Service Now Analytics Report

By Jiner Zheng

Introduction

Service Now is the ticketing system that the ITS uses to document all the technology issues that faculty and staff members reported. Each incident would be entered as a ticket and resolved by corresponding staff members.

Section I:

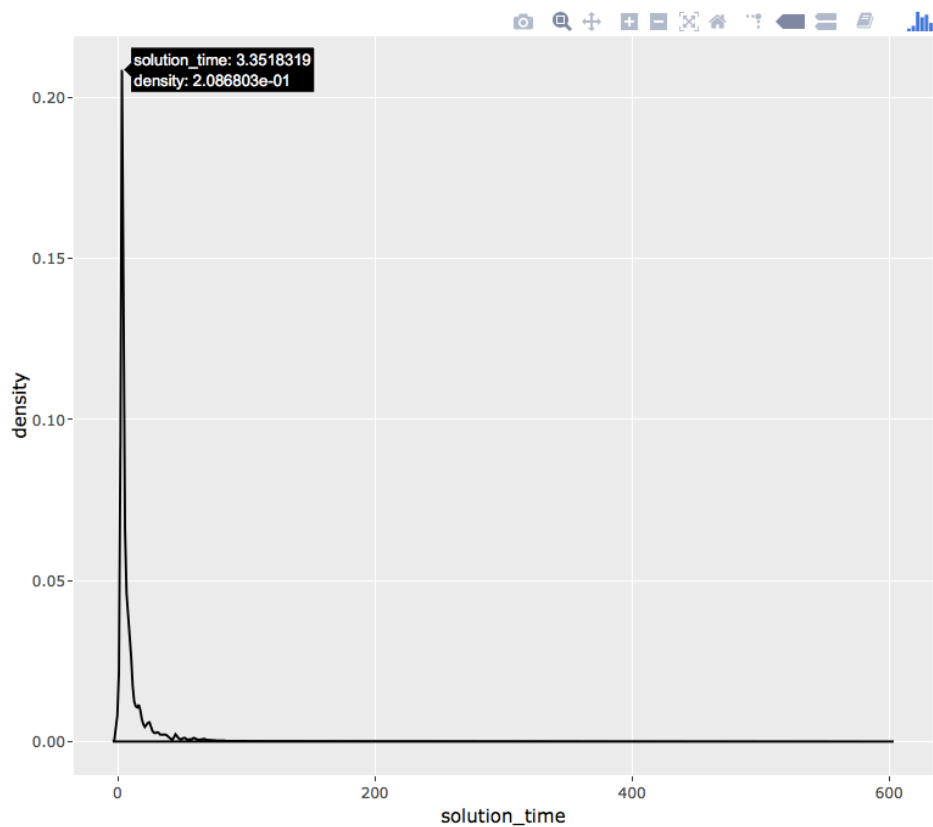**Total number of incidents in all years** (from 07/01/2016 to 05/30/2019): 8293

Number of incidents by years:

Year	Total number of incidents
2016 (from 07-01 to 12-31)	1688
2017 (from 01-03 to 12-27)	2709
2018 (from 01-02 to 12-29)	2788
2019 (from 01-01 to 05-30)	1108
Total	**8293**

Section II: Major Findings and Themes

Summary Statistics of Time:

	Created time	Closed time	Solution time (days)
Min.	2016-07-01 17:25:21	2016-07-05 15:27:11	-3.78
1st Qu.	2017-02-15 16:52:50	2017-03-02 13:00:00	3.12
Median	2017-11-14 13:18:38	2017-11-25 12:00:04	4.21
Mean	2017-12-01 07:27:00	2017-12-11 23:43:58	10.68
3rd Qu.	2018-09-19 15:44:39	2018-10-02 11:14:13	9.26
Max.	2019-05-30 14:35:14	2019-06-02 16:00:09	603.34

solution_time: 3.3518319
density: 2.086803e-01

As shown on the table above and on the left graph, most incidents (n = 3449) took 2 ~ 4 days to be resolved. 2816 incidents took longer than a week; 541 incidents in total took longer than a month to be resolved, and 6 incidents took longer than a year to be resolved.

