Improve IT service delivery to federal departments

Use Data Analysis to discover the major reasons that cause long incident resolution times

Motivation

- Finding out the main reason that causes an incident to take too long to be resolved.
- Learning this could help SSC increase the efficiency of their services, which would in turn make federal departments more efficient.

# How many services work on the longest tickets?

Ticket vs Time vs Service vs Organization vs Reassignments

Ticket Num..	Org Id
IN10175674	1342
IN10184280	1123
IN10163878	835
IN10152196	1047
IN10164629	1342
IN10182830	1062
IN10075957	1038
IN10209421	1053
IN10043153	942
IN10194483	1057
IN10197067	1342
IN10243274	1063
IN10237214	1060
IN10202887	1247
IN10160340	1038
IN10158438	1047
IN10244246	1342
IN10201933	1038
IN10155805	1047
IN10153228	1048
IN10143822	1342
IN10174798	1047
IN10249814	1213
IN10154411	1048
IN10244376	1342
IN10223802	1038
IN10218349	1342
IN10162962	1047
IN10173500	1342
IN10173914	1028
IN10218152	1062
IN10251653	1342
IN10202847	1342
IN10152663	1213
IN10205779	1342
IN10199673	1342
IN10169060	1047
IN10172524	1342
IN10168586	1213
IN10226326	1355
IN10180325	1342
IN10212375	1058
IN10208946	1047
IN10172625	1342
IN10220394	1047
IN10242429	1060
IN10221699	1053
IN10216624	1038
IN10205428	910
IN10195610	1342

Sum of Time In Status By Owner Hours

Distinct count of Number Of Services

Service
- Classified Infrastructure - GCSI - Hosting Environment
- Cloud Brokering
- Conferencing - Videoconferencing
- Contact Centre
- Data Centre Facilities Management
- Database
- Directory Services
- Email
- Facilities - Data Centre Facilities Racking & Stacking
- Firewall
- Fixed - PBX
- Fixed - VoIP
- Fixed Line
- GC WAN
- GC WAN International
- High-performance Computing
- HPC -Big Data Exchange
- IBN - Cabling - Install and Material
- IBN - Data Centre Network
- IBN - GC LAN
- IBN - GC Wi-Fi
- Internal Credential Management (ICM)
- Intra-building Network Services
- Mainframe
- Middleware
- Midrange
- Midrange - Windows -X86
- Mobile - Enterprise Mobile Device Management (EMDM)
- Mobile - Mobile Device - Government Cellular Services
- Mobile - Voice & Data
- Mobile Devices
- Other - Data Centre
- Other - Security
- Other - Service Management
- Other - Telecom & Network
- Secure Remote Access
- Storage
- Storage - File
- Toll-free Voice

Parent Service
- Classified Infrastructure
- Cloud Brokering
- Conferencing Services
- Contact Centre
- Data Centre Facilities Management
- Database
- Directory Services
- Email
- Firewall
- Fixed Line
- GC WAN
- High-performance Computing
- Internal Credential Management (ICM)
- Intra-building Network Services
- Mainframe
- Middleware
- Midrange
- Mobile Devices
- Other Activities
- Secure Remote Access
- Storage
- Toll-free Voice

Sum of Time In Status By Owner Hours and distinct count of Number Of Services for each Org Id broken down by Ticket Number. For pane Sum of Time In Status By Owner Hours: Color shows details about Parent Service. For pane Distinct count of Number Of Services: Color shows details about Service. The view is filtered on Ticket Number, which has multiple members selected.

