

## **Executive Summary**

In an effort to promote continual improvement a survey was conducted to gather information from the users of the Oak Ridge Leadership Computing Facility (OLCF) at Oak Ridge National Laboratory (ORNL). The survey collected feedback about user needs, preferences, and experiences with OLCF and its support capabilities. Attitudes and opinions on the performance, availability, and possible improvements of OLCF resources/services were also solicited. The survey was created by the Assessment and Evaluation team within Oak Ridge Associated Universities (ORAU), in collaboration with OLCF staff.

## **Respondents**

At the end of the five-week survey period, 706 users completed the survey out of 1443 possible respondents, giving an overall response rate of 48.9%. Respondents' projects were supported by ECP (38%), INCITE (32%), Director's Discretion (37%), and ALCC (20%) allocations.

## **Data Collection**

The survey sampling frame was constituted by first collecting the names of individuals who had logged into an OLCF system between January 1, 2021, through September 30, 2021. OLCF staff and vendors, as well as individuals with invalid email addresses, were then removed from the list. Any users who did not have at least one project allocation categorized as INCITE, DD, ALCC, or ECP were also removed from the list, per guidance from OLCF indicating that additional project allocations were not intended for the annual user survey. OLCF staff invited all OLCF users from this list to participate in the survey, which was hosted online beginning on October 7, 2021, and remained open for completion through November 16, 2021. Since visitors to the OLCF website and others on OLCF distribution lists could access the survey, one additional user was identified and added to the user group after they had responded. Forty-nine users were removed from the user group because their email addresses were unreachable at the time the survey was administered.

## **Results**

The sections below report respondent satisfaction ratings for OLCF resources/services in four main categories (Overall Satisfaction, Computing Resources, Data Resources, and OLCF Support and Services) and their subcategories.

Table and figures will include one or more of the following data elements:

- N = Total number of respondents who answered the question
- n = Total number of respondents who answered the specific item in the question or who provided a specific response
- M = the arithmetic average of respondents' scores from 1 (very dissatisfied) to 5 (very satisfied)
- SD = Standard deviation (indicating average deviation from the mean)
- Var = Variance, the square of the standard deviation, or the deviation from the mean in squared units; this statistic is included only in the overall summary tables, because it is reported by OLCF to the Department of Energy (DOE)
- %Sat = percentage of respondents indicating 4 (satisfied) or 5 (very satisfied) on satisfaction scales
- %Agree = percentage of respondents indicating 4 (agree) or 5 (strongly agree) on agreement scales, applicable only to the myOLCF Self-Service Portal