Top 10 incidents that took longest time:

|	assignment_group	closed_by	urgency	caller_id.department	category	created_time	closed_time	solution_time
1	CabinetAssignment	Vince Spiars	3 – Low	TRO	accounts and email	2017–01–17 21:28:17	2018–09–13 05:37:22	603.339641203704
2	CabinetAssignment	Vince Spiars	3 – Low	PRES	software	2017–03–21 14:08:26	2018–09–13 05:38:41	540.646006944444
3	AdminAssignment	Keith Stebbins	3 – Low	UNRL	accounts and email	2017–10–12 12:15:44	2018–12–24 12:00:07	437.989155092593
4	Div2Assignment	Joseph Rich	2 – Medium	HIST	request	2016–07–22 10:05:41	2017–09–29 11:00:06	434.037789351852
5	Div2Assignment	Brendan Plake	2 – Medium	RELI	software	2016–10–11 15:21:33	2017–12–11 10:00:10	425.77681712963
6	Div2Assignment	Joseph Rich	3 – Low	RELI	software	2016–08–20 15:45:24	2017–09–29 11:00:06	404.801875
7	AdminAssignment	Brendan Plake	3 – Low	ITS	request	2016–07–14 13:34:48	2017–06–23 15:00:05	344.059224537037
8	AdminAssignment	Joseph Rich	3 – Low	ACAF	software	2017–06–30 16:40:03	2018–05–07 14:00:04	310.888900462963
9	Div2Assignment	Joseph Rich	2 – Medium	PSYC	hardware	2017–01–10 13:19:48	2017–09–29 11:00:07	261.902997685185
10	AdminAssignment	Joseph Rich	2 – Medium	UNRL	software	2016–11–21 09:33:11	2017–07–30 10:00:03	251.018657407407

A brief overview of the number of incidents over time:

interactive chart link: file:///Volumes/courses/QAC/Apprenticeship/summer19/jzheng/time_by_incidents.html
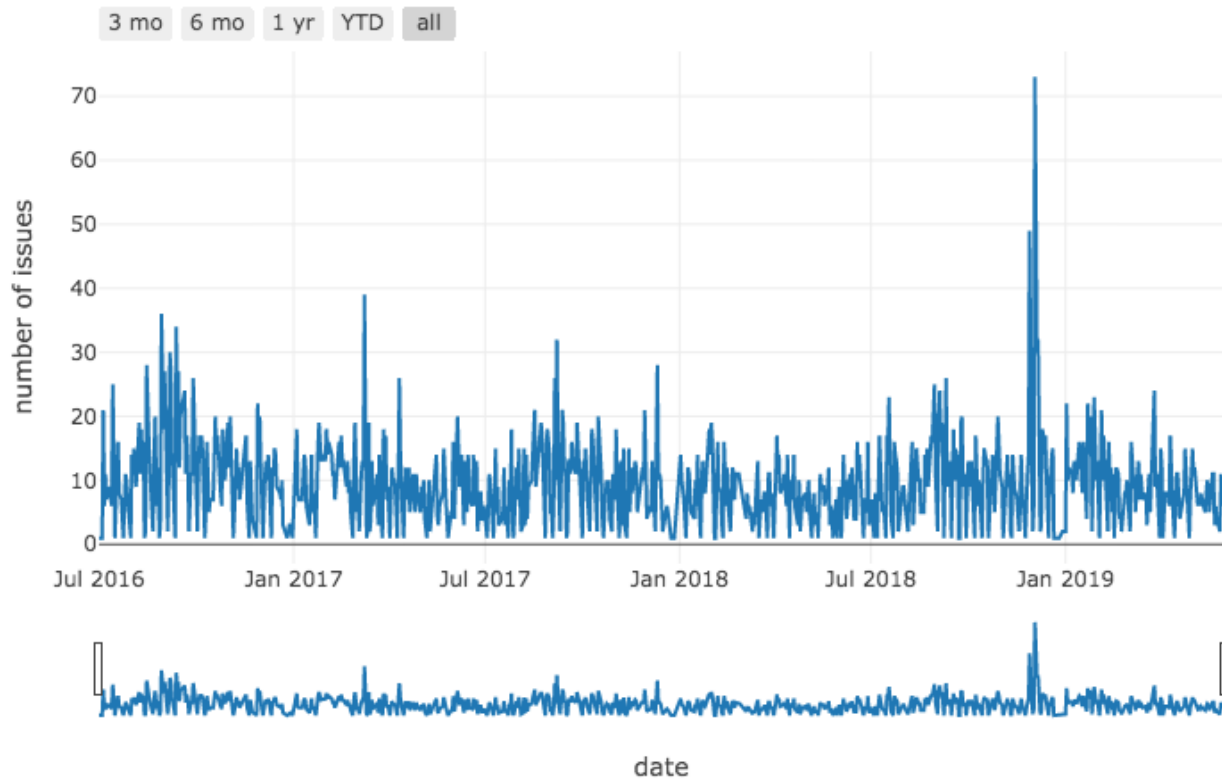
A brief overview of average resolution time over time:

interactive chart link: file:///Volumes/courses/QAC/apprenticeship/summer19/jzheng/

time_by_resolution.html
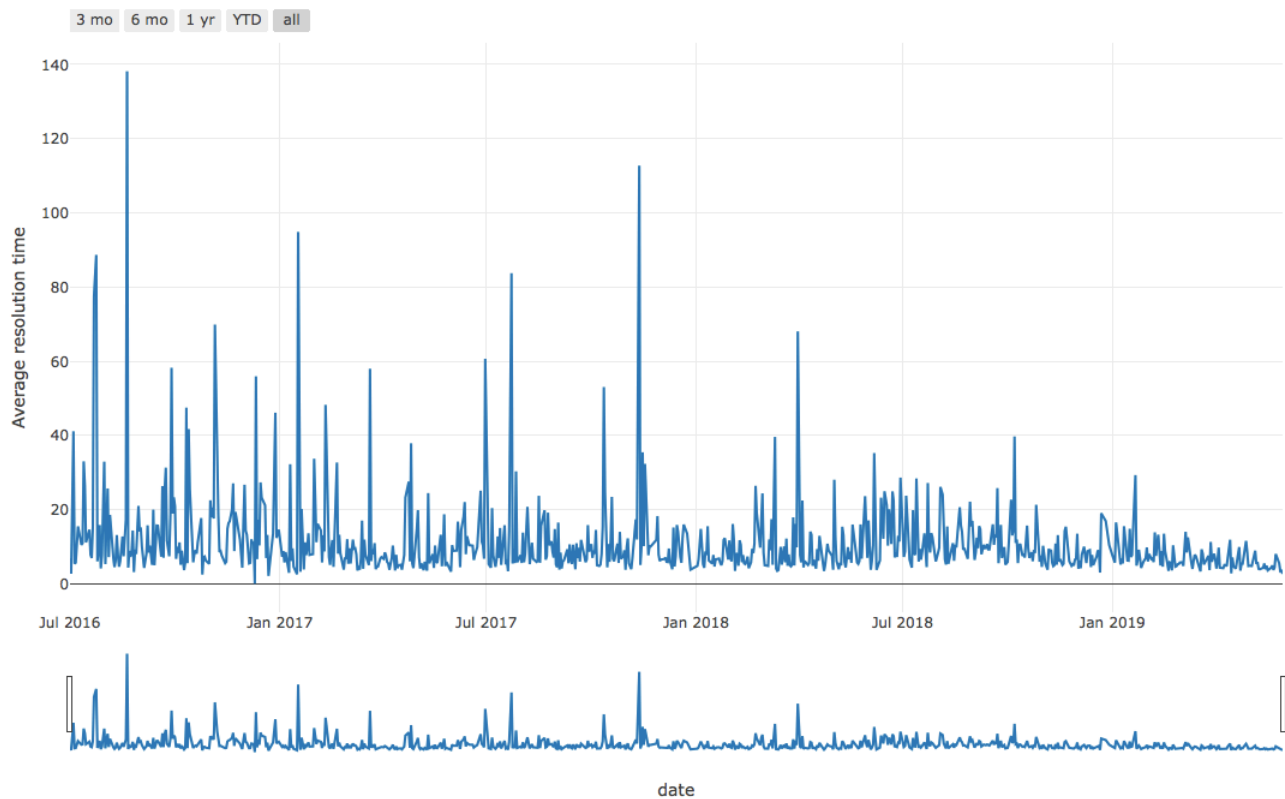
As shown by the two time plots above, it is worth noticing that the number of incidents in December, 2018 was significantly higher than any other time, but its average resolution time was much lower than others. Besides, regardless of the relatively low number of incidents, the average resolution time in August, 2016 (mean resolution time was 138.14 days) and in November, 2017 (mean resolution time was 112.71 days) was significantly higher than other dates. However, the difference in average resolution time could be associated with different types of incidents or their urgency levels.