Correlation between reassignments and completion time

Business Completion Time vs Reassignments by Priority(in period of 1 year)
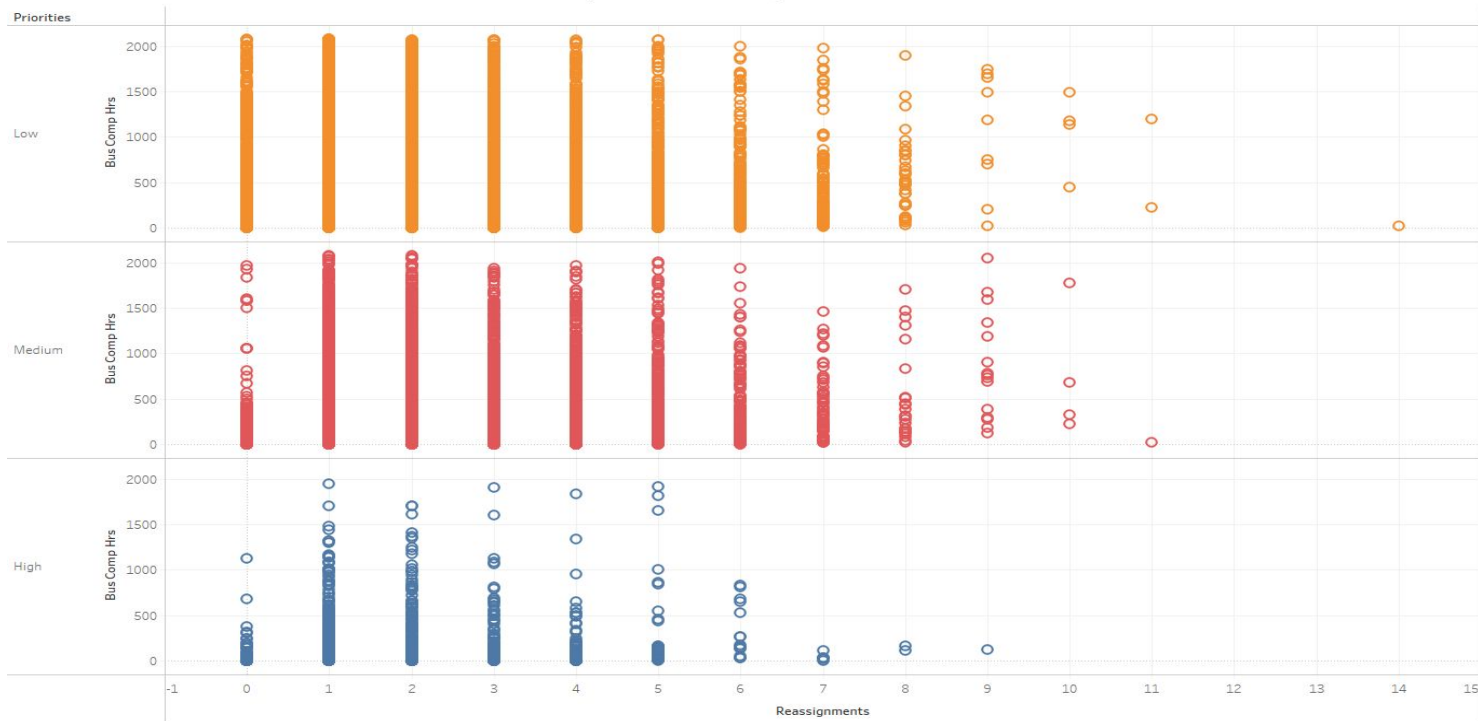
Reassignments vs. Bus Comp Hrs broken down by Priorities. Color shows details about Priorities. The view is filtered on Priorities and Bus Comp Hrs. The Priorities filter excludes NA. The Bus Comp Hrs filter ranges from 0 to 2080.

Low Priority: r = 0.2334189; **Medium Priority:** r =0.2433998; **High Priority:** r = 0.1807678

Correlation of STATUS spending hours and Total hours

Proportional Total hours spent by groups in different statuses
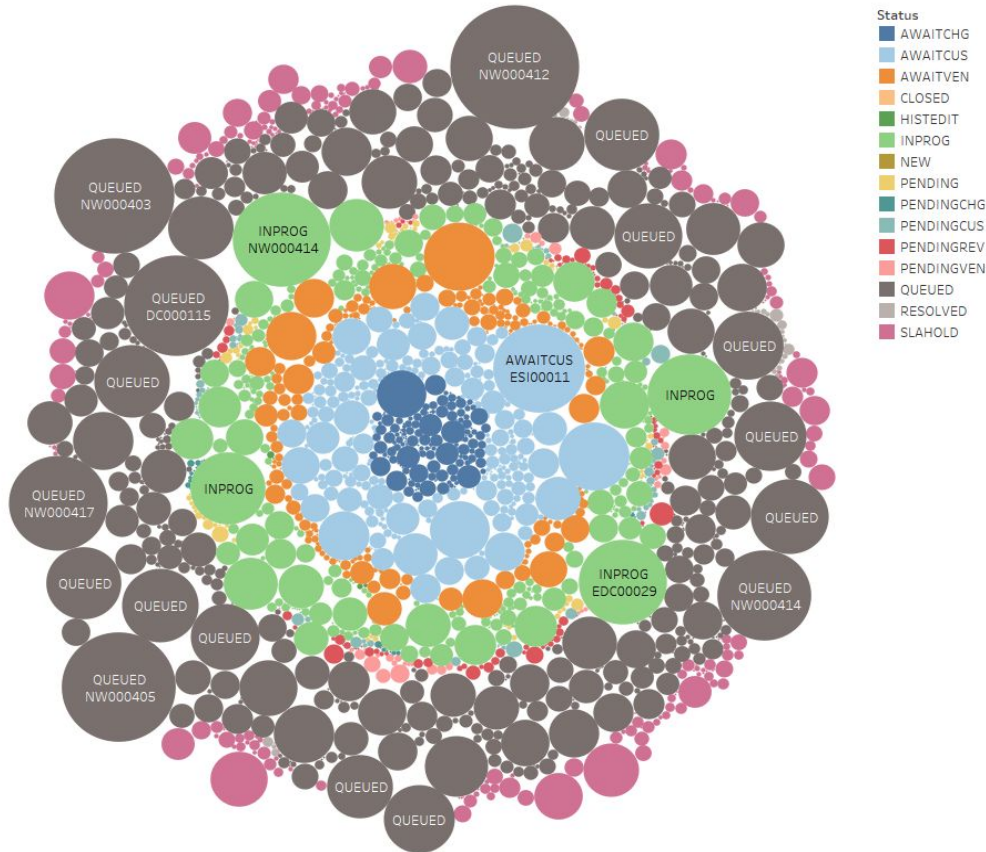
The time spent in **"Queued"** and **"In Progress"** had the greatest effect on extending total hours.

