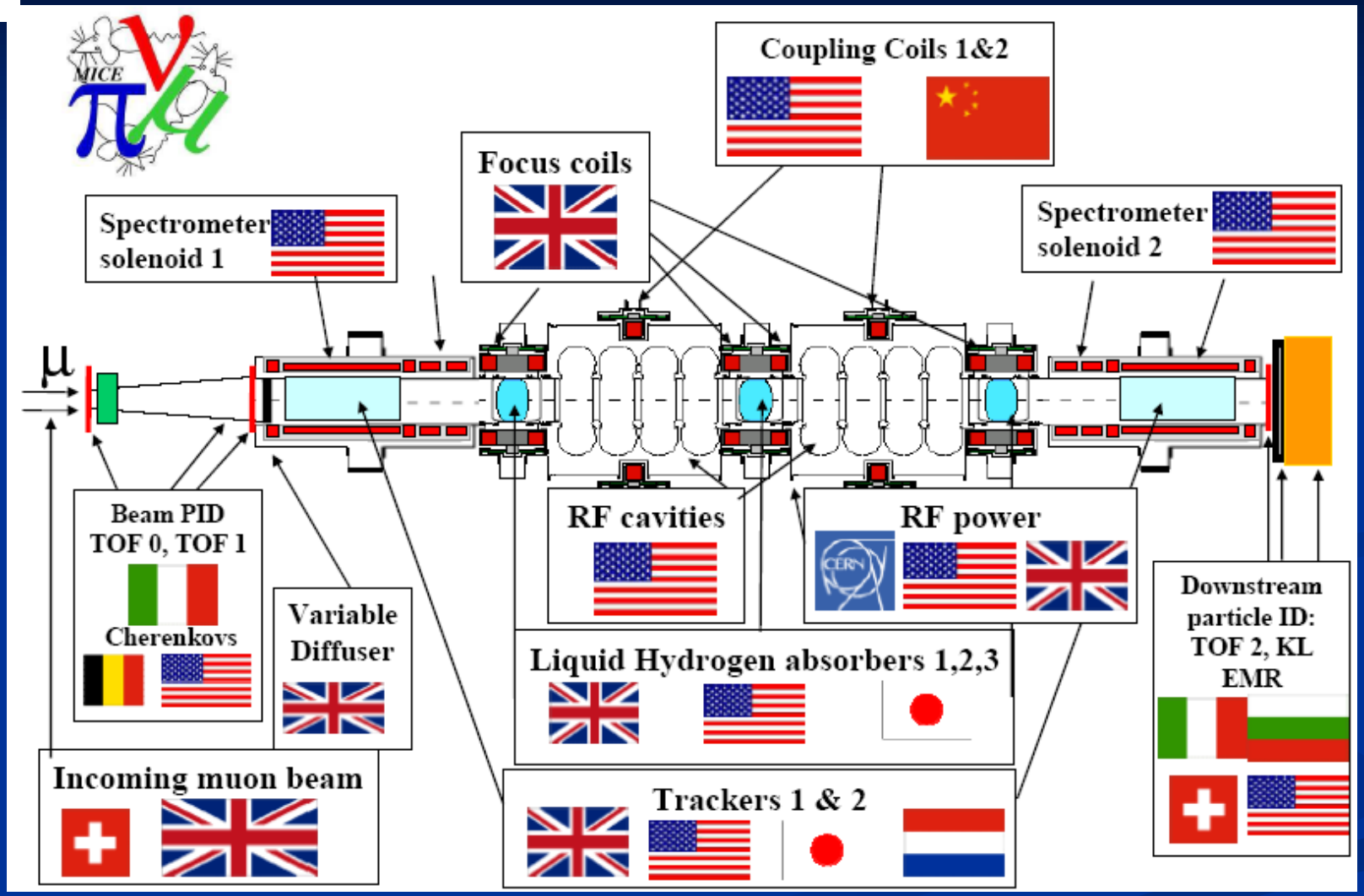
MICE:
Muon Ionization Cooling Experiment



- **MICE Goals:**
  - Design, build, commission, and operate a realistic section of cooling channel
  - Measure its performance in a variety of modes of operation and beam conditions

…results will be used to optimize Neutrino Factory and Muon Collider designs.

MICE: International Involvement



- *Institutions worldwide are contributing to the demonstration of muon ionization cooling at MICE*

MICE: The Experiment

- The Collaboration:
  - ~150 members, 9 countries, 3 continents
  - Relatively small
  - Universities and labs widespread geographically and across time-zones
- Combination of particle physics and accelerator physics
- Based in the UK
  - Beamline at Rutherford Appleton Laboratory
  - Proceeding in step-wise manner as beamline and detector elements arrive and are installed
- Taking data!

