SWAN Technology Update

September 23rd, 2021

Agenda

- Uptime Report
- Project Updates
  - Symphony 3.7.1
  - Windows version support
  - Aspen Discovery
  - Firewall replacements
  - Patron database cleanup
  - Upcoming projects
- Securities initiative / risk assessment
- How Do We Do That
  - Open sourcing a project
- ProPay credit card swipes
- Open Forum

System Uptime Report

WorkFlows/Symphony Server Outage Tracking:
April 1st through September 20th

Date	Approx Time	Time Elapsed (Min)	System	Planned?	Library Hours?	Reason
4/18/2021	18:45	15	Symphony	Yes	No	Planned system patching.
7/18/2021	21:23	12	Symphony	Yes	No	Planned system patching.
7/27/2021	21:18	10	Symphony	Yes	No	System backup prior to scheduled Symphony upgrade.
7/28/2021	1:21	203	Symphony	Yes	No	Symphony server upgrade to version 3.7.1.

Enterprise Catalog, Aspen Catalog, and Web Services (OPAC Services) Outage Tracking:
## April 1st through September 20th

Date	Approx Time	Time Elapsed (Min)	System	Planned?	Library Hours?	Reason
4/14/2021	6:21	10	Aspen Discovery	No	No	System memory issue requiring services restart.
4/17/2021	6:30	15	Aspen Discovery	No	No	System memory issue requiring services restart.
4/18/2021	18:45	120	Web Services	Yes	No	Planned system patching.
4/20/2021	12:07	5	Aspen Discovery	No	Yes	System memory issue requiring services restart.
4/21/2021	13:50	5	Aspen Discovery	No	Yes	System memory issue requiring services restart. Brought server back up with more memory.
4/23/2021	9:38	10	Aspen Discovery	Yes	Yes	System storage resized to accommodate larger data indexes.
7/7/2021	13:47	5	Aspen Discovery	No	Yes	Storage issue following version update requiring configuration update and restart.
7/9/2021	9:37	2	Enterprise	No	Yes	Restart of services following SSL certificate update.

Other Notable Outages:
April 1st through September 20th

Date	Approx Time	Time Elapsed (Min)	System	Planned?	Library Hours?	Reason
4/28/2021	18:15	195	Support Site / Ticket Tracking	Yes	Yes	SWAN support site and ticketing system migration to Microsoft Azure.

Uptime Tracking

Quarterly Uptime
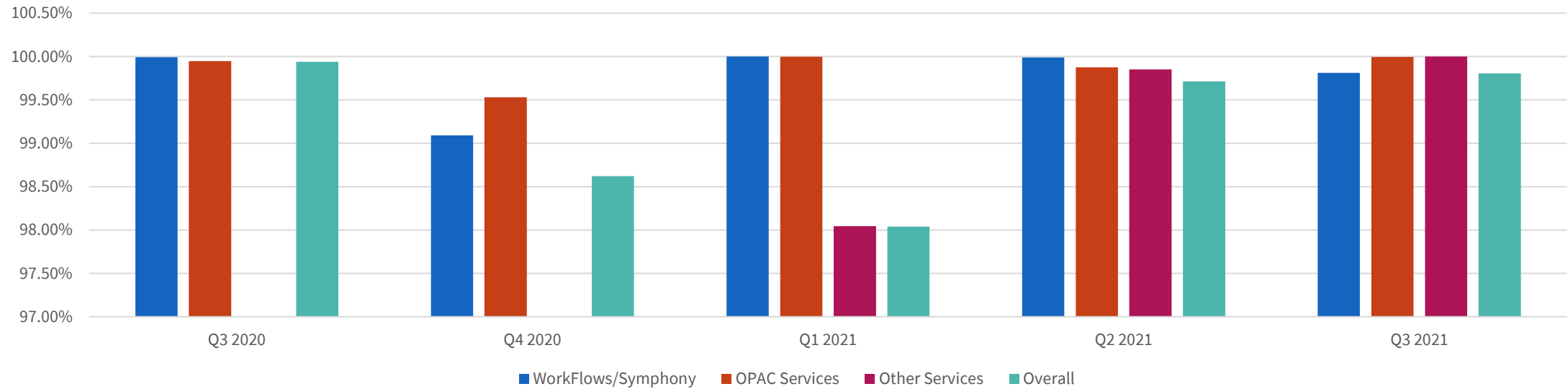
Quarterly Uptime	WorkFlows/Symphony	OPAC Services	Other Services	Combined
Q3 2020	99.99%	99.95%	Not Recorded	99.94%
Q4 2020	99.09%	99.53%	Not Recorded	98.62%
Q1 2021	100.00%	100.00%	98.04%	98.04%
Q2 2021	99.99%	99.87%	99.85%	99.71%
Q3 2021	99.81%	99.99%	100.00%	99.81%

Project Updates

Symphony 3.7.1 Upgrade (Completed)

Thank you for completing your installations!