Top 10 resolvers who had been assigned to most incidents and their average resolution time:

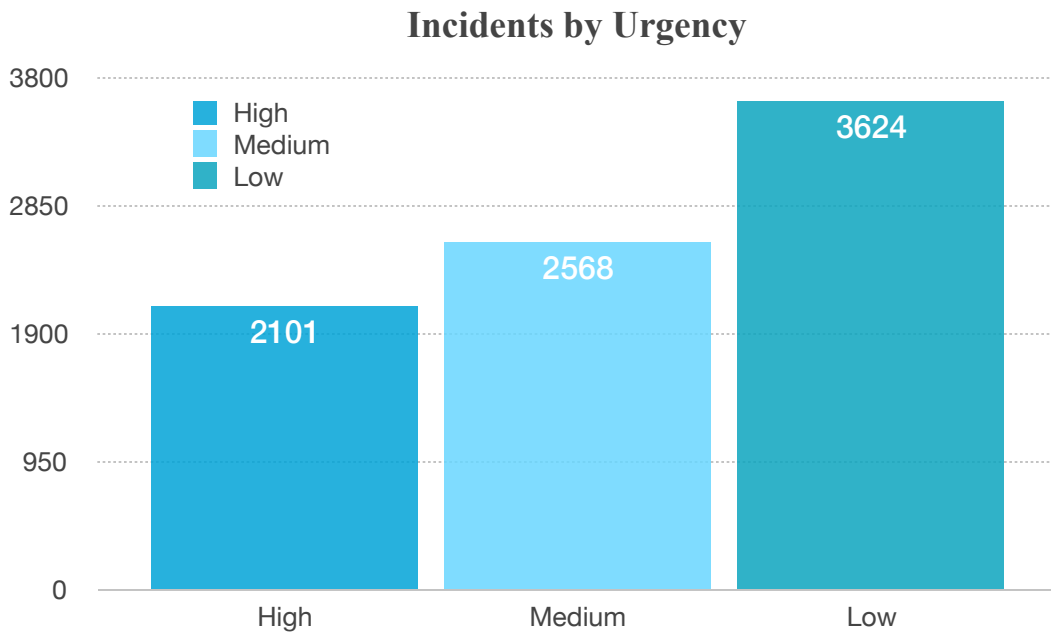| closed_by	avg_solution_time	number
Admin Account	9.95261295755873	1285
Zeyad Abdulkareem	8.76424956556697	1071
Julian Goldfield	8.12112239583333	1040
Joseph Rich	16.6007951759349	1031
Benjiman Jackson	9.08580254771064	982
Brendan Plake	14.1814444572335	724
Keith Stebbins	8.27435112341362	715
Vince Spiars	11.6460275803905	387
Jim Kamm	15.9574780864198	375
Michael Stielau	7.27172263864393	189