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Collaborative Work

- The problem:
  - Communication primarily by phone and email
  - High turnover rate → poor information retention

- Need
  - Ability to easily communicate within global collaboration
  - Coordinate between collaborators separated by distance and time
  - Develop schedules
  - Task assignment
  - Develop institutional memory/history

- 1.5 years ago: head of Online Group
- 0.5 years ago: head of Operations Group

- *How can we do better and become more resilient?*

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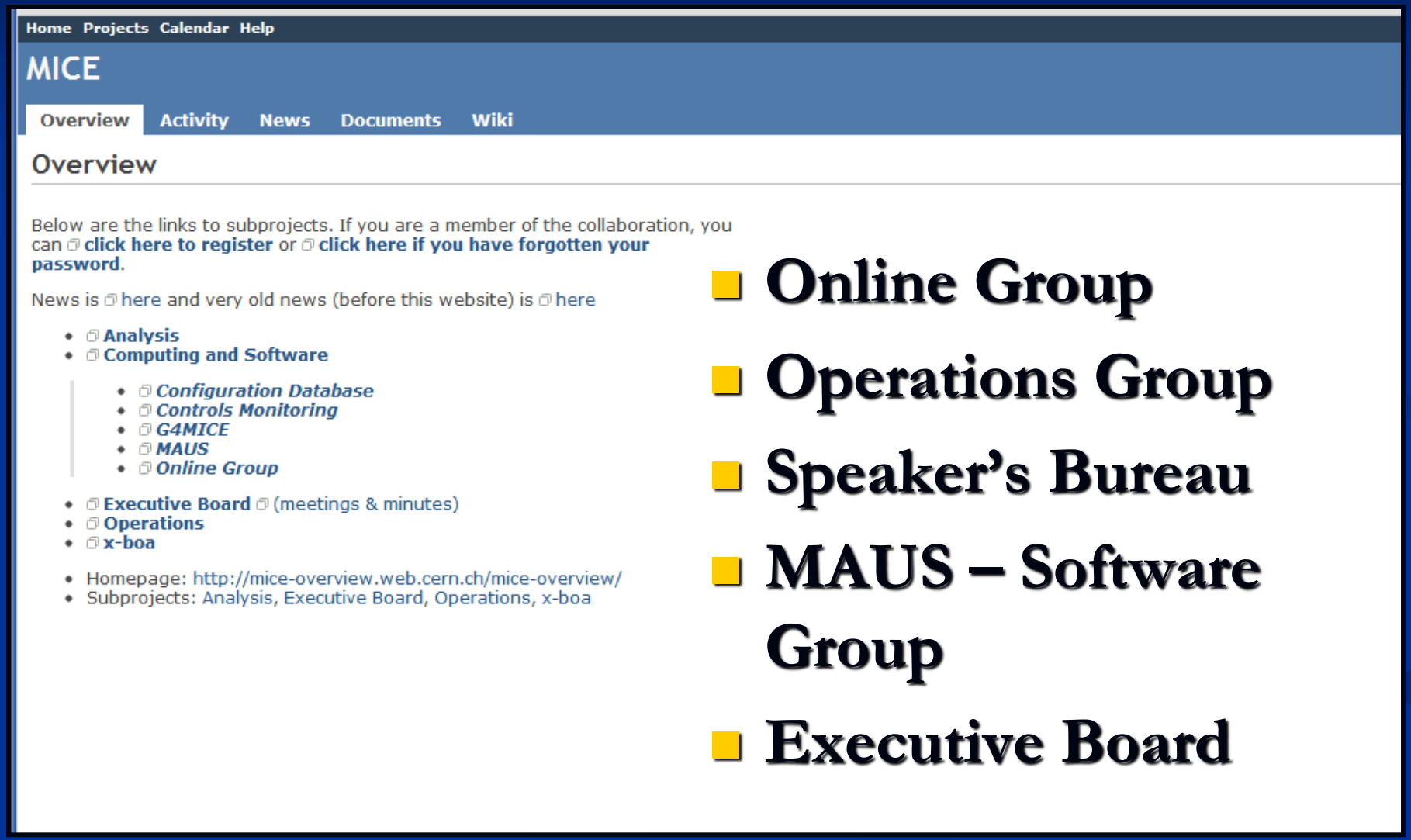
The Solution: REDMINE

flexible project management

- Open-source project management tool (like Trac)
- Written in Ruby on Rails
- Why Redmine?
  - Easy for all collaborators to use – undergrads to senior professors
  - Not necessary to be software expert
  - Clean and simple!
- Features:
  - Issue Tracker – with corresponding Gantt chart capability
  - Wiki
  - Document store
  - Online repository viewer

Redmine in MICE: 5 Examples



- Online Group
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Online Group – Overview

Home Projects Calendar Help

MICE » Online

Overview | Activity | Issues | Gantt | News | Documents | Wiki | Files

Overview

The **MICE Online Group** (MOG) creates, maintains, and ensures proper use of all tools (hardware, software, documentation) within the MLCR (MICE Local Control Room and Rack Room) that allow the experiment to efficiently record high quality data. We are responsible for Data Acquisition (DAQ), Controls and Monitoring (C&M), Online Monitoring and Reconstruction, Data Transfer, Networking, and MLCR Computing. We also interface closely with systems related to the Online sector including MICE Operations, Offline Software, and Computing.