Why do we use a custom installer?

- Reduce server overhead from client installations

- Remove/clean up previous installations

- Bundle additional drivers for signature pads

- Customize logos/icons

- Pre-populate server settings

- Substitute Java (JRE) with newer version

Windows Version Support

- Microsoft EOS for Windows 7 – January 2020

- SWAN supports the following operating systems:
  - Windows 8
  - Windows 10
  - MacOS (latest)

- Windows 11 support coming soon!

Aspen Discovery

Cohort Assignments

COHORT 1   Go-Live October 18th – 28th

COHORT 2   Go-Live March 7th – 18th

Remember To:
- Update your OPAC stations
- Update links on your website
- Change any proxy settings
on public PCs

SonicWall Network Hardware Replacements

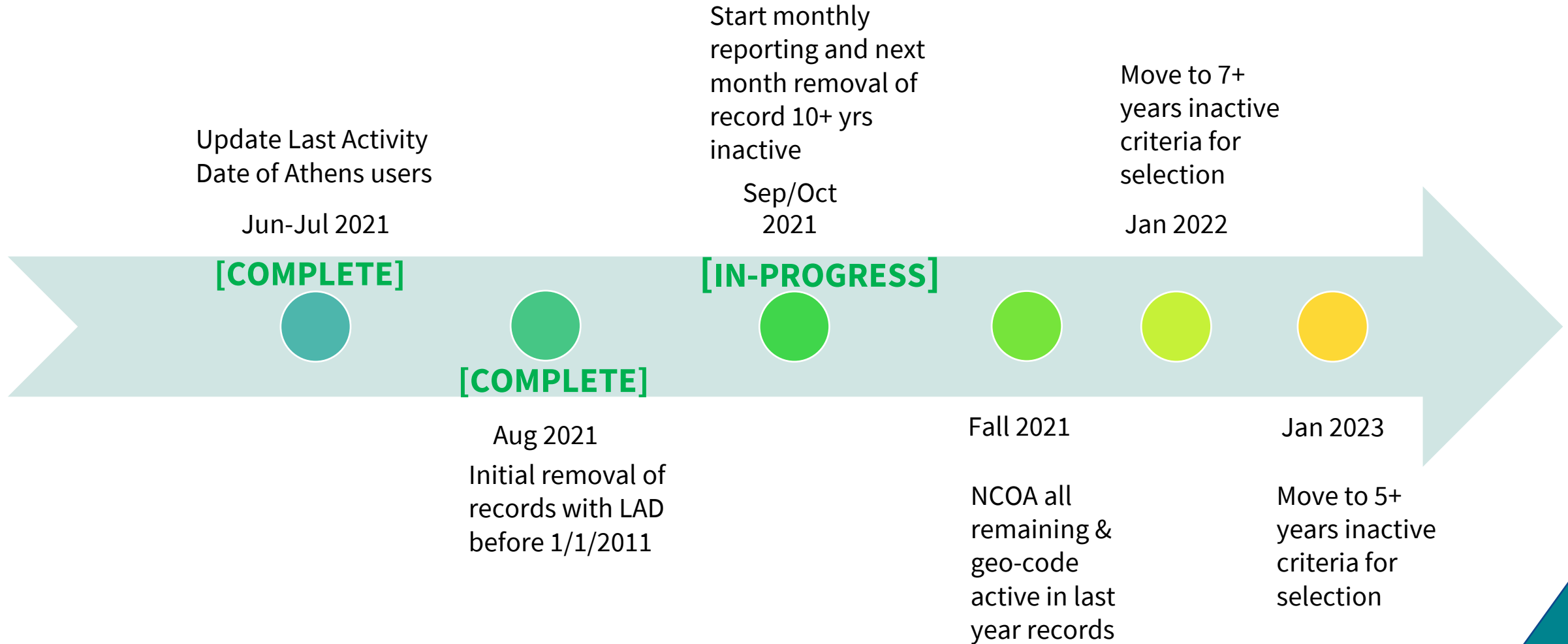- Option 1: SWAN SonicWall Hardware Replacement and Upgrade

