



Data & Analytics Portal (DAP):

A dapper solution to data disorder

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Saskatchewan Information and Library Services (SILS)

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Presentation Contents

- What is SILS?
- Developing Data Services
- It's Too Complicated!
- We Can Make It Better
- Assessment and Future Plans
- Questions?

Presentation Contents



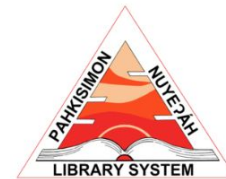
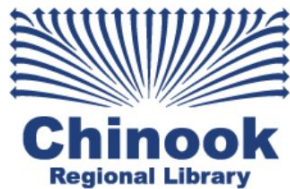
What is SILS?



What is SILS?

SILS is: Saskatchewan Information and Library Services

- A consortium of all the public libraries in Saskatchewan
 - Formed in 2009
 - 11 libraries (3 city libraries, 7 regional libraries, 1 northern library system)
 - Over 300 branches



What is SILS?

The SILS Office is...

- A team of 6 staff created by the consortium to provide technology support for the member libraries
 - Overseen by the board of library directors
 - An executive director, 2 sys. admins., an infrastructure analyst, a web developer, and an executive assistant
 - Shared ILS, website development and hosting, mobile apps, notification services, email support, OverDrive, staff intranet, and... *data reporting*
 - Library staff submit issues/requests through a ticketing system

Developing Data Services

Developing Data Services

- Post-migration to Polaris in 2015 we had:
 - Polaris out-of-the-box reports - through the desktop client and directly through **SSRS** (SQL Server Reporting Studio)
 - **SimplyReports**
- Didn't cover all needs, but SSRS and the Report Builder app. allowed us to customize
 - Copied and tailored Polaris reports and created some from scratch
 - Ensure comparability with data from previous ILS (Sierra), but also developing improved reports in Polaris/SSRS

Developing Data Services

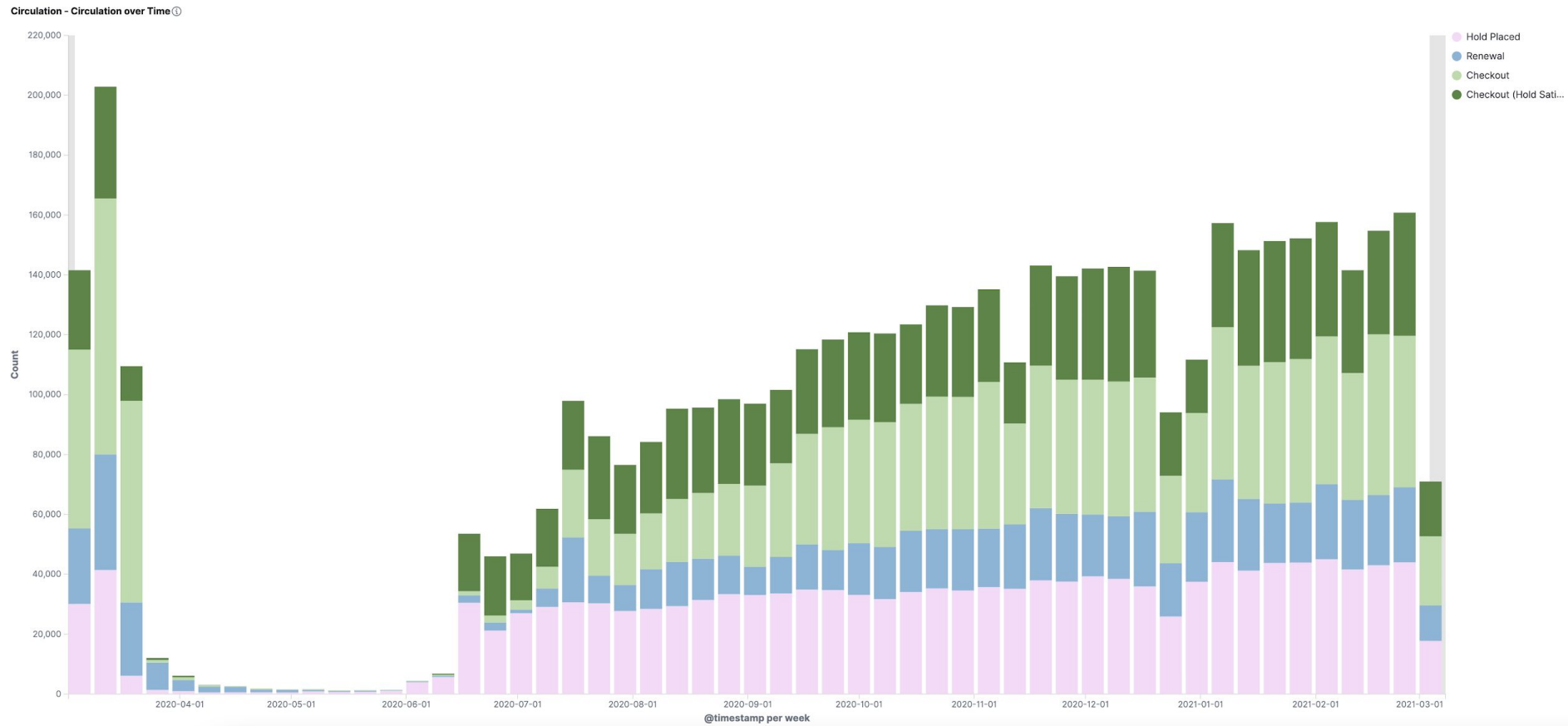
- Through consultation the consortium developed standardized, scheduled reporting
 - Prev. each library produced own reports, making comparison difficult
 - A committee was struck to lead the discussion and come to consensus on what data definitions to use and what to report on
 - Monthly & annual scheduled reports were developed, and exports saved to a Google Drive (our **Statistics Repository**)
 - SimplyReports used for ad hoc needs
- **Google Analytics** was adopted for website usage stats

