2013 ALCF User Survey Results

Introduction

This document provides the results of the ALCF 2013 User Survey. Every year the ALCF seeks feedback from its users. This year, 31.7% of our users responded to the survey. Partially completed surveys were considered responses. Respondents included both project PIs and users from each of our core-hour allocation programs: INCITE, ALCC, and Director's Discretionary. The primary data contained in this document are the frequencies, percentages--or averages, as appropriate--of the responses for each question.

Survey Design

This survey was designed to move ALCF users quickly through the most salient questions about the facility. Survey questions were grouped behind filtering yes/no questions. In one case, users chose from a list and if they selected a specific choice, the related questions were filtered.

ALCF hired survey experts from Cvent, a web survey hosting and consulting company, to manage the 2013 survey. The team drew upon Cvent's vast experience and incorporated lessons learned from our previous survey and internal feedback from various ALCF teams, ALCF leadership, the ALCF User Advisory Council, and ASCR. The result was a streamlined survey, improved questions, and a representative user response to the survey.

Demographics

ALCF users are located around the world and are representative across allocations. The pie chart below shows the distribution of users across the different allocation programs. Users were categorized by their most substantial allocation program. The table shows the top five countries in which our users reside. Other countries in the top 20 included: United Kingdom, Canada, China, Italy, Brazil, Russia, Saudi Arabia, Taiwan, Denmark, Spain, Australia, Belgium, Ireland, New Zealand, and Poland.
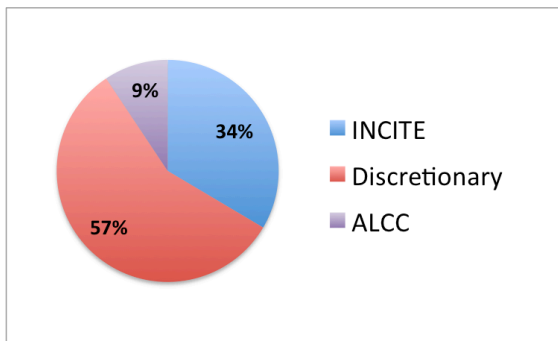
Country	Pct. Total
U.S.	83.0%
France	1.7%
Switzerland	1.7%
Germany	1.6%
India	1.6%

2013 ALCF User Survey Results

Overall Satisfaction

Users were very satisfied overall with the Argonne Leadership Computing Facility in 2013 as reflected in the following survey results.

Overall, how would you rate your experience with the Argonne Leadership Computing Facility in 2013?

Question Subject	Excellent	Above Average	Average	Below Average	Poor
Overall Satisfaction	232	93	35	3	1

2013 ALCF User Survey Results

Science at ALCF

The core mission of the ALCF is to support breakthrough science on one of the most powerful supercomputers in the world. The survey targets this mission by asking the users about the progress of their science goals and whether ALCF had an impact on these goals.

Was the progress you made toward the major science goal(s) of your project during your 2013 allocation satisfactory? Yes completely = 56.9%; Yes partially = 36.8%; No, not really = 6.3%.

Response	Frequency
yes, completely	207
yes, partially	134
no, not really	23

How important was ALCF support in affecting the level of progress toward your science goal(s) in 2013? Very important = 59.9%; Somewhat important = 32.1%; Not important = 8.0%

Response	Frequency
very important	218
somewhat important	117
not important	29

ALCF users were given an opportunity to provide comments in the science section. Users classified these comments by choosing whether ALCF had a positive or negative role toward their scientific progress.

Please use the box below to comment on ALCF's role in contributing to your project's progress. Positive role = 95.9%; Negative role = 4.1%.

Response	Frequency
Positive Role	278
Negative Role	12

2013 ALCF User Survey Results

User Support

Users were asked, "Please select the means by which you used these support resources in 2013." If a user selected, "Did Not Use Staff Support," they were not asked detailed questions related to user support. Note that in cases where respondents are asked to select "all that apply," response percentages can total more than 100%.

Please select the means by which you used these support resources in 2013. (Select all that apply)	Frequency	Percent
Email	299	82%
Phone	138	38%
Web site (e.g., 'Contact Us' web form)	125	34%
In-Person	100	27%
Other Support Resources	8	2%
Did Not Use Staff Support	42	11%

ALCF asked users to rate quality of documentation, quality of on-line support, and availability of support.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
On-line Support	111	153	44	11	2	8
Professional/Courteous	244	73	4	1	1	3
Support Availability	183	119	13	3	0	4

Users were then asked about perception of account activation time, ease of finding documentation, and whether key documentation types were available.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Login Soon After Application	172	100	22	10	5	17
Easy to Find Documentation	112	145	44	16	3	7
Documentation Types available	110	140	54	10	3	9

The following table was presented as reference for the document types.

Here are documentation types often found in web documentation:
- **Technical Reference**: Detailed documentation typically used by experts.
- **Flowchart /Process Descriptions**: Diagrams to show a process.
- **"HOW TO"**: Difference between HOW TO/tutorial lays in specificity/depth.
- **Tutorials**: Information that walks a user through a detailed set of steps to accomplish a task or action.
- **Getting Started**: A step-by-step guide to assist new users as they ramp up.
- **Glossary**: A list of terms and their definitions.
- **FAQ**: Unique things that are not amenable to treatment in a topic reference.