If you are interested in joining our effort, please contact **Linda Coney** (lconey@fnal.gov).

Subgroups:

- **DAQ (Yordan Karadzhov)** – Controls taking & recording of all data from the MICE experiment, including all particle ID detectors, tracking detectors, and beam line diagnostic tools. This subgroup is responsible for all hardware within the MLCR, the DATE DAQ software, MICE trigger system, and unpacking software.
- **Controls & Monitoring (Pierrick Hanlet)** – Controls all MICE systems including the target, all conventional and superconducting beam line magnets, particle ID detectors, tracking detectors, and cooling channel components. Monitoring of Hall environment and equipment function during data-taking is provided by the Alarm Handler, and the Archiver saves a record of all monitored systems and run conditions. C&M also provides an interface with the Configuration Database to retrieve pre-selected run configurations and to save new configurations.
- **Online Monitoring** – Provides an immediate, low-level diagnostic monitoring capability for all DAQ hardware. Monitors DAQ performance and allows individual channel-by-channel assessment of detector behavior.
- **Online Reconstruction (Linda Coney)** – Provides real-time physics information during data-taking, immediate feedback to experimenters, and a first look at analysis quantities. Includes a fixed set of histograms filled during data-taking for checks of data quality, beam dynamics, and detector function. Necessarily interfaces with the MICE Offline Software.
- **MLCR Computing and Network (Craig Macwaters)** – Maintains all DAQ and C&M computers, both wired and wireless network in the control room, and controls access to these machines in accordance with RAL computing security guidelines.
- **Data Transfer (Henry Nebrensky)** – Allows efficient and automatic movement of MICE data sets and associated Online Monitoring & Reconstruction plots out of the MLCR for permanent storage.

Issue tracking

- Bug: 10 open / 29
- Feature: 28 open / 63

- Information – wiki
  - Overview of group responsibilities and membership
  - Organize regular meetings
  - Computing info – networking, access, equipment
- Management tool
  - Organize group efforts
  - Develop milestones and track progress

Online Group – Meetings

Home Projects Calendar Help Sign in Register

MICE » Online Search:

Overview Activity Issues Gantt News Documents Wiki Files

PC 040412

History

Phone Meeting

Wednesday 4 April 2012 at **15.00 BST = 9am Chicago, 16.00 Geneva.**

Agenda

- Review of March run - 10 min - All
- Status Reports - 20 min - All
  - C&M - Pierrick
  - DAQ - Yordan
  - System/Computing - Matt
  - Datamover - Henry
  - Online Reco - Chris R/Mike J
- Review of Online Group actions - time remaining - All
- AOB

Minutes

Minutes OnlineMtg4Apr2012.pdf

Dial-in Info

Dial-in information is available here where some numbers are:

Country	Number
Switzerland	0800705351
UK	08004960576
USA	1-866-740-1260

After connecting, type in the Online access code (ie. **4694775**) then hit #.

Uploading presentations

Instructions on how to upload a talk if you're a presenter.

1. Click on "edit" (and concentrate!)
2. Click on the open box below "files"
3. Browse and enter your file name (e.g. mytalk.pdf)
4. Enter the following line in the agenda box below your name (without the 'pre' tags)

```
attachment:filename.filetype
```

5. (e.g. attachment:mytalk.pdf)
6. and save.

Wiki

Start page
Index by title
Index by date

- Agenda
- Call-in info
- Talk upload by group members
- Minutes
- Easy, fast, reliable
- Also Analysis Group

Online Group – Issue Tracker

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MICE » Online — Search:

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Issues

Filters

Status: all — Add filter:

Options

Apply Clear

#	Subject	Assignee	Updated	Category
964	3D visualisation application	Robinson, Matthew	28 March 2012 08:22	
963	distributed processing framework installation on online server	Richards, Alexander	27 March 2012 14:20	
962	DATE installation on online test server	Karadzhov, Yordan	27 March 2012 14:18	
961	Linux installation on online test server	Robinson, Matthew	16 May 2012 19:06	
959	set up Online test machine	Robinson, Matthew	16 May 2012 18:56	
953	UPS runtimes and consequences	Nebrensky, Henry	23 March 2012 12:20	
951	miceraid2 dead - system disk issue		23 March 2012 11:45	
945	miceraid1 file system error	Robinson, Matthew	31 March 2012 22:46	
940	Fix PCI card in MICE ACQ08	Adey, David	19 March 2012 16:20	
911	Minor nuisances on MLCR machines	Robinson, Matthew	17 February 2012 11:37	
910	DATE DB editor not working on miceraid1	Robinson, Matthew	17 February 2012 11:15	
891	onrec machine upgrade - requirement	Rogers, Chris	23 March 2012 20:29	
871	develop coherent plan for MLCR backups	Robinson, Matthew	24 January 2012 23:11	
870	micestore to new miceraid interface	Robinson, Matthew	24 February 2012 22:24	
869	verify DNS finding and access to ISIS IP addresses is done well	Robinson, Matthew	24 January 2012 13:17	
837	get Lab7 cosmic ray data from micestore to GRID	Nebrensky, Henry	21 December 2011 22:48	
836	need instructions for use of Imperial webserver w/MICE data	Colling, David	19 December 2011 16:31	
835	schedule for Tracker C&M work	Robinson, Matthew	19 December 2011 16:30	
834	discussion re. bzr repositories	Coney, Linda	23 January 2012 22:24	
832	figure out how to get MAUS code to Launchpad from onrec01	Rogers, Chris	21 March 2012 18:11	
831	make appointment with EMR group to define MAUS Online plots	Tunnell, Christopher	19 December 2011 21:12	
830	make appointments with CKOV software people to define MAUS online plots	Tunnell, Christopher	19 December 2011 16:11	
829	possibly add disk space to data-mover system	Robinson, Matthew	24 January 2012 13:46	
828	Determine how MAUS Online will display live plots on web viewable to world	Rogers, Chris	27 March 2012 18:07	
812	MAUS online instructions	Rogers, Chris	06 December 2011 20:53	

1 2 3 4 Next » (1-25/92) | Per page: 25, 50, 100

Also available in: Atom | CSV | PDF

Issues
View all issues
Summary
Gantt

Powered by Redmine © 2006-2011 Jean-Philippe Lang

- Project management tool

Online Group – Issue Tracker

- Management tool
  - Add tasks as necessary
  - Any timescale – immediate intervention to long-range milestones
  - Track effort
    - Function of individual or group effort
    - Aides in assignment of work
    - No confusion on who is responsible for what
  - Privatize if contains sensitive info

- Allows universal group participation
- Maintain ability to prioritize

Online – Example Issue

Feature #665

RAL Facilities User Network in Lab7

Added by Coney, Linda 10 months ago. Updated 8 months ago.

Status:	Closed	**Start date:**	08 August 2011
Priority:	Normal	**Due date:**	12 September 2011
Assignee:	MacWaters, Craig	**% Done:**	100%
Category:	-		
Target version:	-		

Description

We need access to the Facilities User Network in Lab7 for commissioning/cosmic ray testing of the trackers. Currently we have micenet access for the tracker DAQ - this is not for other network access. Mike Courthold has approved Antony's plan for getting Facility User access in Lab7 - need to talk with Brit Jeeves of RAL Networking to finalize it. Need to purchase hardware and finish according to Antony's plan.

History

Updated by Coney, Linda 9 months ago #1

- **Due date** set to *12 September 2011*

Would like to have this working when Alan Bross and Paul Rubinov come back to work on the trackers in September.

Updated by MacWaters, Craig 9 months ago #2

Port doublers received and request passed to PPD and onto RAL networks. It is out of my hands...

Updated by MacWaters, Craig 8 months ago #3

This is completed. Just remember to change the connected computer to DHCP to connect!

Updated by Coney, Linda 8 months ago #4

- **Status** changed from *Open* to *In Progress*
- **% Done** changed from *0* to *50*

Excellent!

I told Alan that we now have Facilities User network access in Lab7 and he was happy to hear it. They won't have to go back to Ridgeway to get on the network now! Is it obvious where they plug in? If they are plugging in their laptops, they're already configured as dhcp. Do they need anything else?

Updated by MacWaters, Craig 8 months ago #5

A white netgear 5 port switch with facility users written on it has been made available for connection. There are a few network cables already up there.

Updated by Coney, Linda 8 months ago #6

- **Status** changed from *In Progress* to *Closed*
- **% Done** changed from *50* to *100*

Issues

View all issues
Summary
Gantt

Online – Example Issue #2

Bug #684

miceraid2 failed to reboot after power outage

Added by Coney, Linda 9 months ago. Updated 5 months ago.