Current Model	EOS Date	Recommended Replacement	Replacement MSRP (Current)
NSA 2400	5/01/2019	TZ370 (02-SSC-2825) -or- TZ470 (02-SSC-2829)	$695 $1,095
NSA 220	8/16/2020	TZ370 (02-SSC-2825)	$695
NSA 220W	9/16/2020	TZ370W (02-SSC-2827) *please consult before ordering*	$795
NSA 250M	9/01/2021	TZ370 (02-SSC-2825)	$695
TZ 215	8/01/2020	TZ370 (02-SSC-2825)	$695

SonicWall Network Hardware Replacements

- Option 2: SWAN's Self-Maintenance VPN Agreement
    - https://support.swanlibraries.net/forms/64789

Patron Record Purge: Timeline Targets

Update Last Activity
Date of Athens users

Jun-Jul 2021

[COMPLETE]

Start monthly
reporting and next
month removal of
record 10+ yrs
inactive

Sep/Oct
2021

[IN-PROGRESS]

Move to 7+
years inactive
criteria for
selection

Jan 2022

[COMPLETE]

Aug 2021

Initial removal of
records with LAD
before 1/1/2011

Fall 2021

NCOA all
remaining &
geo-code
active in last
year records

Jan 2023

Move to 5+
years inactive
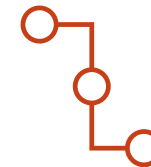criteria for
selection

Notable Projects On-Deck

Directory Services

Investigation of an integrated authentication database utility to handle future BLUEcloud and WorkFlows integration

Expansion of BLUEcloud Pilot

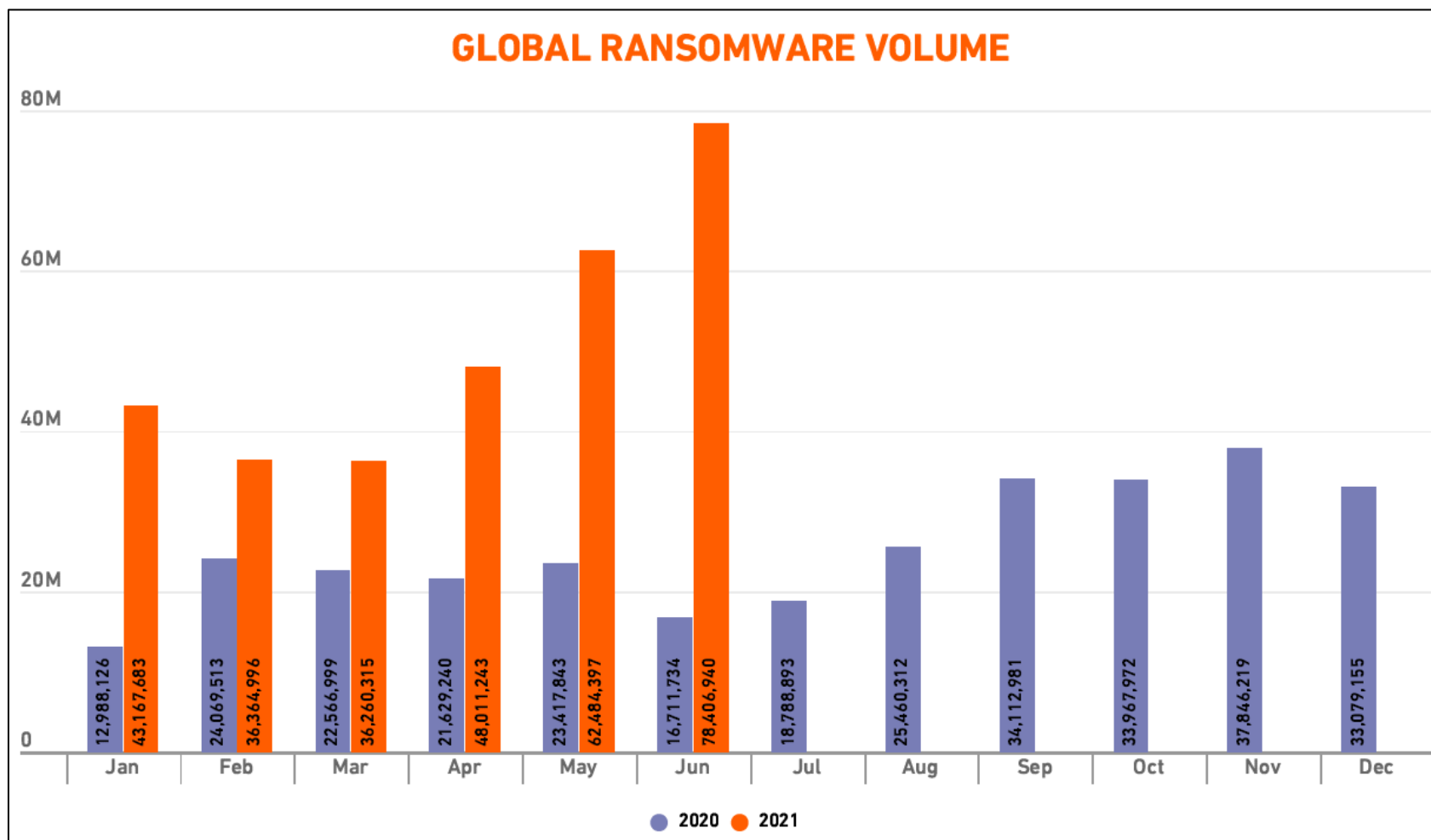Coordinated through Circ Advisory / UX team