2013 ALCF User Survey Results

ALCF users were given an opportunity to provide comments in the user support section. Users classified these comments by choosing one or more of the following selections: praise, suggestion for improvement, problem, or complaint.

Type of Comment	Frequency
Praise	112
Suggestion for Improvement	32
Problem Experienced	9

2013 ALCF User Survey Results

Infrastructure and Software

The first part of this section of questions focuses on the computing environment: the scheduler, hardware, operating system, basic libraries, storage/tape, and visualization hardware. Since all respondents used the infrastructure and software, there was no "filter question" for this section.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Disk/Tape Sufficient	147	124	22	9	3	59
Capability Reasonable	135	102	32	2	1	92
Scheduling Turnaround	104	126	58	16	2	58
Availability of Tools	110	113	58	4	3	76
Availability of Libraries	131	120	49	6	6	52
Visualization	56	35	25	4	0	244

A set of questions also asked about the operating environment.

Question Subject	Extremely Satisfied	Somewhat Satisfied	Neither	Somewhat Dissatisfied	Extremely Dissatisfied	N/A
Systems Reliability	189	127	20	7	0	21
Storage Capacity	203	103	14	7	2	35
Build Environment	156	102	24	13	2	67
Communicating Updates	207	98	14	6	0	39

ALCF added a section of questions around community codes. Users were asked, "Are community codes a part of your computational science efforts?"

Response	Frequency
Yes	151
No	93
I don't know what community codes are	103

If a user selected, "No," or "I don't know what community codes are," they were not asked the following questions related to community codes.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Use Community Code	82	46	7	1	1	11
Use ALCF Compiled Community Code	38	27	10	10	25	38

ALCF Maintenance Day

ALCF is required at times to shut down its computers for routine maintenance. Users were again asked to rank each day of the week as either the best, good, neutral, bad, or the worst day for maintenance. The results show a continued strong preference for Monday maintenance. Rating numbers are calculated using Best = +2, Good = +1, Neutral = 0, Bad = -1, and Worst = -2. It is worth noting that even though all other days have more "best" rankings (and some have fewer "worst"), Monday has a higher overall preference because it has many more "good" and many fewer "bad" ratings than the other days.

Week Day	Best	Good	Neutral	Bad	Worst	Rating
Monday	30	121	39	139	44	163
Tuesday	52	22	64	212	23	10
Wednesday	45	25	31	249	23	-10
Thursday	69	12	43	225	24	-50
Friday	41	53	38	138	103	-103

ALCF users were given an opportunity to provide comments in the Infrastructure and Software section. Users classified these comments by choosing one or more of the following selections: praise, suggestion for improvement, problem, or complaint.

Type of Comment	Frequency
Praise	66
Suggestion for Improvement	31
Problem Experienced	10
Complaint	6

2013 ALCF User Survey Results

Science and Technical Support

This section of the survey addresses the effectiveness of ALCF support at problem resolution, including emails sent to support@alcf.anl.gov, phone calls, and in person meetings with individuals at the ALCF.

This survey section started with the initial filter question: "Did you use ALCF support to resolve a problem during your 2013 allocation?" 211 users responded "Yes," while 128 users responded "No," or "Not that I remember," in which case they were not asked the subsequent questions.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Satisfactory Resolution	148	63	8	6	1	1
Prompt Assistance	154	60	10	3	0	0
Complete/Accurate Assistance	148	66	8	3	1	1

Users also provided input about why they used ALCF science and technical support.

Primary reasons for using ALCF science and technical support	Frequency
Gaining access to the leadership computing systems.	142
Assistance with completing the goals of my project.	101
Improving code performance.	66
Preparing an INCITE proposal.	42
Communicating with subject matter experts.	32
Providing quarterly reports to ALCF.	20
Preparing an ALCC proposal.	9
Other Reasons	33

ALCF users were given an opportunity to provide comments in the science and technical support section, and again were able to classify these comments as praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	74
Suggestion	17
Problem	6
Complaint	6

2013 ALCF User Survey Results

Developing Code

This section of the survey asked questions related to developing codes on ALCF Blue Gene systems, namely Intrepid and Mira.

This survey section started with the initial filter question: "Did you log into the ALCF systems and compile code that ran on Intrepid or Mira?" 270 users responded "Yes," while 94 users responded "No." If a user responded "No," they were not asked the subsequent questions.

Users were asked about their experience with debugging technologies in ALCF.

Sentiment	bgq_stack	coreprocessor	gdb	DDT	TotalView
Tool Not Chosen	95	111	100	122	128
Unaware of Tool	30	39	12	23	16
User Tried Tool	28	12	30	23	17
User Considered Useful	57	29	50	21	18
User Trained	9	6	11	9	8
Too Complicated	2	2	2	3	4
Tool Slowness	1	0	1	5	6
GUI Slowness	1	1	0	9	11
More Documentation	10	5	2	6	7
More Training	11	10	3	11	14
Crashes/Doesn't Work	1	1	3	8	4

The following choices were presented for threading frameworks for users.