Which Organizations Require the Most Time?

Organization Business Hour Consumption by Priority
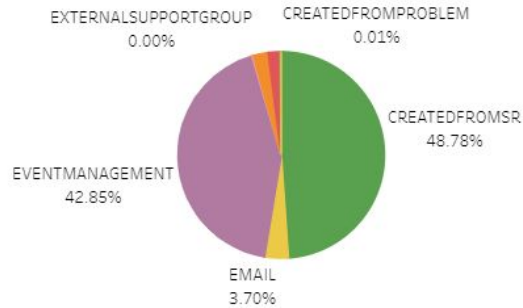
Low Priority
Business Hours

Organization ID

Org ID	Average Hours (Low Priority)
918	1,684
1237	1,364
1083	546
1085	355
1273	256
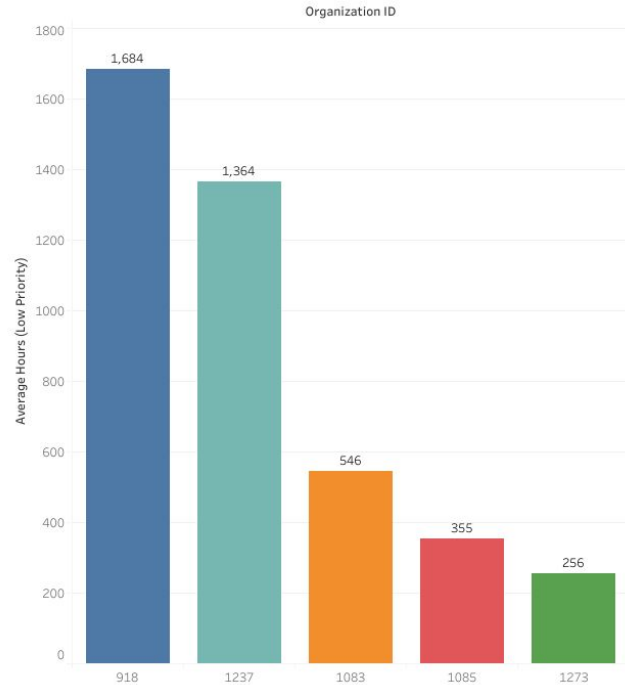
Medium Priority
Business Hours

Organization ID

Org ID	Average Hours (Medium Priority)
1085	471.6
1260	423.9
948	416.3
1030	246.8
1017	221.6