Web Services 6.2.1

Currently piloting on SWAN TEST server

- Projected in upcoming weeks
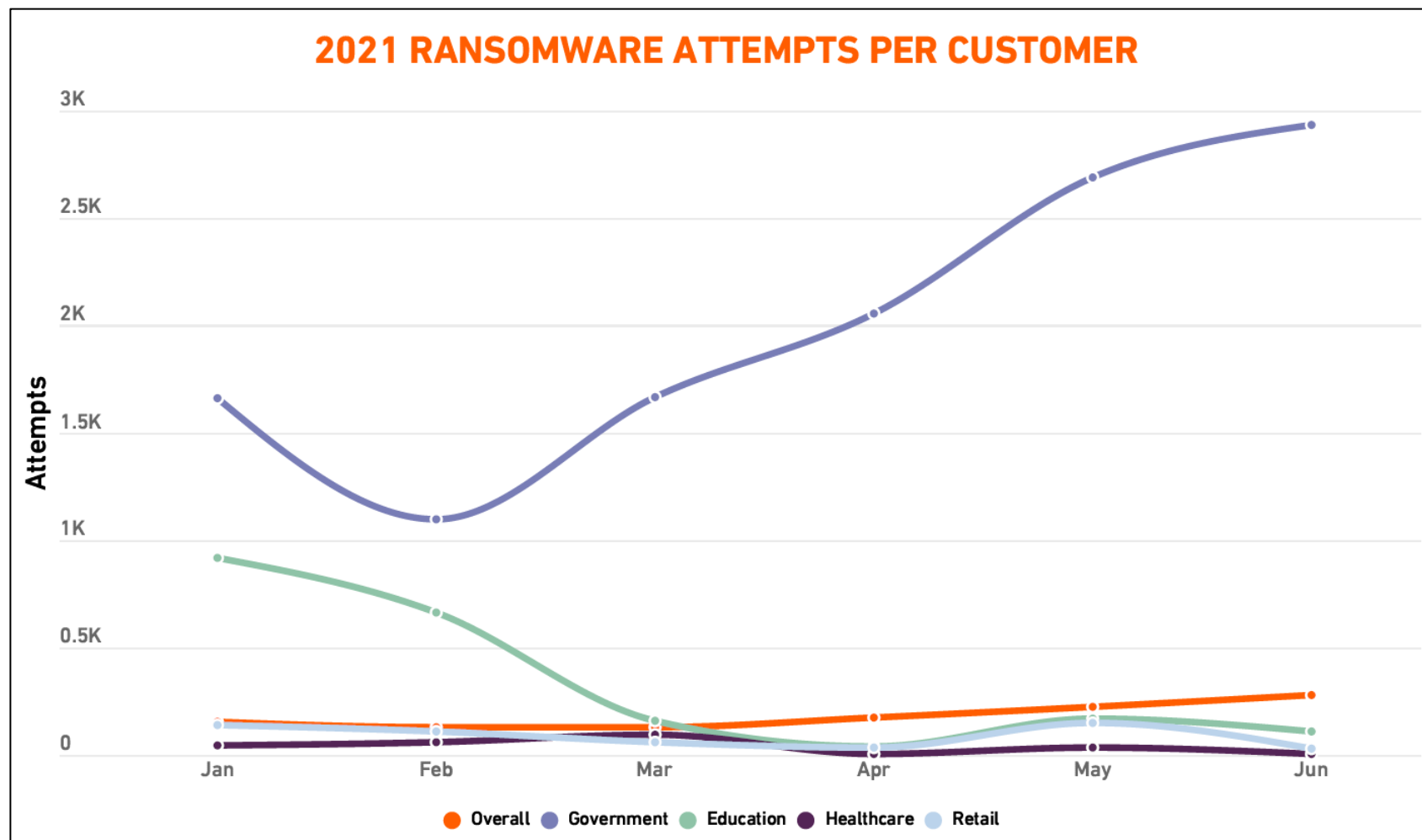
Information Security Risk Assessment