Status:
Priority:
Assignee:
Category:
Target versi

Description

Need to diag
It did not boo
What is wron
MOM - please
miceraid2
miceraid2

History

Updated by Fa
Does anyone
worth removin

Updated by Ma
It didn't compl
us.
When exiting
IMHO, even if
look at replace

Updated by Ne
- **File** mic
- **File** mic

Pictures attach
make the RAID
The same mac
have seen bef
As far as I kno
and my person
Alain did ment
Even an entry

Issues
View all issues
Summary
Gantt

Updated by Nebrensky, Henry 9 months ago #4

N.B. this issue blocks ~~#683~~, which in turn blocks ~~#648~~ and #657

Updated by Fayer, Simon 9 months ago #5

I've seen this sort of problem with some motherboards before... After power-cuts they sometimes decide that you might have tried to over-clock them so drop all the clock frequencies down to the minimum possible and then refuse to boot... It should just be a case of changing the "user-defined" CPU field back to 2.33GHz (or whatever seems sensible in the list, it might instead make you set the "External bus" speed which should probably be 340MHz with a multiplier of 7, giving an estimated CPU clock of ~2.33GHz) and then saving the settings.

Updated by Nebrensky, Henry 9 months ago #6

I'd prefer to leave it to someone with a direct responsibility for the machine.

My concern is that sometimes the expansion bus speed can also be changed someplace, and that what appears to be corruption is actually an attempt to fix a problem else where (so we get a machine that boots but won't talk to its RAID card or similar).

miceraid1 has booted up, so presumably the correct settings could be copied from that.

Updated by Coney, Linda 9 months ago #7

- **Due date** set to *21 September 2011*

in progress. Simon will take a look and try to fix when next at RAL.

Added deadline of Sept 21

Updated by Coney, Linda 9 months ago #8

- **Status** changed from *Open* to *In Progress*
- **% Done** changed from *0* to *50*

Updated by Robinson, Matthew 8 months ago #9

Craig and I just booted the machine to see if there was anything we could learn and it's come straight up.

Updated by Coney, Linda 8 months ago #10

Well - good. It would still be nice to know what went wrong with it. Any way to tell? Or do we just have to wait for it to happen again?

Now that this is working - Yordan, can you work with the MOM to get the DAQ up again?

Updated by Coney, Linda 5 months ago #11

- **Assignee** changed from *Fayer, Simon* to *Robinson, Matthew*

Matt - please add any info you can on the recent difficulties we've been having with miceraid2.

Updated by Robinson, Matthew 5 months ago #12

There have been reports of instability and some of data corruption. It has not been dependable for months.
In anticipation of this we have prepared miceraid1 to serve as a substitute, but there has been reluctance to change over. miceraid1 has yet to be tested by the daq people.
I'm at RAL tomorrow, so I can attempt to repair it then if that's what you want.
Previous experience with this machine suggests that if you unplug it, wait half an hour and then start it up again it may well boot. But it will still not be reliable

Online – Example Issue #3

Bug #638

need new fuse on DAQ rack 1 NIM Crate

Added by Coney, Linda 10 months ago. Updated 6 months ago.

Status:	Closed	**Start date:**	05 August 2011
Priority:	Normal	**Due date:**	19 September 2011
Assignee:	MacWaters, Craig	**% Done:**	100%
Category:	-		
Target version:	-		

Description

wrong kind of fuse is on this rack

History

Updated by MacWaters, Craig 9 months ago #1

Fuse supposed to be 4Amp on mains supply. 6Amp slow blow is installed yet we've still got MCB tripping problem.

Changed controller/fan tray and still problem persists. This did at least allow us to turn this unit on/off at the front as previous controller switch was bust.

Only real issue can now be inrush current due to typical old psu problems like aged capacitors.

Changed power supply for a typical Camac model and all is now ok. Only thing is camac psu has 6 & 24V and old nim had 6/12/24V.

Need to check that none of the modules use 12V. Looking at front as far as I could tell all leds looked good. Think only using 6V line

Updated by Coney, Linda 9 months ago #2

- **Due date** changed from *10 August 2011* to *19 September 2011*
- **Status** changed from *Open* to *In Progress*
- **% Done** changed from *0* to *50*

Changed due date to 19th Sept. The target guys will need this crate/rack to be working reliably if they want to test the new target after installation in ISIS. Target installation scheduled to begin on 12th September.

Updated by MacWaters, Craig 8 months ago #3

12V psu voltage was required! Have put the original unit back in that has a slight inrush problem.
Steady state operation is fine for the while.
I need to replace this PSU very soon. I have a new NIM crate and PSU in R9.

Updated by Coney, Linda 6 months ago #4

- **Status** changed from *In Progress* to *Closed*
- **% Done** changed from *50* to *100*

DONE - Entire crate was replaced with brand spanking new Wiener PS provided by Maurizio last spring.

Looks fine - will test by running DAQ next week.

