



SWAN Technology Update

March 24th, 2022

Agenda

- Housekeeping
- Uptime report
- Scheduled rebuild & offline
- Enterprise OPAC retirement
- VPN agreements
- IT contractors
- Security initiative / risk assessment
- How Do We Do That?
 - Windows 11 rollout
- Open Forum

Congratulations, Ian Nosek!



SWAN's Microsoft Azure
Certified Administrator!



System Uptime Report

September 1st 2021 – March 20th 2022

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

| Date | Approx Time | Time Elapsed (Min) | System | Planned? | Library Hours? | Reason |
|------------|-------------|--------------------|----------|----------|----------------|--------------------------|
| 10/17/2021 | 20:37 | 10 | Symphony | Yes | No | Planned system patching. |
| 12/30/2021 | 22:34 | 10 | Symphony | Yes | No | Planned system patching. |
| 1/23/2022 | 18:49 | 5 | Symphony | Yes | No | Planned system patching. |
| 3/20/2022 | 19:06 | 20 | Symphony | Yes | No | Planned system patching. |

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

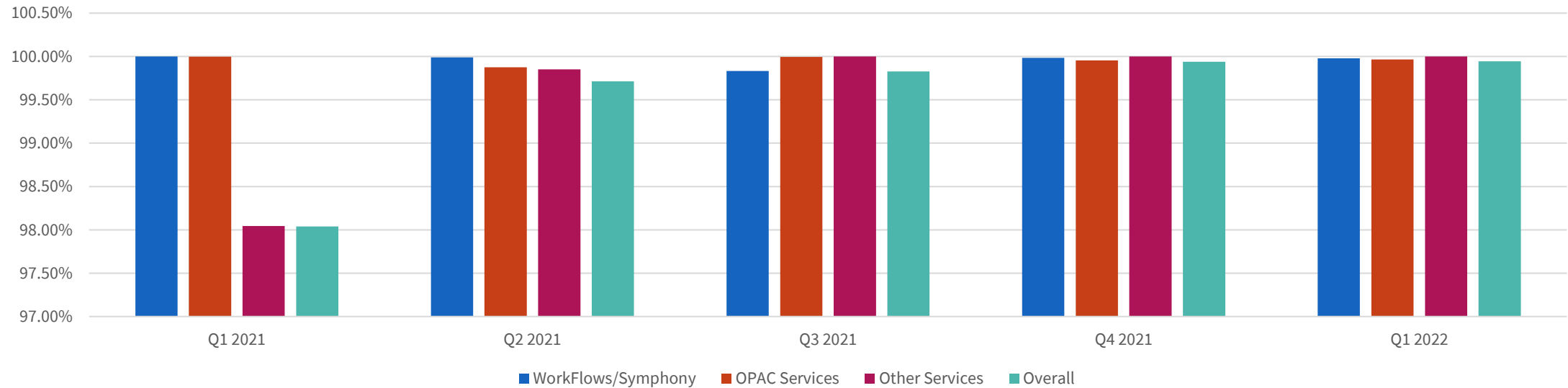
| Date | Approx Time | Time Elapsed (Min) | System | Planned? | Library Hours? | Reason |
|------------|-------------|--------------------|-----------------|----------|----------------|--|
| 10/6/2021 | 2:15 | 45 | Web Services | Yes | No | Web Services 6.2.1 Upgrade |
| 10/17/2021 | 20:37 | 10 | Web Services | Yes | No | Planned system patching. |
| 11/21/2021 | 20:32 | 5 | Aspen Discovery | Yes | No | Planned system patching. |
| 1/15/2022 | 11:05 | 5 | Aspen Discovery | No | Yes | Aspen server slowness relating to CPU spikes. Suspected to be runaway harvest process affecting MySQL. |
| 1/15/2022 | 11:05 | 5 | Aspen Discovery | No | Yes | Aspen server restart following persistent CPU load spikes throughout the morning. |
| 1/23/2022 | 18:38 | 5 | Aspen Discovery | Yes | No | Planned system patching. |
| 2/4/2022 | 2:30 | 5 | Aspen Discovery | No | Yes | Aspen server restart following persistent CPU load spikes throughout the morning. |
| 3/20/2022 | 19:06 | 20 | Web Services | Yes | No | Planned system patching. |