SWAN Securities Initiative
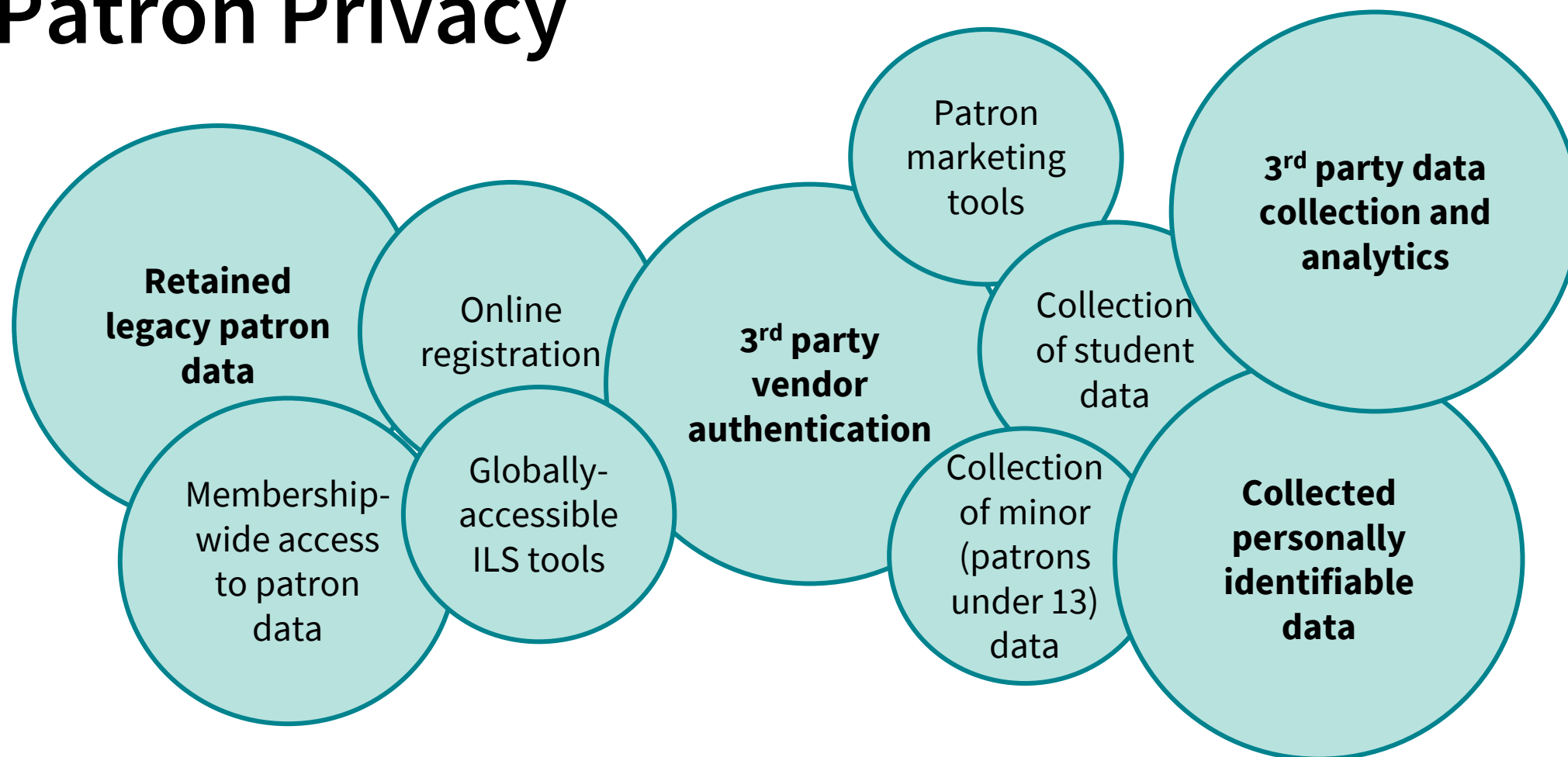
Ransomware, By the Numbers

