

SCRIPT

Slide 1 *Trove's future of collaboration through shared digital infrastructure*

Thank you for joining us today.

Before I start today, I would also like to acknowledge the Australian Aboriginal and Torres Strait Islander peoples of this nation. I acknowledge the traditional custodians of the land and pay our respects to ancestors and elders, past and present - and extend that respect to all Australian Aboriginal and Torres Strait Islander peoples here today.

By way of introduction, I am [REDACTED] – Director Data & Platforms.

I hope you have enjoyed the conference so far – I really appreciate you sticking around for the last session to join us today. I have had a booth and talked to many through the Conference, and you can always reach out to us beyond the conference with any questions.

Slide 2 *What I will cover today*

Most Australians know Trove as the place they go to explore history, culture and stories. What they don't see is the national infrastructure that powers the aggregation of a rich data source describing millions of collection items, making these discovery journeys possible.

In the last couple of years, the National Library has embarked in an infrastructure renewal program designed to establish a resilient and secure ecosystem, improve maintainability and ensure continuous services for our stakeholders and the community.

Today, I'll take you through:

- An overview of the shared digital infrastructure that powers Trove and collaborative services
- How recent service enhancements are strengthening capability and experience
- What we've learned so far—the benefits achieved and the challenges that present new opportunities
- Our priorities moving forward

Slide 3 *Shared digital infrastructure*

Slide 4 *Trove Ecosystem (1)*

Trove is an online platform that shares Australian culture with the world. Our Trove Partners can access a variety of services to streamline their organisation's workflows and navigate the digital era as part of a professional collective.

Under the hood, there is a complex ecosystem that powers and enables delivery of these services. To set the scene, this slide shows a high-level overview of the ecosystem we're working in. I am not intending to go through this today but rather show you the parts of the ecosystem I am covering today to provide you context.

As you can see, the ecosystem is not a single system or product—it's made up of multiple technologies, processes, and stakeholders, all working together to deliver outcomes.

Like any modern ecosystem, it operates across several layers: core platforms, integration services, data and security foundations, and the user and operational experiences that sit on top.

This diagram is intended to show at a high-level the components grouped based on the conceptual level of the function with the data flow from each system represented to demonstrate a how information flows between applications and how partner data flows to the ANBD through to discovery services.

Slide 5 ***Trove Ecosystem (2)***

The two areas that I will focus on today are the *1.6 Manage and change collection* and *1.5 Exchange digital copies and physical resources*.

In 2023 the National Library of Australia was provided with ongoing government funding to support the maintenance of Trove. This funding has enabled the National Library to undertake core infrastructure projects to replace systems that underpin Trove with modern solutions that meet the evolving needs of the Australian GLAM community.

We now have a well-established infrastructure renewal and service enhancement program. Significant system uplifts have already been delivered, laying strong foundations for improved services, with further enhancements in the pipeline.

Today I will drill down into the specific improvements that have happened in the last 12 months, what prompted them, and—most importantly—how they improve outcomes for our partners, teams, and the organisation.

I will cover two projects that address different problems, involve different stakeholders needs, and with different solution approaches, but are closely interconnected.

Slide 6 ***Australian National Bibliographic System (ANBS)***

Slide 7 ***Enhancement 1: Custom-built solution for management of the ANBD***

First, I am going to talk about an in-house custom-built solution for management of the Australian National Bibliographic Database.

At the heart of Trove sits the Australian National Bibliographic Database — a shared national dataset built over decades and contributed to by almost 900 galleries, libraries, archives and museums across the country. With more than 41 million records, it is one of Australia's most significant cultural datasets. It is relied on daily by libraries, cultural institutions, governments and researchers. But it has also traditionally been one of our most complex and constrained datasets to manage.

An infrastructure project was created to solve the problem on how to modernise a critical national dataset without losing data integrity, while ensuring inclusivity and interoperability with systems that organisations rely on every day – with the project ultimately delivering a new metadata manager system (known as the Australian National Bibliographic System (ANBS)) in April 2025.

So, what does this mean in practice?

Slide 8 ***Hybrid system between MARC/BIBFRAME***

A key element of this transformation and implementation of the new metadata manager is the National Library's implementation of BIBFRAME. This implementation is the first national-scale adoption of the BIBFRAME data model in Australia. With the implementation by the Library of Congress, this approach aligns us among the global leaders in linked data for cultural collections.