Developing Data Services

- Kibana is a data visualization tool that allowed us to build accessible and visually appealing dashboards
- Allows imports directly from Polaris (through SQL and SimplyReports)
 - Data indexed using ElasticSearch (an open-source app.)
- Transactional data allows a view of trends over time, and much of the data is up-to-the-minute
- SSRS reports can have performance issues, Kibana is smoother
- Great for assessment and advocacy

Developing Data Services

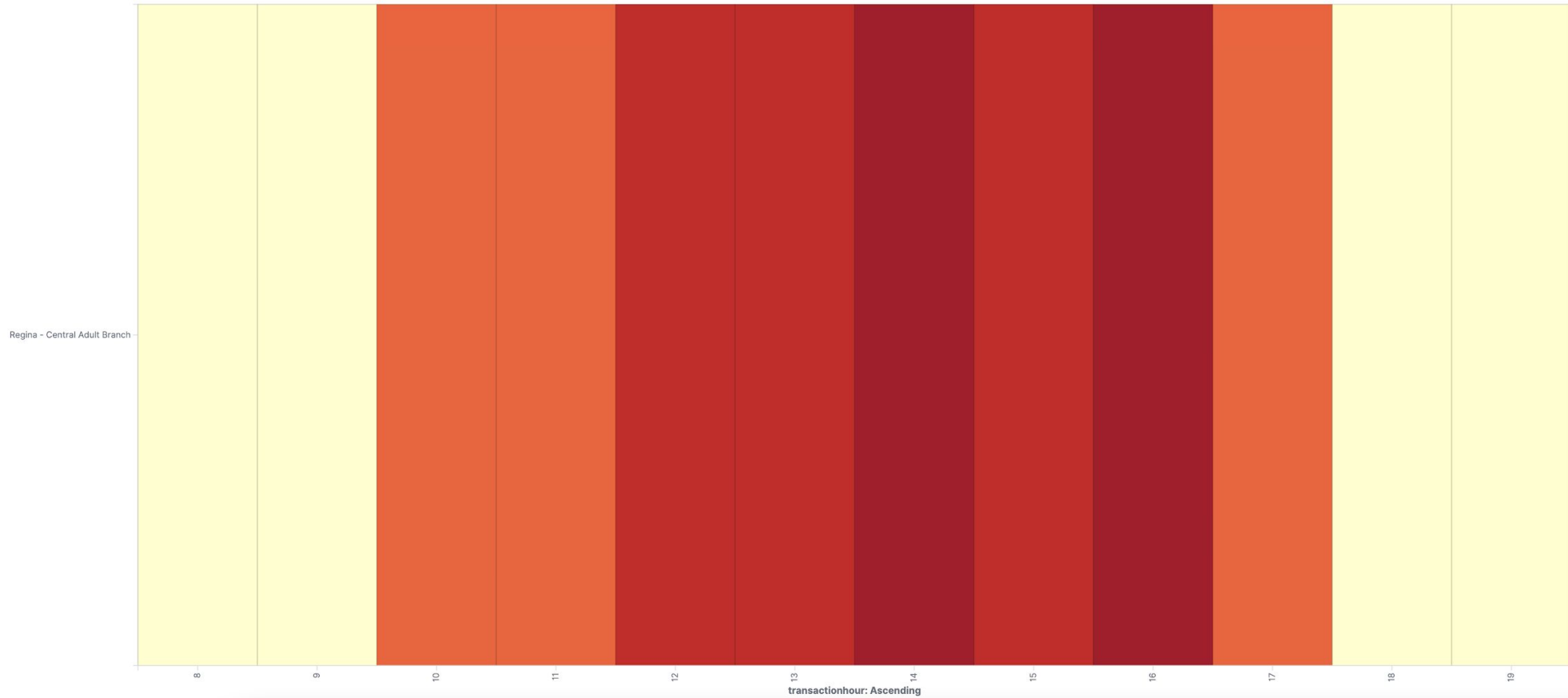
This visualization shows circulation over the pandemic, broken down by transaction type.