Threading Framework	Frequency
OpenMP	129
No threading	61
Pthreads	47
CUDA	18
OpenCL	9
IntelTBB	4
Other	6

2013 ALCF User Survey Results

Users were presented choices on common roadblocks that make threading challenging.

Roadblocks encountered when threading code	Frequency
Only makes sense in a few places in my code.	40
Performance is poor compared to MPI-only implementation.	31
Code is not thread safe.	25
Threads are complicated to implement.	25
Only implemented in libraries I use (BLAS/LAPACK i.e., ESSL).	15
Code cannot be threaded due to insufficient fine-grain parallelism.	14
Other	17

Users then were presented I/O mechanisms/library choices.

I/O Approach	Frequency
MPI-IO	138
HDF5	85
POSIX	74
NetCDF	35
Custom or Others	45

ALCF users were given an opportunity to provide comments in the code development section, and again were able to classify these comments as praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	45
Suggestion	4
Problem	4
Complaint	2

ALCF Catalysts

Since many ALCF users did not have a Catalyst and so would not be able to answer the questions in this section, the section contained the initial filter question: "Did you interact with a Catalyst as part of your use of ALCF services?" 123 users responded "Yes," 168 users responded "No," and 58 users responded' "I don't know." Only users who answered "Yes" were asked questions about their Catalysts.

Of the 131 users who answered "Yes," ALCF presented questions relating to the Catalysts and their role in the project.

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Project Benefited by Catalyst	88	33	6	0	3	2
Prompt/Professional	93	30	3	2	1	3
Helped with Performance Issue	40	15	7	0	2	14
Understood Constraints	80	33	7	0	6	6
Assisted on Problems	87	30	6	1	1	7

ALCF users were given an opportunity to provide comments in the Catalyst section, and again were able to classify these comments as praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	43
Suggestion	2
Problem	1
Complaint	2

2013 ALCF User Survey Results

Workshops

Since not all users attended ALCF workshops, this section of the survey had the initial filter question: "Did you attend an ALCF sponsored workshop during your 2013 allocation?" 88 users responded "Yes," and 261 users responded "No." The results in the table below are for those users who responded that they had attended an ALCF designed and managed workshop.

ALCF Staff Measure	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Got to know staff/services	54	28	3	0	0	8
Got project running	38	17	11	4	0	23
Relevant/helpful training	53	27	4	0	0	9
Sufficient access to experts	56	25	4	1	0	7
Performance help	42	20	12	0	1	18
Using new tools/libraries	35	25	11	2	1	20
Understood science	32	24	15	1	0	20
Understood bottlenecks	32	28	10	1	1	22

ALCF users were again given the opportunity to provide comments as part of the workshop section, and could classify those comments as praise, suggestion for improvement, problem, or complaint.

Response	Frequency
Praise	33
Suggestion	1
Problem	1

2013 ALCF User Survey Results

Double-Barreled Questions

Double-barreled questions "are single questions that ask for opinions about two different things. If respondents like one thing but not the other, they are unable to answer. For example: How satisfied are you with your wages and hours at the place where you work? If the respondents are satisfied with their hours but not with their wages, they cannot reply in terms of very satisfied-fairly satisfied-not at all. The researcher should ask two questions, not one.[1]"

To allow for a response on both issues, the survey should ask two questions, not one. Thus this example question from Sheatsley would be changed to two questions:
- *Question 1: How satisfied are you with your wages at the place where you work?*
- *Question 2: How satisfied are you with your hours at the place where you work?*

In the 2013 survey, we sought clarification on survey questions that had been presented as double-barreled in years past:

To help us understand if you distinguish between "courteous" and "professional," please indicate any differences by showing your level of agreement with the following two statements: "The ALCF staff is courteous," and, "The ALCF staff is professional."

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Professional & Courteous	244	73	4	1	1	3
Professional	245	70	7	2	0	2
Courteous	240	75	8	1	0	2

To help us understand if you distinguish between "complete" and "accurate," please indicate your level of agreement with each of the statements below: "The ALCF staff provides complete assistance and/or answers to my questions," and, "The ALCF staff provides accurate assistance and/or answers to my questions."

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Accurate & Complete	148	66	9	3	0	1
Accurate	152	64	5	4	0	2
Complete	148	63	12	2	1	1

---

[1] Sheatsley, Paul B., "Questionnaire Constructions and Item Writing" pg. 216, in Rossi, Peter H., James Wright, and Andy Anderson, Handbook of Social Research, Boston, Academic Press, Inc. 1983

2013 ALCF User Survey Results

To help us understand if you distinguish between 'complete' and 'accurate,' please indicate your level of agreement with each of the statements below: "The Catalyst was prompt in our dealings," and, "The Catalyst was professional in our dealings."

Question Subject	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Prompt & Professional	93	30	3	2	1	3
Prompt	94	26	6	3	0	3
Professional	105	18	4	0	2	3