## Overall Results

	<u>PI Status</u>					<u>Non-PI Status</u>					<u>Total</u>				
	<i>N</i>	<i>M</i>	<i>Var.</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>Var.</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>Var.</i>	<i>SD</i>	<i>%Sat</i>
<b>OLCF</b>	<b>101</b>	<b>4.81</b>	<b>0.17</b>	<b>0.42</b>	<b>99%</b>	<b>592</b>	<b>4.54</b>	<b>0.33</b>	<b>0.57</b>	<b>96%</b>	<b>693</b>	<b>4.58</b>	<b>0.32</b>	<b>0.56</b>	<b>96%</b>
<b>Compute Resources</b>	<b>94</b>	<b>4.71</b>	<b>0.25</b>	<b>0.50</b>	<b>98%</b>	<b>565</b>	<b>4.51</b>	<b>0.39</b>	<b>0.62</b>	<b>95%</b>	<b>659</b>	<b>4.54</b>	<b>0.37</b>	<b>0.61</b>	<b>95%</b>
Summit	90	4.73	0.22	0.47	99%	527	4.50	0.41	0.64	95%	617	4.53	0.39	0.62	95%
Andes	25	4.92	0.08	0.28	100%	135	4.60	0.35	0.59	95%	160	4.65	0.32	0.56	96%
<b>Data Resources</b>	<b>54</b>	<b>4.70</b>	<b>0.29</b>	<b>0.54</b>	<b>96%</b>	<b>261</b>	<b>4.54</b>	<b>0.42</b>	<b>0.65</b>	<b>92%</b>	<b>315</b>	<b>4.57</b>	<b>0.40</b>	<b>0.63</b>	<b>93%</b>
Data Transfer Nodes	41	4.54	0.40	0.64	93%	149	4.44	0.38	0.62	97%	190	4.46	0.39	0.62	96%
HPSS	30	4.73	0.27	0.52	97%	103	4.59	0.30	0.55	97%	133	4.62	0.30	0.54	97%
Alpine GPFS Scratch Filesystem	36	4.61	0.42	0.64	92%	177	4.59	0.30	0.55	97%	213	4.59	0.32	0.56	96%
<b>OLCF Support</b>	<b>101</b>	<b>4.79</b>	<b>0.21</b>	<b>0.45</b>	<b>98%</b>	<b>591</b>	<b>4.48</b>	<b>0.46</b>	<b>0.68</b>	<b>91%</b>	<b>692</b>	<b>4.52</b>	<b>0.44</b>	<b>0.66</b>	<b>92%</b>
Issue response	62	4.76	0.22	0.47	98%	318	4.57	0.38	0.62	94%	380	4.60	0.36	0.60	95%
<b>OLCF Services</b>	<b>101</b>	<b>4.72</b>	<b>0.26</b>	<b>0.51</b>	<b>97%</b>	<b>590</b>	<b>4.44</b>	<b>0.39</b>	<b>0.62</b>	<b>93%</b>	<b>691</b>	<b>4.48</b>	<b>0.38</b>	<b>0.62</b>	<b>94%</b>
Projects and Accounts	67	4.88	0.11	0.33	100%	248	4.68	0.33	0.58	95%	315	4.72	0.29	0.54	96%
User Assistance	67	4.84	0.23	0.48	99%	284	4.64	0.34	0.59	95%	351	4.68	0.33	0.57	96%
INCITE Liaisons	35	4.74	0.31	0.56	94%	87	4.36	0.67	0.82	80%	122	4.47	0.60	0.77	84%
Data Liaisons	20	4.90	0.09	0.31	100%	80	4.38	0.62	0.79	81%	100	4.48	0.56	0.75	85%
Documentation	47	4.49	0.39	0.62	94%	321	4.44	0.35	0.59	96%	368	4.45	0.35	0.59	95%
Website	52	4.42	0.37	0.61	94%	263	4.35	0.44	0.66	90%	315	4.37	0.42	0.65	90%
Communications	96	4.76	0.23	0.48	98%	557	4.47	0.38	0.62	94%	653	4.52	0.37	0.61	94%
Training	30	4.73	0.27	0.52	97%	155	4.54	0.32	0.56	97%	185	4.57	0.31	0.56	97%
<b>Min</b>	<b>20</b>	<b>4.42</b>	<b>0.08</b>	<b>0.28</b>	<b>92%</b>	<b>80</b>	<b>4.35</b>	<b>0.30</b>	<b>0.55</b>	<b>80%</b>	<b>100</b>	<b>4.37</b>	<b>0.29</b>	<b>0.54</b>	<b>84%</b>
<b>Max</b>	<b>101</b>	<b>4.92</b>	<b>0.42</b>	<b>0.64</b>	<b>100%</b>	<b>592</b>	<b>4.68</b>	<b>0.67</b>	<b>0.82</b>	<b>97%</b>	<b>693</b>	<b>4.72</b>	<b>0.60</b>	<b>0.77</b>	<b>97%</b>

## Summit Results

	<u>PI Status</u>				<u>Non-PI Status</u>				<u>Total</u>			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Scheduling turnaround	89	4.48	0.72	89%	513	4.15	0.84	81%	602	4.20	0.83	82%
System availability	90	4.66	0.62	92%	524	4.36	0.74	89%	614	4.40	0.73	89%
Availability of tools	86	4.69	0.49	99%	510	4.42	0.72	90%	596	4.46	0.70	91%
Availability of libraries	86	4.60	0.60	94%	516	4.40	0.75	89%	602	4.43	0.73	90%
Programming environment	87	4.68	0.58	97%	512	4.43	0.75	90%	599	4.47	0.73	91%
Overall satisfaction with Summit	90	4.73	0.47	99%	527	4.50	0.64	95%	617	4.53	0.62	95%

## Andes Results

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Scheduling turnaround	25	4.80	0.50	96%	127	4.54	0.63	94%	152	4.59	0.61	95%
System availability	25	4.88	0.33	100%	134	4.61	0.62	94%	159	4.65	0.60	95%
Availability of tools	22	4.82	0.39	100%	130	4.53	0.65	93%	152	4.57	0.63	94%
Availability of libraries	23	4.83	0.49	96%	128	4.52	0.68	91%	151	4.57	0.66	92%
Programming environment	25	4.92	0.28	100%	131	4.61	0.61	93%	156	4.66	0.58	94%
Overall satisfaction with Andes	25	4.92	0.28	100%	135	4.60	0.59	95%	160	4.65	0.56	96%