Other Notable Outages: September 1st through March 20th

| Date | Approx Time | Time Elapsed (Min) | System | Planned? | Library Hours? | Reason |
|--|-------------|--------------------|--------|----------|----------------|--------|
| <i>No measurable outages during this period.</i> | | | | | | |

Uptime Tracking

Quarterly Uptime



| Quarterly Uptime | WorkFlows/Symphony | OPAC Services | Other Services | Combined |
|------------------|--------------------|---------------|----------------|----------|
| 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% |
| Q4 2021 | 99.98% | 99.95% | 100.00% | 99.94% |
| Q1 2022 | 99.98% | 99.97% | 100.00% | 99.94% |

Notable Critical Vulnerabilities Patched

Log4Shell (CVE-2021-44228) in December 2021

- Zero-day vulnerability in common Java logging framework, Log4j
- CVSS severity of 10/10

Dec. 2021

Jan. 2022

Polkit Privilege Escalation (CVE-2021-4034) in January 2022

- Unprivileged users can run commands at a higher level
- CVSS severity of 7.8/10

Annual Symphony Database Rebuild

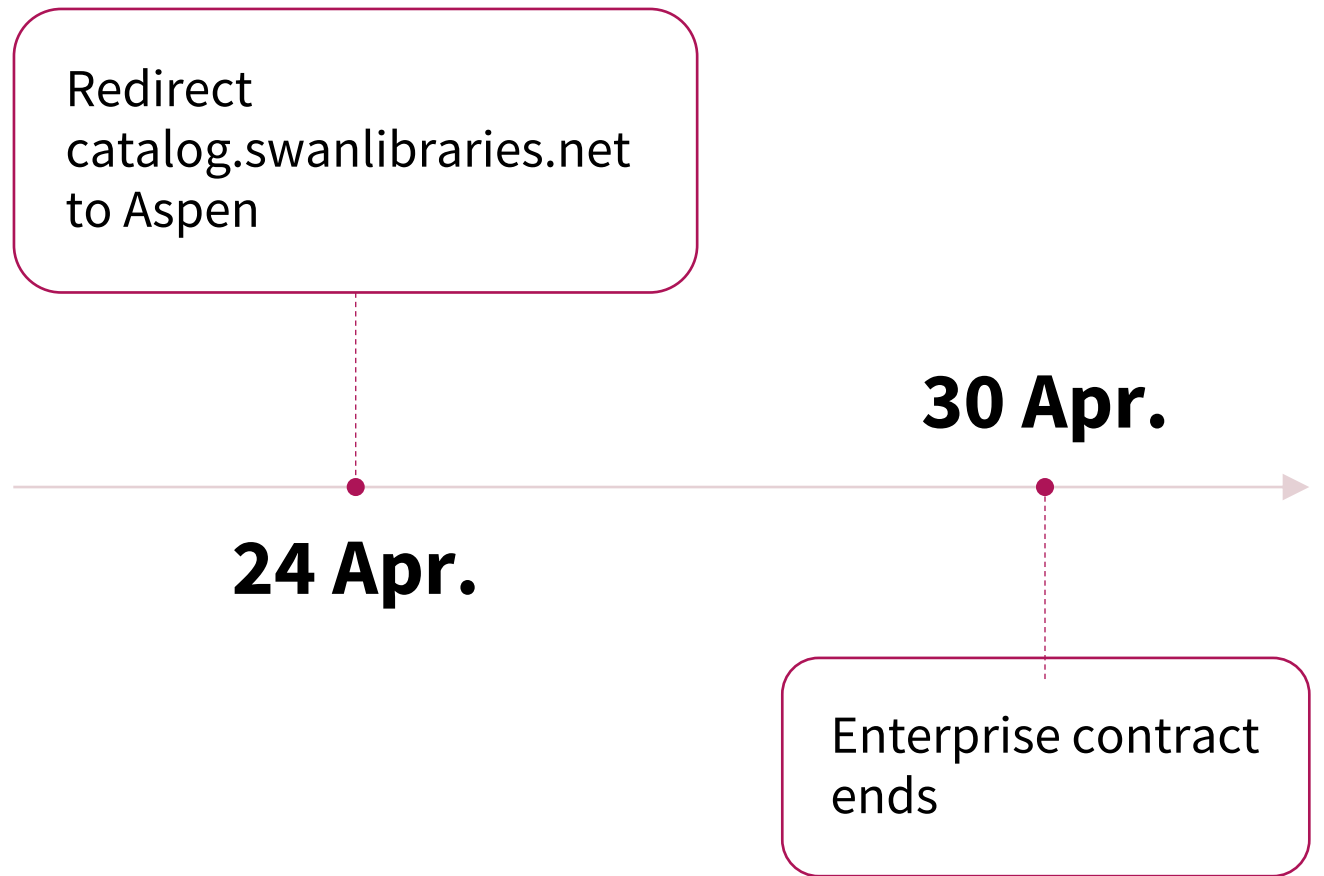


• Sunday,
APRIL 17th

- Sunday, April 17th, 2022 (Easter Sunday)
 - Downtime of WorkFlows and other services required throughout
 - Process will begin Saturday night after libraries close
- [WorkFlows Offline](#) required for open libraries on the 17th
- Complete details in the [news post](#)
- **Impacted Services:**
 - Enterprise & Aspen Catalog**
 - *Intermittent* My Account functions (holds, payments, lists, etc)
 - *Intermittent* Inaccuracies of Item location and availability
 - Symphony WorkFlows**
 - *Intermittent* External SIP2 & Web Services integrations (including external vendor subscriptions, digital materials access)
 - Internal SIP2 integrations for library self-checkout, AMH, and PC reservation
 - WorkFlows - Offline mode must be used for all checkouts
 - BLUEcloud Applications**
 - BLUEcloud Analytics April 16/17th transactions - harvest will be delayed an extra day
 - BLUEcloud Mobile, MobileCirc, BLUEcloud Circ and Cataloging will be unavailable