GLOBAL RANSOMWARE VOLUME

Month	2020	2021
Jan	12,988,126	43,167,683
Feb	24,069,513	36,364,996
Mar	22,566,999	36,260,315
Apr	21,629,240	48,011,243
May	23,417,843	62,484,397
Jun	16,711,734	78,406,940
Jul	18,788,893	
Aug	25,460,312	
Sep	34,112,981	
Oct	33,967,972	
Nov	37,846,219	
Dec	33,079,155	

● 2020 ● 2021

SonicWall Cyber Threat Report 2021

Ransomware, By the Numbers

2021 RANSOMWARE ATTEMPTS PER CUSTOMER

Legend: ● Overall ● Government ● Education ● Healthcare ● Retail

SonicWall Cyber Threat Report 2021

Patron Privacy

Retained legacy patron data

Membership-wide access to patron data

Online registration

Globally-accessible ILS tools

3rd party vendor authentication

Patron marketing tools

Collection of student data

Collection of minor (patrons under 13) data

3rd party data collection and analytics

Collected personally identifiable data

SIKICH®

- Provides contracted business services including cyber security and technology consultation
  - Locations across the country
  - Serves 15,000 clients worldwide
- Serves many SWAN libraries through contracted IT services
  - Familiar with SWAN's services and infrastructure
- Offers expertise from wealth of certified IT experts

SWAN's Goals for a Security Assessment

Determine applicable security threats and their potential impact to SWAN.

Adopt an industry-recognized framework when approaching security, configuration, and policy.

Ensure compliance with applicable legal frameworks such as COPPA (Children's Online Privacy Protection Act) and SOPPA (Student Online Personal Protection Act).

Pass on knowledge to membership with recommendations on assessing and managing vulnerabilities.

Phase 1: Identify Risks to the Organization & Controls

SWAN

- Several SWAN libraries have acknowledged ransomware attacks
- SWAN is subject to COPPA and SOPPA laws
- SWAN has ~1 million email addresses in the database
- SWAN database is harvested by external analytics systems
- SWAN integrates and authenticates with over 80 3rd party vendors
- SWAN maintains personally identifiable data (PII)

Global Threats

- Average total cost of a data breach in 2021 is **$4.24 million**
- Average cost of ransom paid in 2020 is **$1.1 million**
- 304.7 million ransomware attacks (up 151% from 2020)
- 2.5 billion malware attacks
- 2.1 million encrypted threats
- 2.5 trillion intrusion attempts

Phase 2: Analyze and Weigh Risk Impact

- Benchmarked against National Institute of Standards and Technology (NIST) Special Publication (SP) 800-171

Risk Heat Map

Likelihood	Impact				
	Severe - 5	High - 4	Unacceptable - 3	Acceptable - 2	Negligible - 1
Imminent - 5	25	20	15	10	5
Frequent - 4	20	16	12	8	4
Likely - 3	15	12	9	6	3
Foreseeable - 2	10	8	6	4	2
Not Foreseeable - 1	5	4	3	2	1

REDUCE TRANSFER

RISK

ACCEPT AVOID

Phase 3: Treatment / Plan of Action & Milestones

Examples:

Recommendations	Treatment	Priority	Services Impacted	Start Date	Completion By
Multi-Factor Authentication	Implement immediately	Medium	A, B applications	Q3 2021	Q4 2021
Secured vendor authentication	Implement immediately	High	A, B, C vendors	Q3 2021	Q3 2022
Stronger password requirements	Implement immediately	Medium	A, B applications	Q3 2021	Q3 2021
Proactive monitoring tools	Plan to implement	Low		Q1 2022	Q2 2022

Phase 4: Ongoing Risk Management

Evaluate Plan of Action & Milestones

Continued Consultation with Sikich Virtual Chief Information Security Officer

Continued risk register identification, updates, and reporting

Sharing recommendations & training for our libraries

Timeline Targets

- Receive/review Sikich proposal
- Quarterly Membership presentation
- Budget approval

July – Sept 2021

- Risk Analysis

Nov - Dec 2021 (Phase 2)

- Risk Management

Feb - Mar 2022 (Phase 4)

Oct 2021 (Phase 1)

- Risk Identification

Jan 2021 (Phase 3)