The system has been implemented as a hybrid model. Metadata contributions are in MARC (through automated harvesting) or BIBFRAME (manually through the cataloguing tool), with all interlinked Partner systems interoperating in MARC. It was recognised that the bulk of professional cataloguing knowledge is still MARC-based, with a longer-term uplift in BIBFRAME capabilities needed. A robust design that would meet these hybrid requirements was essential to ensure the two standards could concurrently be serviced within the environment.

Alongside this hybrid design, valuable metadata is collected from unique sources which would need to be protected within the new system. This is done via a uniquely Australian Trove extension developed internally which continues to store some minimal MARC data alongside BIBFRAME records, reflecting data points that are highly valued in the Australian and/or national union catalogue context, but are not yet reliable in BIBFRAME. The Trove extension captures the additional data important to the Australian cataloguing community, including Austlang codes and National eDeposit information.

Implementing the hybrid model allows data to flow in and out in multiple standards, converting it into a modern linked-data model behind the scenes.

Slide 9 **Version history – preserving different versions**

One of the most important innovations is version history. Historically, the Australian National Bibliographic Database had no systematic way to track how records changed over time or who made those changes; therefore, were unable to preserve different versions. The new metadata manager introduces a robust audit trail and record-grouping capability that allows multiple descriptions of the same item to be brought together into a single, authoritative view — while preserving every contributing record and its history for future researchers.

Slide 10 **Highly automated**

Our final model that I have implemented is highly automated - most records contributed to our network are the result of copy-cataloguing or vendor-provided records, not original in-house cataloguing. 99.9% of contributed records come via automatic daily harvesting updates, so there is little to no manual review of contributions by Partners once the data is in the shared network. Most of our contributing Partners now have their catalogues hosted in a highly consolidated market of cloud service providers.

Slide 11 **Benefits and Challenges**

It hasn't been an easy journey, with some steep learning curves - but ultimately this investment has been the "right decision" and positions us strongly for the future. It has fundamentally changed how metadata is managed, shared and governed at a national level.

It lays a foundation by introducing a format-agnostic, linked-data platform that reduces complexity for data ingestion, improves data quality, and enables collaboration at a national scale. It transforms the Australian national database from a static catalogue into a dynamic, data asset that can evolve with changing technology.

By leveraging an existing international standard rather than inventing a new solution, it ensures interoperability, reuse and long-term sustainability.

While BIBFRAME offers exciting web-based data sharing, the bulk of our Partners use ILMs that still only import records via z39.50 and MARCXML— moving these technologies into the internet age will be a future challenge.

We have invested in and grown our internal BIBFRAME capabilities and learnt from international efforts that have come before us. The National Library has also joined forces with the national professional association, ALIA, on training and awareness activities to uplift the broader Australian library sector's in BIBFRAME and I will continue to invest in our future BIBFRAME champions within the community and knowledge of our adoption.

This hybrid approach also means organisations can modernise at their own pace — no one is expected to change overnight. This was essential to ensure no contributor is left behind.

A custom-built solution for management of the ANBD has ensured Australian control of the future direction of our holdings records within a secure, resilient and future focused platform. This includes a robust version control that recognises that data tells a story, that perspectives evolve, and that good governance means retaining context, provenance and accountability.

Slide 12 ***What next***

We are continuing to engage at the international level. For example, We have been attending online forums for BIBFRAME In Europe for the past 2 years. This year, We are making a submission to present and share our Australian experience online at the BIBFRAME In Europe 2026. The recording will be available for registered participants after the event, and I will continue to share our experience with Trove Partners.

We are also continuing to engage with the Australian community and peak bodies to continue to refine and adapt to the Australian environment and build capability in Australia and continue conversations with vendors to determine BIBFRAME readiness.

We continue to look for ways to utilise data linking functionality to improve discoverability and We have already been able to implement examples of this within the system.

We are excited to be able to talk about an enhancement to the cataloguing tool that introduces data linking functionality. As an Australian service, we're focusing on prioritising inclusion of data that is highly valued in the Australian library community. The AIATSIS thesauri is one of these highly valued resources and, in partnership with AIATSIS, We are pleased to be able include these as one of the first integrated thesauri. AIATSIS thesauri, including Austlang, the Topical thesaurus and the Place thesaurus is now integrated into Trove Partner Search. It is the new system that has allowed this to be possible and has gone live in April.