Aspen

Key Dates



Aspen

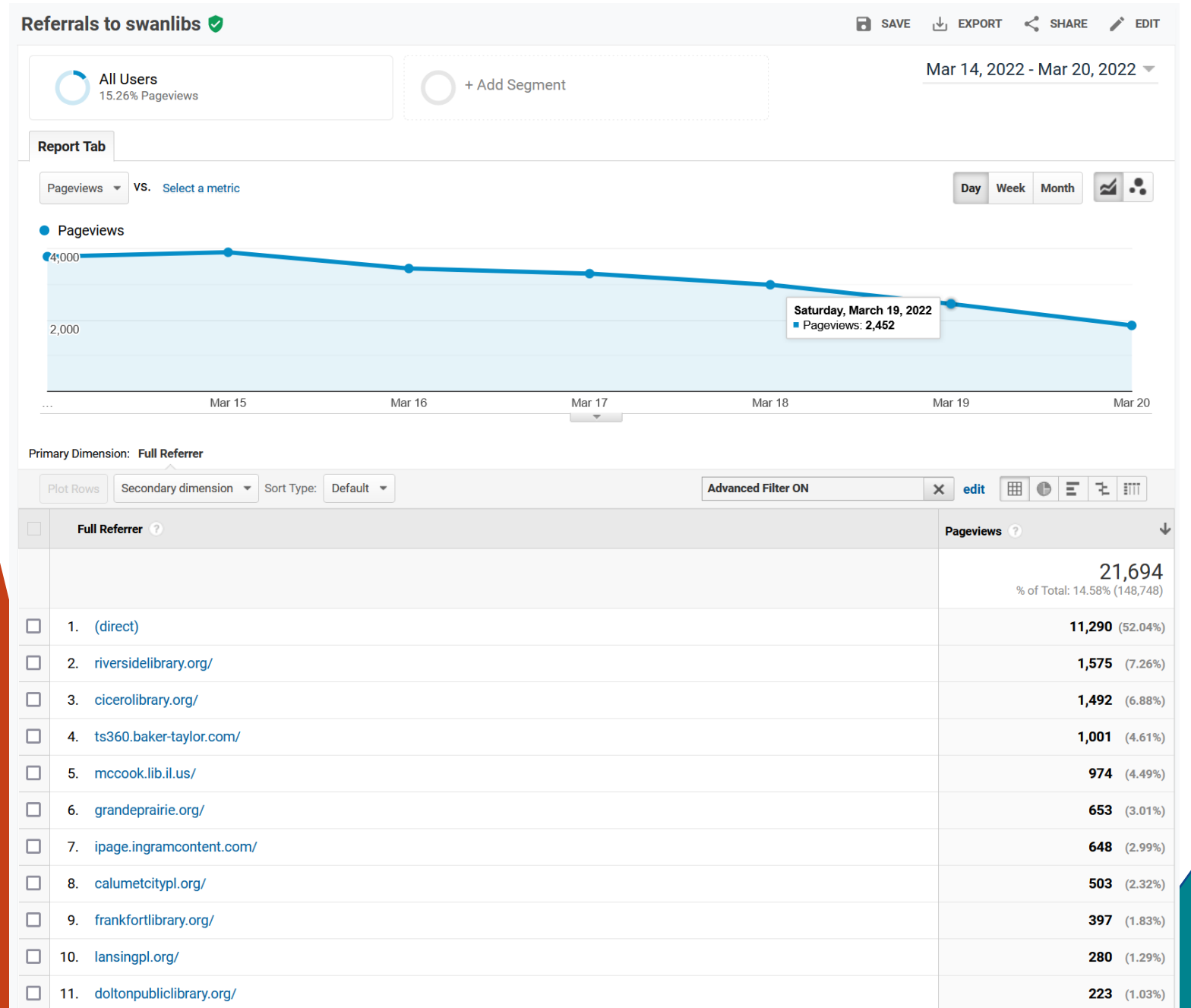
Enterprise OPAC Retirement

- 
- Sunday,
APRIL 24th

- [Catalog.swanlibraries.net](https://catalog.swanlibraries.net) addresses will automatically redirect
 - Example: **catalog.swanlibraries.net/dgs** redirects to **dgs.swanlibraries.net**
- Ensure you are *not* using swanlibs.ent.sirsi.net
 - These addresses are SirsiDynix-owned and will not redirect

Referrals to swanlibs.ent.sirsi.net

We're seeing these drop which is great! This URL will break, with no redirect, April 30th.



SWAN-Managed VPN Agreements

When to contact SWAN

- When making changes to internal/external networking
 - Changing addressing of wireless network
 - Changing addressing of staff network
 - Segmenting networks
 - Introducing a new staff network
 - Changing an internet service provider (ISP)
 - Cancelling an ISP
- When changing external-facing hardware
 - ISP is swapping out the modem
- **Always contact SWAN at least 48 hours in advance when pursuing an internal or external change**
- **Contact SWAN at least one week in advance if requesting a consultation or site visit**

Library Contractors



Contact SWAN via help@swanlibraries.net



ALWAYS CC the library director or associated administrator



Provide at least 48 hours notice prior to significant changes



Coordinate consultations with at least one week notice

Multi-Factor Authentication

DUO MFA now used on all SWAN-managed SonicWall hardware

Implemented Q4 2021



SWAN Security Initiative

Information Security Risk Assessment

OVERVIEW

What is the Sikich Risk Assessment?

- Assessment of SWAN's risk management policies and security practices compared to the NIST SP 800-171 framework

What is NIST SP 800-171 and why should we follow it?