Issues

View all issues
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Operations – Wiki

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MICE » Operations

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Operations Wiki

History

Operations Meetings

Meetings to discuss issues specifically related to MICE Operations.

MICO Meetings

- Wednesday 14th December 2011 at 16.30 GMT

Other Operations Meetings

- Monday 12th December 2011 at 15.00 GMT
- Run Plan Mtg (22 March 2012)

Running

- Beamline Optics
- Web Whiteboard - list of issues to read before calling experts while running
- Safety
- Fire alarms in MICE hall
- Computing Information
- Control Room (MLCR)
- Rack Room
- Hall preparation list - actions needed in advance of running
- Guide to ISIS Machine physics
- Daily Shift/Run Plans

MICE Shifters

- The Unofficial Guide to being a Shifter
- First shift guide
- Draft comments on Shifter Training

MICE Operations Managers (MOMs)

- Information needed for the next MOM

redmine

- Updating Documentation

Steps of MICE

The definitions of the steps of MICE can be seen in the schedule.

Step 1

- Post-partum information

Wiki

Start page
Index by title
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Operations – Run Plans

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MICE » Operations Search:

Overview A

RunPlan20

Tracker plans

- Firmware
- Test read
- Test trigg
- Time in th
- Take data

The plan for timi
the TOF1 trigger

The overall pl

May	T
estimated hours	C
MOM	C
Lead shifter	K
Shifter 2	H
Shifter 3	
BLOC	C
SOC	R
Experimenter	A
Aim	T i
	T t
Beam?	Y
Additional Personnel	

Shifter hours

- Lead shi
- Shifter2
- Shifter3

Pion Beamline Configurations:

Particle Species	p at Tgt	p@D1	p@D2	p@Tof0	Proton Absorber	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	Ran?	Similar Run(s)
	MeV/c	MeV/c	MeV/c	MeV/c	mm	A	A	A	A	A	A	A	A	A	A	A	A		DAQ run #
pion	158.1	152.4	148.0	143.4	15	38.72	48.28	33.52	115.53	250.82	59.71	97.17	130.3	86.05	63.76	95.66	80.51	Y	3411
pion	200	195.4	192.1	189	15 (ideal~5)	49.5	61.8	43	147.2	322	76.7	127.1	170.5	112.9	104.1	157.3	134		3607-3609 but w/o DS
pion	272.42	268.67	265.98	263	29	68.9	84.9	59	203	443.1	104.8	176.8	237.1	157.2	157.6	238.5	203.7	Y	May 2012 Ref Runs
pion	286.3	282.6	280	277	29 (ideal~20)	71.5	89.3	62.1	214.1	466	110.1	186.3	249.8	165.6	167.3	253.2	216.3		3454, 3455
pion	300	296.4	293.8	291	29 (ideal~20)	74.9	93.6	65.1	225.3	489	115.4	195.5	262.2	173.9	176.7	267.4	228.5		3610 but w/o DS
pion	316.1	312.6	310	307	29 (ideal~25)	79	98.7	68.7	238.7	516	121.5	206.4	276.8	183.6	187.7	284.1	242.7		3504, 3505
pion	346.8	343.4	341	338	29 (ideal~35)	86.8	108.4	75.4	265.2	566.5	133.2	227.1	304.6	202.1	208.5	315.6	269.7		3457
pion	367.8	364.4	362	360	29	92.1	115	80	284.1	601	141.2	241.2	323.5	214.6	222.5	336.9	287.9		3426, 3427
pion	400	396.7	394.3	392	83 (ideal~64)	100.2	125.2	87.1	314.7	654	153.6	262.8	352.5	233.9	243.9	369.3	315.7	Y	
pion	428.6	425.3	423	421	83 (ideal~70)	107.4	134.2	93.4	343.5	702	164.7	282	378.2	251	262.9	398	340.3		3487, 3488
pion	450	446.7	444.4	442	83	112.8	141	98.1	366.2	737	173.1	296.4	397.5	263.8	277	399	358.7	Y	3489

Muon Beamline Configurations:

Particle Species	p@Tgt	p@D1	p@D2	p@Tof0	p@Diffuser	Proton Absorber	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	Ran?	Similar Run(s)
	MeV/c	MeV/c	MeV/c	MeV/c	MeV/c	mm	A	A	A	A	A	A	A	A	A	A	A	A		DAQ run #
muon																				

Operations: Run Planning in Redmine

- Recent data-taking period to commission new detector and integrate into overall DAQ
- Use Redmine to:
  - organize commissioning schedule
  - determine physics plan
  - Keep track of equipment readiness
  - Schedule availability of operations staff
- Evolved over time – input from multiple individuals
  - Initial version implemented by primary experimenter – SciFi Tracker Group
  - Supplemented by MOM, BLOC, Shifters