## HPSS Results

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
hsi/htar interface	27	4.59	0.64	93%	83	4.39	0.76	88%	110	4.44	0.74	89%
Globus interface	23	4.78	0.52	96%	82	4.63	0.56	96%	105	4.67	0.55	96%
Ability to store/retrieve files	30	4.73	0.52	97%	101	4.55	0.61	94%	131	4.60	0.59	95%
Reliability (data integrity)	29	4.79	0.49	97%	95	4.68	0.55	96%	124	4.71	0.54	96%
Time to store/retrieve files	28	4.46	0.74	86%	100	4.43	0.69	89%	128	4.44	0.70	88%
Frequency of outages	26	4.65	0.63	92%	96	4.43	0.69	89%	122	4.48	0.68	89%
Overall satisfaction with HPSS	30	4.73	0.52	97%	103	4.59	0.55	97%	133	4.62	0.54	97%

## Alpine Results

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Size	35	4.80	0.53	94%	175	4.62	0.57	95%	210	4.65	0.57	95%
I/O bandwidth	35	4.54	0.70	89%	173	4.57	0.64	94%	208	4.57	0.65	93%
File and directory operations	35	4.63	0.65	91%	175	4.51	0.68	92%	210	4.53	0.67	92%
Reliability (data integrity)	36	4.75	0.50	97%	171	4.61	0.63	94%	207	4.64	0.61	95%
Frequency of outages	36	4.58	0.65	92%	168	4.45	0.69	90%	204	4.48	0.68	90%
Overall satisfaction with Alpine GPFS Scratch Filesystem	36	4.61	0.64	92%	177	4.59	0.55	97%	213	4.59	0.56	96%

## Support and Services Results

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
OLCF Support (problem resolution and support from OLCF staff)	101	4.79	0.45	98%	591	4.48	0.68	91%	692	4.52	0.66	92%
OLCF Services (tools, training, docs, myOLCF, etc.)	101	4.72	0.51	97%	590	4.44	0.62	93%	691	4.48	0.62	94%

## Website Results

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Ease of navigation	51	4.45	0.58	96%	259	4.34	0.66	90%	310	4.36	0.65	91%
Search capabilities	48	4.33	0.69	88%	246	4.28	0.69	86%	294	4.29	0.69	86%
Usefulness of content	52	4.46	0.67	94%	262	4.39	0.65	91%	314	4.40	0.65	91%
Overall satisfaction with the OLCF website	52	4.42	0.61	94%	263	4.35	0.66	90%	315	4.37	0.65	90%

6

## MyOLCF Agreement Responses

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Agree</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Agree</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Agree</i>
myOLCF has made getting and/or renewing an OLCF account easier	54	4.33	0.75	83%	187	4.24	0.71	85%	241	4.26	0.72	85%
myOLCF has provided me with improved information about my project's utilization	58	4.41	0.70	88%	186	4.27	0.70	87%	244	4.31	0.70	87%
myOLCF is easy to navigate	58	4.36	0.69	88%	213	4.24	0.71	86%	271	4.27	0.71	86%

## User Documentation

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Ease of navigation	47	4.51	0.62	94%	319	4.44	0.66	95%	366	4.45	0.65	95%
Search capabilities	45	4.40	0.69	89%	305	4.28	0.72	88%	350	4.29	0.72	88%
Quality of the documentation	47	4.51	0.59	96%	321	4.47	0.61	95%	368	4.48	0.60	95%
Overall satisfaction with the OLCF documentation	47	4.49	0.62	94%	321	4.44	0.59	96%	368	4.45	0.59	95%

## Training

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Number of training events offered	28	4.54	0.69	89%	146	4.48	0.60	95%	174	4.49	0.62	94%
Breadth of training events offered	28	4.54	0.64	93%	145	4.44	0.67	92%	173	4.46	0.66	92%
Quality of the content of the training	28	4.64	0.62	93%	153	4.50	0.60	96%	181	4.52	0.60	96%
Usefulness of the online training archive ( <a href="https://docs.olcf.ornl.gov/training/training_archive.html">https://docs.olcf.ornl.gov/training/training_archive.html</a> )	27	4.85	0.46	96%	144	4.56	0.54	98%	171	4.61	0.54	98%
Overall satisfaction with OLCF training	30	4.73	0.52	97%	155	4.54	0.56	97%	185	4.57	0.56	97%

## Problem Resolution

	PI Status				Non-PI Status				Total			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>%Sat</i>
Quality of technical advice given to reported issues	61	4.72	0.55	98%	310	4.55	0.64	94%	371	4.58	0.62	94%
Timeliness of responses to reported issues	62	4.77	0.42	100%	317	4.58	0.64	95%	379	4.61	0.62	96%
Overall satisfaction with OLCF's response to reported issues	62	4.76	0.47	98%	318	4.57	0.62	94%	380	4.60	0.60	95%