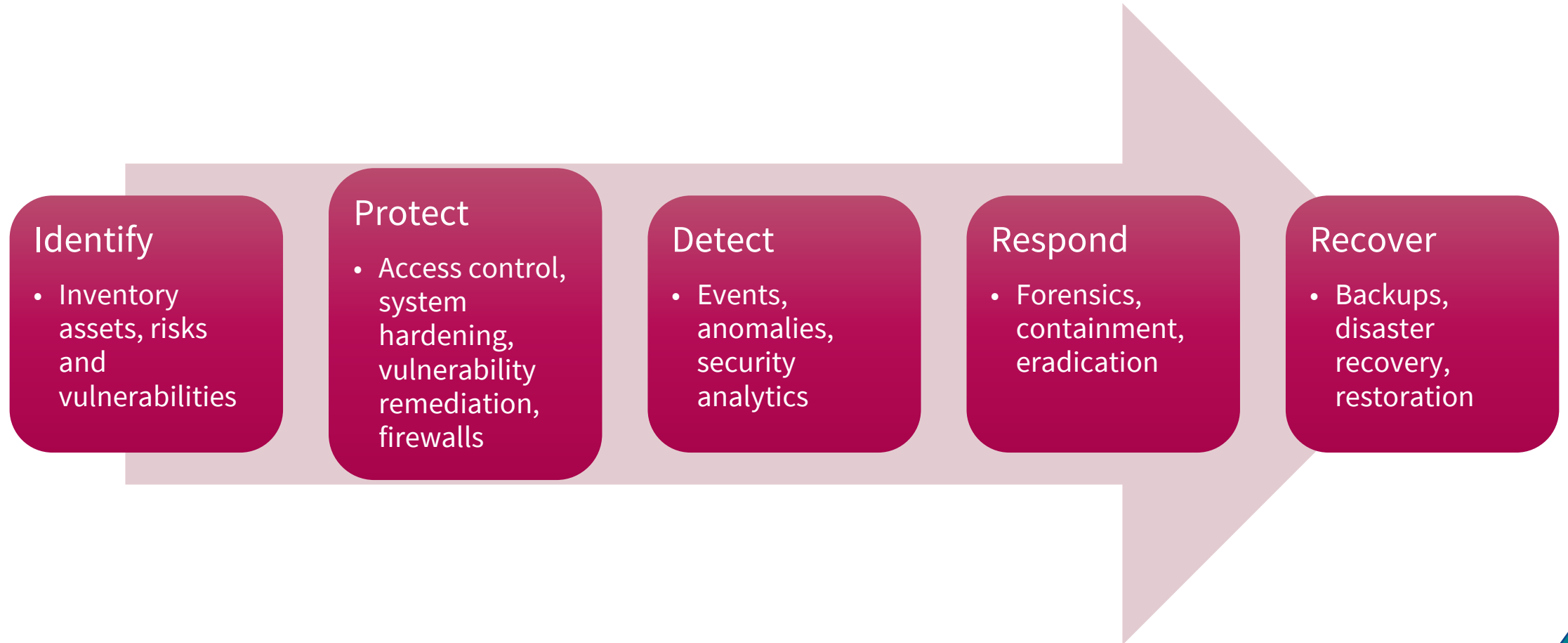
- National Institute of Standards and Technology Special Publication 800-171
- Industry-established requirements protects “controlled, unclassified information”
- Ensures SWAN complies with an industry-recognized set of policies for data handling, system security and configuration
- For comparison, SirsiDynix follows NIST SP 800-53, a similar framework
- Risk and Authorization Management Program (RAMP) is becoming common practice at state level, emphasizing the necessity of SWAN having a framework like NIST 800-171

SWAN database consists of approximately 1-million patron records

- Current cost to remediate a breach is typically \$150 per record, posing significant financial risk without a guiding framework