Operations: Run Planning in Redmine

- Improved communication
  - Viewed by Hall contractors – no access during running → need make arrangements
- Eased scheduling of shifters
  - Able to check schedule and sign up for available shifts
  - Already know when arrive, what planned, what expecting
- Provides permanent record
  - Daily plan shown
  - Beamline configurations clearly shown
  - Next time take data – easy to determine what was done
- Simplify MOM (MICE Operations Manager) handover – no doubt regarding what had happened

Redmine & Operations Managers

- MOM handover
  - Serve for 1 month – Multiple people/year – high rate of turnover
- Difficult to develop "positional memory"
  - Need record of work done, problems solved, problems
  - Paper handoff failed repeatedly
- Use Issue Tracker – always know what needs attention
  - Prioritize – high, normal, low
  - Successive MOMs contribute – develops history on each issue
- Allows intervention by several people while maintaining knowledge of past actions
- Use member-only features for sensitive information
  - Private or public issues

Operations – Documentation

MICE » Operations

Search:

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Documents

User documentation

Step 1 Post-Partum Action Items

10 September 2010 14:47

Compiled by C. Rogers, these are the action items resulting from the step 1 post-partum meeting

Luminosity Monitor Operating Instructi

29 September 2011 02:33

instructions on how to turn on/off lumi

Shifter Instructions for Running the Mo

18 April 2012 04:25

Operations instructions for shifters exp
data and some online plots onto tape,

How to Set the DAQ Spill Gate

30 September 2010 19:24

Describes how to check and adjust the

Magnet Checklist

29 September 2011 03:20

Checklist used when turning on any of

How to Change the Particle Trigger Con

12 July 2011 16:49

Operations instructions explaining how

Online Monitoring Instructions

06 December 2011 20:35

User instructions describing how to sta

Beamline Magnet Instructions

26 September 2011 23:43

Sort by

- Category
- Date
- Title
- Author

CKOV HV Settings

06 December 2011 21:45

Up to date (as of 1 Dec 2011) values for the HV on each CKOV channel.

Target Operations Checklist

12 December 2011 19:31

Checklist to be used ONLY BY EXPERT to start up & shut down the MICE target.

Controlled Access Checklist

06 December 2011 23:56

Checklist with instructions on how to prepare for a Controlled Access into the MICE Hall using the MICE Hall PPS, and on how to then return to Target operations after the Controlled Access has been completed.

MICE PPS User Guide

16 May 2012 19:04

Description of the functional operation of the MICE Search and Controlled Entry systems. Includes steps necessary for searches of the MICE Hall and enclosures using the PPS. Does not specify how to implement effective searches of the MICE areas so MICE equipment can be operated without harm to personnel....

Technical documentation

Luminosity Monitor Manual

28 September 2010 19:19

Detailed description of Luminosity Monitor including motivation for use, design and operation.

MoveFiles Manual

18 April 2012 04:26

Provides detailed information on what the MoveFiles script does and explains the filename convention needed by the script. This convention must be followed by developers creating additional online output plots in the future. Updated 10 February 2010....

Alarm Handler Manual

30 September 2010 19:56

Describes the use of the Alarm Handler and how it is tied to Slow Monitoring of hardware systems using EPICS.

Old Target Instructions & Manuals

29 November 2011 19:04

ONLY FOR ARCHIVE PURPOSES.
Instructions for operation of OLD target controller system. Includes manual and operating instructions for T560 programmable delay generator which is no longer in use.

Outline

- Intro
  - MICE – the Muon Ionization Cooling Experiment
- Issues with collaborative work
- Redmine: project management tool
- Solutions: Redmine in MICE
  - Online Group
  - Operations Group
  - Speakers Bureau
  - MAUS – Software Group
  - Executive Board
- Conclusions

MICE Speaker's Bureau

MICE

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Speaker's Bureau

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Mission

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Speakers shou
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Links to Cur

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List of MICE Presentations

History

Guidelines for Adding Your Own Talk or Poster

A separate page on the wiki has been created for hosting your source files (link) please upload all material there. When linking to your source material in these tables please copy the link generated from that page. Further instructions are available at the hosting page.