High Priority
Business Hours

Organization ID

Org ID	Average Hours (High Priority)
1032	1,410
1342	1,174
1303	615
978	482
1017	359
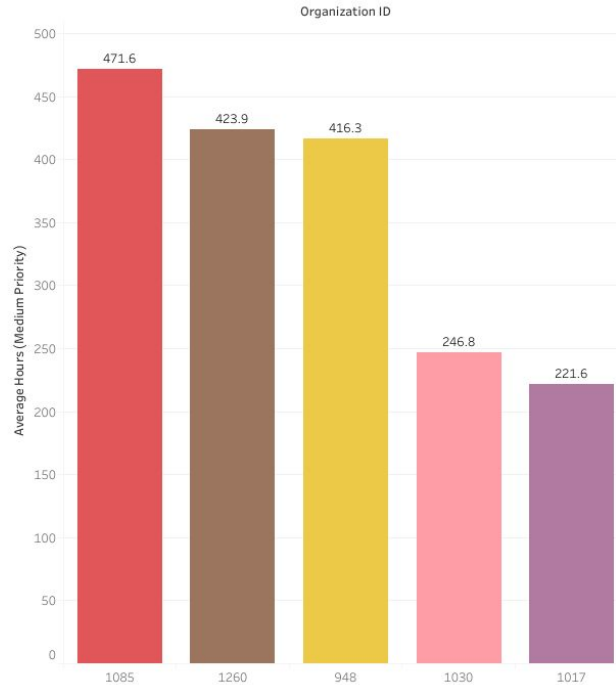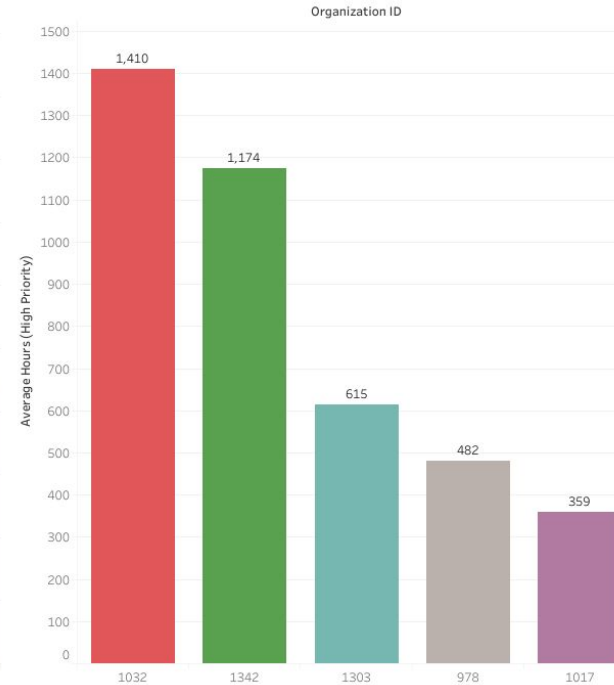
High Event Management Ticket Incidents

1. Proportion of Total Tickets

EXTERNALSUPPORTGROUP 0.00%

CREATEDFROMPROBLEM 0.01%

CREATEDFROMSR 48.78%

EVENTMANAGEMENT 42.85%

EMAIL 3.70%

2. Proportion of Organization ID by Ticket Counts for Event Management

1342
43,055

1065

1047
18,068

1062

1028

1355
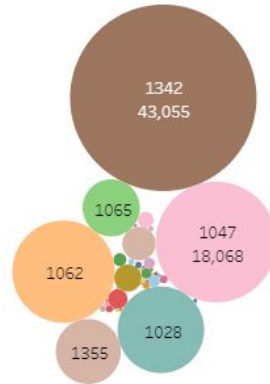
3. Proportion of Class Problems Among Top 5 Organizations

IT Issue\Hardware
26,430

IT Issue
22,480

IT Issue\Software
15,530

IT Issue\Networks
5,191

IT Issue\Software\Other Software

IT Issue\

IT Issue\Application
5,973

Event Management Key Points

- 43% of total tickets are **event management**

- **Top 5 organizations** are 91% of **event management** tickets

- **Hardware** and **Software** are critical problems of top 5 organizations

Conclusion

Conclude the **MAIN REASONS** that may cause tickets to consume a significant amount of time:

1. Majority of time was spent on **"Queued"** and **"In Progress".**
2. These Organizations had majority of the tickets with the most of the reassignments for the long period of time to resolve the issue:

<div align="center">

1342, 1062, 1047, 1028

</div>

3. Most of the tickets in **Low and Medium priority** were **reassigned the most** and takes longer period of time to resolve them.
4. These Organizations spent most of their business time to resolve the incidents

<div align="center">

Low: 918, 1237 **Medium:** 1085, 1260, 948 **High:** 1032, 1342

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5. Majority of the tickets were related with Hardware and Software issues.
6. There is a weak correlation between the number of reassignments and the business completion hours.

Suggestions

What can SSC do to provide better service?

1. **Improve** the queueing process to make sure the tickets are assigned to a group faster.

2. **Investigate** the issues of the organizations which have the most re-assignments and tickets as they are impacting the resolution time.

3. **Investigate** groups under "Other Activities" category to understand why they have majority of the tickets. Model needs to be created and existing services to be overviewed to reassign those tickets to proper services.

4. **Invest** into IT infrastructure for event management tickets of key organizations could possibly reduce 40% of incoming incidents.