CYBERSECURITY

Summarized



CONCLUSIONS

SWAN Take-Aways

Convert the INFORMAL to FORMAL

Have practices and procedures reviewed by an outside expert

Establish baseline policies

Create formal process documentation to follow consistently

Audit server/network configurations regularly

Leverage system logging, security alerting

Associated Projects

- Sikich Risk & Cybersecurity Assessment
 - ✓ Sikich interview and assessment process
 - NIST SP 800-171 policy, process drafting
 - Establish Incident Response Team (IRT)
 - Audit servers/networks against SWAN-NIST policies
- ✓ Monthly Patron Purges / 2021 NCOA
- ✓ Regular email phishing training for SWAN staff
- SonicWall Firewall Updates
 - ✓ Multi-Factor Authentication for SWAN servers and SonicWalls
 - ✓ SonicWall hardware replacements, 2021
 - New SonicWall self-maintainer libraries
- System Monitoring Tools
 - Zabbix System Monitoring to replace Cacti
 - Investigation of Azure/M365 subscription security tools
 - Investigation of Managed Detection and Response (MDR) security alerting services
- R&D of membership-wide directory services and single sign-on (SSO)
 - SirsiDynix BLUEcloud Pilot
- SirsiDynix audit of Symphony policies, roles and permissions
- Review SWAN 3rd party vendor integrations
 - Eliminate unsecured SIP2 integrations
 - Audit vendor agreements
- Education & Partnerships
 - Outreach to library community partners to brainstorm cybersecurity
 - Education push to member libraries at SWAN events

How is Your Library Handling Cybersecurity?

Open Discussion

- Does your library have cybersecurity insurance?
- Do you practice phishing campaigns?
- Do you utilize any sort of external system monitoring?
- Does your library practice principal of least privilege (PoLP)?
- Does your library minimize handling of patron data?
- How does your library vet 3rd party vendors?
- Do you require PINs at self-checkout stations?

ICYMI

Password Management Best Practices



How Do We Do That?

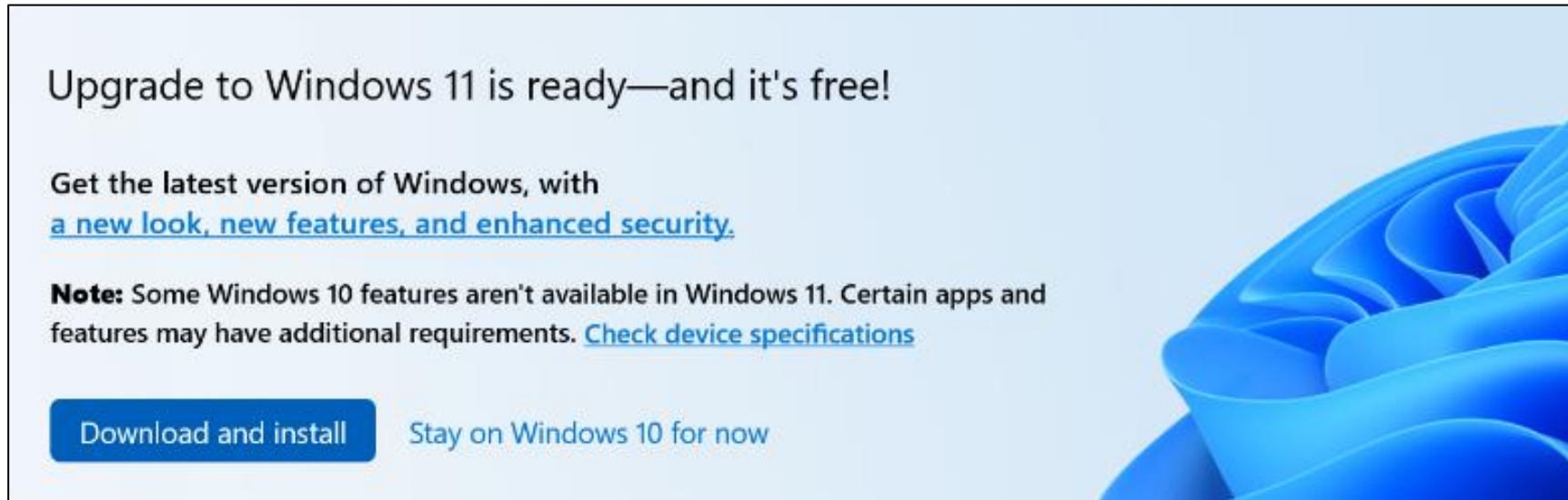
Windows 11 Migration

Initial Testing and Pilot Phase



- Installed Windows 11 as ‘Windows Insider’ in September 2021
- Initial compatibility testing with WorkFlows and other critical software
- “What to expect” presentation at February staff meeting
- Pilot group was selected and went live by end of February
- Windows 11 “Office Hour” was scheduled for feedback/comments