Developing Data Services

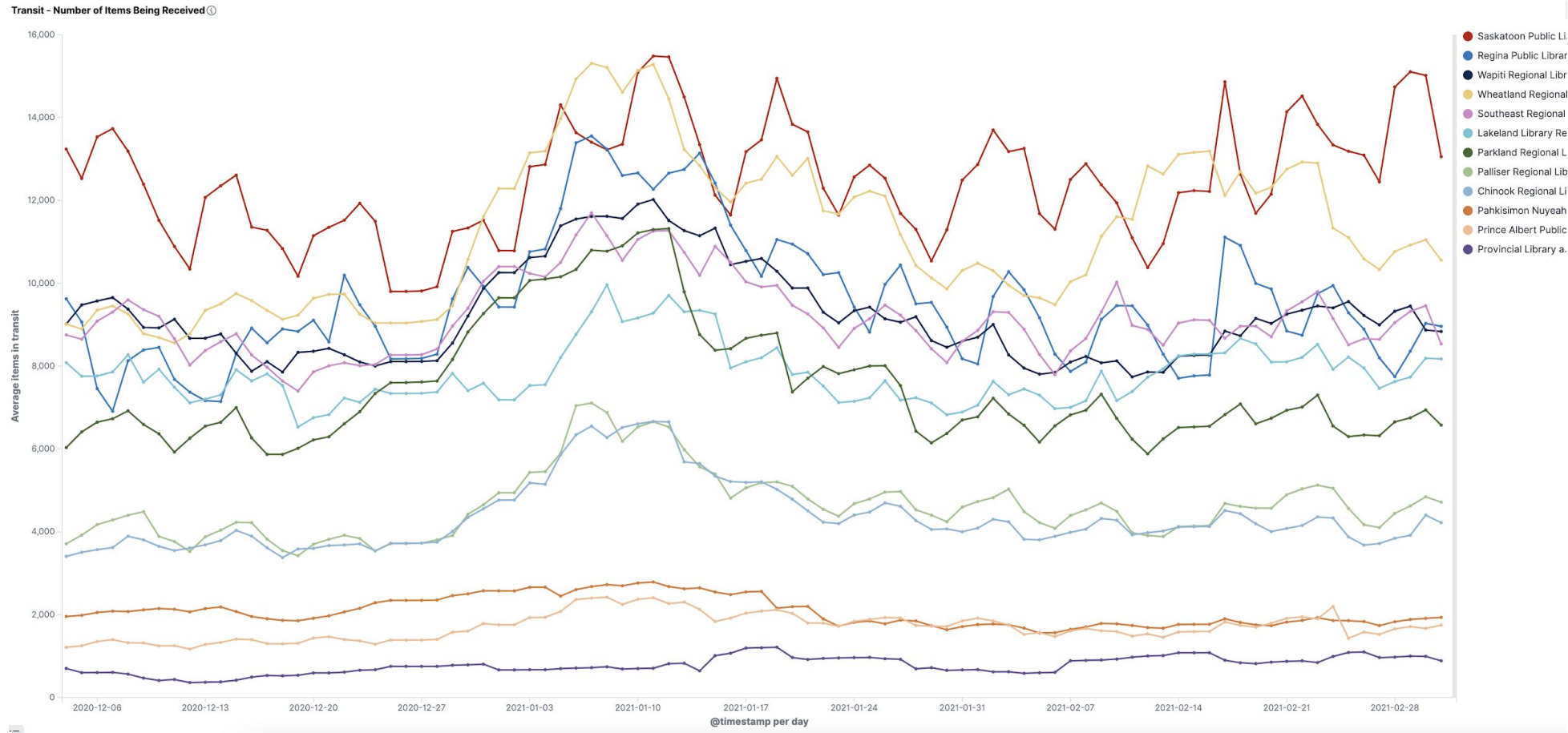
This visualization shows the busiest hours of the day at the Central Branch of the Regina Public Library.