Top 10 resolvers who had highest resolution time and the number of incidents they were assigned to:

closed_by	avg_solution_time	number
Mohit Bachhav	94.0350462962963	1
Mackenzie Renaud	65.8125115740741	1
Antonio Crespo	53.1391782407407	1
Andrew Walker	51.9423958333333	1
John Neyssen	47.6334143518518	2
Karen Warren	24.6307581018519	4
Miriam Cope	23.9649884259259	2
Christopher Caesar	20.6258888888889	5
Anna Rogers	17.865150462963	1
Rachel Schnepper	17.0063850308642	3

Number of incidents by urgency:

As shown by the following table and bar chart, over the past four years (from 07/01/16 to 05/30/19), the number of incidents that were of low urgency (n=3624) was relatively higher than of medium (n=2568) or of high urgency (n=2101).

Number of incidents by urgency

Urgency	Number of incidents	Percent
Low	3624	43.70%
Medium	2568	30.97%
High	2101	25.33%

Incidents by Urgency

High		
Medium		
Low		

High: 2101
Medium: 2568
Low: 3624

(Y-axis values: 0, 950, 1900, 2850, 3800)

Number of incidents by contact type:

Overtime, the contact type of the majority (more than 90%) of incidents was self-service (n=7661), following by 4.67% of incidents contacted through Email. However, only one incident was contacted by room check.

| Contact Type	Number of incidents	Percent
Self-service	7661	92.37911%
Email	387	4.66659%
Phone	205	2.47196%
Walk-in	39	0.47028%
Room check	1	0.01206%
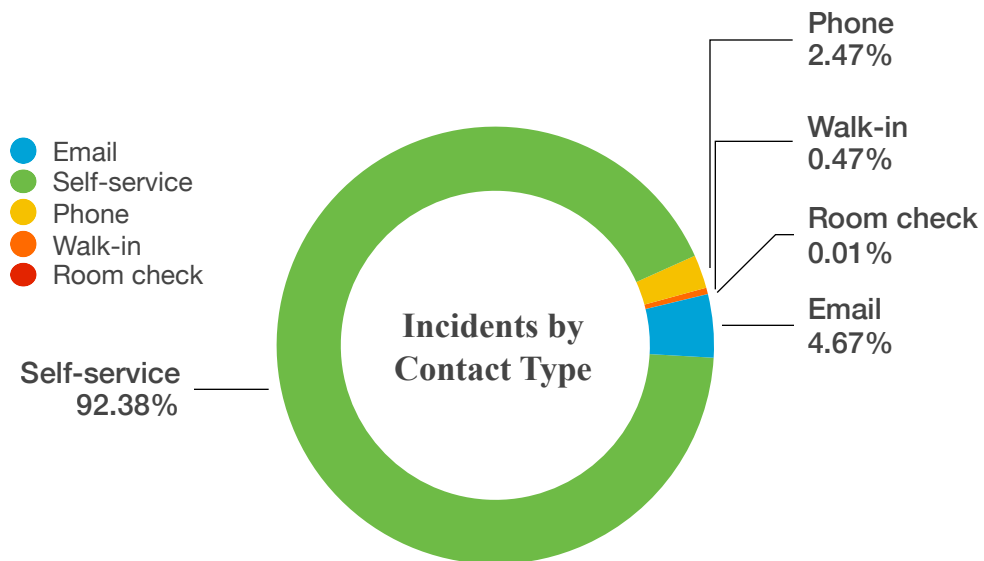
Number of incidents by assignment group:

Assignment Group	Number of Incidents	Percent
AdminAssignment	4487	54.106%
Div2Assignment	1402	12.906%
Div1Assignment	1234	14.88%
Div3Assignment	1009	12.167%
CabinetAssignment	161	1.941%
Total	**8293**	**100%**

Incidents by Assignment Group
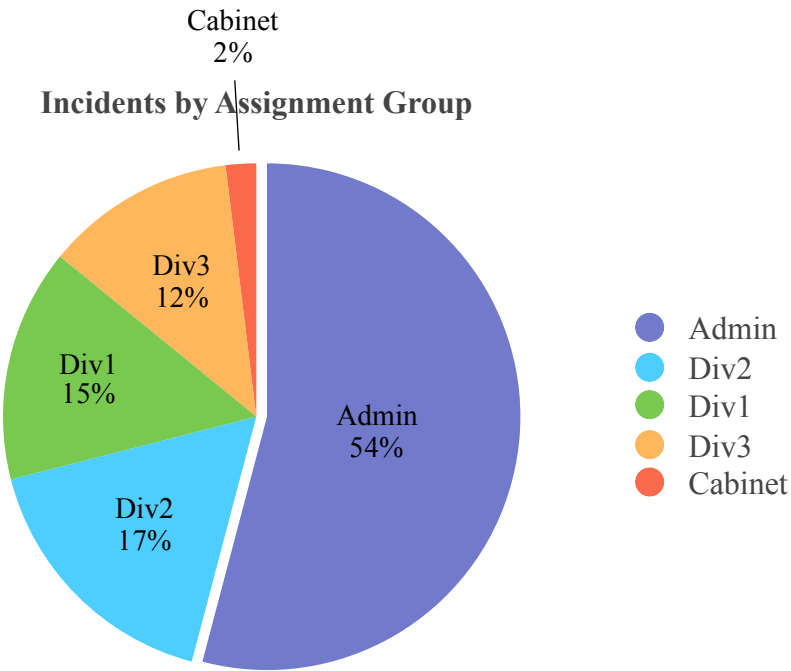
Number of incidents by Category:

There were 1735 incidents that were categorized as request, and 6558 incidents not categorized as request. Among all incidents throughout the time, about 28% incidents were categorized as software issues, 21% were categorized as request, 15% were categorized as accounts and emails, 13% were hardware problems, 9% were printing problems, 3.7% were about networking, 2.6% were about security, and some other categories were relatively not significant.
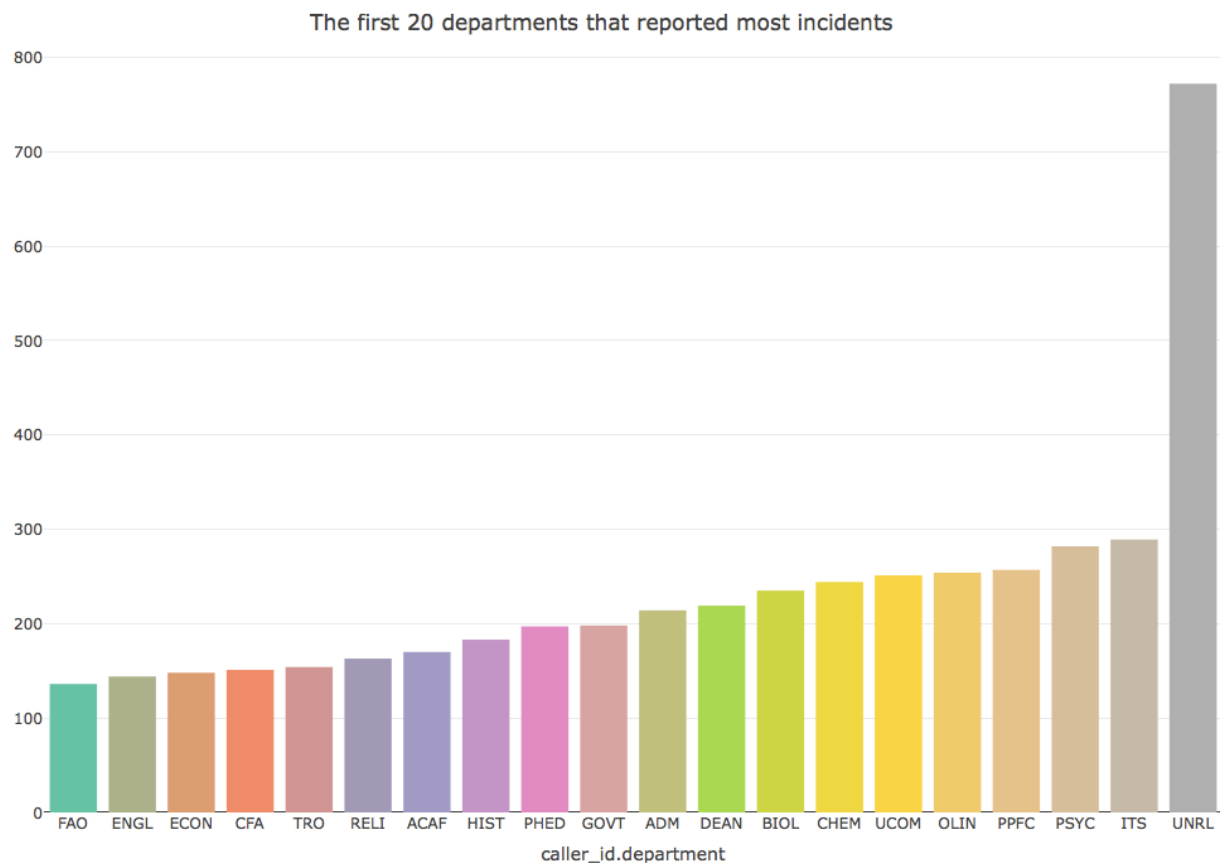
As for more specific subcategory, some often appeared issues contained licensed incidents (n=588), software installing problems (n=269), OS (267), computer problems (210), etc. However, notice that the majority of incidents were unspecified (5795).

Top 12 Most Often Appeared Issues (Subcategory)

licensed	588	hardware installation	100
software install	269	training	96
OS	267	accounts	71
computer	210	password	51
department Ricoh	196	wireless	48
permissions	107		
Unspecified	**5795**		

Incidents categorized as and not as Request

Number of incidents categorized as Request	1735
Number of incidents not categorized as Request	6558

Category	Count
software	2360
request	1735
accounts and email	1230
hardware	1054
printing	783
Others	401
networking	310
security	216
admin systems	78
non-Wesleyan owned	64
instructional computing	28
website	26
telephony	8

Category	Number of incidents	Percent
software	2360	28.45774%
request	1735	20.92126%
accounts and email	1230	14.83179%
hardware	1054	12.70951%
printing	783	9.4417%
networking	310	3.73809%
security	216	2.60461%
admin system	78	0.94055%
non-Wesleyan owned	64	0.77174%
instructional computing	28	0.33763%
website	26	0.31352%
telephony	8	0.09647%
Others	**401**	**4.8354%**

Number of incidents by department:

The first 20 departments that reported most incidents

Top 30 Departments that reported most incidents

Dept	Count	Dept	Count	Dept	Count
UNRL	772	GOVT	198	FAO	136
ITS	289	PHED	197	HRD	135
PSYC	282	HIST	183	RLAN	134
PPFC	257	ACAF	170	ART	130
OLIN	254	RELI	163	E&E	126
UCOM	251	TRO	154	ORL	126
CHEM	244	CFA	151	REG	123
BIOL	235	ECON	148	MB&B	117
DEAN	219	GOVT	198	COST	115
ADM	214	ENGL	144	CPC	111

MEAN	72.11