Staff Deployment Phase and Beyond

A screenshot of a Windows 11 upgrade notification. The background is light blue with a decorative blue wave pattern on the right side. The text is as follows:

Upgrade to Windows 11 is ready—and it's free!

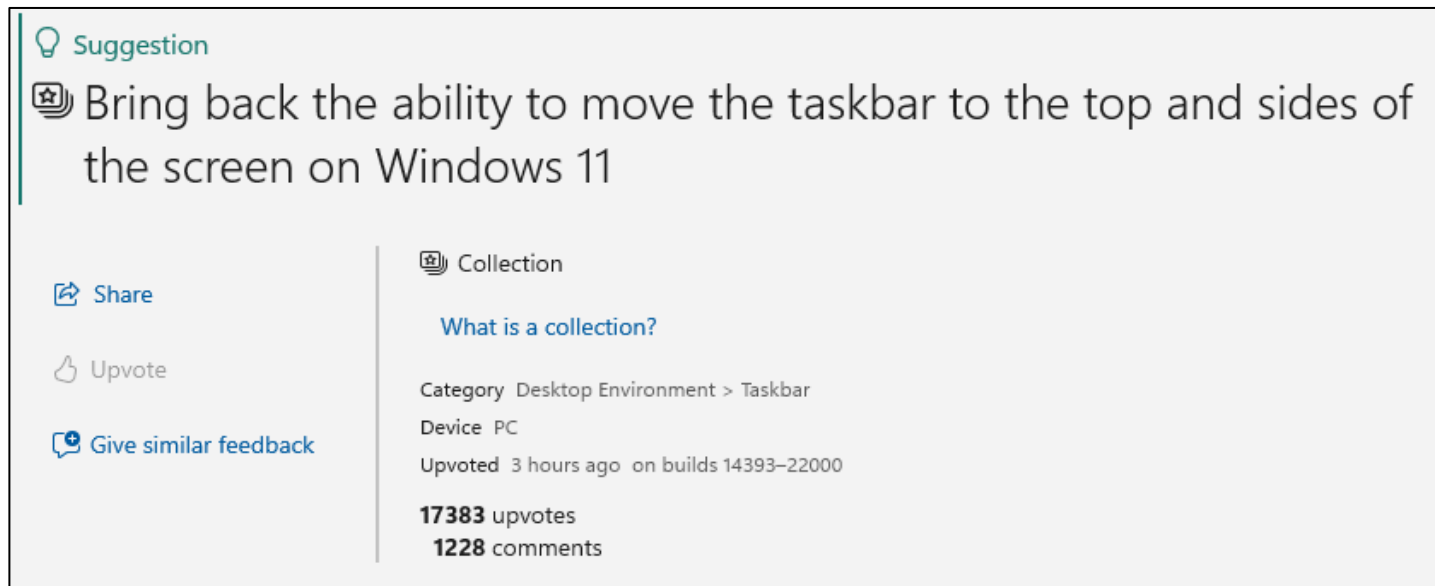
Get the latest version of Windows, with [a new look, new features, and enhanced security](#).