- Risk Treatment

TBD 2021

- Standards Development
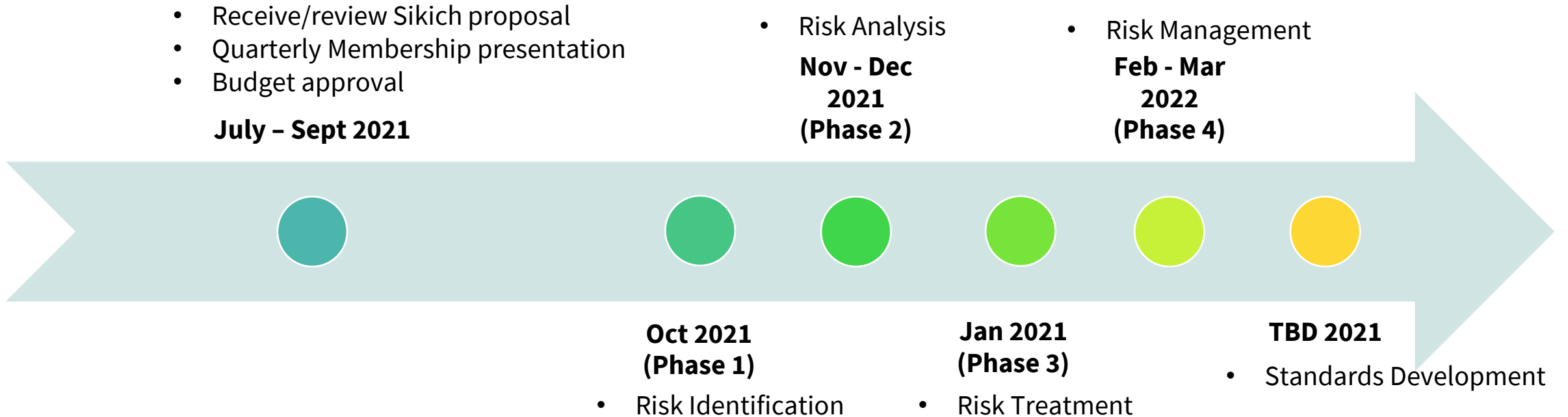
How Do We Do That?

Open Sourcing a Project /

Contributing to the Library Development Community

What is Open Source?

- Software, project, or most anything else, made available to the public at no cost, with the ability to utilize, make changes, and in some cases redistribute as the user sees fit.

- Examples
  - Mozilla Firefox
  - Aspen Discovery
  - OCLC Holdings Manager

Why Should You Consider Open Source?

Form a Community

Pool Resources

Distribute Workload

Give Back
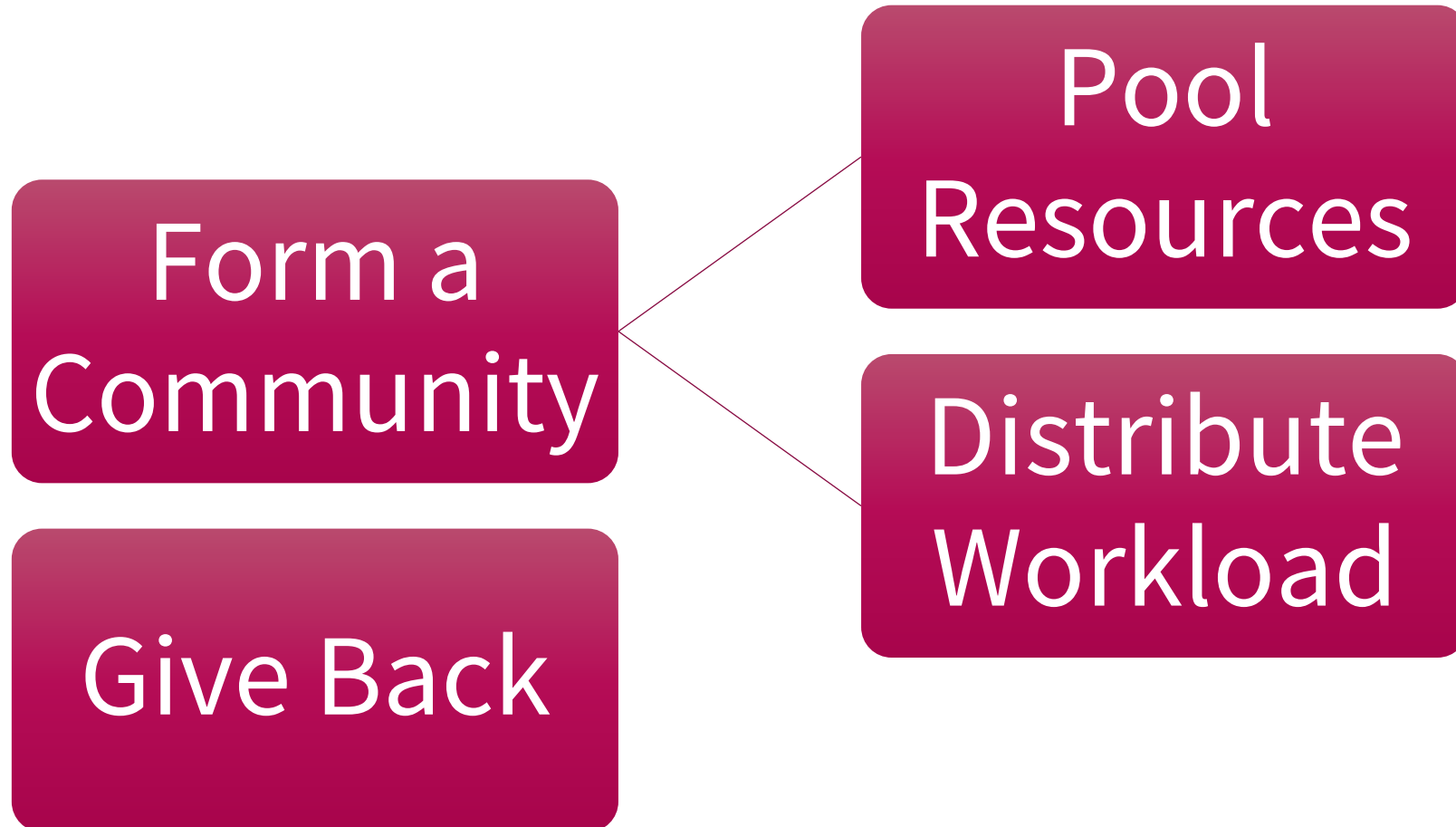
How to Open Source your work?