Branch Activity - Busy Hours



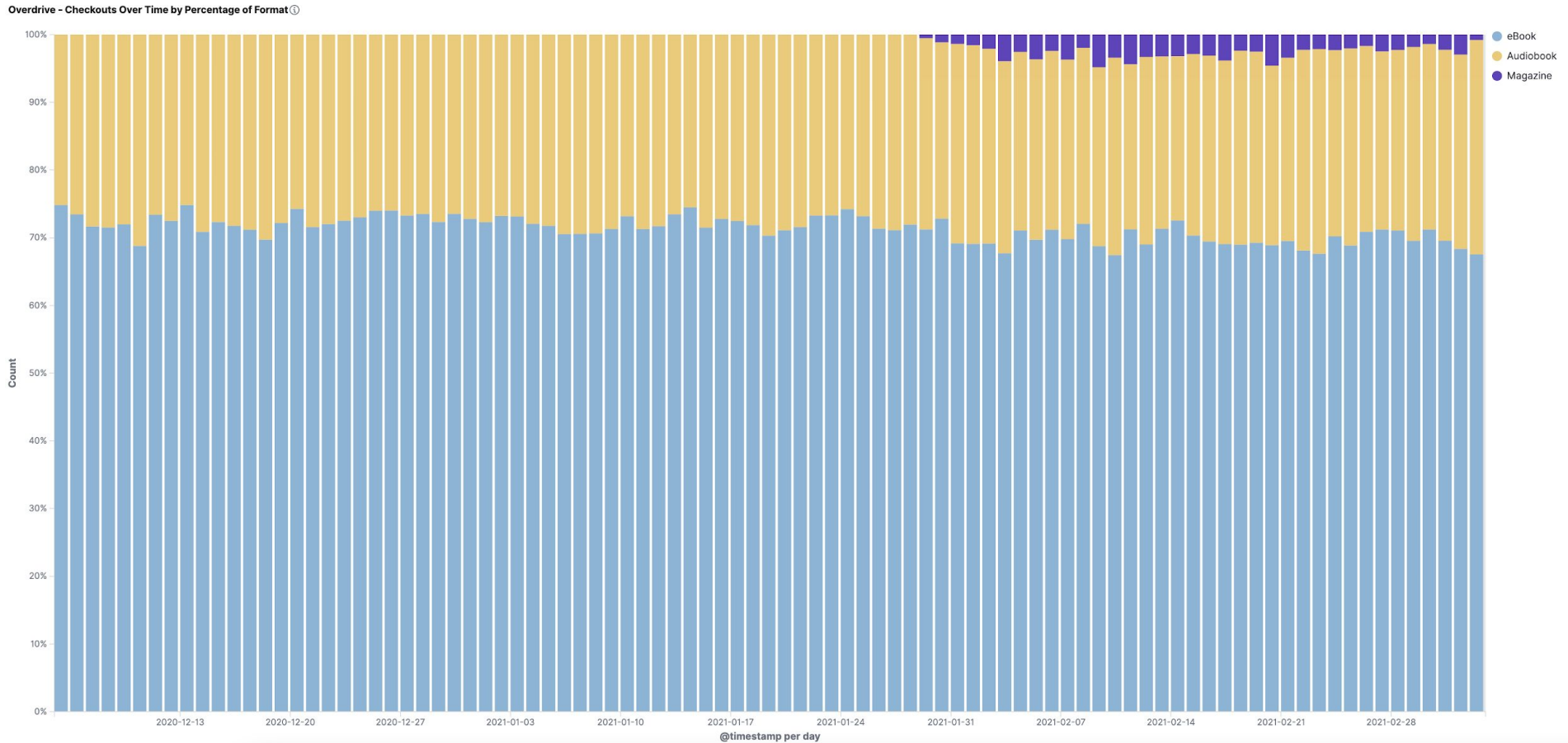
Developing Data Services

This visualization shows items in transit by receiving library.