Note: Some Windows 10 features aren't available in Windows 11. Certain apps and features may have additional requirements. [Check device specifications](#)

[Download and install](#) [Stay on Windows 10 for now](#)

- Staff handled their own upgrade via Windows Update
- Upgrade assistance was offered to staff; most did not require assistance
- All staff was live on Windows 11 by March 18
- Another Windows 11 “Office Hour” was scheduled for following week
- Using Windows 11 Teams Channel to keep staff updated on patches

Observations and Staff Experience



The screenshot shows a suggestion card from the Windows Feedback Hub. At the top left, there is a lightbulb icon followed by the word "Suggestion". The main text of the suggestion reads: "Bring back the ability to move the taskbar to the top and sides of the screen on Windows 11". Below this text, there are three action buttons: "Share" (with a share icon), "Upvote" (with an upvote icon), and "Give similar feedback" (with a plus icon and a speech bubble icon). To the right of these buttons, there is a "Collection" section with a collection icon, a link "What is a collection?", and metadata including "Category Desktop Environment > Taskbar", "Device PC", and "Upvoted 3 hours ago on builds 14393-22000". At the bottom right of the card, it shows "17383 upvotes" and "1228 comments".

- Windows 11 is largely compatible with all applications
- Improved synchronization with OneDrive and SharePoint
- Contextual menu and Taskbar streamlined
- Most of the bugs encountered were due to unapplied patches
- Using Microsoft's Feedback Hub to search and upvote enhancement requests

Windows 11

Open Discussion

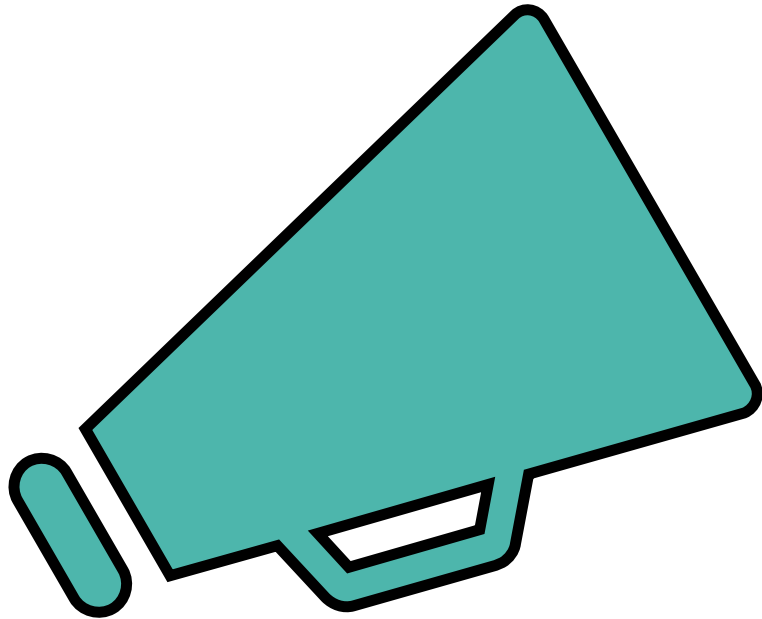
- How many of you have deployed Windows 11?
- What has been your experience rolling it out to staff, to patrons?
- What incompatibilities and frustrations have you encountered?

Windows Version Support

- Microsoft EOS for Windows 7 – January 2020
 - This includes your **self-checkout** and **PC reservation** workstations!
- SWAN supports the following operating systems:
 - Windows 8
 - Windows 10
 - **Windows 11**
 - MacOS (latest)




Open Forum Discussion



- Future RFID implementations?
- New installations of Self-Checkout or AMH?
- System upgrades?


Continue the Discussion

[SWAN Community Forums / Technology](#)



SWAN Community Forums

Technology 43



Continue the conversation from the SWAN Technology User Group! Have questions about Microsoft licensing, a new RFID implementation, or just curious how other folks tackle common IT problems? Ask questions, make suggestions, and interact with fellow Technology staff all over SWAN from the IT categor...

Need help getting started?



SWAN Community Forums

How to improve your SWAN Community Forums experience

MARCH 17, 2022

[How to improve your SWAN Community Forums Experience](#)

Upcoming Meetings

- [SWAN Fireside Chat](#)
 - Tuesday, March 29th, 11am
- [SWAN RFID Users Group](#)
 - Thursday, April 28th, 10am
- [SWAN Technology Update](#)
 - Thursday, September 22nd, 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