List of MICE Talks

Speaker	Referee	Conference			Title of Talk	Source	Abstract
		Name	Location	Date			
TBA		NOW 2012	Otranto, Italy	8-15 Sep 2012	Progress of MICE, the International Muon Ionization Cooling Experiment		link
TBA		NuFact 12	Willamsburg, USA	23-28 Jul 2012	TBD		
TBA		iCHEP 2012	Melbourne, Australia	4-9 Jul 2012	MICE Step I: First Measurement of Emittance with Particle Physics Detectors		link
					Progress in the Construction of the MICE Cooling Channel		link
					The MICE Beamline Instrumentation (trackers and PID) for Precise Emittance Measurement		link
TBA		ICFP 2012	Crete, Greece	10-16 June	Status of MICE, the International Muon Ionization Cooling Experiment		link
L. Coney		Neutrino 2012	Kyoto, Japan	3-9 June 2012	Progress in the construction of the MICE cooling channel		link
L. Coney		CHEP 2012	New York, USA	21-25 May 2012	Project Management Web Tools at the MICE Experiment		link
L. Coney					The MICE Online Systems		link
C. Tunnell					MAUS		
P. Smith	C. Booth	European Strategy for Neutrino Oscillation Physics II	CERN, Switzerland	14-16 May 2012	MICE: final goals and steps to completion	pdf	
D. Rajaram	Y. Torun	APS April Meeting 2012	Atlanta, USA	31 March 3 April 2012	Progress in the Construction of the MICE Cooling Channel	draft	link
G. Kafka					MICE Step I: First Measurement of Emittance with Particle Physics Detectors	draft	link
A. Blondel	A. Bross	NNN11	Zurich, Switzerland	7-9 November 2011	Status of MICE	pdf	link
M. Bonesini		2011 IEEE	Valencia, Spain	23-29 October 2011	The MICE Beamline Instrumentation (Trackers and PID) for a Precise Emittance Measurement	pdf paper	link
R. Asfandiyarov		COOL 11	Crimea, Ukraine	12-16 September 2011	MICE step I: First Measurement of Emittance with Particle Physics Detectors and Progress in the Construction of the MICE Cooling Channel	proceedings	link
						proceedings	link
U. Bravar		DPF 2011	Providence, United States	9-13 August 2011	MICE step I: First measurement of emittance with particle physics detectors	paper	link
D. Adey					MICE Step 1: First emittance measurement with particle physics detectors	pdf	link

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- Chris Heidt (UCR)

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Redmine & Software Group

MICE » MAUS

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MAUS

Main Page | Classes | Files | Directories

- File List
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File List

Here is a list of all files with brief descriptions:

/redmine_repos/maus/doc/doc_tools/framework.hh [code]
/redmine_repos/maus/src/common_cpp/DetModel/MAUSSD.cc [code]
/redmine_repos/maus/src/common_cpp/DetModel/MAUSSD.hh [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/DoubletFiberParam.cc [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/DoubletFiberParam.hh [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/SciFiPlane.cc [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/SciFiPlane.hh [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/SciFiSD.cc [code]
/redmine_repos/maus/src/common_cpp/DetModel/SciFi/SciFiSD.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/FieldPhaser.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/FieldPhaser.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSEventAction.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSEventAction.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSGeant4Manager.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSGeant4Manager.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSPhysicsList.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSPhysicsList.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSPrimaryGeneratorAction.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSPrimaryGeneratorAction.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSRunAction.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSRunAction.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSStackingActionKillNonMuons.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSStackingActionKillNonMuons.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSSteppingAction.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSSteppingAction.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSTrackingAction.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSTrackingAction.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSVisManager.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/MAUSVisManager.hh [code]
/redmine_repos/maus/src/common_cpp/Simulation/VirtualPlanes.cc [code]
/redmine_repos/maus/src/common_cpp/Simulation/VirtualPlanes.hh [code]

- Classic use of redmine
  - software engineering
- Link in continuous integration
- Issue tracker (ie. bugs)
- Organize meetings
- Online Bazaar Repository Viewer

Redmine & Executive Board

- Used for tracking actions
- Keeping minutes of regular meetings
- Disseminate information to the collaboration
- Easy to use!

Redmine Overall

- Matches well with the detail-oriented engineer/physicist
- Easy to use – widespread participation
- Better information retention and communication
- Allows structured tracking of effort
- Have a searchable record of work

Summary & Conclusions

- Extremely valuable tool for small collaboration
- Enable global cooperation on tasks across the board
- Visit us at *mice.rl.ac.uk*

MICE: Design

- ***MICE is designed to produce a 10% cooling effect on the muon beam***
- ***Use particle detectors to measure the cooling effect to 1%***
- ***Measurements will be done with muon beams having momentum of 140 MeV/c – 240 MeV/c***
- **Method:**
  - Create beam of muons
  - Identify muons and reject background
  - Measure single particle parameters x, p_x, y, p_y, p_z
  - Cool muons in absorber
  - Restore longitudinal momentum component with RF cavities
  - Identify outgoing particles to reject electrons from muon decay

Redmine & Operations Documentation

- Crucial to maintain up-to-date operations documentation
  - Run checklists for MOM, BLOC, use of PPS
  - Shifter operations instructions
  - Manuals for detectors, beamline elements, DAQ, C&M, Online Reconstruction, Data Transfer

- Anything related to Operations must be actively maintained