Developing Data Services

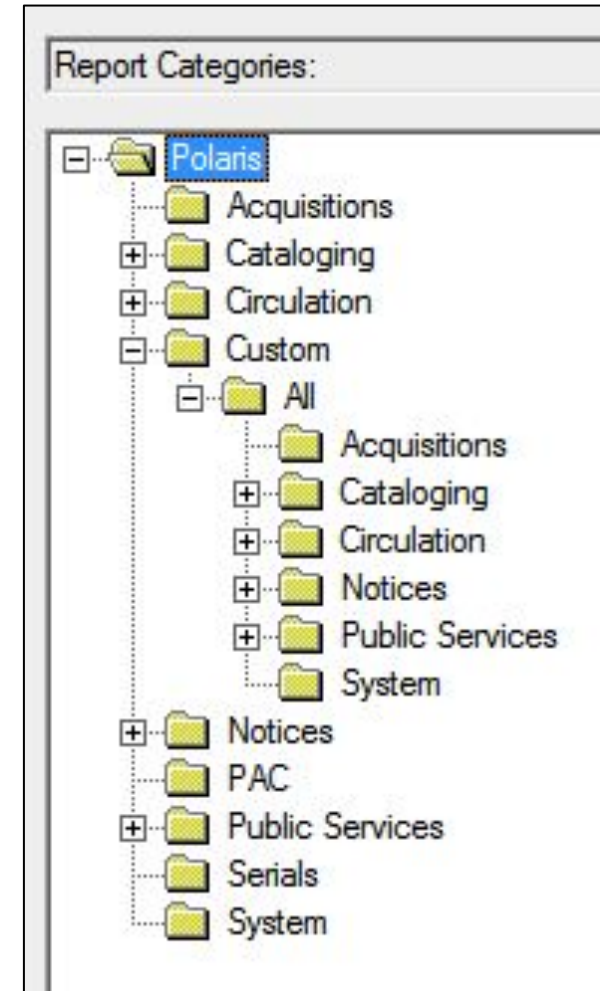
This visualization shows OverDrive checkouts by format.



It's Too Complicated!

It's Too Complicated!

- Reporting developed as needed
 - Several reports duplicated data topics
 - Unclear which tool was best for certain data
- We received many questions about which reports to use and where to find them



It's Too Complicated!

- We now had 500+ reports in SSRS
- The SSRS/client folder structure for custom reports repeated the OOTB structure - two versions of each folder
- Resource-intensive reports run at the wrong time could cause system slow-downs for the entire province! They had to be moved.
- Specialized folders broke the directory structure and made reports harder to find

 SILS - Do not run between 12pm and 5pm

[Home](#) > SILS - Do not run between 12pm and 5pm

It's Too Complicated!

SSRS reports were not as helpful as they could be:

- Many did not have descriptions or definitions, e.g. type of branch being filtered on (transaction, patron, assigned branch)
- Library filters not configured well for consortium

Agency	Wapiti Regional Library	Branches:	Wapiti - PAC, Wapiti - Online
Item Status	Hold In-Transit, In-Transit	Date Selector:	Last Month
Item Status Change Date between:	2021-01-01	and:	2021-02-01

Item Status List Report							
2021-01-01 12:00:00 AM - 2021-02-01 12:00:00 AM							
Wapiti - Alvena Public Library							
Material Type	Barcode	Item Status	Item Status Date	Record Status	Browse Title	Browse Author	Pr Year
Book	33292013336742	In-Transit	2021-01-30 10:51:38 AM	Final	1899-1999 Zakreski, : celebrating 100 years	Zakreski, Peter., author.	

It's Too Complicated!

Filtering in Kibana dashboards is not always intuitive.

EDIT FILTER [Edit as Query DSL](#)