Software

- GitHub
- GitLab
- SourceForge

Maker/Creative

- Thingiverse
- FreeSewing
- Tribe of Noise

Important Considerations

Remove Credentials and PII

- Usernames/Passwords
- API Keys/Secrets
- Client IDs
- WiFi Network Names

Properly License Your Contributions

Resources

https://opensource.com/resources/what-open-source

https://opensource.guide/how-to-contribute/

https://choosealicense.com/

ProPay Credit Card Swipes

- Effective 10/1/2021, the cost per swipe is $85

- Submit a request via:
  - https://support.swanlibraries.net/forms/66138

Open Forum Discussion
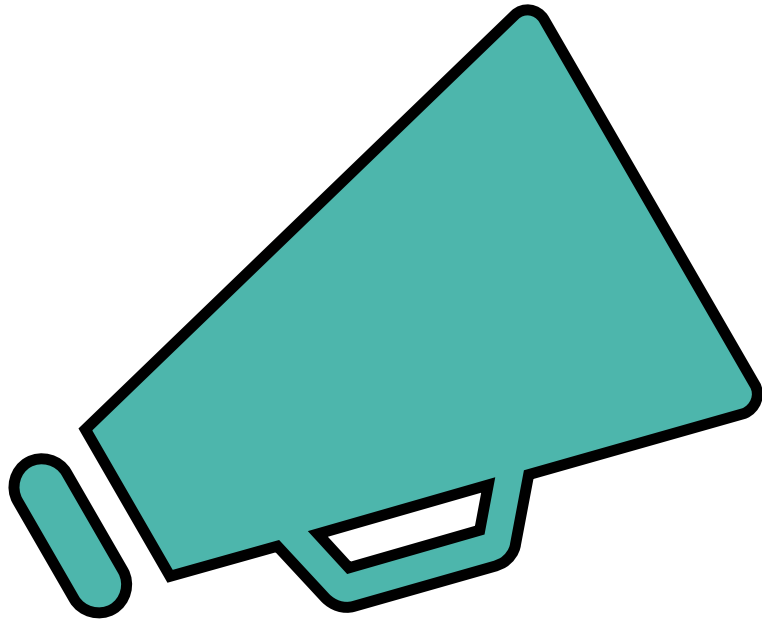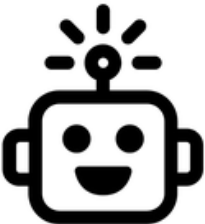
- Future RFID implementations?

- New installations of Self-Checkout or AMH?

- System upgrades?

Continue the Discussion

- [SWAN Community Forums / Technology](#)

Upcoming Meetings

- [SWAN Fireside Chat](#)
  - Tuesday, September 28th, 11am
- [SWAN RFID Users Group](#)
  - Thursday, October 28th, 10am
- SWAN Technology Update
  - Thursday, March 24th, 10am

Questions & Follow-Up

Send questions to our online ticketing system at help@swanlibraries.net

Visit the SWAN Support Site for access to recorded sessions.
https://support.swanlibraries.net

Submit a request for additional training topics.
Help > Request Forms > Request Training or Consultation