For the first time in the ANBD, metadata managers will be able to create and enter linked data, particularly for subject heading and language fields, as they are working with ANBD records. The data will be used to power a type-ahead feature in the cataloguing tool, where cataloguers are presented with potential AIATSIS subject headings when creating a bibliographic record. The resulting data will be re-used in MARC and BIBFRAME catalogue records shared with Trove Partners on the ANBD, as well as the public in Trove.

During 2026, additional templates will be released each month including map, photograph, poster, notated music, kit and object.

Slide 13 ***Trove Partners Resource Sharing (TPRS)***

Slide 14 ***Enhancement 2: Trove Partners Resource Sharing – an evolving service***

Next, I am going to talk about the infrastructure renewal project that implemented a modern, cloud-based platform designed to support resource sharing between Trove Partners.

Trove Partners Resource Sharing is a national service that provides a national platform for our Partners to operate as a collective to support borrowing and lending services to deliver resources to the Australian community – a service supporting equitable sharing across jurisdictions.

The new service is completely integrated with the Australian National Bibliographic Database.

Based on the ReShare platform, the National Library partnered with CAVAL and Index Data to implement the new resource sharing service tailored to Australia's unique environment and support resource sharing between Australian libraries.

Through the implementation of TPRS I introduced a reciprocal service with defined networks to support reciprocal transactions between participating organisations. The new service also includes an automatic load balancing feature to distribute requests equitably between Partners. In conjunction with the load balancing, the 'networks' feature was designed to filter requests to automatically send ILL requests to Partners preferred networks one at a time.

Slide 15 ***Benefits and Challenges***

The ReShare platform is a result of open collaboration and has been designed by library professionals in a user experience-centred approach. Development of the platform is led by a steering committee with representatives from libraries, consortia, and developers.

As an open-source platform, it has a collaborative approach to development. While decision-making can be slower due to the need to balance diverse community priorities, it positions us to contribute to prioritising and shaping development, not just adopting it. The National Library also has its own implementation partner to work on our instance to meet our local priorities and configuration.

Partners engage with the platform in different ways and have varying, and at times competing, needs. Managing these varied expectations, while maintaining a consistent national service offering, is an ongoing challenge.

Slide 16 ***What next***

As a national-scale adopter, We are well positioned to advocate for enhancements that benefit the broader community and reflect large-scale operational needs.

We are on the ReShare Product Committee and continue to work with our Australian implementation partner CAVAL to continue pushing for the enhancement that will improve the functionality to suite Australian community needs.

We are looking to build and share details with Trove Partners on how this service and platform is being enhanced – at a community level and at a local level - and based on priorities informed by the Trove Partners. Service enhancement suggestions will be considered and prioritised in the longer-term service enhancement schedule currently in development. Work is underway with the vendor to map a prioritised enhancement schedule that can be shared with Partners – and this remains a priority.

We are continuing to embed and refine the service based on Trove Partner feedback to ensure it continues to meet the needs at a national level.

Slide 17 **Conclusion**

Delivering a significant program of change through the release of two major service enhancements at the same time posed both change management and communication benefits and challenges.

Our infrastructure renewal and enhancement pipeline always looks to improve our service to partners and public and I am doing so by balancing between the need of our partners and end-user and the long-term sustainability of our infrastructure for many years to come.

Focus activities for the service enhancement pipeline during 2026-27 include the embedding and refining of services delivered in 2025, including implementing more data linking functionality to improve discoverability, and working with Trove Partners, peak bodies and vendors to refine the service, uplift capability and determine BIBFRAME readiness. It will also include sharing and implementing a service enhancement program for how the TPRS platform is being enhanced – at a community level and at a local level.

The Trove team has worked directly with partners to better understand issues raised and to identify improved ways of working within the new system that support partner needs. These issues are actively monitored and, where possible, inform future system enhancements.

We will also be sharing more about the Service Enhancement Pipeline with Trove Partners over the coming months, as I embark on our next significant service enhancement to be delivered in 2026-27. The enhancement pipeline is expected to

grow and evolve as initiatives are completed or as additional Partner needs arise in coming years. The initiatives range in size and scope, with varying levels of effort, funding and timeframes required for delivery.