Field **Operator**

format_&_audience... ▼ is ▼

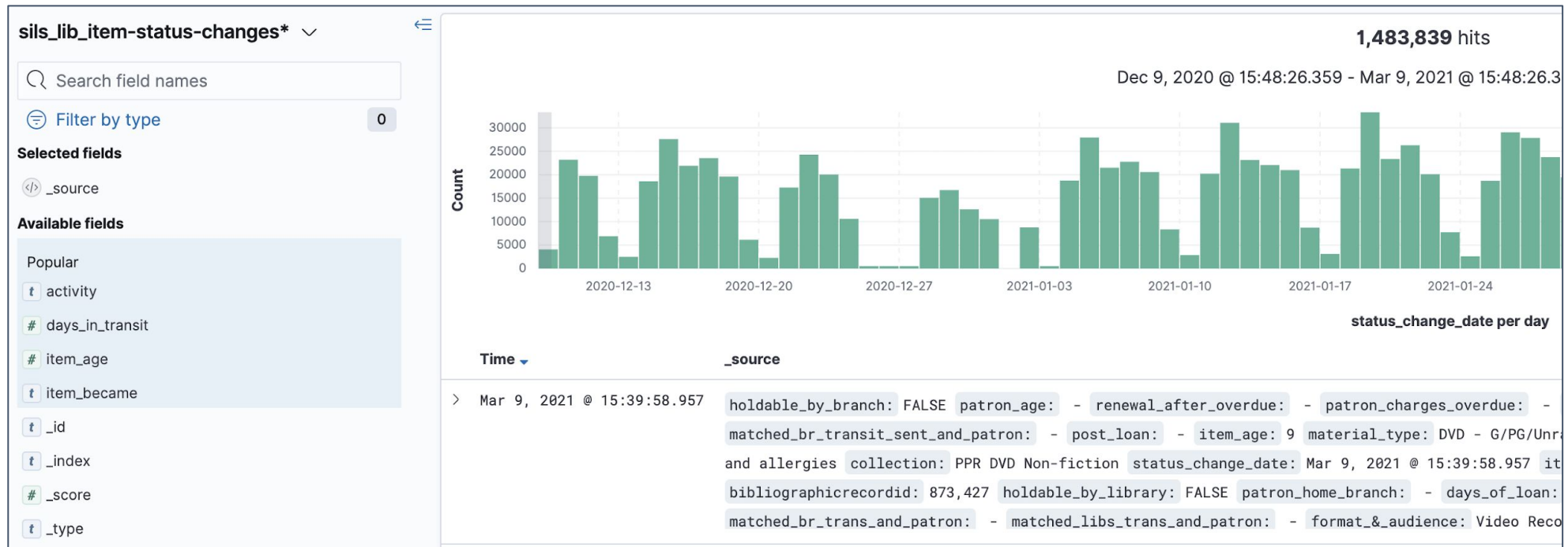
Value

Select a value ▼

- Book - Unspecified
- Book - Juvenile
- Video Recording - Unspecified
- Audio Recording - Unspecified
- Book - Adult
- Book - Young Adult
- Magazine - Adult

It's Too Complicated!

The learning curve for working with raw data in Kibana can be steep.



It's Too Complicated!

SimplyReports has a confusing filtering mechanism and data limitations.

Report output columns

- Item delayed holds enabled
- Item donor corporate name
- Item donor email
- Item donor first name
- Item donor last name
- Item donor middle name
- Item donor renewal date

Columns selected for output

- Item barcode
- Item call number
- Item assigned branch name

Columns selected for sort

Include header rows

Text file

Excel file

Delimiter type: Comma & Quotes

Export Express:

MARC file Holdings type: No holdings

MARC file - custom Profile: COLLECTIONHQ - DO NOT EDIT

Other formats Format: Dublin core (XML)

Character encoding: MARC-8

Submit

+ Item general filters

- Item date filters

PO release date

Creation date

Due date

First available date

Item record history transaction date *

Imported date

In-transit received date

Not present

It's Too Complicated!

Too many options!



Putting the pieces together

Putting the pieces together

- 2 system administrators - more capacity for improvements
- Began cleaning-up SSRS/Polaris client reports:
 - Clearer descriptions & improved filters
 - Contextual info in report exports, like begin and end dates
 - Assessed areas of report coverage, merging similar reports and filling gaps
 - Looked at usage data and developed priorities
 - Improved performance of resource-intensive reports

Putting the pieces together

A “refurbished” SSRS report:

- Filters improved
- Metadata about applied filters and description added
- Still a challenge to understand the report content without running it

Home > Polaris > Custom > All > Cataloging > Item Status List Report

Agency: Wapiti Regional Library Branches: Wapiti - Alvena Public Library,Wapi

Record Status: Final Item Status: Hold In-Transit,In-Transit

Item Status Change Date Period: Last Month First Date: 1/1/2021

Last Date: 2/1/2021

1 of 42 100% Find |

Item Status List Report

Period Start Date: 1/1/2021 12:00:00 AM
 Period End Date: 2/1/2021 12:00:00 AM
 Execution Date: 2/22/2021 1:35:04 PM
 Record Statuses: Final
 Item Statuses: Hold In-Transit, In-Transit

Allows you to view all items from selected branches, filterable by the item circulation status and the date the status was set, as well as the re

Wapiti - Alvena Public Library

Material Type	Record Status	Item Status	Item Status Date	Call Number	Barcode	Browse Title	Browse Author
Book	Final	In-Transit	1/30/2021	920 ZAK	3329201333674 2	1899-1999 Zakreski, : celebrating 100 years	Zakreski, Peter., author.



Putting the pieces together

Through this work, **DAP** (the Data & Analytics Portal) was developed!

DAP is a single entry point for all SILS supported reporting tools and resources.

It includes descriptions of each tool and documentation on how to use it.

SILS Data & Analytics Portal

SSRS (SQL Server Reporting Service) >

Microsoft SQL Server Reporting Services (SSRS) is a web interface that provides a variety of pre-built reports.

<https://help.sasklibraries.ca/a/solutions/articles/12000057424>

SimplyReports (Polaris) >

SimplyReports is a reporting tool created by Polaris for ad hoc reporting needs.

<https://help.sasklibraries.ca/support/solutions/articles/12000003147-simply-reports-training-materials>

Kibana >

Kibana is a powerful data visualization and dashboarding tool.

Putting the pieces together

DAP's SSRS search page with tag filters applied:

The screenshot shows the SJS Data & Analytics Portal interface. At the top left is the SJS logo and the text "Data & Analytics Portal". At the top right is a "Landing" button with a left arrow. Below the header is the "SSRS" section, with "8 of 108 shown" on the right. On the left side of the SSRS section is a search bar with a magnifying glass icon and a "Tags" list. The "Tags" list includes: acquisitions (checked), agency, bibliographic, branch, cataloguing, checkouts, circulation, collection, consortial, financial, floating, fund, holds, and interagency. The main content area displays two report cards. The first is "Branch Fund Hierarchy Report" with filters for "Fund", "Acquisitions", and "Branch". It includes a description: "Provides an overview of a selected fund and it's subfunds, by branch. Details including allocated, encumbered, spent and free amounts." and three buttons: "Open" (with an external link icon), "Preview" (with a magnifying glass icon), and "Subscribe" (with an upward arrow icon). The second report card is "Closed Fiscal Years - Fund Hierarchy Report" with filters for "Fund", "Acquisitions", and "Branch". It includes a description: "Provides an overview of a selected closed fiscal year, summarized overall and by fund. Details including allocated, encumbered, spent and free amounts." and three buttons: "Open" (with an external link icon), "Preview" (with a magnifying glass icon), and "Subscribe" (with an upward arrow icon).

Putting the pieces together

The file used to add reports to DAP includes (for each report):

- Subject tags, interpreted from abbreviations in the SSRS description
- Name
- Description
- URL for the SSRS report
- URL for the subscription page

↓ Download	↑ Replace	↔ Move	🗑️ Delete
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Changed by SILS\a.jtenter on 10/1/2019 10:23 AM
Created by SILS\a.dstorie on 5/9/2016 6:24 PM
82 KB

Properties

Name

Agency Holds Alert - Ratio of Holds to Items Owned

Description

Displays titles with a minimum ratio of holds made by agency patrons to items owned within an agency. The agency, collections and ratio are chosen by the user. |HO,AG,DO

Putting the pieces together

DAP's SSRS page showing a preview screenshot:

SSRS 4 of 108 shown

Search

Branch Fund Hierarchy Report

Fund Acquisitions Branch

Tags

Agency: Lakeland Library Region Branch: Lakeland - Headquarters [View Report](#)

Date Selector: Last Month Begin Date: 7/1/2019

End Date: 8/1/2019 Fiscal Year: Lakeland 2019 (Open) (lq) (1/12/2019 - 12/31/2019)

1 of 4 100% Find | Next

Expenditures by Supplier

Fiscal Year: Lakeland 2019 (Open) (lq) (1/12/2019 - 12/31/2019)
Period Start Date: 7/1/2019 12:00:00 AM
Period End Date: 8/1/2019 12:00:00 AM
Execution Date: 8/8/2019 2:06:18 PM

Shows purchases made by a branch during a specified fiscal year, individuated by supplier. Amounts are categorized by fund and material type.

amazon

Fund Name	Material Type	Purchased	YTD CheckOuts	Amount paid
LHQ Adult Fiction: bfa	Book	2	2	\$32.15
Adult Audio books: lbca	Spoken Word CD	1	0	\$30.63
Battleford Books: bfb	Book	1	0	\$17.23
LHQ Adult NF: hna	Book	10	6	\$209.33

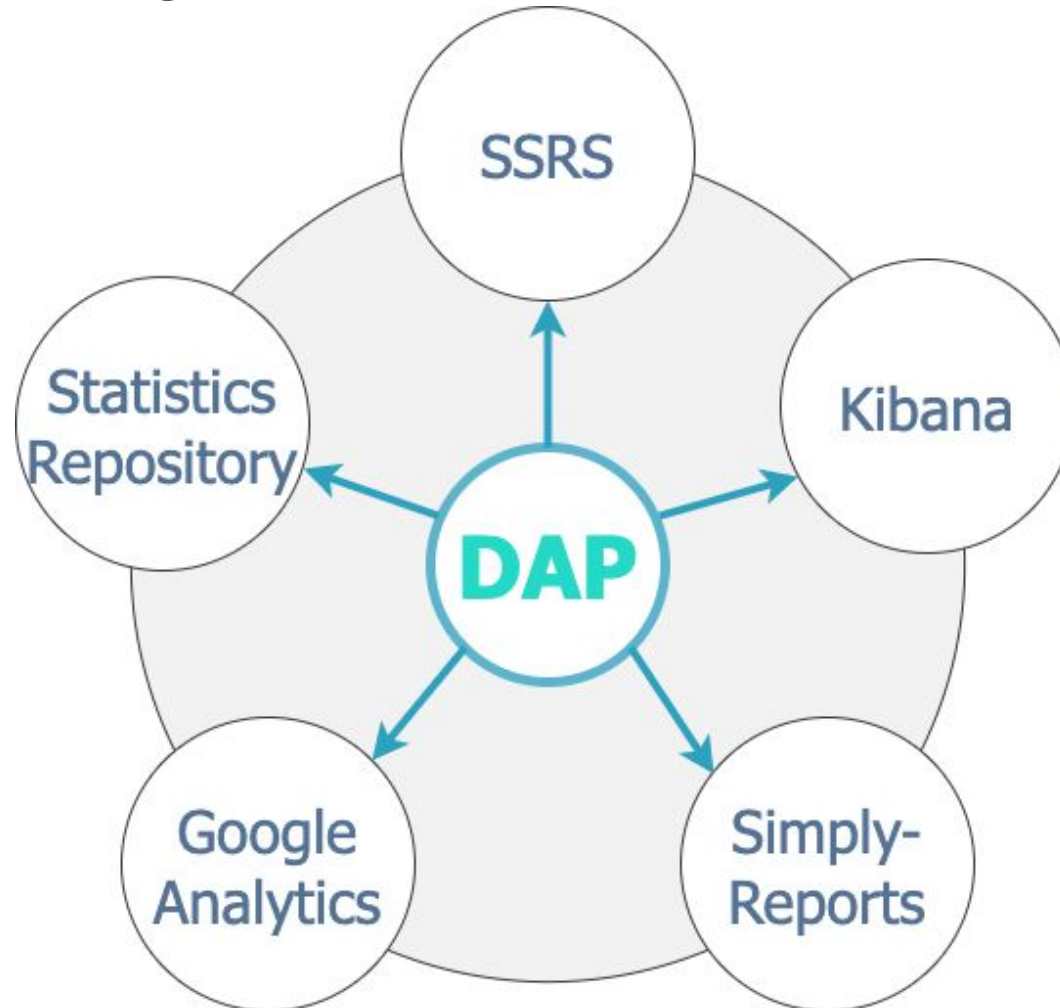
Report Preview
Expenditures by Supplier [Close](#)

supplier [Open](#) [Preview](#) [Subscribe](#)

workflow monitoring

Putting the pieces together

Reporting options are organized and accessible!



Putting the pieces together



Putting the pieces together

Additional Reporting Developments

- Report Lab:
 - A mailing list of reporting stakeholders from across the library systems
- Documentation:
 - Rewritten and made available in multiple locations
- Kibana:
 - Updated to cloud-based version
 - Recreation of dashboards/development of new dashboards

Assessment and Future Plans

Assessment and Future Plans

It's not perfect...

- Having multiple reporting sources isn't as tidy as having only one; DAP provides a unified entry point for reports, but it is a compromise
- Upkeep of SSRS report metadata (tags, screenshots) takes time/attention
- Adoption of DAP by established/existing staff members:
 - While new people who are shown DAP are making use of it, existing staff often have URLs bookmarked or other paths to reports memorized
 - The pandemic also sidetracked efforts to direct staff to DAP - everyone's attention has been elsewhere for a while

Assessment and Future Plans

It's not perfect.....but it's a big improvement

- A centralized access point for multiple resources provides context and organization to a previously disordered environment
- *We* find it helps us get to the right SSRS report!
- Improved documentation helps with onboarding new staff members, and refreshing skills for existing staff
- The cleaner, clearer reports are more helpful for interpreting and sharing data

Assessment and Future Plans

It's not perfect.....yet!

- More communications and training!
- Kibana restructuring gives us an opportunity to re-think what data we want to share in dashboards, and how we want to present it
- Embed Kibana visualizations into websites (DAP, our intranet site, library web-pages) and link directly to specific Kibana dashboards from DAP
- Integrate external resources, such as Statistics Canada and other demographic data, into reporting
- Further improve and curate the SSRS reports shared in DAP

THANK YOU

We look forward to your questions!



Contacts & Links

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Elastic Search: <https://www.elastic.co/>